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Exploring Young Children's Encounters with the More-Than-Human: A Multispecies Ethnography

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A thesis submitted in partial fulfillment of the requirements for the Master of Arts degree in Education

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Abstract

Foregrounding moments from an early child care centre, this thesis employs a multispecies ethnography methodology to explore the opportunities children from a preschool class have to encounter the more-than-human in the ecological epoch of the Anthropocene. Drawing on a posthuman and common worlds theoretical framework, this thesis works to explore children/more-than-human entanglements that occur in a local, urban cemetery space while challenging practices of human exceptionalism in the field of early childhood education. Participants in the study included one preschool class of 16 three to four-year-old children and the diverse nonhuman residents of the cemetery space. Using a diffractive method of analysis, five data-stories tracing distinct multispecies encounters explore how the radical more-than-human turn is present and impactful at a local level, reshaping approaches to early childhood education in a community in Southern Ontario. This thesis concludes that the children express collective being and thinking within non-innocent, local, multispecies assemblages in unpredictable ways. It is through these complex entanglements children are experimenting with learning to live amid the inescapable relations within their common worlds.

Keywords: children and more-than-human, common worlds, diffractive analysis, multispecies ethnography, post-qualitative, posthuman

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Chapter 1

1 Introduction

My research seeks to explore occurrences among children in a mid-sized urban city in Southwestern Ontario early child care centre and the more-than-human beings that co-inhabit the common spaces. This chapter presents an introduction to the thesis by providing a brief background and context to support the reader who may be navigating the field of more-than-human assemblages for the first time. This introduction states the problem my research is addressing, articulates the purpose of my study, provides the research questions driving my explorations, and discusses the theoretical framework which has structured my research.

1.1 Background and introduction

Existing discourses often reflect themes of child-centred, human-dominant patterns distinguishing the child as the focus and the animals as the learning tools or sources of entertainment (Pacini-Ketchabaw, Taylor, & Blaise, 2016a; Taylor & Giugni, 2012; Taylor & Pacini-Ketchabaw, 2015; Tipper, 2011). This anthropocentric approach can instill unrealistic portrayals of our inhabited world in children and continue to further the nature/culture divide defining the boundaries of human and more-than-human relations (Pacini-Ketchabaw & Khattar, 2018). Believing we can modify and improve nature to make a perfect environment for our children and teaching children to be protectors of the earth are anthropocentric perceptions viewing humanity as more important than, and separate from, nature. Amidst the current reality of environmental

destruction (Taylor & Giugni, 2012), it is crucial to understand the relationships formed between humans and more-than-humans and the contexts in which these relationships are formed in new ways.

Emerging scholarship suggests that more-than-humans do not simply exist in the world, but are boisterous agents, experiencing the world in entangled ways. This shift in thinking is opening pathways of inquiry that transform how humans know and engage with the more-than-human and illuminate different modes of understanding the common worlds in which human/more-than-human relate. Challenging human exceptionalism in the field of early childhood education, the more-than-human turn reflect shifts in theory enabling radical reconceptualisations of the nature/culture, human/non-human binaries often present in early childhood studies (Lloro-Bidart, 2018; Whatmore, 2006). While the more-than-human turn is beginning to reshape approaches to human, animal, and early childhood studies on a global level, I remain curious about how it is present and impactful at a local level with children growing up in an urban community in Southern Ontario.

My research seeks to explore pedagogies and occurrences with children at a London, ON early child care centre located on the traditional lands of the Anishinnaabeg, Haudenosaunee, Leni-Lunaape, and Attawandaron peoples. The purpose of this multispecies ethnographic research is to explore the entanglements of children and the more-than-human and consider how these entanglements impact the ways in which preschool children and the more-than-human coexist in relation with, rather than

function around, their non-species counterparts. Using multispecies ethnographic research (Kirksey & Helmreich, 2010) and a diffractive analysis technique (Taguchi, 2012), my study considers how thinking deeply about how children and more-than-human encounter each other, and how seeking to understand children's expressions of encounters with these more-than-humans, can disrupt familiar and dominant assumptions about the 'child in nature'.

