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FEATURE ARTICLE

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Moving from theory to practice in occupational therapy education for planetary health: A theoretical view

Ka Yan Hess | **Tanya Rihtman**

Oxford Brookes University, Oxford, UK

Correspondence
Tanya Rihtman, Department of Sport, Health Sciences and Social Work – Occupational Therapy Programme, Oxford Brookes University, Faculty of Health and Life Sciences, Jack Straws Lane, Marston, Oxford OX3 0FL, UK.
Email: trihtman@brookes.ac.uk

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Abstract

Introduction: There remains a dearth of easily implemented strategies for translating environmental and sustainability policy into practice within occupational therapy education. In this context, the research-implementation time lag is problematic because time is of the essence when seeking evidence-based educational strategies to address planetary health challenges. The undertaking of practical experimentation to develop strategies for policy implementation and translation is challenged by the urgency of the issues faced.

Purpose: This paper aims to contribute to conversations around translating awareness of planetary health to practical action for occupational therapy education by proposing a framework for practical "doing" skills, based on conceptually sound, theoretical foundations that support likely efficacy.

Methods: Three skills are suggested as a means to close the theory-practice gap while incorporating what is known about educational processes supporting the transition from novice to expert occupational therapy practitioner. The first skill proposed is a rethinking of essential forms of clinical reasoning, with the introduction of environmental and sustainable reasoning as mandatory. Founded in an adoption of "two-eyed seeing," the second skill emphasises bidirectional questioning for climate-just, person-centred care. The third skill explores interprofessional educational collaboration for environmental sustainability.

Conclusions: Acknowledging the centrality of novice practitioner as part of occupational therapy learner professional identity requires appropriate strategies for learning clinical reasoning skills related to environmental sustainability, planetary health, and the potential discomfort of authentic bidirectional questioning. Implications of adopting these strategies are discussed in relation to their potential contribution to positive change for the occupational therapy profession and wider society.

KEYWORDS
"two-eyed seeing"; bidirectional questioning; climate-just, person-centred care; clinical reasoning; environmental reasoning; planetary health; policy implementation; sustainable reasoning

1 | INTRODUCTION

The American Occupational Therapy Association (AOTA) defines occupational therapy as "the therapeutic use of everyday life occupations ... for the purpose of enhancing or enabling participation. Occupational therapists use their knowledge of the transactional relationship among the client, the client's engagement in valuable occupations, and the context to design occupation-based intervention" (AOTA, 2020, p. 1). Within occupational therapy practice, "context" is viewed as the interaction of varied "environmental factors," which include individuals' physical, social, and attitudinal surroundings (AOTA, 2020). At the profession's core, occupational therapy considers the impacts of interactions between the person, their occupations (i.e., things that people want or need to do) and their environments. This introduces an inherent professional awareness of the reciprocity between what people do and their surroundings, providing occupational therapists with a unique opportunity to promote sustainable occupations in support of global efforts to combat climate change and lifestyle disease (AOTA, 2020). Indeed, it could be argued that for occupational therapists, engagement with environmental sustainability is fundamental to the achievement of our professional purview (Aoyama, 2014; Lieb, 2020).

Planetary health refers to the health of human civilisation in combination with the state of the essential natural systems (Whitmee et al., 2015). Founded on the view that human health and civilisation depend on the health and wise stewardship of natural systems (Whitmee et al., 2015), planetary health necessitates an urgent transformation of human values and practises in light of the interdependence and interconnectedness of human and environmental risks (Horton et al., 2014). Recent decades have welcomed much needed environmental and sustainability policies that provide structure for agreed actions for change (United Nations, 2015, 2021; World Health Organisation, 2021). However, despite agreement about its urgency, explicit strategies and skills for environmental and sustainability policy implementation, particularly within educational contexts, remains abstract and sparse. Foster et al. (2019) note the aspirational yet abstract nature of planetary health principles, resulting in the need to develop more explicit solutions. Moreover, Gray (2019) reminds us of the culturally bound nature of human thinking. Thus, while this progress from policy to principle is useful, implementation guidance, strategies, and skills must be developed to support real-world actions (Prescott et al., 2018).

