

## More-than-reflective practice: Becoming a diffractive practitioner

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For over 30 years, reflective practice has been a mainstay within the field of teacher education. Texts such as the *Reflective Practitioner* (Schön, 1983), *Becoming a Critical Reflective Teacher* (Brookfield, 1995), and *Fostering Critical Reflection in Adulthood* (Mezirow, 1990) have become seminal for professional learning. Rightfully so, these texts have revolutionized teaching practice through encouraging intentionality, criticality, and innovation, as well as locating educators at the very heart of their own teaching practice and empowering them as agents of change within classrooms, schools and communities (see Cochran-Smith & Lytle, 2009).

Reflection within the field of education has been broadly and diversely defined; however it is commonly understood as a predominantly cognitive process (Korthagen, 2001) located within the mind of the practitioner involving re-viewing and making meaning of experiences and events. Bolton (2010) for example, defines reflection as “an in-depth consideration of events or situations: the people involved, what they experience, and how they felt about it” (p. xix). Distinctions are often made between technical models of reflection, in which it is used for more instrumental purposes, and more critical forms of reflection in which presuppositions, power relations, and ethical issues are examined and challenged (Brookfield, 1995; Mezirow, 1990; van Manen, 1977).

Reflective practice is grounded in Dewey’s conceptualization of experiential learning and reflective thinking, which assumes a pre-existing and independent subject and object, and involves a logical analysis regarding cause and effect relationships. As Dewey (1916/2008) contends, “to ‘learn from experience’ is to make a backward and forward connection between what we do to things and what we enjoy or suffer from things as a consequence (chapter 11, para 1). Schön likens the reflective practitioner, in many ways, to a scientist engaged in on-the-spot experimentation, in which action is undertaken with the intentional goal of transforming the situation. Tentative hypotheses are formed, enacted and revised as the “situation talks back” (p. 131). Within *reflection-in-action*, boundaries between thinking and acting are collapsed, with each becoming an extension of the other (Schön, 1983, p. 280). *Reflection-on-action* occurs outside of the realm of immediate action when there is extended opportunity for reflection. As Schön (1983) noted, the time in which the practitioner remains in the “same” situation varies and may unfold over long periods, enabling extended intervals for reflection. In this regard, reflective practice is an ongoing and cyclical process. Korthagen (1985) for example, characterizes reflective teaching as a five step process involving (a) action, (b) looking back on the action, (c) awareness of essential aspects, (d) creating alternative methods of action, and (e) trial, which he conceptualizes at the ALACT-model.

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As van Manen (1999) observed, there has never been a counter movement to reflective practice, as no one would suggest that teachers should be unreflective as practitioners. We might consider however, how other metaphors could advance teaching practice in meaningful ways. What might be pushed to the wayside with a singular focus on reflection? In her book *Meeting the Universe Halfway*, new materialist, Karen Barad (2007) contrasts two optical metaphors – reflection and diffraction - that describe the behaviour of waves (light, sound, or water) when they encounter a boundary. In the context of physics, reflection refers to waves bouncing off an obstacle. Thus, reflection as a metaphor for inquiry is characterized as a mirroring of reality involving extracting objective representations from the world (Barad, 2007). Diffraction, within the context of physics, involves the bending and spreading of waves when they encounter a barrier or an opening. Diffraction therefore, as a metaphor for inquiry involves attending to difference, to patterns of interference, and the effects of difference-making practices. Diffraction creates something ontologically new, breaking out of the cyclical, inductive realm of reflection.

Through diffractive methods, Barad (2007) intends to displace reflection as a dominant model of inquiry. She states,

... my aim is to disrupt the widespread reliance on an existing optical metaphor – namely reflection – that is set up to look for homologies and analogies between separate entities. By contrast, diffraction, as I argue, does not concern homologies but attends to specific material entanglements. (p. 88)

The term diffraction comes from Latin verb *diffringere*, which means to break apart. It was coined by Francesco Grimaldi in 1660 who observed that light streaming through a pin hole did not behave according to the current knowledge of the day - the Cartesian theory of light, which suggests that small particles of light would travel in a straight line when they encountered an obstacle. Rather the light particles behaved as a fluid, bending and spreading outward in different directions. A common visual of diffraction is the image of waves in a lake coming from different directions that overlap and interfere with one another, producing unique patterns at the point of confluence. Boundaries between the waves are illuminated and reconfigured in their meeting. Donna Haraway (1997) first articulated the notion of diffraction as a critical method “where inference patterns can make a difference in how meanings are made and lived” (p. 14). Haraway augments her description of diffraction with a painting by Lynn Randolph in which a woman is portrayed as a multiplicity with two heads and many fingers, some more translucent than others rendering a diffractive pattern inciting multiple selves and new possibilities of becoming. The woman is co-constituted in relation to a shadow of a man behind a screen who is backgrounded in the painting, “marking a place where change occurs” (Randolph, 1993, as cited in Haraway, 1997, p. 273)<sup>1</sup>.