To approach this goal, I first begin by recognizing the provocations of engaging with multiple more-than-human species and the challenges of navigating the differences between human bodies and non-human bodies. Critical animal studies express that while animal species are not voiceless, they do not share a verbal communication language with humans (Taylor & Twine, 2014). Additionally, engaging with non-domesticated more-than-humans in shared spaces involves unpredictable movement where a more-than-human agent exercises freedom by avoiding or fleeing from an opportunity to engage with the child participants. To approach these challenges, as a participant-observer, I draw on information from children's narratives as well as being attentive to the sights, scents, and sounds of the assemblages and the movements of the children and the more-than-human. The anaphylactic allergy one child has to bee stings articulated a present danger in the weekly excursions to the playground and cemetery sites. This allergy prioritized the necessity of noticing the presence of bees and the need to react and engage differently within a human-bee assemblage.

This multispecies ethnography provides multiple accounts of mutual encounters in a common world, exploring children's displays of recognition and understanding of their relations with their more-than-human counterparts. My thesis research contributes to emerging multispecies scholarship by making visible the entanglements occurring on a daily basis between preschool children and the more-than-human at a local child care centre and surrounding outdoor spaces. This research can be used to provide opportunities to examine the complex ways the human/more-than-human relationship can be reconceptualized in other local early years settings.

1.2 Statement of the problem

As Western citizens of today's earth, we are living in and contributing to an age of increasing mobility, individualism, and environmental destruction. Human-centred progress and expansion is resulting in environmental degradation, global warming, and pollution (Gore, 1992) and is threatening the future of our planet, our species, and the lives of all our co-inhabiting nonhuman species. In this age of the Anthropocene (Crutzen, 2002; Steffen, Crutzen, & McNeill, 2007), world relations between human and our more-than-human counterparts are of principal importance, calling for a move in how we consider place and agency in this world (Taylor & Giugni, 2012).

Living in the urgent times of the Anthropocene calls for a prompt interrogation into what it means to be human by resituating our position within the natural world (Taylor, 2017a) and urging for a different way of being. Affrica Taylor (2017a) discusses the Anthropocene as an event testifying to the failure of "sustainable human

‘development’” (p. 1450). Human patterns of resource extraction, consumption, and capitalist-driven development are not sustainable on a planetary scale and a paradigm shift in our thinking about sustainability and multispecies relations is required (Steffen, Crutzen, & McNeill, 2007; Taylor, 2017a). We are living in a time that requires us to radically rethink our agency in the common world, understanding we are just one agentic being among many.

1.3 Purpose of the study

The proposed study aims to develop an understanding of the entanglements of children and the more-than-human occurring during opportunities provided in a London, ON child care setting. This study will consider the mutual encounters and explore the children’s subsequent displays of recognition and understanding of their relations within the common world.

My theoretical framework is the growing body of literature surrounding common world practices (Taylor & Giugni, 2012; Taylor, 2017a) in early childhood settings.

Challenging us to move towards an inclusive and curious understanding of the world we share, common worlds practices offer an alternative way of thinking about the relationships that define our human experience (Taylor & Giugni, 2012). Building on place-based pedagogies as a central focus for understanding human and more-than-human relations and differences (Massey, 2005), a common world approach offers a framework for reconceptualizing childhood and a pedagogical method for practicing non-human centric ethics of inclusion within early childhood education (Taylor &

Giugni, 2012). This approach shifts thinking about early childhood as positioned in an exclusively human society to thinking about its position in an entangled common world.

1.4 Research questions

In response to the problem I address through my study and the current literature on children and more-than-human encounters, my research was driven by the central question:

- How do preschool children in a London, ON child care program engage with more-than-human entanglements?

In efforts to obtain rich and thorough data collection and analysis, my research was enhanced by also considering the following supplemental questions:

- What opportunities do children in a London, ON child care program have to encounter the more-than-human?
- How do children express collective being and thinking with the more-than-humans in their presence?
- How might the encounters experienced between children and more-than-humans in a London, ON child care setting illuminate possibilities of “living well” (Pacini-Ketchabaw, Taylor, & Blaise, 2016a) within a common world?