Key Points for Occupational Therapy

- Occupational therapy learners require graded strategies for learning clinical reasoning skills; environmental and sustainable reasoning should be considered.
- Bidirectional questioning may interrogate environmental impacts of assumptions of individual centrality in person-centred care.
- Curriculum design should embed opportunities for cross-disciplinary environmental and sustainability advocacy in health care.

Human occupations are the primary cause of climate change and environmental degradation (Lieb, 2020), with alterations to water, land, and ecosystems impacting on all life on earth, and with severe implications for human health (The Lancet Planetary Health, 2017). The health sector has a crucial role to play (Brand et al., 2021) in preparing for current and future environmental and sustainability physical and mental health impacts (Clayton, 2020; Wu et al., 2020). However, to date, responses from health-care education for the urgent planetary health issue are mainly presented from a medical lens. For example, Finkel (2019) proposes that medical schools should embed curricula that enable graduates to address health risks associated with climate change and highlights the rate at which these changes are occurring in United States medical schools. In the same context, Tun (2019) notes that identifying space in educational curricula poses a challenge to embedding sustainability within medical education despite increasing demands from medical students to do so, while Walpole et al. (2017) propose that international collaboration might be an important strategy for doing so.

The prevalence of this medical lens in health-care sustainability education seems to exist despite the unique placement of allied health professionals to support health promotion and disease prevention (Brand et al., 2021; Morris & Jenkins, 2018). It is encouraging that, in recent years, more literature exploring their potential roles for sustainability is emerging (Leffers et al., 2017; Maric et al., 2021; Smith et al., 2020). Smith et al.'s (2020) scoping review identified a central theme of embedding environmental sustainability in occupational therapy curricula, while Walpole et al. define sustainable health-care

education as "teaching and learning approaches that equip educators to develop students' knowledge, skills, worldviews, and practices based on the interdependence of ecosystems and human health, in order to contribute to a more sustainable human existence" (Walpole et al., 2017, p. 1041). However, the literature exploring how to achieve this is scarce, while within occupational therapy, there remains an absence of evidence-based environmental and sustainability educational skills and strategies.

Within occupational therapy theory and practice, occupational injustice can only be addressed through understanding of the structural and contextual factors that mediate parity of access to enhanced health and disease prevention (Lieb, 2020). In the quest for implementation for environmental and sustainability allied health professional education, one should be mindful of Foster et al.'s (2019) warning that narrow focus on cost-effectiveness and valuation of natural capital are vulnerable to political interests. This concern is echoed through the call to move away from overly simplistic "reduce, reuse, recycle" slogans, by the recommendation to add consideration of the triple bottom line. Originally coined in an economic context (Elkington, 2013), the triple bottom line prompts organisations to evaluate their actions based on social, environmental, and economic impacts, over and above purely financial gains. Obeng-Odoom (2020) points out that, in addition to uneconomic growth, increasing global inequality and social stratification are additional drivers of the global sustainability crisis. The triple bottom line was never meant to constitute an accounting exercise (Elkington, 2018) but rather a means to ask disruptive questions for climate justice (Sultana, 2022). Adopting additional refinements within health-care education is necessary. For example, consideration of poverty alleviation (Persson & Erlandsson, 2014) or the 3Fs (finitude, fragility, and fairness) (Nagendra, 2018) or realigning policies and strategies for disease prevention and health-care promotion within sustainable development (Potvin & Jones, 2011) can help to address the challenges of social injustice inherent in planetary health and climate justice (Nagendra, 2018: Hammell, 2021).

