RESEARCH PAPER

Critically reflective practice and its sources: A qualitative exploration

Stella L. Ng[1,2] | Maria Mylopoulos[2] | Emilia Kangasjarvi[1] | Victoria A. Boyd[2,3] | Sabrina Teles[4] | Angela Orsino[5] | Lorelei Lingard[6] | Shanon Phelan[7]

[1]Centre for Faculty Development, St Michael's Hospital, Toronto, Ontario, Canada

[2]Wilson Centre for Research in Education, University of Toronto, Toronto, Ontario, Canada

[3]Institute of Health Policy, Management and Evaluation, University of Toronto, Toronto, Ontario, Canada

[4]The Department of Recreation and Leisure Studies, University of Waterloo, Waterloo, Ontario, Canada

[5]Developmental Paediatrics, Holland Bloorview Kids Rehabilitation Hospital, Toronto, Ontario, Canada

[6]Department of Medicine and Centre for Education Research and Innovation, Schulich School of Medicine and Dentistry, University of Western Ontario, London, Ontario, Canada

[7]Faculty of Rehabilitation Medicine, Occupational Therapy, University of Alberta, Edmonton, Alberta, Canada

Correspondence
Stella L. Ng, Centre for Faculty Development, St Michael's Hospital, Toronto, Ontario M5B1W8, Canada.
Email: stella.ng@utoronto.ca

Abstract

Context: Critical reflection may improve health professionals' performance of the social roles of care (eg collaboration) in indeterminate zones of practice that are ambiguous, unique, unstable or value-conflicted. Research must explore critical reflection in practice and how it is developed. In this study, we explored what critical reflection consisted of in a context known for indeterminacy, and to what sources participants attributed their critically reflective insights and approaches.

Methods: The study context was the interface between health care and education for children with chronic conditions or disabilities necessitating health-related recommendations and supports (eg accommodations or equipment) at school. We conducted a secondary analysis of 42 interview transcripts from an institutional ethnographic study involving health professionals, school-based educators and parents of children with chronic conditions or disabilities. We coded all transcripts for instances of critical reflection, moments that seemed to lack but could benefit from critical reflection, and participant-attributed sources of critically reflective insights.

Results: Critically reflective practice involved getting to know the other, valuing and leveraging different forms and sources of knowledge, identifying and communicating workarounds (ie strategies to circumvent imperfect systems), seeing inequities, and advocating as collaborators, not adversaries. Participants invariably attributed critically reflective insights to personal experiences such as former careers or close personal relationships.

Conclusions: This study shows that personal experiences and connections inspire critically reflective views, and that being critically reflective is not a binary trait possessed (or not) by individuals. It is learnable through personally meaningful experiences. Health professions education could aim to preserve philosophical space for personal experience as a source of learning and integrate evidence-informed approaches to foster critically reflective practice.

1 | INTRODUCTION

The social roles of health professionals, such as advocate, collaborator and communicator, matter to patient care. Without effective enactment of these roles, patients can feel unheard, and experience practitioner conflict or excess burden in navigating systems or advocating for quality and compassionate care.[1-3] Hence, health professions education (HPE) needs research into what these roles look like in practice, how clinicians come to learn them, and how we might go about teaching or fostering their development.

wileyonlinelibrary.com/journal/medu

Indeterminate zones of practice are those that are value-conflicted, ambiguous, unstable or unique.[4] These zones demand that health professionals shift from a focus on medical expertise towards humanistic and social foci of care. For example, this need for a shift has been found in practice contexts such as those of delivering bad news in neonatology[5] and providing compassionate care in chronic pain.[1] Another such practice area is school-based health care, in which health professionals work with schools to help children with disabilities or chronic conditions participate as meaningfully as possible.[6] Decades of research show that these efforts often fail to achieve their intentions.[6-8] In one study, health professionals espoused health advocacy as a core role in their practice at the school–health interface but usually performed it 'by proxy.'[3] They wrote letters or reports as advocacy tools to be relayed by parents to schools, which unintentionally contributed to conflict between and burdened parents and educators, rather than enabling support and participation for the child.[3] Yet sometimes health professionals found ways to overcome systemic constraints in order to support families and engage positively with schools.[2] Although not named as such by participants themselves, these more productive approaches to this practice area represented the concept of critically reflective practice, thereby sparking the current study.

