

Title page

Full title

The Nature of Theory Used in Practice Education: A Scoping Review

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Abstract

Background. Placements are key contexts for occupational therapy students to connect theoretical knowledge (theory) with practice. Theory relates to the prevailing ideas and concepts used by a profession. It can be derived within and outside the profession (discipline-specific knowledge & related knowledge respectively). **Purpose.** This scoping review aimed to identify what is known about the nature of theoretical knowledge used in occupational therapy practice education. **Method.** A search of four electronic databases identified 19 relevant publications, data from which was extracted deductively. **Findings.** Inconsistent descriptions related to discipline-specific knowledge while related knowledge was often presented as not integrated with, or complementing, discipline-specific knowledge. Some authors referred to educational knowledge and methods informing student's theory use during placements. **Implications.** Educational methods need to provide a foundational platform, enabling novice learners to structure their thinking about ways discipline-specific and related knowledge can be used within an occupational framework on placement.

Keywords. Students*, Education*, Occupation, domain of concern, Occupational Therapy*, Theory

Practice education, usually undertaken through professional practice placements (placements), is a key educational strategy for connecting theory, learnt at university, with practice (Townes & Ashby, 2014). Learning to use theory in practice is important because it forms an essential foundation for guiding reasoning and decision-making (Turpin & Iwama, 2011). Theory is defined as a set of ideas “themselves a mixture of beliefs, values and assumptions” which are “formulated and argued for publicly, commonly known and acknowledged” (Fish & Boniface, 2012, p. 17).

Occupational therapy’s theoretical knowledge and practice are broadly described in terms of its paradigms (Kielhofner, 2009). Throughout the profession’s history there have been significant paradigm shifts, which have resulted in disharmony when changes have been made to prevailing concepts, values, and associated theoretical knowledge (Greber, 2011). For example, the early occupational paradigm focused on the importance of occupation for health and human life and its use as a therapeutic tool (Kielhofner, 2009). However, in the late 1940s and 1950s, the mechanistic paradigm dominated and refocused the profession towards understanding and addressing the body’s systems (biomedical knowledge) (Kielhofner, 2009). Reductionist practices focused on the “mechanisms underlying function and dysfunction” (Kielhofner, 2009, p. 41) and aimed to reduce impairment by, for example, using exercises to rebuild muscle strength. While the application of biomedical knowledge during the mechanistic paradigm led to an improved understanding of the relationship between body structures and performance, it moved occupational therapists away from the central importance of occupation (Kielhofner, 2009).

A return to occupation characterises the current “contemporary paradigm” (Kielhofner, 2009, p. 49), which is based on: the centrality of occupation and its importance for health and wellbeing; the interaction between person, environment and occupation; and the use of occupation to limit dysfunction, improve health status and facilitate participation.

Fisher (2013) used the term “occupation-centred” to signify that occupation is central to the occupational therapist’s perspective and is foundational to their reasoning. The centrality of occupation therefore frames the type of discipline-specific knowledge used within the contemporary paradigm.

In practice, discipline-specific knowledge is only part of the picture that informs occupational therapists’ thinking. Occupational therapists commonly use related knowledge, which Kielhofner (2009) defined as that which is derived from outside of the profession. For example, knowledge of disease processes, originating from the field of medicine, and cognitive behavioural techniques from the field of psychology are commonly used by occupational therapists (Kielhofner, 2009). This related knowledge informs and complements occupational therapy practice when analysing and facilitating occupational performance and participation in life roles. Another example of related knowledge is client-centred practice (from psychology), which is described as a cornerstone of occupational therapy practice (Ripat, 2013; Sumison & Law 2006), informing the way occupational therapists communicate and work with clients.

Students need to develop a comprehensive understanding of theory from their university curricula, particularly the concept of occupation, so that relevant knowledge can inform what they do in practice (Howarth, Morris & Cox, 2018). Challenges are frequently reported in how students apply theory to their practice (Gillen & Greber, 2014, Howarth et. al., 2018) due to its complex nature (Di Tommaso, Wicks, Scarvell & Isbel, 2019), compounded by a lack of definitions and clarity of terms (Howarth et. al., 2018). Practice education environments offer a valued learning opportunity (Ashby & Chandler, 2010) as students can actively try out knowledge in authentic contexts (Miller & Roberts, 2020). However, educational scholarship is in its infancy (Miller & Roberts, 2020) and, to date,

teaching and learning has received limited attention in practice education literature (Roberts, Hooper, Wood & King, 2015).

Practice educators have a significant influence on students' ability to apply theoretical knowledge in practice (Towns & Ashby, 2014). Students need be supported on placement to integrate different types of knowledge from different sources in their practice, a lack of which is commonly referred to as the theory to practice gap (Tupin & Iwama, 2019). Towns and Ashby (2014) proposed that there is a need to focus on how practice educators facilitate students to use theory during placements. Identifying from the literature how theory is described and used in practice education could inform ways in which practice educators can facilitate student learning. Therefore, the aim of this scoping review was to identify: What is known about the nature of theoretical knowledge used in occupational therapy practice education?