A health-care research-implementation time lag is well recognised (Huston et al., 2018). Unfortunately, time is exactly that which is not available when seeking evidence-based educational strategies to address environmental and sustainability challenges. It is essential to find interim practical strategies with sufficient theoretical foundations to hypothesise probable efficacy. This theoretical paper aims to contribute to conversations around translating awareness of planetary health to practical action by providing transferable/"doing" skills for occupational therapy education. Considering the aforementioned context, three practical skills are suggested as a means to close the theory-practice gap while incorporating what is known about educational processes supporting the transition from novice to expert health-care practitioner.

2 | SKILL 1: RETHINKING ESSENTIAL TYPES OF CLINICAL REASONING—INTRODUCING ENVIRONMENTAL AND SUSTAINABLE REASONING

Occupational therapy clinical reasoning refers to the thinking processes that are used to guide all stages of clinical practice (Unsworth, 2001), and which are central to support learner development from novice to expert practitioner. Observations of the skills of expert clinicians could be argued to have provided novice occupational therapists with a roadmap towards the meta-cognitive processes that are needed for clinical practice (Mattingly, 1991). Through this legacy, a number of explicit, differentiated types of clinical reasoning are now identified in the occupational therapy literature. Some forms may be viewed as straightforward and easily applied by novice practitioners, albeit with conscious effort and "recipe-style" support. Other forms of clinical reasoning are founded on more complex problem solving and enhanced meta-cognitive skills, and are thus associated with expert practice (Unsworth, 2001).

Because of the complexity of the climate challenge, teaching and learning practises underpinning the development of environmental and sustainability competent occupational therapists may be impeded by virtue of the fact that students are—by definition—novices. Because much of health-care environmental and sustainability education has a pre-registration target, there is a need to find strategies for learning practical skills that takes their novice clinical identity into account. Occupational therapy students are often reminded to explicitly articulate the more straightforward and easily applied forms of clinical reasoning to ensure that the habit of considering essential and relevant information is embedded at all stages of an occupational therapy-specific therapeutic process, which is a strategy with potential application for environmental and sustainability development.

Although different authors refer to different types of occupational therapy clinical reasoning, a number of novice-level forms of clinical reasoning are often seen as standard, including pragmatic, narrative, ethical,

scientific and diagnostic reasoning (Schell & Schell, 2008). In this vein, we propose to include an additional, foundational, entry-level form of clinical reasoning, which is deliberately differentiated from other novice forms of reasoning, namely, **Environmental reasoning** (novice): *a foundational form of reasoning whereby the therapist assesses the environmental cost of a proposed intervention or therapeutic action; when applying environmental reasoning, the therapists explicitly considers the impacts of all forms of resources required from the perspective of the potential carbon footprint (reduce/reuse/recycle level).*

Coupling this novice-level form of clinical reasoning with a more complex, expert-level form of clinical reasoning allows for the development of more advanced environmental and sustainability clinical skills. **Sustainable reasoning** (expert): *an advanced form of reasoning whereby the therapist assesses the cost of the intervention or therapeutic action being proposed from three discrete perspectives (environmental, social and financial), and consolidates costs along the triple bottom line. The social perspective is articulated using the 3Fs (*Obeng-Odoom, 2020*). This type of clinical reasoning necessitates the integration of ethical and pragmatic reasoning in that the therapeutic benefits to the individual are explicitly considered alongside environmental impacts and climate justice. Application of sustainable reasoning prompts the practitioner to seek solutions that consider societal- and global-level human health and environmental sustainability. [sustainable = environmental combined with pragmatic and ethical reasoning].*

Mandating environmental reasoning as an essential consideration for occupational therapists' practice may be a straightforward, practical strategy for supporting learners' transition from theoretical acceptance of the importance of environmental and sustainability, to the provision of tools for tackling this challenge in practice, in adherence to professional requirements for considerations of sustainability (World Federation of Occupational Therapists [WFOT], 2018). Further, by embedding an expectation for clinical reasoning that is explicitly aligned with planetary health, the paradigm that guides occupational therapy practice has the potential to be expanded, with sustainability embedded as central to professional practice and identity (Whittaker, 2012).