Critical reflection may serve as an underlying capability to inform the social roles of care. Critical reflection adds a layer to reflection, which is the active, persistent and careful consideration of knowledge claims.[9] Through a critical reflection lens, this consideration process questions individual and societal assumptions, disrupts unhelpful power relations, and strives for social change.[10-13] Reflective practice is a way of practising in indeterminacy that involves drawing upon personal and experiential knowledge in addition to scientific knowledge to solve messy problems in practice. It can also occur through a critical lens, resulting in critically reflective practice.[10-13]

Given these theoretical assertions, the health professional roles of advocate, collaborator, communicator and professional, and goals such as compassionate care or systems-based practice,[1-3,14-17] may benefit from critical reflection as a basic underlying capability or critically reflective practice as an approach for practice in indeterminacy. Related research supports this assertion; for example, clinicians who became hospitalised developed lenses consistent with critical reflection and this, in turn, engendered more compassionate orientations towards care.[18] In this study, we wanted to explore what critical reflection or critically reflective practice consisted of in the school-based health care context, and to what knowledge sources participants attributed their views and practice approaches. The literature contains many usages of terms relating to reflection, critical reflection and critical reflexivity. We chose to use just one term for simplicity; to clarify, we are referring to both critical reflection and reflexivity when we say 'critical reflection.' For the purposes of this study, we focus only on critical reflection. For a summary of the history and subtle differences between these related concepts, see papers by Ng et al[19] and others.[12,13,20]

2 | METHODS

The study context was the interface between health care and education for children with chronic conditions or disabilities that necessitate the provision of supports at school (eg anxiety disorder, cerebral palsy, attention deficit hyperactivity disorder, hearing loss). We acquired research ethics board approval from our university, local academic health sciences centre, and four participating school boards to conduct interviews and observations, and document collection for a larger institutional ethnographic study.[6] These sites and local privately and publicly funded clinics were included in our study. For the purposes of this paper, we conducted a focused, secondary analysis of 42 interview transcripts involving health professionals, school-based educators and parents of children with chronic conditions or disabilities.

2.1 | Secondary data source

Following the tradition of institutional ethnography,[21,22] the loosely structured interviews focused on encouraging participants to articulate the work they did at the clinic-school interface in relation to supporting children with disabilities.[23,24] Participants were explicitly probed about how they learned to practise in this context and how certain views or approaches described during their interviews were derived. Although the original institutional ethnography study included observation and document data, these were not included in the secondary analysis presented in this current paper.

Interviewed informants included a total of 40 people: health professionals from traditional health care settings such as hospitals and clinics (n = 17); health professionals embedded in school-based settings (n = 4); education professionals (n = 6); parents of children with disabilities (n = 10), and parent advocates/mentors (ie parents who had similar prior experiences and now worked formally to support other parents) (n = 3). Three participants were interviewed twice (as is common in institutional ethnography) and one interview session had two participants (two parents together); thus we had a total of 42 transcripts. The health professionals represented the following practice areas: health care administration; audiology; nursing; occupational therapy; physiotherapy; psychology; speech and language pathology, and social work. The physician disciplines included developmental paediatrics, neurology, paediatric cardiology and paediatric psychiatry. Interviews were conducted during 2011-2014 by three researchers.

2.2 | Data analysis

Data analysis was informed by the concepts of critical reflection and critically reflective practice as described in the introduction. As mentioned in our introduction, critical reflection builds upon reflection so that reflective practice is encompassed within

critically reflective practice. Based on these operating definitions, two research associates (EK and ST) coded all transcripts for instances of critical reflection, as well as for moments that seemed to lack but could benefit from critical reflection. The first author (SLN) checked the coding for consistency between the coders as well as with the theoretical framework. After coding transcripts for all critically reflective insights and work processes described, the research associates then reanalysed the transcripts to identify related, attributed sources of these insights (eg 'I see it this way because ...'). Next, EK re-reviewed all transcripts to look for any other instances of critical reflection or any additional sources of knowledge that related to critically reflective insights, but found none. Finally, engaging in a process informed by Charmaz's approach to focused and theoretical coding,[25] the first author (SLN) organised statements that had been identified as critically reflective into the thematic categories of findings presented below, which were informed by, and expand upon, extant theoretical knowledge of critical reflection and critically reflective practice. Enacting and ensuring researcher reflexivity involved reflexive conversations during team meetings from planning to the final write-up, closely informed by published guides for ethical research involving children and for qualitative research more broadly.[26-30]

3 | RESULTS

Being critically reflective or not was not a binary state for individual clinicians. Instead, participants who shared critically reflective insights also demonstrated missed opportunities for such insights. In the context of school-based health care, critically reflective practice manifested as five related and overlapping thematic categories of views and approaches to practice: (i) getting to know the other; (ii) valuing different forms and sources of knowledge; (iii) identifying and communicating systems workarounds; (iv) seeing inequities, and (v) advocating as collaborators, not adversaries. We elaborate these categories below and conclude with a sixth category of findings: (vi) deriving critically reflective insights.