Barad’s diffractive methods are situated within what she calls an agential realist ontology, which does not assume pre-existing ontological categories, but rather a reality that is continuously re/constituted through material entanglements. She says, “In my agential realist account scientific practices do not reveal what is already there; rather what is “disclosed” is the effect of the intra-active engagements of our participation with/in and as part of the world’s differential becoming” (p. 361). Within an agential realist account, all forms of knowledge production are at the same time formations of reality, which Barad (2007) exemplified through the work of Danish physicist Niels Bohr, who demonstrated that light sometimes behaved as a particle and other times as a wave depending on the material configuration of the experiment. It is these material configurations, these entanglements among human and non-human bodies, that produce phenomena. Barad refers to these

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<sup>1</sup> *Diffraction* by Lynn Randolph can be found on her website: <http://www.lynnrandolph.com/>

entanglements as intra-action, which differs from interaction in significant ways. Interaction assumes distinct, independent entities that are empowered with agency to act upon one another. Intra-action by contrast, involves the “mutual constitution of entangled agencies” (Barad, 2007, p. 33) where complex material practices assemble in particular ways to produce specific phenomena.

Diffractive methods therefore illuminate the fluid and ever evolving process of world making in which phenomena are constituted through their material entanglements. In contrast, reflective methods produce static representations of a reality that is assumed to be pre-existing and stable. Barad (2007) contends that reflection involves uncovering “pre-existing facts about independently existing things as they exist frozen in time like statues positioned in the world,” (p. 91). In reflection, the emphasis is on what is reoccurring, what is the same, whereas diffractive thinking attends to interferences and differences that are enacted in the “specific material configurations of the world’s becoming” (Barad, 2007, p. 91).

My intention is not to replace the notion of the reflective practice with diffractive practice. Nor is it to treat the two methods as binary opposites. Indeed as there is light in dark and dark in light (Barad, 2014), there are elements of diffraction in reflection (Spector, 2015), as well as aspects of reflection in diffraction. As Bozalek and Zembylas (2017) contend,

...if we want to be fair to the theoretical and methodological developments that have been made over the years, we might need to acknowledge that the ‘entanglement’ of reflexivity and diffraction is one that includes continuities and breaks rather than a ‘story’ of one vs. the other. (p. 117-118)

In this paper, I endeavour to apply Barad’s diffractive methodologies to my practice as an educator, moving within and beyond reflective practice, to imagine how I might embody becoming-diffractive. I begin with a review of how diffractive methods have been applied within the field of education and then provide three interrelated accounts of my process of becoming a diffractive practitioner.

### **Diffractive Practices in Education**

Consistent with Barad’s (2007) agential realist account, a literature review can be viewed as a diffractive apparatus. Organizing a body of scholarship is a practice of establishing, collapsing, and interfering with boundaries, and engaging in a process of world making. One way to conceptualize the literature on diffraction is to organize it along a common boundary within universities, that of “research” and “practice” (see Schön, 1987). Most of the scholarship within this area has been published from the perspective of the educational researcher, whose dominant role is the production of knowledge (Chorney 2014; Davies, 2014; Jackson & Mazzei, 2012; Lenz Taguchi, 2012; Lenz Taguchi & Palmer, 2013; Mazzei, 2014; Palmer, 2011). Less diffractive scholarship has been published from the perspective of the educational practitioner, whose dominant role is the advancement of their own pedagogy (Lanas, Rautio, Koskela, Kinnunen, Viljamaa & Juutinen, 2015; Spector, 2015), and few publications combine both perspectives (Smythe, Hill, MacDonald, Dagenais, Sinclair, & Toohey, 2017).

The most common forms of diffractive analysis utilized by educational researchers build on Barad’s (2007) method of diffractive reading in which insights are “read through one another in ways that help illuminate differences as they emerge: How differences get made, what gets excluded, and how those exclusions matter” (p. 30). The focus of a diffractive analysis moves away from interpretation and focuses on the effect of

difference (Barad, 2014). As Lenz Taguchi (2012) suggests, “avoid the interpretive question ‘what does it mean?’ when reading theory or analysing data, and instead ask: ‘how does it work?’ and ‘what does this text or data produce?’” (p. 268). Diffractive analysis has been applied in various ways by researchers who read different texts, including theories, data, and/or self, through one another. Some diffractive analyses focus primarily on reading data through various theoretical lenses (Chorney; 2014; Jackson & Mazzei, 2012; Mazzei, 2014; Palmer, 2011). A diffractive reading however, goes beyond using multiple theories to analyze data. Chorney’s (2014) diffractive analysis, for example, involved reading data from a grade nine mathematics class through various conceptual lenses, so that each reading was then diffracted through yet another theory. As Chorney asserted, “The goal is to open up analysis from a variety of perspectives and to challenge findings that are based on the ‘objective’ reflections of a researcher” (p. 89). Reading his video data through various concepts including resistance/accommodation, new materialism, and process ontology generated new insights, as well as new questions.