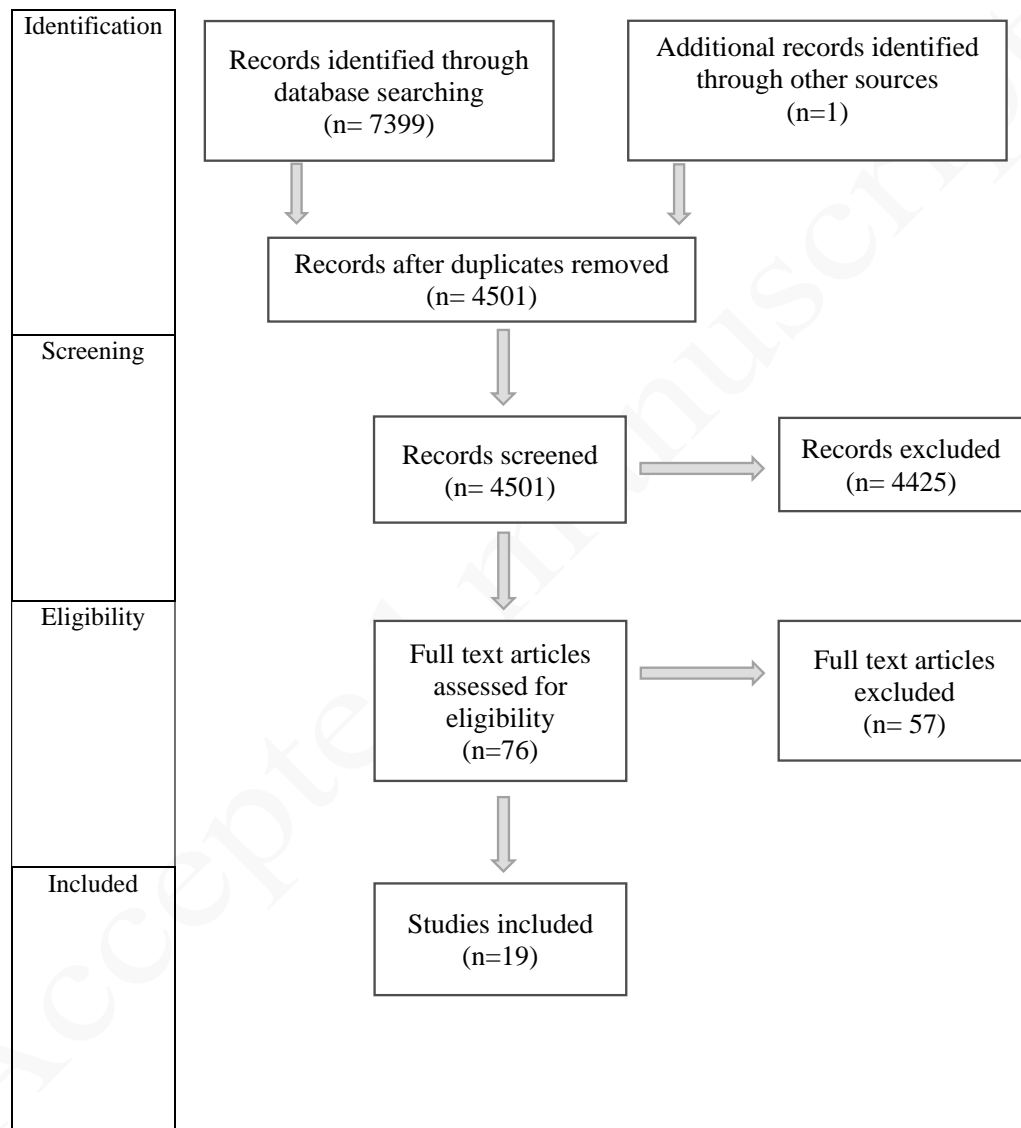
Method

The scoping review framework developed by Arksey and O'Malley (2005) was utilised, with reference to Levac, Colquhoun and O'Brien's (2010) additional recommendations. The framework comprises five stages: 1. Identifying the research question; 2. Identifying relevant studies; 3. Selecting studies; 4. Charting the data; 5. Collating, summarizing and reporting the results.

Once the research question was identified, the following search strategy was designed: occupational therap* OR OT AND fieldwork OR student* OR placement* OR "practice education" OR "clinical education" AND education OR theory OR theories OR model OR models. The search was conducted in four electronic databases (CINAHL, Embase, PubMed and Scopus) for peer reviewed and non-peer reviewed English language publications between 2005 and October 2020, to reflect theory use within the contemporary

paradigm. Figure 1 shows the PRISMA process of publication selection (after an initial search in December 2018 and updated search in October 2020). [Figure 1 here]

Figure 1. PRISMA flow diagram showing literature search results



Publications were included if they related to: (a) occupational therapy practice education; and (b) use of theory for practice or learning. An exclusion criteria ensured that papers reflected the process of students learning to use theory in practice as opposed to pre-placement and post-placement outcomes.

The first author screened titles and abstracts and two authors independently reviewed samples of abstracts and full text articles, as recommended by Levac et al. (2010). The research team met regularly to review progress, discuss decisions and reach consensus about the final inclusion of publications.

A charting tool was designed to extract key information from each publication (Arksey & O'Malley, 2005), namely aim, publication type or research design, study population, study location, theoretical knowledge described or used. Data was extracted independently by two authors. The charting tool was developed and refined during this process through discussions between the authors extracting the data and the wider research team (Levac et al., 2010). Refinements made to the charting tool included the identification of three deductive codes within the category of 'theoretical knowledge described or used' to reflect knowledge types: discipline-specific, related and educational knowledge. The process of data extraction resulted in a detailed record of key information about each publication, including theories identified and how they were reportedly used in a practice education context. Table 1 provides a condensed version of the charting tool, and the data is further elaborated on in the findings section. [Table 1 here]