3.1 | Getting to know 'the other'

Participants described successful collaboration attempts with schools as hinging upon a genuine and concerted effort to get to know the 'other', meaning the other system, or another person and how they were situated within a system. By contrast, in moments demonstrating a lack of critically reflective insight, participants offered assumptions and guesses about the other's constraints, needs and intentions; some participants specifically described the other system as a 'black box.'

However, many also made critically reflective statements demonstrating a desire to know what was in that black box when acknowledging that people working in another context or system may face unique systemic constraints, and are likely to have useful perspectives or specific needs. Appreciating this unique position mattered when interacting with or communicating with the other:

> I think it would be actually quite helpful to just understand what's going on inside that black box. Who am I communicating with, even. And it would be useful to understand what information they really require, what is going to make their decision making easier. And, I guess, to get some feedback that says, thanks, but actually, we need to know this and not what you have told us. (John, paediatrician)

Along with a desire to get to know the other, there was often a desire to learn from the other, as demonstrated in John's statement. John referred to desiring feedback from schools about what may be more or less useful in reports used to communicate about and advocate for patients.

3.2 | Valuing different forms and sources of knowledge

Many participants privileged medical and physician knowledge over parent, educator or health disciplines knowledge. Sometimes this privileging was a result of the uncritical acceptance of traditional norms and hierarchies, as when physicians expressed frustration that their recommendation was not taken as the truth, or as an order. At other times the privileging was critically reflective: it was intentional and strategic, using physician knowledge and power as currency when also questioning its inherent power. For example, some health professionals (eg occupational therapists) described calling upon the power of physician knowledge to back up their own recommendations. Similarly, parents used the written word of physicians to try to trump the constraints of the school boards.

Critically reflective practice also resisted the traditional hierarchy of professions and knowledge and held different sources of knowledge in tension. For example, appreciating and valuing the knowledge of school-based professionals tended to lead to positive, collaborative interactions with these professionals. Instead of engaging the traditional hierarchy, critically reflective moments sometimes demonstrated humility and deference to the experiential knowledge of others, parents and professionals alike:

> So a lot of it is trying to get past that balance of power to show that parents are experts and they do have value, and that they should be considered as equals in the planning process. (Josephine, parent advocate)

However, our participants sometimes used the language of role distinction rather than that of knowledge distinction. For example, one physician, Steven, described his deference to schools and in-house professionals as a matter of what his role was, as opposed to valuing others' knowledge. He recognised the limits of his jurisdiction and

trusted the school to take over at the edges of his own scope. This trust was not always apparent, and perhaps not always appropriate, as it was precisely in the interface points between clinic and school that the system's limitations could result in problems. In these moments, system workarounds were often enacted.

3.3 | Identifying and communicating systems workarounds

The workaround is a common strategy used to achieve goals within and despite imperfect processes and systems. However, the critically reflective way of engaging workarounds in this study seemed to add a unique step to a typical workaround. This step was the explicit and purposeful communication of the underlying rationale to others involved. For example, a parent reflected on a conversation in which a clinician clearly communicated and reframed a workaround as a strategy to help make the otherwise disappointing diagnostic labels of her child more palatable:

> 'I know that you don't want the labels, but what we do is we take it off the shelf, we get funding and resources, and then we put it back on the shelf. So it doesn't define him, but it helps us to resource him, because otherwise we can't.' [...]. So, [the clinician] said, '...and then we put it back, and the shelf is high, and we don't use it every day, we just take it down again, we blow the dust off, and we'll use it when we need it.' So, for me, that reframed it, a lot, because that makes sense, then I'm okay with it. (Ivonne, parent)

Of note, workarounds were more common in our dataset than were explicit efforts to change the imperfect system necessitating the workaround.

3.4 | Seeing inequities

Some participants identified underlying reasons for gaps in the system that led to inequitable access to services. For example, several participants mentioned inequities that could result for newcomers to Canada or English-language learners. However, most did not necessarily act upon these inequities; rather, they became more aware of them and began to imagine systems change.