Other diffractive analyses focus more heavily on the intra-action between data and researcher (Lenz Taguchi, 2012; Lenz Taguchi & Palmer, 2013). Lenz Taguchi’s (2012) diffractive analysis involved reading a transcript of an interview with a six-year-old boy (Erik), through a posthuman perspective, as well as her own imaginary and sensory faculties, such as smell, touch, temperature, force and tension, to produce novel (and potentially transformative) material-discursive realities.

When reading diffractively I want to read with the data, understanding it as a constitutive force, working with and upon me in the event of reading it. ...This is not about uncovering the essence or truth of the data. This is an uncovering of a reality that already exists among the multiple realities being enacted in an event, but which has not been previously ‘disclosed. (Lenz Taguchi, 2012, 274-5)

In this particular reading, Lenz Taguchi (2012) aimed to *become-with-Erik*, attending to intra-actions between human and non-human bodies implicated in the transcript, and her own bodymind involvement. Her reading highlights Erik’s “success in narration, creative imagination and intense collaboration” (p. 276), which differed greatly from previous field notes constituting Erik as a child who has difficulty with friendships and meeting expectations at school. The diffractive reading produced effects that exceeded the data, as well as the bodymind sensibilities of Lenz Taguchi, transforming her understanding of power relations in schools, and extending her understanding of social competence to include collaborations with non-humans, as well as humans.

Although educational researchers have utilized Barad’s diffractive methods, there is less diffractive scholarship published from the perspective of the educational practitioner. Lanias, Rautio, Koskela, Kinnunen, Viljamaa and Juutinen (2015), as well as Spector (2015), provide notable exceptions. Spector (2015) adapted Barad’s diffractive methods into a pedagogy, encouraging her student-teachers to engage in diffractive reading and diffractive composing to reconfigure boundaries between theory and practice, interfere with unjust practices, and establish new ways of thinking. Her students, for example, diffracted their assumptions through their classroom experiences and/or theory to multiply the ways in which they saw the world. She says,

In classrooms around the world, there are no best practices that escape the constraints of time, space, and mattering; there are only pedagogies that materialize moment to moment. I can’t think of anything more worthy of pursuit in teacher education than cultivating the capacity to materialize this responsibility. (p. 448)

For Spector, engaging in a diffractive analysis enhanced her relational pedagogy and created new possibilities for her students and herself as an educator.

Classifying the scholarship on diffractive methods along the theory/practice divide is only one way to organize this body of research. These boundaries can easily be reconfigured focusing on overlapping qualities. For example, both researchers and practitioners participate in knowledge making practices. As Brookfield (1995) contends, “we are all theorists and we are all practitioners” (p. 185). Another way to organize the literature on diffractive methods is to draw boundaries between different forms of diffractive analysis including diffractive reading, which typically occurs outside of the context of educational practice, and *in situ* experimentation with a diffractive apparatus. Barad (2007) understands a diffractive apparatus as the open-ended material-discursive practices that produce knowledge and configure the world in particular ways. Experimenting with a diffractive apparatus can illuminate material configurations that participate in the world’s becoming. The diffractive apparatus is not specific to science but can apply to any material arrangement designed investigate the relationships between matter and meaning (de Freitas, 2016). As de Freitas (2016) asserts, teaching experiments in which material configurations and resulting concepts are explored, can operate as a diffractive apparatus.

Building on Barad’s (2007) notion of the diffractive apparatus, Nathalie Sinclair conducted a research experiment at a daycare centre for 3-5 year olds using TouchCounts (Jackiw & Sinclair, 2014), a multitouch iPad App, which enables counting, adding and subtracting through touch and gesture. The goal of this experiment was not to demonstrate how the App effects learning but rather to “show how number is created and re-created through the children’s gesture and touch in this experiment and ... explore the non-human power and performativity that traverses and sustains the learning assemblage in this early numeracy context” (Smythe, Hill, MacDonald, Dagenais, Sinclair, & Toohey, 2017). As the children and Nathalie worked towards generating 100 on the App (a goal determined by the children) number was re/made in each encounter within and through non/human entanglements. For example, number materialized as *agglomerates* when herds of ten were formed and then pinched together, as *symbols* when a child suggested that the group must combine two zeros and a one after pinching together 60 and 4 to produce 64, and as *overwhelming* when the children fell to the ground after TouchCounts displayed 107 (the one and the zero signalled that they were getting close to 100). In this diffractive experiment, number materialized in indeterminate and emergent ways, entangled in a process of becoming that involved human and non-human entities.

Lanas and colleagues (2015), engaged in a similar experiment within the context of their practice as teacher educators. While endeavouring to teach theoretical reflection to pre-service teachers, they simultaneously analyzed and reconfigured their pedagogical practice through diffractive methods. They asked students to engage in theoretical reflection and attended to challenges, frustration, and silences, which would have previously been interpreted as student deficiencies.