Table 1 Charting Tool

Reference	Aim	Publication type and research design	Study population	Study location	Discipline-specific knowledge	Related knowledge	Educational knowledge
1. Ashby, S. and Chandler B. (2010). An exploratory study of the occupation-focused models included in occupational therapy professional education programs. <i>British Journal of Occupational Therapy</i> , 73(12), 616-624.	To investigate how occupation-focused models are embedded into occupational therapy programmes	Research study: Quantitative descriptive exploratory study	65 University based occupational therapy program educators	Universities in Australia, Canada, United Kingdom, America	<ul style="list-style-type: none"> Occupation as a core subject included in curriculum Occupation- focussed practice Occupation- focussed theory Occupation- focussed curriculum Occupation- focussed conceptual practice models Occupation- focusses models <p>Described as occupation- focussed models included in curricula:</p> <ul style="list-style-type: none"> The Canadian Model of Occupational Performance and Engagement (CAOPT, 2007) Model of Human Occupation (Kielhofner, 2008) Person Environment Occupation Performance Model (Christiansen & Baum, 1997) Cognitive Disability Model Kawa model (Iwama, 2006) Activities Therapy Model (Mosey, 1973) Occupational Performance Model Occupational Adaptation Ecology of Human Performance Lifestyle Performance Model Community Service Model [related knowledge] Activities Health [related knowledge] 	<ul style="list-style-type: none"> Evidence based practice- how models are selected based on research and literature 	<ul style="list-style-type: none"> Adult learning theory and pedagogy underpins curriculum design Pedagogy affects decision making about how and when students taught theoretical knowledge Self-directed learning develops when students apply models throughout program
2. Bergner, J. L. (2018). Field Report: Navigating fieldwork placements using occupation-based models. <i>OT Practice</i> , 14-17.	Opinion piece about applying occupation-based models on placement.	Opinion based report. No primary data collection	Not applicable	America	<ul style="list-style-type: none"> Occupation based care Occupation- based models at the heart of occupation-based treatment Theory, models, frames of reference- students may not always apply American Occupational Therapy Association's Occupational Therapy Practice Framework: Domain and Process (AOTA 2014) KAWA (Iwama, Thomson & Macdonald, 2009) <p>3 examples of occupation- based models provided including principles, clinic example, related to Blooms taxonomy/ cognitive learning level:</p> <ul style="list-style-type: none"> Person environment occupation model (Law, Cooper, Stewart, Rigby & Letts 1996) Occupational Adaptation (Schkade and Schult 1992) Model of Human Occupation (Kielhofner, 1980) 	<ul style="list-style-type: none"> Client centred Evidence based practice Activity analysis Positions/ weight bearing positions/ exercises 	<ul style="list-style-type: none"> Andragogy/ pedagogy may inform education of students on fieldwork Educating adult learners/ knowledge of how adults learn Revision of Blooms taxonomy (Anderson and Krathwohl 2001) is a useful tool to establish learning objectives Reflection
3. Copley, J. A., Rodger, S. A., Graham, F. P., Hannay, V. A. (2011) Facilitating student occupational therapists' mastery of occupation-centred approaches for working with children. <i>Canadian Journal of Occupational Therapy</i> , 78(1), 37-44.	To identify factors that facilitate mastery of occupation-centred interventions	Research study: Qualitative phenomenological research	9 occupational therapy students 2 occupational therapy Practice educators	Australia	<ul style="list-style-type: none"> Occupation centred practice Occupation centred practice techniques and approaches Students needed to make "a theoretical shift in thinking from performance components to occupational performance and participation" (Copley, Rodger, Hannay & Graham, 2010, p. 38) <p>Occupation- centred assessments and/or intervention systems:</p> <ul style="list-style-type: none"> Dynamic performance analysis (Polatajko, Mandich & Martini, 2000) Plan, recall, plan and perform (Chaparro & Ranka, 1996) Cognitive orientation to occupational performance (Polatajko and Mandich, 2004) <p>Prior to placement, university-based education included:</p> <ul style="list-style-type: none"> biological and social sciences communication skills 	<ul style="list-style-type: none"> Child focused therapy and parent coaching became the focus when the value of involving caregivers was recognised. <p>Prior to placement, university-based education included:</p> <ul style="list-style-type: none"> biological and social sciences communication skills 	<ul style="list-style-type: none"> Adult learning theory (Knowles, 1990) Situated Learning: Legitimate peripheral participation (Lave & Wenger 1991) Zone of proximal development (Vygotsky, 1978)- focus on the right balance of providing challenge with appropriate scaffolds Learning style of student important Graded approach which is flexible Reflective practice Feedback with students as active participants Learning through modelling, think aloud modelling
4. Copley, J. A., Rodger, S. A., Hannay, V. A., Graham, F. P. (2010). Occupational therapy students' experiences in learning occupation-centred approaches to working with children. <i>Canadian Journal of Occupational Therapy</i> , 77(1), 48- 56	<ol style="list-style-type: none"> To describe students' experiences of learning to implement occupation-centred approaches To explore the challenges encountered when implementing occupation-centred approaches. To identify factors that facilitate mastery of occupation-centred interventions reported in Copley, Rodger, Hannay & Graham, 2011). 	Research study: Qualitative phenomenological research	9 occupational therapy students 2 occupational therapy Practice educators	Australia	<ul style="list-style-type: none"> Occupational performance Occupation- centred approaches Bottom up and top down approaches (Trombly, 1993) <p>Occupation- centred assessments and/or intervention systems:</p> <ul style="list-style-type: none"> Dynamic occupational therapy cognitive assessment for children (Katz, Goldstand, Traub Bar-Ilan & Parush, 2007) Dynamic performance analysis (Polatajko, Mandich & Martini, 2000) Plan, recall, plan and perform (Chaparro & Ranka, 1996) Cognitive orientation to occupational performance (Polatajko & Mandich, 2004) <p>Prior to placement, university-based education included occupational therapy specific course work e.g.</p> <ul style="list-style-type: none"> Occupational performance evaluation Problems with human performance Assessment and treatment strategies <p>Four- quadrant model of facilitated learning (Greber, Ziviani & Rodger, 2007)- learning strategies used as therapeutic tools in Occupational Therapy interventions</p>	<ul style="list-style-type: none"> Client centred care and evidence-based practice emphasised in health care Behaviour management Therapeutic relationship <p>Prior to placement, university-based education included:</p> <ul style="list-style-type: none"> biological and social sciences communication skills 	<p>Experiences of students linked to:</p> <ul style="list-style-type: none"> Novice to expert (Dreyfus & Dreyfus, 1986) Reflective practice (Schön, 1987)- unexpected outcomes disrupting one's knowing-in-action and on the spot experimentation <p>Importance of authentic learning experiences and settings</p> <ul style="list-style-type: none"> Situated Learning: Legitimate peripheral participation (Lave & Wenger, 1991) Cognitive apprenticeships support development of tools in authentic activities (Brown, Collins, & Duguid, 1989) <ul style="list-style-type: none"> Scaffolding Reflective practice
5. Dancza, K., Copley, J. & Moran, M. (2019) Occupational therapy student learning on role- emerging placements in schools. <i>British Journal of Occupational Therapy</i> , 82(9), 567-577.	Explore the learning experiences of students from both supervisor and student perspectives over the duration of a role emerging placement.	Research study: Action research	14 occupational therapy students 11 occupational therapy long arm supervisors	United Kingdom	<ul style="list-style-type: none"> Occupation- centred theories Occupational therapy theory Occupation- focussed models Occupational Therapy Intervention Process Model (Fisher, 2009) informed workbook and used as a reference tool for learning Model of Human Occupation (Kielhofner, 2008) <p>Respondents used terms:</p> <ul style="list-style-type: none"> Occupation- based [placement] Occupationally focused Using occupation therapeutically 		<ul style="list-style-type: none"> Reflexive practice develops through placement (Dall'Alba, 2009) Knowledge required for being a professional (Billet, 2010)- Dispositional knowledge, domain-specific conceptual knowledge, domain specific procedural knowledge Facilitating deep as opposed to surface learning Peer support/ peer supervision/ peer learning Written reflections Reflection Peer learning Feedback