This finding was consistent across professional and parent participants. Interestingly, parents, who were quite focused upon their efforts to advocate for their own child's needs, often knew of another parent who made them critically reflective about access and equity:

> So, I think about Aiden and then I think about the families that I work with as a social worker. I work a lot with newcomers because I speak Spanish as well and [...] I know how it can be if that's not your language. I just think that just on behalf of the families that I know and work with that [it] is just not okay. It's not okay. I can't sit back because I don't like it for Aiden and then it does make me angry thinking about it for other kids. (Heidi, parent and social worker)

A few participants did enact change—beyond workarounds—when possible. For example, Ursula, a private practice-based health professional, saw systems challenges related to equity and created a specific role of 'parent advocate' in her clinical team in order to support parents facing these challenges:

> I've seen where people don't speak English as a first language and they get bumped around; I find that unacceptable. So anyhow, that's why we've brought on the [parent] advocate, is to deal with the bigger system issues. (Ursula, health professional)

3.5 | Advocating as collaborators, not adversaries

Clinicians often talked about the written report or letters to schools as their primary tool for advocacy, but these reports or letters, as our broader institutional ethnographic study found, would often be the impetus for years of conflict between parents and schools:

> A doctor will write something [in a letter] like this child needs an educational assistant. Well, that may be true, and that may be something that's really going to help this child, but there is a process that's involved in the school system to go about getting that. It can be challenging for a family if they go in with a piece of paper and hand that over to a school board saying this is what the doctor said. There's a different route that is required to go down that road and get those resources in place and I think that's where those two different languages don't always mesh. (Karin, parent advocate)

However, those clinicians who advocated through a critically reflective lens positioned themselves alongside parents and school personnel; all were members of the same team working for the child:

> Not only do I communicate with other health care professionals through the consultation letters but I'm communicating with the school and [...] advocating. (Anna, physician)

Those with a critically reflective 'advocating with'[31] rather than 'advocating at' mentality crafted their reports differently, carefully choosing their wording to avoid the issuing of directives and instead

issuing invitations for collaboration. Yet even when advocating along-side others, advocacy tended to remain at a micro-level and often took the form of workarounds, communication through written reports, and the identifying of a need for change as opposed to taking larger, macro-level action (eg trying to change a problematic practice protocol).

Clearly, there was overlap between the categories of getting to know the other and valuing different knowledges. Subsequently, these categories inform the related categories of communicating about workarounds, identifying inequity and advocating as collaborators, not adversaries. Together, the five overlapping categories animated critical reflection within our specific study context and led us to seek explanations for how these critically reflective views or actions came to be.

3.6 | Deriving critically reflective insights

Our interviews explicitly asked practitioners how they had come to view and approach their work in the ways they had described. When we looked to see how individuals had derived the experiences or insights that led to critically reflective practice, they invariably pointed to personal experiences and relationships. For example, Alyson, a rehabilitation practitioner, cited her close friends and colleagues who work in the education system:

> So I've been around for a long, long time but that's the one setting I've never worked in is education. But I have enough friends and colleagues who work in education, and through years of conversations with them, I have a really good grasp of how the education system functions. But that took years and years to develop. (Alyson, health professional)

Kyle, a paediatrician, attributed his understanding of the education system to frequent conversations with his wife, a school teacher. Rebecca, a psychiatrist, reflected: 'My sister is a principal so I am very sensitive to the other side of the coin.' Susan, a physiotherapist, noted that she had learned from her teenage daughter's volunteer placement in a special needs classroom, and Wanda, a psychiatrist, had actually worked as a school teacher in her previous career. Trish, now in a traditional clinical setting, had previously worked in a context that gave her more prolonged and meaningful engagement with schools:

> In my previous life before I retired, I was working for a children's rehabilitation centre in the city and I had a lot of contact with schools and daycares because I did psychological assessments. I am a psychometrist by trade and there would be lots of times that information was shared with the schools or the daycare staff to start implementation of programmes or strategies that would make the time of the child in those particular educational settings a little bit more successful. (Trish, health professional)

Across all of our professional participants, we found no instances of formal education as the source of critically reflective views or approaches. The closest we could find was reported by one professional who had sought professional development outside her own field in response to her practice experiences.

Being critically reflective was not an all-or-nothing way of being and seeing; individuals who demonstrated instances of critical reflection also exhibited missed opportunities for such. For example, Steven demonstrated many critically reflective insights in his interview. However, when asked about whether he ever modified his wording of written recommendations (for the child) in response to requests from schools, he stated very strongly (and uncritically) that it would be 'grossly inappropriate' for schools to make such a request of him and he assumed that schools would never ask him to do so anyway.

Overall, critically reflective views and approaches were tied to personal connections and experiences that had challenged assumptions, provided insights into power relations, or motivations to create change.