1.5 Theoretical framework

Challenging the dominant acceptance of the modern child as one who progresses predictably through specific, age-related stages of development comprised of a series of individualized and isolated events (Piaget, 1952; Vygotsky, 1978), my study holds a posthumanist understanding of childhood (Murriss, 2016). Within this understanding, the concept of childhood is seen as complex and fluid where the child is discursively positioned within social, cultural, historical, and contextual influences (Dahlberg, Moss, & Pence, 1999). Within the posthuman landscape (Haraway, 2004) the child is decentred and repositioned in a common world (Taylor, Blaise, & Giugni, 2013), which considers how both children and their more-than-human co-inhabitants encounter each other.

In an attempt to make sense of encounters and relations between children and their surrounding world's co-inhabitants my study relied on a structure composed of posthumanist theory (Barad, 2007; Braidotti, 2013; Haraway, 2004; 2008) and a common worlds pedagogy (Taylor & Giugni, 2012; Taylor, 2017a). As my research study examined the entanglements of children and the more-than-human occurring during opportunities in early childhood education, a posthuman approach is appropriate to displace understandings of the self/other, nature/culture binary (Ceder, 2015).

Posthumanist philosophy offers a critique of the popular understanding of nonhuman objects and beings as passive objects, created or employed for human-centred benefits; a common assumption particularly held in early childhood education (Ceder, 2015).

Relying on the foundations of post-anthropocentrism and intra-relationality, as theorized by feminist philosophers Barad (2003; 2007), Haraway (2003; 2008), and Braidotti (2013), posthumanism resists a child-centred approach to learning and a human-driven relationship to the natural world.

Whether partaking in a temporary interaction or a deeper entanglement, a post-anthropocentric, posthumanist approach is rooted in the idea that all participants, human and nonhuman, are agentic beings; no single participant has precedence. It can be understood that “the posthuman landscape repositions childhood within a world that is much bigger than us (humans) and about more than our (human) concerns. It allows us to reconsider the ways in which children are both constituted by, and learn within, this more-than-human world.” (Taylor, Blaise, & Giugni, 2013, p. 1).

In considering the community of early childhood education, my study implemented the common worlds framework (Taylor, 2013; 2017a; 2017b; Taylor & Giugni, 2012). The common worlds framework challenges the romantic concepts of childhood innocence and purity grounded in the belief that childhood can be separated from the rest of the world (Pacini-Ketchabaw & Taylor, 2016b). By countering the distinction between human society, nature, and the more-than-human, a common world approach to childhood asks the question, “How can we live well in the more-than-human common worlds that we inherit?” (p. para. 1). Common worlds take account of child/more-than-human relations and consider the ethics and politics of co-inhabiting our shared world (Taylor & Giugni, 2012).

Commons worlds call for us to embrace curiosity, “For it is only when we exercise curiosity to find out more about where we are, and who and what is there with us, that we find hitherto unknown dimensions to our common worlds” (Taylor & Giugni, 2012, p. 110). Working to shift the positioning of early childhood education from being firmly rooted on the human and social side of the nature/culture divide (Latour, 2005), common worlds challenges the human-centric nature of inclusion to realize we are living in a shared world that does not require permission to engage with us.

Common world practices differ from the nature-based education that is rising in popularity in Western communities (Williams, 2018). Nature-based education is often framed around optimizing development, enriching children’s learning, and providing opportunities to ‘give back’ to the environment (Nelson, Pacini-Ketchabaw, & Nxumalo, 2018). This stewardship narrative focuses on the innocent ‘child in nature’ with approaches that can be seen to be “actively undermining everyday possibilities for radically reimagining what it means to live in relational reciprocity with one another and the plants, animals, water, and landscape forms that we are, in fact, dependent on for our very existence” (Nelson, Pacini-Ketchabaw, & Nxumalo, 2018, p. 6). These colonial pedagogies lack connection to the Indigenous land on which they occur and are embedded with the assumptions that the land is a resource for profit.