We discussed this in our meetings throughout the semester, continually forcing our discussion away from on/off thinking, towards asking: what else is taking place? What else are the responses saying? Thus, we purposefully directed our gaze away from our instinctive focus on what is lacking in the challenging responses towards what is present in the responses: What were the other discussions in which the students-subject was engaged in, which challenged the discussion in which we tried to engage them? (Lanas et al., 2015, p. 8)

Although they do not describe it as such, this material practice involving the students, instructors, and assignments, as well as pedagogical and research methods, can be viewed as a diffractive apparatus, which produced multiple divergent subjectivities for both educators and students, as they simultaneously engaged each other in (different) theoretical discussions.

These different forms of diffractive analysis, including diffractive experimentation and diffractive reading, could be considered akin (in some ways) to Schön's (1983) conceptualization of reflection-in-action and reflection-on-action. Experimenting with a diffractive apparatus is similar to reflection-in-action in that the practitioner intra-acts with other bodies *during* an educative event, contributing to particular configurations of reality. Diffractive reading is similar to reflection-on-action, in which the practitioner engages in diffractive methods *after* an educative event has occurred in order to uncover new realities, which may then inform practice. There are of course important differences. Diffractive experimentation focuses attention on the intra-action within the assemblage, on the pre-individuated 'practitioner' and 'other bodies'; whereas reflection-in-action has already produced the agential cut—differentiating the practitioner and others with whom s/he interacts.

The boundary between diffractive reading and experimenting with a diffractive apparatus can also be reworked as both diffractive methods involve an intra-action between bodies, including that of the practitioner, in which material configurations of reality are produced.

As Barad notes,

[...] ideas that make a difference in the world don't fly about free of the weightiness of their material instantiation. To theorize is not to leave the material world behind and enter the domain of pure ideas where the lofty space of the mind makes objective reflection possible. Theorizing, like experimenting is a material practice. (Barad, 2007, p. 55)

Diffractive reading and experimenting with a diffractive apparatus are both onto-epistemological material practices that configure the world in particular ways.

While most accounts of diffractive readings produce new understandings, questions and realities that may inform practice, this is where most of these stories end, at least within their representations in journals and books. It is often unclear if or how the insights generated are invited into the realm of educational practice. There are few accounts of diffractive methods as an experimental or pedagogical practice - as a way of becoming as an educator, particularly from the perspective of teachers. Consequently, I now endeavour to illuminate potentialities for professional learning through diffractive methods, as well as to extend, disrupt and interfere with common conceptualizations of reflective practice. Three different ways of going beyond reflective practice and becoming diffractive are explored including becoming-with the world, displacing and diffracting the selves who teach, and embracing difference and interference.

### **More-than-reflection: Becoming a diffractive practitioner**

The following section outlines three interrelated accounts of becoming diffractive as practitioner and as an educator. These renderings are fluid and shift with each telling. As Ingold (2011) notes, "each story will take you so far, until you come across another that will take you further" (p. 162). The three accounts are stabilized here for the purposes of starting a dialogue about the process of becoming a diffractive practitioner.

### *Becoming-with the world*

The work of reflective practitioners involves an examination of self and other in relation to practice. In this regard, reflective practice is relational and often involves endeavours to create convergence between inner and outer worlds, that is a resonance between the practitioner's framing of a situation and the situation itself. For example, in his book, *The Reflective Practitioner*, Schön (1983) describes several specific situations faced by practitioners. In case of the psychotherapist, the situation is a frustrated patient, and in the case of an architect, the situation is a "screwy" site. Reflective practitioners often attempt to impose a particular vision they hold upon a certain situation. The situation, of course, does not always concede to the moulding of the practitioner. Often there are unexpected outcomes, requiring practitioners to reframe their vision (Schön, 1983). As Heron and Reason (1997) contend, "mind and the given cosmos are engaged in a co-creative dance, so that what emerges as reality is the fruit of an interaction of the given cosmos and the way mind engages with it" (p. 278).

As in reflective practice, relationality is a key concept within diffractive practice. The two methods however, are based on different ontological assumptions. The concept of reflection is grounded within an individualistic ontology in which humans and other entities are viewed as discrete, contained beings with the agency to affect and be affected by one another. Diffractive methods however, are grounded within Barad's agential realist ontology where bodies are viewed as open systems with fluid boundaries. Realities are not a priori but emerge as human and non-human bodies assemble to produce particular phenomena. Agency is not bestowed upon individuals, such as teachers or students, but rather emerges through intra-actions between and among entities as boundaries are created or collapsed (Barad, 2007). Intra-action is not just a metaphorical or conceptual idea, but also a material phenomenon. One only needs to think of a foetus growing inside a womb or the cells of children that are found in their mothers' bodies long after childbirth to disrupt common assumptions about physical boundaries between self and other. Returning to the visual of the waves in the lake, the water as a whole can be viewed as an unbounded body in which distinct waves and patterns form and come into being through flows and exchanges *within* the body of water. Barad (2007) refers to boundary making practices in which distinct bodies are constituted (and often hierarchically ordered) as agential cuts. These boundary-making practices are not absolute acts of differentiation, but rather a material un/folding, which she refers to as "cutting together-apart" (Barad, 2014, p. 168).