4 | DISCUSSION

Reflective practice, critical reflection, and the related construct of critical reflexivity have been previously identified as capacities that may support difficult conversations[5] and compassionate,[18] humanistic[32] and equitable care.[33] Critical reflection has also been previously identified as learned through personal experience[18] and in the workplace.[33] Our study builds upon this literature, exploring what critical reflection looks like in another context for which it may be particularly crucial. In this study, we found that critical reflection involved getting to know the other, valuing and leveraging different forms and sources of knowledge, identifying and communicating workarounds, seeing inequities, and advocating as collaborators not adversaries. In this section, we discuss what this study offers to theories of critical reflection, and its implications for HPE.

Reflective practice and critically reflective practice tend to be most appropriate in indeterminate zones of practice.[34] School-based health care is full of such moments; this practice area is not focused on diagnosis and treatment, but, rather, on collaborating with, communicating across and navigating other systems, the culture and values of which may be quite different. Practitioners in this study needed to take time to get to know the other because each 'other' faced unique constraints and needs. Practitioners needed to employ their personal knowledge and knowledge from others to navigate complex systems. A critical lens seems vital as practitioners needed to overcome dominant power structures that may otherwise impede collaboration. Assumptions needed to be challenged in order to push past one's own views and knowledge (or lack thereof) of the school system as well as traditional professional structures. Additionally, enacting and communicating workarounds to mitigate the negative impacts of policies or protocols benefited from criticality. Depending on the situation, power relations were noted and explicitly used or

disrupted as participants deliberately drew upon parents' and others' knowledge.

Notably, our findings did not align with a key component of critical reflection: a focus upon social change. Although some aspects of advocacy in our findings leaned towards social change, overall advocacy was limited to *seeing* inequities, and *working around* them in particular situations rather than *acting* upon them more broadly. Whereas this may achieve advocacy goals for a particular child at a particular moment, it also risks perpetuating the overall status quo. This finding of limited macro-level or systems-level action echoes that in other literature, wherein a sense of limited agency or time has been identified as a barrier to greater action.[35-37] Further study may be useful to identify instances in which clinicians engage in more macro-level social change. Further, the many theoretical definitions of critical reflection that include change-oriented, social action[10-13,38,39] may need to be examined relative to empirical studies. How social action relates to critical reflection and critically reflective practice may perhaps require additional, nuanced examination.

In this study, critically reflective practice was not demonstrated as a fixed trait, but, rather, as a dynamic state arising out of personal experiences and sources of knowledge. Critical reflection was not unique to professional practitioners; our dataset showed many instances of parents demonstrating critically reflective insights. Together, these findings highlight the role of personal experience in developing critically reflective ways of seeing. This makes sense given that critical and reflective pedagogies centre upon personal experience in education.[40]

4.1 | Implications for education: Making philosophical space for critical reflection

As critical reflection requires an acceptance of personal experience as a source of knowledge, an epistemology of practice may be a prerequisite to its development.[12] Health professions education can potentially diminish personal and experiential sources of learning in its prioritisation of objectivity.[1,15,41-43] If HPE wishes to foster critical reflection or reflective practice, it may need to ensure that admissions, curricula, assessments and faculty staff each commit to allowing philosophical space for personal and informal experience to influence one's learning and practice. This requires a view of education that not only focuses on the delivery of instruction and assessment for knowledge retention, transfer and skill development, but also acknowledges epistemological and identity-shaping forces that drive values, perspectives, and ways of seeing and being.[44] Taking this view towards criticality would mean attending carefully to the values embedded in education before professional training even begins (ie during admissions[45]) and across the entire continuum of education and curriculum. For example, what messages are conveyed in admissions criteria? What types of learners and learning are deemed most valuable through these messages, and who and what, in the process, are overlooked or suppressed?[45] This epistemology of practice framing for a professional training programme, we suggest, would both liberate learners to include personal sources of knowing, and be a prerequisite to teaching for critical reflection.

4.2 | Implications for education: Purposeful integration with dominant teaching paradigms

In terms of teaching approaches, humanities education[46-48] and critical pedagogy offer practical educational approaches that align with critical reflection.[39,40,47,49] However, these approaches tend to be applied to curricula as addenda, which may limit their effectiveness and perceived value by learners and faculty members alike. Just as basic and clinical science should be taught with thoughtful integration, critical reflection should not be presented as separate content knowledge (contributing to an overfilled curriculum[50]), but, rather, meaningfully integrated into the core learning experiences in the health professions curriculum. Perhaps integrating critical reflection with established constructivist and cognitivist approaches to education could enable more effective and cohesive integration rather than continuing to add it proximally as an elective or one-off event.