Table 1 Charting Tool

6.	Dancza, K & Rodger, S. (2018). Implementing occupation-centred practice. London: Routledge.	An overview of what it is to be an occupational therapist.	Book chapter	Not applicable	Not applicable	<ul style="list-style-type: none"> • Occupation-centred perspective • Occupation-based practice • Occupation impacting health and wellbeing • Occupational performance • Top-down, bottom-up reasoning, top-to-bottom-up reasoning (Fisher, 2009) • Occupation-centred, occupation-focussed, occupation-based practice (Fisher, 2013)- definitions • Occupational therapy practice models • Person Environment Occupation Performance Model (Christiansen & Baum, 1997) • Canadian Model of Occupational Performance and Engagement (CAOT, 2007) • Canadian Model of Client-centred Enablement (CAOT, 2007) • Canadian Practice Process Framework (CAOT, 2007) • Model of Human Occupation (Kielhofner, 2008) • Occupational Therapy Intervention Process Model (Fisher, 2009)
Part I: Ch 2 Occupation-centred practice and reasoning						
Part II: Ch5	Preparing for placement	Aims to help students and educators prepare for placement	Book chapter		Not applicable	<ul style="list-style-type: none"> • Occupational Therapy Intervention Process Model (Fisher, 2009)
Part II: Ch 7	Identifying client's reported and prioritized strengths and problems of occupational performance	Focuses on prioritisation stage of client's occupational performance strengths and challenges	Book chapter		Not applicable	<ul style="list-style-type: none"> • Occupations • Occupational Therapy Intervention Process Model (Fisher, 2009) • Kawa (Iwama, 2006)
Part II: Ch 11	Clarifying or interpreting the reason(s) for client's problems of occupational performance	Explores ways of making decisions transparent. Includes steps to encourage stopping and thinking about reasoning when planning for interventions.	Book chapter		Not applicable	<ul style="list-style-type: none"> • Occupations • Occupational performance • Occupational performance analysis • Occupational therapy theory informing understanding of occupational performance • Occupational Therapy Intervention Process Model (Fisher, 2009)
Part III: Ch 14	Education principles for learning	Examines the development of professional identity as it evolves during practice learning experiences.	Book chapter		Not applicable	<ul style="list-style-type: none"> • Occupation-centred practice needs to be central to curriculum development • Occupation-centred theory • Occupation-centred practice • Occupation-centred reasoning skills • Top-down, bottom-up reasoning, top-to-bottom-up reasoning (Fisher, 2009) • Occupational Therapy Intervention Process Model (Fisher, 2009) • Canadian Model of Occupational Performance and Engagement (CAOT, 2007) • Model of Human Occupation (Kielhofner, 2008) • Four-quadrant model of facilitated learning (Greber, Ziviani & Rodger, 2007)- learning strategies used as therapeutic tools in Occupational Therapy interventions
Part III: Ch 15	Case studies in placement settings without an established occupational therapy role (role emerging)	Uses case studies to provide an overview of how the text can be used within role-emerging placement settings.	Book chapter		Not applicable	<ul style="list-style-type: none"> • Occupation-centred principles • Occupation-centred theory • Occupational Therapy Intervention Process Model (Fisher, 2009) • Canadian Model of Occupational Performance and Engagement (CAOT, 2007) • Canadian Practice Process Framework (CAOT, 2007)
7.	Dancza K., Copley, J., Rodger, S. & Moran, M. (2016) The development of a theory-informed workbook as an additional support for student on role-emerging placements. <i>British Journal of Occupational Therapy</i> , 79(4), 235- 243.	Describes the development of a workbook to support students during school-based role-emerging placements in the UK.	Research study: Social constructionist perspective	14 occupational therapy students 3 off site supervisors	United Kingdom	<ul style="list-style-type: none"> • Contemporary occupational therapy theory-occupation-centred practice • Occupational performance analysis • Occupational therapy model • Occupational Therapy Intervention Process Model (Fisher, 2009)- used throughout workbook.
8.	Di Tommaso, A., Wicks, A., Scarvell, J. & Isbel, S. (2018). Uncovering educator perspectives of occupation-centred education in Australia: A qualitative study. <i>Australian</i>	To uncover Australian educator perspectives of occupation in occupational therapy education.	Research study: Qualitative research framework	8 University based occupational therapy educators from 6 Australian Universities, 4 of these were Practice education coordinators	Australia	<ul style="list-style-type: none"> • Occupation • Occupational perspective of health and wellbeing • Occupation-based practice • Occupation-based approaches • Occupational perspective • Bottom up approaches • Occupational science • Occupation centred teaching • Occupation centred curriculum

Table 1 Charting Tool

Occupational Therapy Journal, 66(2), 174-182.					<ul style="list-style-type: none"> Theoretical models Occupational therapy models Canadian Model of Occupational Performance and Engagement (CAOT, 2007) Model of Human Occupation (Kielhofner, 2008) <p>Themes emerged:</p> <ul style="list-style-type: none"> Occupation is our framework Occupation-centred education Occupation for health philosophy 		
9. Frigo, N., Hanneman, E., Kashale, A., Sutton, M., Wright, E. and Jewell, V. D. (2019) Utility of the occupation-centred intervention assessment for occupational therapy level I fieldwork. <i>International Journal of Practice-based learning in health and social care</i> , 7(1), 64-74.	To examine the utility of the occupation-centred intervention assessment (OCLIA) among occupational therapy students and their perceptions of the use of an occupation-centred approach to design interventions during level I fieldwork.	Research study: Survey	25 occupational therapy students	America	<ul style="list-style-type: none"> Occupation-centred approach Occupational therapy process Occupation based/ occupation focussed Occupational Therapy Practice Process Framework (AOTA, 2014) <p>Models of practice</p> <ul style="list-style-type: none"> Occupation- focussed models Models of practice <p>Top 3 occupation- focussed models used in Australia curriculum (Ashby & Chandler, 2010) include:</p> <ul style="list-style-type: none"> Canadian Model of Occupational Performance and Engagement Model of Human Occupation Person Environment Occupation Performance Model 	<ul style="list-style-type: none"> Client centred Biomechanical model 	<ul style="list-style-type: none"> Reflection/ self-reflect Reflection tool
10. Hanson, D. (2015) Closing the Practice-Theory Gap during fieldwork. <i>OT Practice</i> , Nov 9, 13-14.	Discussion of fieldwork issue with reference to publications.	Fieldwork issues short paper	Not applicable		<ul style="list-style-type: none"> Occupation focussed theory Theory Advancement Process (Leclair et al, 2013) Occupation- focussed models <p>Three most commonly taught models in OT programs identified in a study by Ashby & Chandler (2010)</p> <ul style="list-style-type: none"> Canadian Model of Occupational Performance and Engagement Model of Human Occupation Person Environment Occupation Performance Model 		<ul style="list-style-type: none"> Reflection and action
11. Hanson, D. (2013) Learning to use occupation as treatment during level II fieldwork. <i>OT practice</i> , March 11, 7-8.	Discussion of fieldwork issue with reference to publications.	Fieldwork issues short paper	Not applicable		<ul style="list-style-type: none"> Occupation Occupation- based ideals Occupation-centred approaches Occupation- centred practice Occupation based approach Theoretical model or framework 	<ul style="list-style-type: none"> Child centred treatment 	<ul style="list-style-type: none"> 'Thinking out loud' (Copley, Rodger, Hamry & Graham, 2011) Modelling Debriefing and feedback Providing prompts and structures
12. Hanson, D. (2013) How do students learn the skills needed for client- centred practice? <i>OT practice</i> , Nov 4, 7-8.	Discussion of fieldwork issue with reference to publications.	Fieldwork issues short paper	Not applicable		<ul style="list-style-type: none"> Value of occupations 	<ul style="list-style-type: none"> Client centred care/ practice Therapeutic use of self/ relationships 	Summary of Maloney and Griffith (2013) included: <ul style="list-style-type: none"> Increasing self-awareness when delivering client centred care Receiving feedback was beneficial Practical experience valuable to apply abstract concepts from academic learning
13. Kaelin, V. C. and Dancza, K. (2019) Perceptions of occupational therapy threshold concepts by students in role emerging placements in school settings experienced applying threshold concepts and how it impacted on their learning. <i>Australian Occupational Therapy Journal</i> , 66, 711-719.	To examine how occupational therapy students on role-emerging placements in school settings experienced applying threshold concepts and how it impacted on their learning.	Research study: Social constructivism, qualitative design	13 occupational therapy students 1 occupational therapy supervisor	Switzerland	<ul style="list-style-type: none"> Occupation- centred practice Occupational therapy process Occupational Therapy Intervention Process Model (Fisher, 2009) 	<ul style="list-style-type: none"> Client centredness/ client centred practice 	<ul style="list-style-type: none"> Pedagogy Threshold concepts (Nicola- Richmond, Pepin & Larkin, 2018) Scaffolding for student learning (Chaiklin, 2003) Knowledge required for being a professional Dispositional knowledge, domain- specific conceptual knowledge, domain specific procedural knowledge (Dancza, Copley & Moran, 2019) Reflection/ Reflective logs
14. Leclair, L.L., Ripat, J. D., Wener, P. F., Cooper, J. E., Johnson, L. A., Davis, E. L., O., & Campbell-Rempel, A. (2013) Advancing the use of theory in occupational therapy: A collaborative process. <i>Canadian Journal of Occupational Therapy</i> , 80(3), 181-193.	To develop a process that occupational therapists could apply to advance theory in practice.	Research study: Review of the literature and a qualitative instrumental case study design	11 occupational therapy students 8 occupational therapy Practice educators	Canada	<ul style="list-style-type: none"> Theory Advancement Process (TAP) developed for students, academic staff and occupational therapists to work together to advance theory in practice Theories about occupation Occupation focussed theories Theoretical models Occupational Performance Process Model (Fearing, Law & Clark, 1997) Canadian Practice Process Framework (Polatajko, Craik, Davis, & Townsend, 2007) KAWA <p>Draws on studies in background which have investigated and evaluated application of theory in practice</p> <ul style="list-style-type: none"> Canadian Model of Occupational Performance (CAOT, 1997) Model of Human Occupation (Kielhofner, 2008) 	<ul style="list-style-type: none"> Evidence based practice Knowledge translation approaches 	<ul style="list-style-type: none"> Adult learning Theory (Knowles, Holton & Swanson, 2005) Cycles of reflection and action Guided reflective questions Reflection- action aspect of TAP Reflecting critically
15. Raiz, A. (2007). Service learning in an occupation- based curriculum: student commentary. <i>Occupational Therapy in Health Care</i> , 21:1-2, 61-69.	Discussed 2 service-learning experiences in depth from a second-year student's perspective.	Reflective, narrative accounts	An occupational therapy student reports on two service learning experiences	America	<ul style="list-style-type: none"> Occupation based practice Occupational science Occupation based curriculum Occupation based activities Occupational Therapy Practice Process Framework (AOTA, 2002) A theoretical model used to guide the design of a program documented in written assignment- which one not stated. Approach to working with a client drew from various occupational therapy theoretical models, including Ecology of Human Performance Model 	<ul style="list-style-type: none"> Component- based, medical model (replaced by occupation- based practice) Emotional intelligence Positive Behavioural Supports Social competence programming 	<ul style="list-style-type: none"> Reflection Feedback
16. Ripat, J., Wener, P. & Dobinson, K. (2013) The development of client- centeredness in student occupational therapy. <i>British Journal of</i>	To gain an understanding of occupational therapy students' perceptions of the curricular and practice experiences that contribute to their client-centred development.	Research study: Grounded theory	20 occupational therapy students 6 new graduate occupational therapists	Canada		<ul style="list-style-type: none"> Client centred approach Client- centred practice Client- centredness/ client centred models 	<ul style="list-style-type: none"> Reflective practice Reflexivity Just right challenge Synthesis and integration of client centred learning Modelling student- centredness