The key point here is that within Barad's agential realist ontology, the entanglement of bodies does not involve the interaction between pre-existing beings but rather the formation of phenomena and subjectivities through the process of intra-action. This ontological assumption leads to a very different sort of understanding of the work of practitioners. With an a priori assumption of stable structures, reflective practitioners (at least skilled reflective practitioners) should be able to act upon others to cause change to occur. Within an agential realist ontology, however, diffractive practitioners "join with [things] in the material flows and movements contributing to their – and our – ongoing formation" (Ingold, 2011, p. 88). Becoming diffractive involves shifting the gaze from individuals to human and more-than-human entanglements, and attending to the emergence of phenomena and to how differences are produced and made to matter. The goal of the diffractive practitioner is not to determine cause and effect relationships but rather to observe how particular entanglements become agential, co-constituting reality. The diffractive practitioner moves away from cognitive reflections of self and other to engage their bodymind sensibilities (Lenz Taguchi, 2012), intra-acting *with* forces and flows within educative assemblages, becoming-with the world. The following example illustrates an

educational practice in which pedagogy can be viewed as a diffractive apparatus wherein one of many potential realities was enacted.

In other work, I describe an unexpected pedagogical event that occurred when I took a group of students (practicing teachers) to the beach to engage with different materials than those typically found in classrooms (Smythe, Hill, MacDonald, Dagenais, Sinclair, & Toohey, 2017). Teacher-learners were invited to collect items such as driftwood, shells, seaweed and other artifacts from the shore for possible inclusion within a beach weaving to create renderings of their multiple trajectories as teachers. During this time, several students found a wounded bird on the beach and tried to care for it the best they could. This discovery held much energy for the students involved. They worked to create comfort, shelter and shade for the bird, realizing after a call to a wildlife rescue centre, that recovery was unlikely. In this situation a reflective practitioner might focus on the individual students, whether or not they were learning, or how s/he might empathize and support the students, or better engage the learners in the task at hand. The wounded bird might be viewed as nothing more than a distraction.

For the diffractive practitioner, however, the wounded bird becomes another body that enters into the assemblage creating an interference pattern that reconfigures the assignment in unanticipated ways. Thinking/feeling/becoming diffractive involves attending to material practices, forces and flows within assemblages, patterns of interference, as well as the phenomena that they produce. The diffractive practitioner asks: who or what is becoming? how are bodies intra-acting and interfering with one another to shift boundaries and produce particular phenomena? what potential realities exist? and what other bodies might enter the assemblage to shift and forces and flows? The focus of learning here shifts from the epistemological to the ontological (de Freitas & Sinclair, 2014). In this situation, the boundaries between human and non human are collapsed, and the intra-action between the assignment, the wounded bird, the hot sunny day, the cell phone, and the instructor's lack of intervention, assembled to produce enacting care in the face of hopelessness. This agential assemblage constituted powerful subjectivities for the teacher-learners, which later were included in their renderings of their teacher selves.

If pedagogy is viewed as a diffractive apparatus in which relationships between matter and meaning are analyzed and reconfigured from within, educators go beyond the notion of critical- subjectivity (Heron & Reason, 1997) to a stance of becoming-with others. Playing on the title of Barad's book, Spector (2015) refers to this as "meeting pedagogical encounters half way" (p. 447). Here binaries of teacher/student are disrupted, as learning is not caused by teachers or students but rather agential intra-acting bodies that constitute potential subjectivities and possible realities.

### *Displacing and diffracting the selves who teach*

Barad's conceptualization of diffractive methods includes the practitioner as an integral part of the constitution of phenomenon. She asserts, "we too are part of the world's becoming" (p. 91). The idea that the practitioner is on the inside of educative endeavours, contributing to the production of teaching and learning is consistent (in some ways) with most current conceptions of reflective practice. Scholars such as Brookfield (1995), Hauer James (2011) and Palmer (1998) contend that teacher's own assumptions, identities, and histories impact and shape their practice. Educators are encouraged to engage in autobiographical inquiry to critically examine how their experiences, presuppositions, and self-concept influence their work and influence others. In this regard, reflective practice within the field of education has situated the teacher's personhood at the very centre of the



educative endeavour.

How diffractive practice differs however, is that the teacher is not viewed as a pre-existing, distinct entity, but rather materially constituted through intra-action among bodies, both human and non-human. As Bozalek and Zembylas (2017) contend,

In reflexivity, there is a researcher as an independent subject who is actually the locus of reflection, whereas in diffraction there is no such distinction as subjects and objects are always already entangled. Thus, from a diffractive perspective, subjects and objects such as nature and culture are not fixed referents for understanding the other but should be read through one another as entanglements. (p. 116)

This view is inconsistent with current practices within teacher education, in which teachers are encouraged to develop a stable, often essentialized 'self' that permeates their professional identity. Parker Palmer (1998) for example, encourages teachers to embrace their "true," "authentic," "real" and "undivided" self, to "teach from within." He writes, "good teaching comes from the identity and integrity of the teacher" (p. 10), defining integrity as a holistic sense of self that incorporates all facets of one's identity, in a life-affirming manner.