3 | SKILL 2: BIDIRECTIONAL QUESTIONING FOR CLIMATE-JUST PERSON-CENTRED CARE

Historically central to health-care discourse (Loughlin, 2020), person-centred care principles may arguably have inadvertently led to the prioritisation of individuals' needs over those of broader society. This centrality of the "person" in health care may lead to a unidirectional application of ethics, with limited appreciation of non-Western worldviews (Fijal & Beagan, 2019) or environmental impacts of actions. "Common morality" and "person-centrality" must be challenged if the well-being of all beings is to be prioritised (Gray, 2019; Horton et al., 2014). The time has come for occupational therapists to take responsibility for considering the balance between individual needs, global human rights, and responsibilities towards the planetary system and would be wise to appreciate perspectives that have not historically been foregrounded in occupational therapy discourse.

The International Classification of Functioning, Disability and Health (ICF) (World Health Organisation, 2001) introduced a shift of universal understanding towards disability by incorporating a social perspective: Disability results from barriers for activities and participation during human-environment interactions (Schneidert et al., 2003). However, over time, the ICF's conceptual framework has come to be seen as inadequate for considering the reciprocal impacts of the natural environment and human health and activities (Day et al., 2012). This critique also applies to occupational therapy theoretical models, which emphasise how the environment benefits or hinders individuals' participation. Whittaker (2012) raised the need for occupational therapists to explore relationships between client-centredness and sustainability of everyday activities. There is insufficient prompting to consider humans' impact on the environment, nor to address the essential ethical question of legitimacy of enabling occupations that are incompatible with ecosystem preservation (Drolet et al., 2020). Moreover, questioning is needed to address inequitable access to health-promoting occupational engagement in natural environments (Hammell, 2021). The concept of ecopation presumes that "humans have to, and are able to, change their thinking, ethics and lifestyles to increasingly reach a more sustainable way of living that has the potential to bring well-being and wealth to an increasing proportion of the world's inhabitants" (Persson & Erlandsson, 2014, p. 20). Wider adoption of this view may address concerns regarding the Western tendency to separate self from nature in the pursuit of technological development while ignoring the fact that exploitation of energy and matter is nonreversible (Huesemann, 2002). Furthermore, questioning is needed to address climate injustice as expressed in the inequitable access to health-promoting occupational engagement in natural environments (Hammell, 2021; Sultana, 2022).

Western biases too frequently underpin hierarchical organisation of scientific and environmental knowledge (Nagendra, 2018), and Fijal and Beagan (2019) call into question the seemingly ubiquitous acceptance of Western ways of knowing (which are based on assumptions of realities being singular, discovered and quantified). We are reminded that the world can be viewed through equally valid—but different—world views, and respectful engagement with different ways of knowing is essential. Founded in Indigenous modes of inquiry, "two-eyed seeing" refers to "learning to see from one eye with the strengths of Indigenous knowledges and ways of knowing, and from the other eye with the strengths of Western knowledges and ways of knowing, and using both these eyes together, for the benefit of all" (Bartlett et al., 2015, cited in Fijal & Beagan, 2019, p. 221).

If occupational therapy education leans heavily on Western views of singular truths, then the centrality of person-centred care principles as a core professional value makes sense. If, however, two-eyed seeing is adopted, and with it the assumption that there may be multiple perspectives that warrant prioritisation, then the conclusion is reached that we need to interrogate the way in which we ask questions that guide occupational therapy interventions. This proposal to move away from individualistic assumptions to more collectivist ones may be controversial within occupational therapy education and practice, particularly in the presence of the Western bias underpinning much of the hierarchical organisation of scientific and environmental knowledge (Huesemann, 2002; Nagendra, 2018), and the underpinning professional assumptions that "occupational therapy is client-centred and occupation-focused" (WFOT, 2010, p. 1). Similar biases seem to drive human interpretation of all things only from the perspective of human organisations and values (Simó Algado & Townsend, 2015) and to overlook the obvious fact that humans are just one part of the natural ecosystems in which they live (Dieterle, 2020). Further challenges are introduced by the inherent difficulty of humans to conceptualise world-views that differ from their own. But starting with the act of asking difficult questions, and demonstrating the humility needed to not only hear, but also act upon sustainability lessons emanating from the Global South (Nagendra, 2018; Naidu, 2021) as well as the amplification of under-represented voices (Wondimagegn et al., 2020) may enhance the alignment between nonmaleficence and person-centred care towards climate justice (Sultana, 2022).