Table 1 Charting Tool

Occupational Therapy, 76(5), 217-224.							
17. Towns, S. & Ashby, S. (2014) The influence of practice educators on occupational therapy students understanding of the practical applications of theoretical knowledge. Phenomenological study into student experiences of practice education. <i>Australian Occupational Therapy Journal</i> , 61, 344-352.	To explore students' perceptions about the influence of practice educators on their understanding of the use of occupation- focussed models in practice.	Research study: Qualitative study design using phenomenological approach	6 occupational therapy students	Australia	<ul style="list-style-type: none"> • Occupation- based practice • Bottom up approach • Occupation- based therapy • Occupation- focussed models- described as disciple- based theories <p>Occupation focussed models included in curricula of student participants:</p> <ul style="list-style-type: none"> • Canadian Model of Occupational Performance and Engagement (Townsend & Polatajko, 2007) • Model of Human Occupation (Kielhofner, 2008) • Person- Environment-Occupation (Law, Cooper, Stewart, Righy & Lettis, 1996) • Kawa Model (Iwama, 2006) 	<ul style="list-style-type: none"> • Practice based evidence • Evidence based practice • "biomedical stuff" (pg 347) technical skill based knowledge • Biomechanical and motor relearning frames of reference • Component performance-driven practice 	<ul style="list-style-type: none"> • Reflection • Feedback
18. Treseder, R. & Polglase, T. (2013) Intervention knowledge and skills on placement. In: The occupational therapy handbook: Practice education. Kewwick: M&K publishing.	Chapter will address principles of intervention as part of the occupational therapy process.	Book chapter	Not applicable		<ul style="list-style-type: none"> • Occupational therapy process • Therapeutic value of occupation • Theoretical approaches • Theoretical frames of reference and approaches 	<ul style="list-style-type: none"> • Client centred practice • Viewing holistically- physical, psychological and social aspects of individuals • Evidence base • Psychological approaches (cognitive behavioural approach, psychodynamic, humanistic) • Physical approaches (bio-mechanical, compensatory, rehabilitative) • Developmental (normal movement, sensory integration, sensorimotor integration, motor re-learning, remedial approaches, activities of daily living, sensory stimulation, sensory integration) • Social approach • Adaptive • Educational 	<ul style="list-style-type: none"> • Reflective questions included at end of chapter to support student learning
19. Vermaak, M. E. & Nel, M. (2016). From paper to practice- academics and practitioners working together in enhancing the use of occupational therapy conceptual models. <i>South African Journal of Occupational Therapy</i> , 46(3), 35-40.	To investigate the use of conceptual models by occupational therapy practitioners in the Free state, South Africa to inform collaborative efforts in the process of reinforcing the link between theory and practice, by enhancing the use of occupational therapy conceptual models.	Research study: Cross sectional study	20 occupational therapy Practice educators	South Africa	<ul style="list-style-type: none"> • Occupation based practice • Occupational therapy process • Occupation- based theory • Occupational therapy conceptual models • Theoretical models • Models included in curricular at the student participants University <p>Models mentioned by participants:</p> <ul style="list-style-type: none"> • Model of Human Occupation (Kielhofner, 2008) • Kawa Model (Iwama, 2006) • Canadian Model of Occupational Performance and Engagement (CAOT, 2007) • Person Environment Occupation Performance Model (Christiansen & Baum, 1997) • Activity Model (Pretorius, 1997) • Vona Du Toit Model of Creative Ability (Du Toit, 2004) 	<ul style="list-style-type: none"> • Biomedical model in most health care settings • Impairment focussed biomedical approach 	

Findings

The 19 publications (Table 1) comprised peer reviewed journal articles reporting studies involving primary data collection (12), opinion pieces, fieldwork issues reports or narrative accounts (5), and books (2). Two of the peer reviewed journal articles reported on the same research study while the two different books included specific chapters, one chapter from one book (Treseder & Polglase, 2013) and six chapters from another (Dancza & Rodger, 2018).