Based on my experiences as a teacher educator, disrupting personal and professional boundaries, and engaging in autobiographical inquiry, opens a space from which to practice, often producing transformative pedagogical shifts. Yet this position is inconsistent with Barad's (2007) agential realist ontology. In becoming diffractive, I wonder how the role of the practitioner in educative endeavours might be acknowledged without resorting to an essentialized self or assuming a pre-existing subject?

Rosi Braidotti's (2011) notion of nomadic subjectivity, which involves occupying a fluid, unbounded, and transient subject position, may allow diffractive practitioners to embody multiple subjectivities without forgoing the powerful grounding that can result from embracing specific personal/professional identities. As Braidotti (2011) contends,

Being a nomad, living in transition, does not mean that one cannot or is unwilling to create those necessary stable and reassuring bases for identity that allow one to function in a community. Nomadic consciousness rather consists in not taking any kind of identity as permanent: the nomad is only passing through: he makes those necessary situated connections that can help him to survive, but he never takes on fully the limits of one national, fixed identity. (p. 64)

Nomadic subjects relinquish stability and fixity and commit to a rhizomatic traversing across boundaries without predetermined destinations. Nomads are not however, precluded from periods of rest as well as cycles of repetition involving "seasonal patterns of movement through rather fixed routes" (Braidotti, 2011, p. 57). Adopting a nomadic identity might allow diffractive practitioners to embrace a fluid and emergent sense of self, embrace difference and interference, while setting up pedagogical camps from time to time, and returning to familiar routes on a regular basis.

This past year I have been disrupting notions of a pre-existing "self who teaches" (Palmer, 1998), while exploring various becoming-selves and the material processes through which subjectivities are co-constituted, as well as how the stories we tell about ourselves contribute to the production of particular phenomena. One method my students and I have been using to illuminate multiplicity within our identities as practitioners, as well as within our practice, is by utilizing the "interview to the double" (ITTD) method described by Nicolini and Roe (2012). This method involves conducting an interview in which a practitioner instructs someone else (the double) to

do their (the practitioner's) job. The practitioner imagines a typical day at work and describes their actions with such specificity that the double should be able to pass as the practitioner without being detected as an impostor. The goal of the interview is to produce a rich, complex, diffractive account of practice, in which attention is paid to difference and how practitioner identities are materially constituted. Nicolini and Roe (2012) view practice as both multiple and singular in nature - multiple in terms of possibilities, but singular at the point of action. The interview to the double method surfaces multiplicities and potentialities within professional practice.

My students (practicing teachers) and I have been experimenting with the ITTD method, interviewing each other, describing how our practice is enacted, and analyzing the materialization of various professional identities inherent within these descriptions. Through this process we have generated awareness of when and how particular professional selves are constituted within the site of professional practice, thereby creating possibilities for diffraction and interference by inviting (or silencing) various professional identities into the assemblage. The following example stems from an excerpt from my experimental writing (Richardson, 1994) based on the ITTD method (Nicolini & Roe, 2012), in which I am instructing a double how I would engage in a conversation with a student who has not met the expectations of the assignment.

I would tell the double to smile when approaching the student, look them in the eye and appear calm. I would want to mask my disappointment and my concern. I wouldn't want the student to think that the situation was hopeless or that I had given up on them. I would tell my double to sit alongside the student, not across from them like in an interview or to stand towering over them. I would tell the double to listen to the student, to invite their side of the story, and to withhold judgement until she understands more fully what is going on. At the same time, the double needs to be aware of the expectations of the assignment and how far the student is from meeting them. She has a responsibility to the university and the profession to uphold standards and her colleagues will not be pleased if a student who is not mastering the curriculum goes on to the next course. I would tell the double to take a copy of the syllabus with her to help to clarify expectations with the student, as the syllabus serves as a contract between the student, the instructor, and the university. The double should try to catalyze change during the conversation and ask herself, 'what does the student need to hear at this time, what needs to be said/done/felt for something different to happen?' She may need to prepare herself for a difficult conversation.

This experimental writing illuminates diverse teacher identities and how they are materially produced within the encounter, including the compassionate teacher produced through facial expressions, eye contact, as well as bodily positioning disrupting the hierarchy between teacher and student; the professional teacher produced through the calm demeanour and restricted emotions; teacher as gatekeeper produced through the embodiment of professional standards; the litigious teacher armed with the learning contract; and teacher as empath produced through the silencing of her own voice and sensing what shifts within the assemblage might produce change. This analysis enables the recognition of the inherent multiplicity within professional roles, even within brief encounters, and allows practitioners imagine differently what the student/teacher might become through the reconfiguration of identities. Diffracting different identities through each other can produce further insights. For example, when the litigious, the compassionate and the gatekeeping teacher are read through one another, boundaries between and among teacher/student/policy/community are generated or collapsed in different ways producing different materializations of power, locating authority within, between, and outside of the student-teacher relationship.