Dieterle (2020) describes environmentally informed occupational therapy as a means of motivating and empowering individuals to make environmental and sustainable lifestyle changes based on the understanding that human health can benefit from environmental health. In the context of environmental and sustainable occupational therapy education, bidirectional questioning is viewed here as a "two-way" analysis of human-environment interactions that respects different ways of knowing and removes the single individual as the only focal point of health-care provision. It is a process whereby therapists and service users collaboratively identify enablers and barriers for participation versus possible harm and resource use in the environment. By respecting and adopting indigenous knowledge from collectivist viewpoints, this skill can empower individuals to be active agents that advance their doing and being towards a collective betterment for people and planet following principles of caretaking and reciprocity for the environment (Mazzocchi, 2020). Kahn et al. (2014) further argue that human, animal, and environmental health must be integrated before planetary health is achievable. In occupational therapy, some bidirectional questioning skill is embedded within the information gathering and question generation part of a collaborative occupational therapy process. However, commitments to honestly question bidirectionally, even if it is uncomfortable, are needed.

We propose the broadening of person-centred health care using bidirectional questioning: ask not only how the collective can aid the individual's needs—ask too how the individual's needs impact the collective. This proposal is embedded within the concept of "ecopation"; wider adoption of these principles may address concerns regarding the non-reversible impacts of Western tendencies to separate self from nature. Additionally, it supports calls to reframe climate change from a personal and public health perspective, as well as enhancing therapeutic skills towards climate-just person-centred care.

Health-care-related environmental sustainability and climate justice cannot be achieved without challenging the current format of person-centred care. There is a need to question the individualistic world-view inherent in blanket acceptance of the concept of person-centred care (Prescott et al., 2018), without reconciliation for the inequitable (Romanello et al., 2021) and disproportionate environmental impacts of marginalisation, oppression and exclusion (Sultana, 2022). This proposed bidirectional questioning in occupational therapy practice is based on the interconnectedness of vitality for all beings and necessitates a reconsideration of the meaning of person-centred care and ethics for nonmaleficence and justice (Prescott et al., 2018). In health promotion and disease prevention, an overemphasis is frequently placed on personal responsibility and individual behaviour change as opposed to the underpinning, collective, societal issues. In order to transform from the discourse of individualistic orientation of person-centred care to

collective rights and responsibilities, curriculum designers, educators, and students of health-care professions must find the courage and determination and be armed with knowledge, skills, and attitudes to ask disruptive questions and seek change (Atwal, 2021). It is time to rethink the ethical implications of individualistic, person-centred need and foreground the need of wider society.

4 | SKILL 3: INTERPROFESSIONAL COLLABORATION FOR ENVIRONMENTAL SUSTAINABILITY

Quality health care depends upon diverse professionals working together effectively for the benefit of service users. Interprofessional learning has come to be viewed as an essential part of health-care students' training (Pollard, 2009). The complexity of environmental and sustainability requires transcendence across health-care professional boundaries to identify novel ways to pursue environmental and sustainability practice (Maric et al., 2021). It is of particular importance that occupational therapy students learn how to collaborate specifically for planetary health—which is characterised by a high degree of interconnectedness and interdependence (Foster et al., 2019; Stone et al., 2018).