Research involving primary data collection was conducted in the following countries: Australia (4), Canada (2), America (2), United Kingdom (1), Switzerland (1) and South Africa (1). Locations for primary data collection were often referred to broadly as placements without specifying the setting or clinical population, except for a university based paediatric clinic (Copley et. al, 2011; Copley et. al. 2010) and schools (Dancza et. al., 2019; Dancza et. al 2016; Kaelin & Dancza, 2019). Participant groups included practice educators, university educators, new graduates and, most commonly, students. Nine research studies described qualitative methodologies including exploratory, phenomenological and social constructionist perspectives. Two used a quantitative research framework consisting of an exploratory survey (Ashby & Chandler, 2010) and a post-test survey following a training event in which descriptive statistics were used to analyse closed-ended questions (Frigo et al., 2019). Interviews were most frequently used to collect data. Participant numbers ranged from 6- 65, with a mean of 21. Below is a narrative summary of the data extracted in relation to the three knowledge types: discipline-specific knowledge; related knowledge; and educational knowledge.

Discipline-Specific Knowledge

Multiple terms were used to describe or refer to aspects of occupation in a practice education context, and these were not well defined. Many different terms were used which a) incorporated occupation and theory, b) described the occupational therapists outlook or c) linked occupation and practice. Table 2 presents discipline-specific knowledge terms which were used. [Table 2 here]

Table 2. Discipline-specific theory terms used

Terms which incorporate occupation and theory	Terms which describe the occupational therapists' outlook	Terms which link occupation and practice
<ul style="list-style-type: none"> • occupation-centred theories (Dancza, Copley & Moran, 2019; Dancza & Rodger, 2018) • occupation-based theory (Vermaak & Nel, 2016) • occupation-focused theory (Ashby & Chandler, 2010; Hanson, 2015; Leclair et al., 2013). 	<ul style="list-style-type: none"> • an occupation-centred perspective (Dancza & Rodger, 2018) • an occupational perspective (Di Tommaso et. al., 2019) • having occupation-centred principles (Dancza & Rodger, 2018) • having occupation-centred ideals (Hanson, 2013a). 	<ul style="list-style-type: none"> • occupation-based practice (Dancza & Rodger, 2018; Di Tommaso et al., 2019; Raiz, 2007; Towns & Ashby, 2014; Vermaak & Nel, 2016), • occupation-centred practice (Copley, Rodger, Graham & Hannay, 2011; Dancza & Rodger, 2018; Hanson, 2013a; Kaelin & Dancza, 2019), • occupation-focused practice (Dancza & Rodger, 2018; Towns & Ashby, 2014) • occupation-centred (Bergner, 2018; Copley et al., 2011; Copley, Rodger, Hannay & Graham, 2010; Frigo et al., 2019; Hanson, 2013a) • occupation-based approaches (Di Tommaso et al., 2019; Hanson, 2013a).

Limited use of proposed definitions, documented within the profession, have been used in occupational therapy literature (Di Tommaso et al. 2019). Within the included publications, an exception was Dancza and Rodger (2018), who referred to the definitions by Fisher (2013) of occupation-centred, occupation-focused and occupation-based practice, which appear to be increasingly accepted within the profession (Di Tommaso et al., 2019). Terms such as ‘occupation-focussed models’ and ‘frames of reference’, were referred to globally as theory by the authors of one study and used interchangeably by student participants (Towns & Ashby, 2014).

Occupational therapy conceptual models were presented as important, discipline-specific knowledge within a practice education context (Towns & Ashby, 2014). Again, a range of terms were used for these models, including occupation-focused models (Ashby & Chandler, 2010; Hanson, 2015; Towns & Ashby, 2014), occupation-based models (Bergner, 2018), occupational therapy models (Dancza, Copley, Rodger & Moran, 2016) and theoretical models (Leclair et al., 2013; Vermaak & Nel, 2016). Occupational therapy conceptual models were presented as essential to include in curriculum design (Ashby & Chandler, 2010) because they provide a theoretical basis for practice and reflect the contemporary paradigm (Ashby & Chandler, 2010; Bergner, 2018). These models were proposed to support students’ understanding of the practical application of theory during placements (Towns & Ashby, 2014) and their developing reasoning and practice choices (Bergner, 2018).

Related Knowledge

A broad range of related knowledge was referred to in the publications. This included therapeutic use of self (Hanson, 2013b), emotional intelligence (Raiz, 2007), holistic practice (Dancza & Rodger, 2018) and client or child-centred practice (Bergner, 2018; Copley et al.,

2010; Dancza & Rodger, 2018; Frigo et al., 2019; Hanson, 2013b; Hanson, 2013a; Kaelin & Dancza, 2019; Ripat, Wener & Dobinson, 2013; Treseder & Polglase, 2013). There was evidence that these forms of related knowledge were integrated within occupational therapists' work with clients and made part of the students' learning experience during placements. An example is Copley et al.'s study (2010), which reported that the use of child-centred care principles enhanced students' learning of occupation-centred approaches. In the same study, students also learned how to implement specific occupation-centred approaches, for example Cognitive Orientation to Occupational Performance (Polatajko, Mandich & Martini, 2000) and Perceive, Recall, Plan, Perform (Chapparo & Ranka, 1996), which were also described as being child-centred (Copley et al., 2010).

Some publications presented related knowledge that originated from a medical model as conflicting with the contemporary occupational paradigm. Incongruence was identified between medically dominated health care settings and occupational therapy philosophy (Di Tommaso et al., 2019), with biomedical practice and occupation-based practice considered as representing different, and often opposing, views of health care (Vermaak & Nel, 2016). Biomedical practice was referred to using the terms "component-based, medical-model types of practice" (Raiz, 2007, p. 62) and "impairment focused biomedical approach to practice" (Vermaak & Nel, 2016, p. 35). These authors referred to the notion of occupation in practice as replacing past component or impairment-focused approaches or practices, indicating that knowledge and practice has changed from a biomedical paradigm to the use of occupation associated with the contemporary paradigm.

A dissonance between university-based teachings and students' placement experiences was also identified (Ashby & Chandler, 2010; Bergner, 2018; Towns & Ashby, 2014), leading to a mismatch between students' expectations of what they thought they would see and do during placement and what they did in current service structures. When

associated with a medical model, students attempted to reconcile the practices they observed with their intentions of using occupation in practice, learnt at university. Towns and Ashby (2014) discussed how students' placement experiences led them to assume that biomedical knowledge and associated practical skills were valued more highly than discipline-specific knowledge. In addition, when practice educators did not articulate their underlying discipline-specific knowledge, students often assumed that the practice educator was not basing their judgements on theory. Finally, Towns and Ashby (2014) described that when practice educators devalued students' appreciation of theory use in practice, students focused on practical skills as an alternative. Di Tommaso et. al. (2019) identified practical skills such as measuring joint range as being considered easier to master than the more complex assessments of occupational performance.