However, such efforts would need to be conducted with careful paradigmatic consideration. Critical reflection derives from paradigms that view education as a socialising and transformative force and speak of knowledge in embodied, philosophical and social terms.[44] Meanwhile, cognitive constructivist paradigms commonly informing teaching and assessment approaches in HPE speak of knowledge in cognitivist terms.[44] For example, current educational approaches to fostering medical expertise emphasise the conceptual knowledge development (knowing why) alongside the more traditional emphasis on procedural fluency (knowing how).[51] The argument is that students require the fluency of knowing what to do in order to become efficient as they work through the many routine problems of practice, but that depth of understanding *why* allows them to shift beyond formulaic applications of knowledge in their practice when necessary. Being able to make this shift aligns with the shifts noted in our study (eg to employ and communicate workarounds), as well as in extant studies of reflective practice.[5] Thus, there could be potential for the teaching of critical reflection through the educational approaches used to foster knowing why and how.

Evidence for this assertion is emerging, but more research is needed. A guided discovery approach to support therapeutic interviewing skills development[52] has begun to show the value of integrating forms of knowledge beyond traditional basic and clinical science to support the development of conceptual knowledge.[53] Whether it could also be used to integrate critically reflective capacities is currently unknown. Further research is needed to understand if and how constructivist and transformative approaches to education can be bridged, with the aim of fostering critically reflective practice. Thoughtful integration with other paradigms and established education approaches, rather than engagement in advocacy for one paradigm over another, may be a more productive

way forward. Valuing and integrating different forms of knowledge, thoughtfully, would echo the findings of our study.

4.3 | Limitations

Primary rather than secondary data analysis would strengthen a study of how professionals engage in critically reflective practice and how they learn to do so. Research in other indeterminate contexts could help to refine or challenge the assertions made in this study. Other definitions of critical reflection exist; although we purposefully chose our theoretical basis for this study, we acknowledge that many would consider Mezirow's work on the topic to be foundational.[44] We argue that the strengths of this work in fact lie in the careful selection of our definition and our attention to its philosophical roots. This attention to paradigms allowed for careful and purposeful discussion of practical, pedagogical implications.[44]

5 | CONCLUSIONS

This study suggests that critical reflection and critically reflective practice offer useful theoretical framings for the social roles of health care practice that attend to humanistic, social and systems-based aspects of patient care. It also shows that critical reflection is not a static trait possessed (or not possessed) by an individual. Rather, it is achievable and learnable through personal experience. The implications for education are twofold. We suggest creating philosophical space for personal experience as a source of learning in HPE, and the continued study of evidence-informed, aligned and integrated approaches to effectively foster critical reflection. Although it would seem to be an insurmountable problem, the HPE field could benefit from innovative research into whether and how teaching approaches can counter prevailing power relations. This continued research is important because the impacts of critically reflective practice make it irresponsible to rely on the likelihood that people will pick up such lessons by chance.

CONFLICTS OF INTEREST
None.

AUTHOR CONTRIBUTIONS
SLN contributed to the study conception and design, data acquisition and analysis, and the drafting of the paper. MM, VAB and AO contributed to data interpretation and the drafting of the paper. EK and ST contributed to data analysis. LL and SP contributed to the study conception and design, and to data interpretation. All authors (SLN, MM, EK, VAB, ST, AO, LL and SP) contributed to the revision of the paper, approved the final manuscript for submission and have agreed to be accountable for all aspects of the work.

ETHICAL APPROVAL
This study was approved by the research ethics boards of the University of Western Ontario, and the four participating schools.

ORCID
Stella L. Ng https://orcid.org/0000-0003-1433-6851
Maria Mylopoulos https://orcid.org/0000-0003-0012-5375
Victoria A. Boyd https://orcid.org/0000-0003-3602-8964
Shanon Phelan https://orcid.org/0000-0003-2844-6250