While it could be argued that all allied health professional students need to learn a tailored version of skills one and two for their own disciplines, it is paramount that these ultimately lead to collaboration for enhancing health care in sustainable ways. We propose that when occupational therapy learners are provided with opportunities for interprofessional learning (both university-based and placement-based), they are prompted to explicitly seek collaborative opportunities for environmental and sustainability learning. For pre-registration students, an extension of Walpole et al.'s suggestion of practical tasks (e.g., interprofessional sustainable quality improvement projects) (Walpole et al., 2017) is proposed to provide opportunities for students from diverse disciplines to collaborate for sustainable health care as they learn to work together.

Collaborative environmental and sustainability education for future allied health professionals is—by definition—a multistakeholder endeavour. The skill proposed here contributes a novel way of ensuring that learners develop capacities for the inherent challenges within multistakeholder collaboration through shared learning opportunities (Table 1). This is achieved through considering the internal and external conditions needed for implementation of environmental and sustainability in health-care education (Walpole et al., 2017). Ayala-Orozco et al. (2018) highlight the interactive processes inherent in multistakeholder collaboration, where diverse viewpoints and shared risks, resources, and responsibilities must come together for the implementation of collective action. Challenges that can hinder multistakeholder collaboration include (a) tensions due to divergent visions, interests and ideologies, (b) inadequate planning, project management and organisation of stakeholders, and (c) structural conditions. By having opportunities to learn tools for managing quality improvement projects under the shared vision for sustainability, students practise strategies to minimise impacts of challenges during multistakeholder collaborations (Ayala-Orozco et al., 2018). It is important to ensure that

TABLE 1 Example menu of activities for collaborative environmental and sustainability health-care education (based on internal [int] and external [ext] conditions for curriculum implementation suggested by Walpole et al., 2017).

- Identify a local champion with allocated time *(int: university leadership support; int: support from key faculty members)* to provide necessary cross-professional leadership and support for environmental and sustainability implementation based on published guidance from multiple professional bodies *(ext: guidance from professional bodies)*
- Identify measurable ways to ensure authenticity of collaborative environmental and sustainability learning within university-based contexts and related outcomes *(int: environmental and sustainability research interest)*
- Provide opportunities to practise collaborative environmental and sustainability skills in real-world placement contexts as well as during university-based learning *(int: student-driven demand; ext: societal and patient expectations)*
- Seek opportunities for reciprocal learning from a variety of practice-based sustainability agenda *(int: support from key faculty members; int: student-driven demand)*
- Integrate service-users as learning partners *(ext: societal and patient expectations)* to learn from their experience and resilience in relation to climate change and their expectations from health care
- Consult identified stakeholders (e.g., placement partners, service users, student representatives and other departments locally at institutional or local/national level) *(ext: political and legislative procedures)* to ensure the relevance of environmental and sustainability learning embedded in curriculum
- Ensure support and training is available *(int: support from key faculty members)* for teaching colleagues involved in interprofessional university-based learning, and practise educators directly involved with facilitating collaborative interprofessional environmental and sustainability learning in placement settings *(ext: societal and patient expectations; ext: Innovation to facilitate sustainable healthcare)*

these learning opportunities are not per se confined to professionals from health-related disciplines (Fleming et al., 2009; Melekis & Woodhouse, 2015).

Clinical placements provide excellent practical skill-based context for application of eco-literacy as learners assess, analyse, and plan interventions for individuals or groups of clients using environmental/sustainable reasoning and bidirectional questioning for climate just person-centred care. It is, however, essential to work collaboratively with clinical supervisors and placement-based educators to identify their individual learning needs (Bearman et al., 2018) in supporting pre-registration learners' development around ecoliteracy. Combining collaborative, interprofessional environmental and sustainability campus-based learning with explicit collaborative learning requirements on placements may constitute an effective, practical way to meet environmental and sustainability knowledge, imagination, and implementation challenges (Kahn et al., 2014).