Specific practice-based examples were rarely used to convey how theoretical knowledge was used when working with clients. When practice-based examples were provided, related knowledge seemed to dominate occupational therapist's decision-making. For example, a baking session with a client following a traumatic brain injury was described as addressing performance components, namely balance and endurance (Frigo et al., 2019). Another example involved a hand therapy session using putty for grip strength and advising the client to practice their grip strength while baking at home (Treseder & Polglase, 2013).

Educational Knowledge

Educational theoretical knowledge in the publications included formalised educational theories and educational methods, which were each used in different ways. Educational theories were rarely described as being used in the conscious design of educational methods to support student learning. When educational theories were mentioned, it was often in relation to interpreting the research findings. For example, Copley et al. (2010) used Schon's

(1987) work on developing reflective practitioners to enhance understanding of student experiences when learning to use occupation-based approaches. These authors associated students' difficulty when responding spontaneously to unforeseen events during client assessments with the concept of reflection-in-action, considered foundational to on-the-spot experimentation (Schon, 1987). Similarly, Dancza et al. (2019) drew on the categories of knowledge identified by Billet (2010) to describe the differences between role emerging and traditional placements in students' learning pace and reliance on their own reasoning. This was associated with the more limited access to profession-specific knowledge during role emerging placements than in traditional placements.

Educational methods, such as providing opportunities for repeated theory use during placements and grading the complexity of learning experiences, were also identified. Several publications (Copley et al., 2011; Copley et al., 2010; Dancza et al., 2016; Dancza & Rodger, 2018; Kaelin & Dancza, 2019) used the term scaffolding to describe the provision of intentional supports that could be reduced as students incrementally developed independence and mastery. In some cases, authors linked the concept of scaffolding with Vygotsky's (1978) work on the Zone of Proximal Development which considered the difference between students' actual developmental levels or abilities and that which they could potentially achieve with facilitation and guidance from someone more capable. Copley et al. (2011) used Vygotsky's Zone of Proximal Development (1978) to explain how students' cognitive processes developed with a capable practice educator enabling more advanced problem-solving processes than the student would have managed by themselves. During placements, learning opportunities within the Zone of Proximal Development were considered more effective (Dancza et al., 2016), supporting the development of problem-solving processes that equipped students for future independent practice (Copley et al., 2011).

Publications commonly referred to the Novice to Expert model of skill acquisition by Dreyfus and Dreyfus (1986). With experience, a learner progresses from being a novice to the subsequent stages of advanced beginner, competent, proficient, and finally expert. During the novice stage, learners recognise objective facts and features of a situation and use rules to determine their actions. For example, when working with students (novices) during practice education, it was proposed that educational methods should accommodate the learners' need to follow the structured approaches offered by rules, routines and established procedures, particularly in the early stages of the placement (Copley et al., 2011; Copley et al., 2010; Dancza & Rodger, 2018). While clear structures were considered important for students, so too was transitioning to becoming less reliant on rules and developing as independent learners who were able to make active decisions (Dancza & Rodger, 2018).

Recommended educational methods included modelling and articulating theory use in practice (Copley et al., 2011; Dancza & Rodger, 2018; Towns & Ashby, 2014), and having ongoing open dialogue with students about how to use theory in practice (Hanson, 2015; Leclair et al., 2013; Towns & Ashby, 2014). Some authors asserted that practice educators need to develop their awareness of their own reasoning and use of theory in order to effectively use these educational methods (Bergner, 2018; Dancza & Rodger, 2018; Towns & Ashby, 2014). Structured learning tools to visually represent reasoning and theory use were considered helpful and took the form of diagrams, prompt sheets or templates (Copley et al., 2011; Copley et al., 2010; Dancza et al., 2016; Dancza & Rodger, 2018; Hanson, 2013; Towns & Ashby, 2014).

Discussion

This scoping review identified the ways in which theoretical knowledge is described and used in occupational therapy practice education literature. Nineteen publications were identified which focused on theory within an occupational therapy practice education context, with 11 studies involving primary data findings. Most publications were from Australia with the same authors contributing to multiple publications. Considering that theory is a central aspect of occupational therapy practice (Turpin & Iwama, 2011) and placements are valued as opportunities for students to apply theory in practice (Leclair et al., 2013; Roberts et. al., 2015; Towns & Ashby, 2014) a greater body of research exploring the use of theoretical knowledge within a practice education was expected.

Within the included publications, inconsistencies were identified in relation to the ways in which discipline-specific and related knowledge were described and used. Educational knowledge was identified and could potentially offer further ideas to guide practice educators in how to support students' learning on placement. In the following sub-sections, results are discussed in relation to: challenges in using discipline-specific and related knowledge during placement; educational knowledge solutions; and practice educators' learning.

Challenges in Using Discipline-Specific and Related Knowledge During Placement

Discipline-specific knowledge was described in terms of occupation, consistent with the contemporary paradigm. However, multiple terms which were not well defined made it difficult to know whether terms were being used to describe the same or different concepts. In some cases, a complimentary coexistence was evident when related knowledge was used with discipline-specific knowledge, for example, using client-centred practice and occupation-centred practice together. However, polarisation appeared to exist between the

use of occupation (contemporary paradigm) and the impairment focused practices associated with biomedical knowledge and the medical model. Knowledge relating to impairments, performance components or body functions and structures appeared to dominate and be used at the expense of occupation as the primary focus (examples given by Frigo et al., 2019, Treseder & Polgese, 2013).

The literature suggests that polarised views can be reconciled by integrating related knowledge with discipline-specific knowledge using a pluralistic perspective (Greber, 2018; Hinojosa, 2017; Mosey, 1985). Within a pluralist perspective, diverse types of knowledge and a broad range of interventions co-exist and are considered valid (Hinojosa, 2017). These may include practices typically associated with the medical model as well as those which focus on the central use of occupation. For example, an occupational therapist working with a client post-stroke might use their knowledge of hand anatomy and biomechanics to make a functional splint that supports the client's wrist in slight extension, resulting in the client achieving a more reliable grasp of a jar to open it during a cooking task. Advocates for a pluralistic perspective maintain that reasoning must be logical (as opposed to a random selection of convenient ideas or approaches) and occupation needs to remain centrally important (Greber, 2018; Hinojosa, 2017). In the example above, a focus on the occupation is maintained but progress is made possible using related knowledge. In this way, an occupational therapist applies their knowledge of environmental contexts, activity demands and body structures when needed, whilst maintaining a primary focus on occupational performance outcomes.