Inviting these stories of the self/ves who teach into pedagogical assemblages can create interference, and

produce new realities and subjectivities for students and teachers. Embracing a nomadic sense of self in which identity is continuously reconfigured/shifted/diffracted across contexts can spread practice in unimaginable ways. In this regard the diffractive practitioner can be viewed as a displaced subject, occupying a variety of professional selves, embracing a divergent and unmarked path, setting up the occasional pedagogical camp, and traversing her worlds in recurrent (but never exactly the same) patterns of diffraction and entanglement.

### *Embracing difference, interference, and spaces-in-between*

Reflective practitioners work at the very intersection of theory and practice, in which practice is extended, enhanced, and disrupted through theory (Brookfield, 1995). As a teacher educator, I often ask practitioners to locate themselves within communities of scholarship or “distant friends” (Shagoury Hubbard & Miller Power, 2003) that mirror their beliefs or values, or align with their vision as practitioners. Teachers often try on various theories for ‘fit’, and typically the most generative theories are selected to inform practice, while others are discarded. That is not to suggest however, that praxis is static and self-affirming, as reflective practice also attempts to move away from habitual ways of knowing, doing and being through critical engagement with theory (Brookfield, 1995; Greene, 1978).

Diffractive practice, though, produces new phenomena and new subjectivities (Jackson & Mazzei, 2012), as well as new possibilities for practice through embracing multiplicity, difference, and divergence. Within diffractive methods, difference is viewed as a generative, positive phenomenon, produced through interference and connections among entangled entities. As Bozalek and Zembylas (2017) note,

From this perspective difference is seen in an affirmative light, as a tool of creativity rather than as separation and lack. Difference here is not positioned as the opposition to sameness – but is also incorporated into the self as difference within and seen as a means of becoming. (p. 115)

This Deleuzian conception of difference disrupts the traditional understandings, in which categories of difference such as human/nonhuman, teacher/learner, and adult/child, are viewed as ontologically distinct, and are typically hierarchically ordered (Lenz Taguchi, 2012). Difference, within diffractive methods, is viewed as a positive force in which specific phenomena are produced through intra-active connections and relations.

The following example illustrates how practitioners might invite theory with distinct philosophical underpinnings into the site of practice to illuminate difference, produce interference, and create something new. This example comes from my practice as a parent, as I find much overlap between my role as the primary teacher of my children and my work as the educator of practicing teachers, and this is a boundary I often disrupt. This diffractive inquiry began in response to a growing tension developing within my family in which my children’s quarrelling with each other increasingly resulted in negative emotions, raised voices, and at times, physical altercations and fragmented relationships. I began to experiment with two very different theoretical frameworks within the context of these familial quarrels – self-regulation theory and new materiality theory (Barad, 2007). I chose self-regulation theory because it is widely used in schools to support children in optimizing mental states and increasing pro-social behaviour by dealing with stressors through regulation of cognitive, biological and emotional systems (Shanker, 2013). Despite the popularity of this framework in schools, I was not successful in applying it to resolve tensions within my family. I chose new materiality theories, primarily the new materialist approach of Barad (2007), because I had been recently introduced to this

perspective in my research group, and Barad's agential realist ontology provided a novel and seemingly unusual approach to understanding conflict.

My process involved reading an account of a familial quarrel through self-regulation theory and through new materiality theory. During this event, two of my children began to fight over a ball while I was working on my computer. My subsequent intervention, in which I determined the guilty child who was viewed as instigating the conflict and removed that child from the situation in order to calm down and prepare an apology, only served to exacerbate emotions, frustrations, and discord among my children, as well as myself. I engaged in experimental writing (Richardson, 1994) in which I rewrote the account through the lens of each theory to engage my "imaginary and bodymind sensibilities" (Lenz Taguchi, 2012, p.275) and to illuminate intersections, overlaps, and tensions among events, theories, self and methods. As Anna Palmer (2011) notes,

A diffractive style of reading allows for the researcher to identify all the intra-activities that emerges in-between the researcher and the data. These shifts do not happen completely at random; new directions are marked out in the very intersection between the data, theory, methodology and the researcher. (p. 8)

I read the two renderings of the ball episode through each other to better understand how each theory worked, how differences were produced and how they came to matter. I invited insights into the realm of practice as they emerged, as practitioners don't just "think with theory" (Jackson & Mazzei, 2012), they do with theory. My method involved continuous iterative processes of re/reading texts through one another, re/writing field notes, engaging in diffractive experiments with my children, and participating from within in the re/configuration of realities.