5 | DISCUSSION

Progress in recent decades has seen increased public interest, policy development (United Nations, 2015, 2021; World Health Organisation, 2021), and professional guidelines (National Health Service [NHS], 2020; WFOT, 2018), as well as development of environmental and sustainability policies and principles (Foster et al., 2019; Schwerdtle et al., 2020; Stone et al., 2018). However, challenges of imagination, knowledge, and barriers to implementation are still pervasive (Kotcher et al., 2021), and further practical environmental and sustainability educational implementations strategies are needed among health-care educators and professionals.

As allied health professionals, occupational therapists enable the relating of human *doing* to global impacts on human *being*, *becoming*, and *belonging* with all its implication and potential for planetary health (Persson & Erlandsson, 2014). If wise stewardship of natural systems forms the foundation of human health (Whitmee et al., 2015), occupational therapy's perspective may provide a useful starting point to identifying skills and strategies for environmental and sustainability allied health-care education. The certainty of environmental and sustainability impacts on future human health coupled with the uncertainty of what these impacts will look like in "real time" mean that current occupational therapy education practices need to equip learners with skills to work with such uncertainty. We are reminded by Pollard et al. (2020) of how every aspect of human activity poses a threat to planetary resources, such that it is imperative to consider environmental threat and issues of sustainability when addressing meaningful occupational participation. This further highlights the importance of embedding flexibility of clinical reasoning and instilling an obligation for meaningful environmental and sustainability skills from the outset of professional identity development.

The proposals here call for a deliberate extension of essential skills in occupational therapy education to locate environmental and sustainability thinking right at the centre of student development from novice to expert practitioners. As students develop a range of clinical reasoning skills, including environmental and sustainability reasoning as expressly differentiated from other forms of (potentially related) reasoning has the potential to reduce the risk of this vital issue being overlooked within clinical practice. Coupling this with an understanding of both planet- and person-centred care using bidirectional questioning for climate justice, students are equipped to make their unique, profession-specific contributions towards sustainable, quality health care. This has the potential to add sustainable value, which Mortimer et al. (2018) describe as the maximisation of health gain coupled with minimisation of financial cost and environmental harm, while taking advantage of every opportunity to add social value. By expanding on these abilities, skill three encourages environmental and sustainability-literate health-care students to work from the outset as members of transdisciplinary teams with the ability to solve real-world environmental and sustainability problems. This transdisciplinarity involves the removal of disciplinary boundaries, to enable multiple stakeholders to use shared knowledge, skills and decision-making for addressing real-world problems (Van Bewer, 2017). Adoption of the skills proposed here has potential to develop students' ways of doing, being, and thinking as pillars for social change education needed for environmental sustainability (Riccio, n.d.).

Addressing the impacts of climate change on human health is challenged by nature of the inextricable link between the environment and human decision-making (Portier et al., 2010). As allied health professionals, occupational therapists consider how people engage in meaningful activities in their lives using four specific verbs (to do, to be, to become, and to belong) (Hitch et al., 2014), enabling the relating of human doing to global impacts on human being, becoming and belonging with all its implication and potential for planetary health (Persson & Erlandsson, 2014). If planetary health is indeed "an attitude towards life and a philosophy for living," (Horton et al., 2014, p. 847) occupational therapy's professional purview may thus provide a unique (Dieterle, 2020) and useful perspective as a starting point to identifying skills and strategies for wider environmental and sustainability allied health-care education.

5.1 | Implications for future occupational therapy and allied health professional education

It is essential that health-care professionals are open to practical cross-disciplinary environmental and sustainability learning. This openness enables the harnessing of unique medical and allied health professional views to find transdisciplinary ways to translate policies and principles into measurable action. Education for planetary health cannot be achieved without instilling a thorough understanding of the concepts of marginalisation, vulnerability and resilience (Stone et al., 2018). Health-care-related environmental sustainability and climate justice cannot be achieved if person-centred care continues to be espoused in its current format as the holy grail of professional values. As health-care practitioners, occupational therapists need to question the individualistic world-view inherent in blanket acceptance of the concept of person-centred care (Prescott et al., 2018), without reconciliation for the disproportionate environmental impacts of marginalisation, oppression and exclusion (Sultana, 2022) nor consideration of the risks of inequitable environmental damage or response (Romanello et al., 2021). Environmental sustainability and climate justice cannot be tackled if we continue to espouse individualistic views as people are impacted unevenly leading to disproportionate marginalisation, oppression, and exclusion of some (Nagendra, 2018; Sultana, 2022).