REFERENCES
1. Baker LR, Martimianakis MA, Nasirzadeh Y, et al. Compassionate care in the age of evidence-based practice: a critical discourse analysis in the context of chronic pain care. *Acad Med*. 2018;93:1841-1849.
2. Phelan SK, Ng SL. A case review: reframing school-based practices using a critical perspective. *Phys Occup Ther Pediatr*. 2015;35:396-411.
3. Ng SL, Lingard L, Hibbert K, et al. Supporting children with disabilities at school: implications for the advocate role in professional practice and education. *Disabil Rehabil*. 2015;37:2282-2290.
4. Schön DA. *The Reflective Practitioner: How Professionals Think in Action*. New York, NY: Basic Books; 1983.
5. Cheng A, LaDonna K, Cristancho S, Ng SL. Navigating difficult conversations: the role of self-monitoring and reflection-in-action. *Med Educ*. 2017;51:1220-1231.
6. Ng SL, Stooke R, Regan S, et al. An institutional ethnography inquiry of health care work in special education: a research protocol. *Int J Integr Care*. 2013;13:e033.
7. Glasby J, Dickinson H, Miller R. Partnership working in England—where we are now and where we've come from. *Int J Integr Care*. 2011;11:e002.
8. Cameron A, Lart R. Factors promoting and obstacles hindering joint working: a systematic review of the research evidence. *J Integr Care*. 2003;11:9-17.
9. Dewey J. *Experience and Education*. New York, NY: Touchstone; 1938.
10. Brookfield SD. The concept of critically reflective practice. In: Wilson AL, Hayes ER, eds. *Handbook of Adult and Continuing Education*. San Francisco, CA: Jossey-Bass 2000:33-50.
11. Kemmis S. Knowing practice: searching for saliences. *Pedagog Cult Soc*. 2005;13:391-426.
12. Ng SL, Kinsella EA, Friesen F, Hodges B. Reclaiming a theoretical orientation to reflection in medical education research: a critical narrative review. *Med Educ*. 2015;49:461-475.
13. Kinsella EA, Caty M-E, Ng SL, Jenkins K. Reflective practice for allied health: Theory and applications. In: English L, ed. *Adult Education and Health*. Toronto, ON: University of Toronto Press; 2012:210-228.
14. Sherbino J, Frank JR, Flynn L, Snell L. 'Intrinsic roles' rather than 'armour': renaming the 'non-medical expert roles' of the CanMEDS framework to match their intent. *Adv Health Sci Educ Theory Pract*. 2011;16:695-697.
15. Kuper A, Veinot P, Leavitt J, et al. Epistemology, culture, justice and power: non-bioscientific knowledge for medical training. *Med Educ*. 2017;51:158-173.

16. Webster F, Rice K, Dainty KN, Zwarenstein M, Durant S, Kuper A. Failure to cope: the hidden curriculum of emergency department wait times and the implications for clinical training. *Acad Med*. 2015;90:56-62.

17. Lingard L, McDougall A, Levstik M, Chandok N, Spafford MM, Schryer C. Representing complexity well: a story about teamwork, with implications for how we teach collaboration. *Med Educ*. 2012;46:869-877.

18. Rowland P, Kuper A. Beyond vulnerability: how the dual role of patient-health care provider can inform health professions education. *Adv Health Sci Educ Theory Pract*. 2018;23:115-131.

19. Ng SL, Wright SR, Kuper A. The divergence and convergence of critical reflection and critical reflexivity. *Acad Med*. 2019;94:1122-1128.

20. Ng SL. Reflection and reflective practice: creating knowledge through experience. *Semin Hear*. 2012;33:117-134.

21. Devault ML, McCoy L. Institutional ethnography: Using interviews to investigate ruling relations. In: Smith DE, ed. *Institutional Ethnography as Practice*. Lanham, MD: Rowman & Littlefield; 2006: 15-44.

22. Smith DE, ed. *Institutional Ethnography as Practice*. Lanham, MD: Rowman & Littlefield; 2006.

23. Ng SL, Bisaillon L, Webster F. Blurring the boundaries: using institutional ethnography to inquire into health professions education and practice. *Med Educ*. 2017;51:51-60.

24. Campbell M, Gregor F. *Mapping Social Relations: A Primer in Doing Institutional Ethnography*. Aurora, ON: Garamond Press; 2002.

25. Charmaz K. *Constructing Grounded Theory: A Practical Guide through Qualitative Analysis*. Thousand Oaks, CA: SAGE Publications Ltd; 2006.

26. Phelan SK, Kinsella EA. Picture this … safety, dignity, and voice—ethical research with children. *Qual Inq*. 2013;19:81-90.

27. Baker L, Phelan S, Snelgrove R, Varpio L, Maggi J, Ng SL. Recognizing and responding to ethically important moments in qualitative research. *J Grad Med Educ*. 2016;8:607-608.

28. Finlay L. Negotiating the swamp: the opportunity and challenge of reflexivity in research practice. *Qual Res*. 2002;2:209-230.

29. Finlay L. 'Outing' the researcher: the provenance, process, and practice of reflexivity. *Qual Health Res*. 2002;12:531-545.