As the contemporary paradigm underpins reasoning, occupational therapists need to ensure that when information from other sources is adopted, their professional philosophy is their primary guide (Gustaffson, Molineux & Bennett, 2014). Without this continued focus on occupation, there is the possibility that the profession could realign with the biomedical

paradigm once again, thus posing a risk to its professional identity and the ability to utilise its unique occupational contribution with clients (Gustaffson et.al., 2014). Exploring with students the terms used to describe discipline- specific knowledge and the distinction between discipline-specific and related knowledge, including the ways in which these bodies of knowledge can be usefully integrated to support occupational outcomes, is important to guide their professional reasoning and decision making. Clear definitions which avoid multiple terms, which can lead to multiple understandings (Howarth et.al., 2018), along with examples of how theory integration can inform what occupational therapists do, are required to support students' learning.

Educational Knowledge Solutions

Educational theory, as referred to in the reviewed publications, could further inform the conscious design of educational methods so that practice educators can teach students how theoretical knowledge is used to inform reasoning and decision-making in practice. Educational methods used to teach students to understand theory and its use in practice have been identified as an important focus for academic inquiry to inform occupational therapy educators (Howarth et. al., 2018; Miller & Roberts, 2020). The results from this scoping review indicate that, while there is some reference to the use of educational knowledge informing practice education educational methods, this practice is not universal and more needs to be done.

Commonly referred to in the included publications was the work of Dreyfus and Dreyfus (1986), who identified five levels of learning from novice to expert. Practice educators need educational methods which are suited to a student's novice status (Naidoo, van Wyk & Dhunpath, 2019), and therefore enable the recognition of features and facts, and apply defined 'rules', to determine how to act (Dreyfus & Dreyfus, 1986). In other words,

educational methods need to make clear the relevant facts and features of theoretical knowledge used in practice and ‘rules’ about when and how this information should be used. However, it is important that these ‘rules’ do not equate to a recipe or a defined set of protocols. If reasoning is broken down to decontextualised components, opportunities for learners to develop capability are reduced, leading to students not being adequately prepared for the complexity of health care environments (Patton & Christensen, 2019). As an alternative to rules or protocols, principles can be used to provide a foundation upon which students can build increasingly sophisticated frameworks for decision-making as their experience and knowledge develops (Naidoo, et. al. 2019). These principles could address the reported dissonance between university and practice-based learning experiences by serving as scaffolds, enabling students to make connections between existing knowledge from classroom-based learning with new information from the professional practice context (Naidoo et. al., 2019). Challenges in students learning to use theory in practice are not unique to practice education (Ashby & Chandler, 2010). Both university and practice-based educators have a vital role in enabling students to use theory in practice (Di Tommaso et al., 2019), particularly with the increased focus on simulation and early university-based practice placement experiences in preparation for longer practice-based placements (Bennett et al., 2017). Therefore, the development of comprehensive education programs which focus on the use of theory, including discipline-specific and related knowledge, and how to integrate the two in practice, are indicated.

To teach theory use to students on placement, practice educators must be cognisant of their own use of theory (Bergner, 2018; Dancza & Rodger, 2018; Towns & Ashby, 2014). However, a characteristic of experts is that they make decisions intuitively and automatically and may have little awareness of their own thinking (Dreyfus & Dreyfus, 1986). Therefore, developing an awareness about the varied sources of discipline-specific and related

knowledge from which practice educators draw to inform their reasoning and decision-making is a useful first step. The Professional Learning through Useful Supports (PLUS) Framework (Dancza et al., 2021) focuses on guidance strategies for practice educators to support students' learning on placement. The PLUS Framework identifies the value of practice educators reflecting on their own theory-to-practice links to enable them to make intuitive decisions explicit as they articulate and model their own use of theory in practice (Dancza et al., 2021).

A scoping review by Miller and Roberts (2020) identified visual representations such as tools, models and frameworks as useful in representing core concepts of discipline-specific knowledge linked to practice. Publications in this scoping review similarly identified the use of visual representations of reasoning and theory use (Copley et al., 2011; Copley et al., 2010; Dancza et al., 2016; Dancza & Rodger, 2018; Hanson, 2013a; Towns & Ashby, 2014) and occupational therapy conceptual models as options to support students to understand or use theory in their practice (Bergner, 2018; Dancza & Rodger, 2018; Vermaak & Nel, 2016). However, literature is limited on how they could be incorporated into the conscious design of educational methods used on placements.

Practice Educators' Learning

Although not included in the remit of this study, it is important to note that practice educators' reasoning and decision making is also influenced by personal theory, described as "personally held ideas" that influence the way we practice (Fish & Boniface, 2012, p. 17). The continuously evolving nature of theoretical knowledge use in practice, prompted by review and reflection, together with the use of personal theories, means that the way in which practice educators use theory in their practice is not static. Becoming a practice educator has been proposed as a way to reconnect with contemporary theory and, in turn, enhance the

focus on occupation in one's practice (Gillen & Greber, 2014). Learning about theory use in practice can occur simultaneously and collaboratively between practice educators and students, with mutually beneficial outcomes for learning and practice. Practice educators learning about, developing, and consciously sharing their theory use could, at least in part, address the dissonance reported by students by helping students to bring together their university-based theory learning with their experience of theory use in practice during placements.

Limitations and Recommendations for Future Research

Scoping reviews aim to summarise and disseminate the range and nature of current literature (including peer reviewed and non-peer reviewed publications) rather than make evidence-based recommendations (Levac et. al. 2010). A broad range of publications have been included without quality appraisal as this is not considered within the remit of a scoping review (Arksey & O'Malley, 2015).

While some information was absent in the selected publications (e.g. definitions and discussion about the nature of occupation), it is acknowledged that this knowledge is present in occupational therapy literature outside of the selected publications. However, the absence of clearly stated information about the nature of theory within occupational therapy practice education literature signifies a limited focus on important professional concepts in the practice education context.

This scoping review has identified ways in which different types of theory are described and used in a practice education context. Future research is needed to support the development of educational methods that provide structured approaches to integrate the use of related knowledge with discipline-specific knowledge within an occupational framework.

Conclusion

During practice education, theory is used which is derived from within the profession (discipline-specific knowledge), outside of the profession (related knowledge) and related to learning and teaching (educational knowledge). While these are distinct forms of knowledge, they need to be clearly defined and meaningfully integrated to support theory informed practice. Educational methods need to be developed to offer principles as a foundational platform to structure students' thinking about theoretical knowledge used in practice. Practice educators having an awareness of their own use of theory in practice is a useful first step and can lead to supporting students to connect practice-based experiences with university-based learning. Students can develop more complex reasoning processes as they progress from novices to more advanced learners. Practice education provokes both practice educators and students to reflect on the use of theoretical knowledge in practice, the learning outcomes of which are symbiotic for student and educator. This reflection and learning can help strengthen practitioners' rationale for, and use of, integrated theoretical knowledge that supports occupation-centred practice.

Key Points for Occupational Therapy

- Theory use in practice could be developed using recognized terms and examples in practice and in the literature of how discipline- specific and related knowledge are integrated.
- Practice educators explicating theory use in their own practice could support students to connect university- based learning with practice-based experiences.
- Educational theory can inform structured educational methods which support practice educators and students to use theory in practice education within an occupational framework.

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