Additionally, all health-care professionals need to make every contact count in the promotion of human and planetary health. The proposal here to embed bidirectional questioning, founded within an adoption of "two-eyed seeing," as central to occupational therapy practice is based on the interconnectedness of vitality for all living beings, and necessitate a reconsideration of the meaning of person-centred care and ethics for nonmaleficence and justice (Arnold et al., 2020; Prescott et al., 2018). In health promotion and disease prevention, an overemphasis is frequently placed on personal responsibility and individual behaviour change as opposed to the underpinning, collective, societal issues (Thompson et al., 2018). In order to transform from the discourse of individualistic orientation of person-centred care, from individuals rights to rights and responsibilities as a collective, curriculum designers, educators, and students of health-care professions must find the courage and determination and be armed with knowledge, skills and attitudes to ask disruptive questions and seek change (Atwal, 2021; United Nations Educational, Scientific and Cultural Organization [UNESCO], 2019). In light of the climate emergency, and the need to educate health-care practitioners of the future, it is time to rethink the ethical implications of individualistic, person-centred need that often comes on account of a wider societal need.

Finally, the certainty of environmental and sustainability impacts on future human health coupled with the uncertainty of what these impacts will look like in "real time" mean that current education practices need to equip learners with skills to work collaboratively within an uncertain future. These facts further highlight the importance of embedding flexibility in application of clinical reasoning skills, instilling an obligation for meaningful environmental and sustainability skills from the outset and working together to solve real-world problems in collaborative, transdisciplinary ways.

5.2 | Limitations

Although objective measure success for planetary health education initiatives are needed, the research-implementation gap (Huston et al., 2018) introduces a dilemma in light of the urgency of the climate crisis. The skills proposed here are limited by the lack of measurable evaluation of their impacts. However, while further, ethically approved research of their efficacy is needed, the theoretical underpinning of the proposals made here may at minimum provide a theoretically grounded starting point, while the introduction of clearly articulated operational definitions may provide opportunities for quality research of this nature. The time has come for action. By embedding strategies for crossing disciplinary and theory-practice divides, these proposals could be implemented against an agreed baseline for evaluation (Foster et al., 2019).

5.3 | Conclusion

Although there appears to be broad agreement about the urgency of tackling environmental and sustainability occupational therapy education, there remains a lack of suggested strategies for translating policy into practice. This theoretical paper aimed to distil some of the wealth of information in a usable way that has the potential to have real-world implications for practices that may lead to transdisciplinary environmental and sustainability educational benefits.

AUTHOR CONTRIBUTIONS

Both authors co-designed and co-wrote the first and subsequent drafts of the manuscript. Both authors approved the final manuscript.

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CONFLICT OF INTEREST STATEMENT

The authors have no conflict of interest to declare.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no datasets were generated or analysed during the current study.

AUTHORS' POSITIONALITY STATEMENTS

The first author is an Asian female, who has lived and worked in different countries that span across three continents. She is currently residing in the United Kingdom. She is an occupational therapy academic with research and educational interests in sustainable health care, professional reasoning, and multicultural perspectives in person centred occupational therapy. The second author is a white female, who has lived and worked across different countries and is currently residing in the United Kingdom. She is a middle-career occupational therapy researcher and educator, undertaking research related to cultural awareness and impacts on professional practice. Additionally, she has particular research and pedagogical interest in the contribution of occupational therapy theory to the occupational therapy professional identity.

ORCID

Tanya Rihtman https://orcid.org/0000-0001-7003-1927

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