30. Guillemin M, Gillam L. Ethics, reflexivity, and 'ethically important moments' in research. *Qual Inq*. 2004;10:261-280.

31. Hubinette M, Dobson S, Regehr G. Not just 'for' but 'with': health advocacy as a partnership process. *Med Educ*. 2015;49:796-804.

32. Thille P, Gibson BE, Abrams T, McAdam LC, Mistry B, Setchell J. Enhancing the human dimensions of children's neuromuscular care: piloting a methodology for fostering team reflexivity. *Adv Health Sci Educ Theory Pract*. 2018;23:1-23.

33. Mykhalovskiy E, Farrell K. 'Nothing happens in medical school that prepares you for working with anyone who's different': informal learning and socio-clinical knowledge amongst family physicians. In: Kronenfeld J, ed. *Health Care Services, Racial and Ethnic Minorities and Underserved Populations: Patient and Provider Perspectives* (*Research in the Sociology of Health Care, Vol. 23*). Bingley: Emerald Group; 2005:159-181.

34. Schön DA. *Educating the Reflective Practitioner: Toward a New Design for Teaching and Learning in the Professions*. San Francisco, CA: Jossey-Bass; 1987.

35. Ng SL, Crukley J, Kangasjarvi E, Poost-Foroosh L, Aiken S, Phelan SK. Clinician, student and faculty perspectives on the audiology–industry interface: implications for ethics education. *Int J Audiol*. 2019;58:576-586.

36. MacKinnon KR, Ng SL, Grace D, Sicchia SR, Ross LE. Protocols as curriculum? Learning health advocacy skills by working with transgender patients in the context of gender-affirming medicine. *Adv Health Sci Educ Theory Pract*. 2019;https://doi.org/10.1007/s10459-019-09899-0. [Epub ahead of print.]

37. Hubinette M, Dobson S, Scott I, Sherbino J. Health advocacy. *Med Teach*. 2017;39:128-135.

38. Brookfield S. Critically reflective practice. *J Contin Educ Health Prof*. 1998;18:197-205.

39. Carr W, Kemmis S. *Becoming Critical: Education, Knowledge and Action Research*. Geelong, Vic: Deakin University Press; 1986.

40. Halman M, Baker L, Ng SL. Using critical consciousness to inform health professions education. *Perspect Med Educ*. 2017;6: 12-20.

41. Goldenberg MJ. On evidence and evidence-based medicine: lessons from the philosophy of science. *Soc Sci Med*. 2006;62:2621-2632.

42. Kumagai AK. From competencies to human interests: ways of knowing and understanding in medical education. *Acad Med*. 2014;89:978-983.

43. Lucey CR. Medical education: part of the problem and part of the solution. *JAMA Intern Med*. 2013;173:1639-1643.

44. Baker L, Wright S, Mylopoulos M, Kulasegaram K, Ng SL. Aligning and applying the paradigms and practices of education. *Acad Med*. 2019;94:1060.

45. Razack S, Maguire M, Hodges B, Steinert Y. What might we be saying to potential applicants to medical school? Discourses of excellence, equity, and diversity on the web sites of Canada's 17 medical schools. *Acad Med*. 2012;87:1323-1329.

46. Charise A. Site, sector, scope: Mapping the epistemological landscape of health humanities. *J Med Humanit*. 2017;38: 431-444.

47. Kumagai AK, Wear D. 'Making strange': a role for the humanities in medical education. *Acad Med*. 2014;89:973-977.

48. Dennhardt S, Apramian T, Lingard L, Torabi N, Arntfield S. Rethinking research in the medical humanities: a scoping review and narrative synthesis of quantitative outcome studies. *Med Educ*. 2016;50:285-299.

49. Kumagai AK, Lypson ML. Beyond cultural competence: Critical consciousness, social justice, and multicultural education. *Acad Med*. 2009;84:782-787.

50. Whitehead C. Scientist or science-stuffed? Discourses of science in North American medical education. *Med Educ*. 2013;47:26-32.

51. Mylopoulos M, Kulasegaram K, Woods NN. Developing the experts we need: fostering adaptive expertise through education. *J Eval Clin Pract*. 2018;24:674-677.

52. Tan A, Chaudhary Z, Sockalingam S, Mylopoulos M. When strangers MEET: making every encounter therapeutic. *Acad Psychiatry*. 2019;43:328-331.

53. Chaudhary S, Mylopoulos M, Barnett R, et al. Reconsidering basic: integrating social and behavioral sciences to support learning. *Acad Med*. 2019;94:S73-S78.