Through the process of diffractive reading I learned that self-regulation theory, 'works' by constituting individuals as discrete entities with ascribed agency to 'efficiently and effectively' manage the self. In this regard, self-regulation can be viewed as a technology of the self (Foucault, 1988), a mechanism through which the self is constituted as subject and regulated. Once in a hyper-aroused state, brains become dominated by the more 'primitive' flight or flight response and it is more difficult to think clearly, modulate strong emotions, empathize with others, and to engage in pro-social behaviours (Shanker, 2013). Self-regulation becomes the mechanism through which individuals retain their humanity as they traverse through stressors inherent in their environment, as their emotions and actions become subservient to their rational minds. Reading the event through self-regulation theory, individuals were constituted as autonomous, agential beings, responsible and accountable for their behaviour, all of whom had failed to maintain a harmonious balance between biological, emotional, cognitive, social, and pro-social domains. Actions and reactions were segregated from entanglement with the material world, and characterized by a lack of ability to self-regulate.

When my field note was read through new materiality theory, it became clear that this theory 'works' by ascribing agency and responsibility throughout the entanglement, not just among human bodies, but nonhuman bodies as well, including balls and computers. Shifting agency from individuals to the relational field and acknowledging "thing power," (Bennett, 2010), simultaneously freed the individuals from assuming absolute responsibility for harsh words, aggressive actions, and lack of empathy, as well as the shame associated with the undesirable behaviour and emotions attributed to their bodies. It also however, limits their agency to act upon others to produce different results.

Reading the diverse theory/data assemblages through one another highlighted how different phenomena, subjectivities, and realities were produced. These differences came to matter as they entailed very different

implications for agency, accountability and responsibility, creating personal or distributed notions of failure, blame, guilt, and judgement in light of antisocial behaviours. I immediately invited these insights into the realm of practice. Inspired by the scholarship of de Freitas and Sinclair (2014), who decentre the self in their research by attending to gesture, I began displacing individuals in familial altercations and instead attributing blame and responsibility at the site of contact. When bowls, hands, beds, toys, feet and the like were interrogated, assigned blame, and asked to apologize to victims such as heads, bodies, and legs, negative emotions were immediately defused, giggles emerged, and apologies came easily. Although I had achieved outcome validity (Anderson & Herr, 1999) in that I had resolved the tensions that catalyzed the inquiry in the first place, I realized that this was not really a diffractive analysis. I had not embraced difference as a positive site of interference, but rather as deficiency, hierarchically ordering the theories and choosing one over the other. Further, this outcome was not completely satisfactory for several reasons: 1) new materiality theory only provided a different way to understand and respond to conflict, and 2) I worried that my children would not be popular with others if they blamed physical altercations solely on things and absolved themselves of any responsibility.

Consequently I re-read the two theories through each other looking for places of overlap and interference, rather than just tensions. Diffracting new materiality theory and self-regulation theory and attending the spaces-in-between produced something new – a phenomenon I refer to as relational regulation. Here indeterminate matter on the micro level (biological systems), mezzo level (individuals), and macro level (households) intra-act to produce subjectivities, phenomena, and realities. Regulation is distributed across a broad relational field, and homeostasis within the field occurs when human and nonhuman entities co-constitute in harmonious ways. Through these diffractive practices we are becoming relationally regulated, embracing the distributed and material notion of responsibility within our familial assemblage, not only among our biological, emotional, cognitive and social domains, but also among human and nonhuman entities. Like Braidotti (2013), we embrace an “embodied and embedded and hence partial form of accountability, based on a strong sense of collectivity, relationality and hence community building” (p. 49). Responsibility that is embodied, embedded and collective produces kindness and understanding, as well as creates more affirming identities, as we work towards relational regulation within our entanglements. We do not settle here however, as diffractive practice is always on-the-move as new human and nonhuman bodies, as well as bodies of knowledge, enter into our entanglements.

This example illustrates how we might begin to move away from metaphors of teachers as independent bricoleurs, cobbling together notions of praxis from complementary pedagogical philosophies, and shift into exciting territories where boundaries are disrupted, openings are created and opposing paradigms are encouraged to interfere with one another. This widens the possibilities for practice, and creates something new within the in-between spaces of different theoretical and methodological terrains.

### **Diffractive practice on-the-move**

These accounts of practice provide a resting place, a pedagogical camp of sorts, which will continue to un/fold and morph, as I move towards becoming diffractive. I have argued in this article that diffractive methods create openings for new understandings of educational practice and new ways of becoming as a practitioner. They focus attention on how differences are materially constituted and come to matter; interfere with common notions of relationality, self, and practice; and invite the continuous (re)configuration of life in schools. Diffractive methods enable us to move away from reproducing “the Sacred Image of Same” (Haraway, 1997, p. 273) in educational institutions, illuminating how power relations are entangled within and among non/human bodies, and contribute to the ethico-onto-epistemological reconfiguration of the world’s becoming. As Barad (2007) contends, “...the possibilities for what the world might become call out in the

pause that precedes each breath before a moment comes into being and the world is remade again” (p. 185). Diffraction is a method for making a difference. In these accounts, I hope to have traced a path for other educators endeavoring to move beyond reflective practice and chart new territories of their own.

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