Desiring to distance my research from practices that situate the land, animals, and plants as inactive properties for human benefit, I look to a framework that interrogates the normalized capitalist and colonial worldviews entrenched in early childhood

education and reimagines what it could mean to live in reciprocity with the land, animals, and plants that surround us. Attending to the complex relational histories, traditions, and relationships among the human and more-than-human citizens of the common places we inhabit, a common worlds approach is a productive framework to support my research process.

Taylor's common worlds framework (2013; 2017a; 2017b; Taylor & Giugni, 2012) has influenced how I approached and situated my research beginning with the premise that humans are not the sole inhabitants and caretakers of the common world. Ways of acting and living well where all human and more-than-human beings can flourish must be explored. The development of my research questions began with the same question articulated by Métis anthropologist and scholar Zoe Todd; "What other story could be told here?" (Todd, 2015, p. 244). Expanding on her reflection of the inclusion of Indigenous theories and experiences in educational discourses, my research questions consider what other stories can be told, what other voices can be heard, and what opportunities there are to query during the days at a London, ON child care centre.

1.6 Structure of the thesis

In the following chapter of this thesis I explore relevant literature which informs and supports my study drawing on research relating to the intersection of children's encounters with the more-than-human and early child care programming. Discussing trends among the included literature positions my research within the field of early

childhood education and establishes how my research will contribute to the rich and growing body of posthuman and common world literature.

The third chapter introduces the methodology which directed the development and implementation of my study. In this chapter I will also introduce the field site where my research was collected and the human participants who comprised the human component of the research. As this thesis is a multispecies ethnography resisting a child-centred framework, it is important to note that the more-than-human inhabitants of the research sites are also considered equal informants, driving the research. Additionally, in this chapter I will also discuss the process of collecting and analyzing the data with a diffractive approach.

In the fourth chapter, I present five data-stories in the order of collection. The data explores themes of multispecies encounters, the children's relationship with place, and disrupting nature/culture binaries. One to two photographs were carefully chosen to support each story and enhance the reader's experience with the data. Following each data-story is a short diffractive reading, the chapter culminates with an analysis emerging from a reading of all five data-stories.

The final chapter of this thesis discusses the findings and returns to the research questions posed in chapter one. This chapter includes the significance of the findings and presents the implications for practice, continuing on to recognize the limitations of the study and offer considerations for future research. I conclude this thesis with some final thoughts that reflect on the position of this research among larger-scale studies and

considers the powerful intra-active affect humans and more-than-humans have on each other through even the most fleeting encounters.

Chapter 2

2 Review of Literature

This chapter aims to provide a foundation of knowledge from relevant fields to support and frame my approach to the study. The following review of literature discusses the intersection of children's encounters with the more-than-human and early child care programming. The areas of literature reviewed consider the binary perspectives of children and nature, posthuman paradigms in environmental education, Indigenous ways of knowing, care and stewardship in early childhood, and common world encounters with children. Gathering, analyzing, and consolidating literature trends and research studies will help to better understand the need for this proposed study, identify the specific area it will examine, and ascertain where its findings will fit within the field of early childhood education research.

2.1 Binary perspectives of children and nature

E. O. Wilson (1984) introduced the term 'biophilia' to refer to "the innate tendency to focus on life and lifelike processes" (p. 1). Steven Kellert (Kellert & Wilson, 1993) further clarifies that the Biophilia Hypothesis affirms a "biologically based, inherent human need" (p. 42) for a connection with the natural world, "the biophilia notion therefore powerfully asserts that much of the human search for a coherent and fulfilling existence is intimately dependent upon our relationship to nature." (p. 43). David Orr (2004) suggests that although the biophilia attraction to nature is innate, it is important that it becomes part of an individual's life in the early years, and for that to occur, safe

and accessible nature spaces which model adult behavior in a community based on a love of the natural world are required. Orr's book *Earth in mind* (2004) presents a musing that perhaps the reason for our current ecological crisis is that we have not made nature a predominant part of our early learning.

The perspective that learning about animals and nature is biologically driven and vital for young children's development has been adopted and shared by some (Kahn & Kellert, 2002) and rejected by others (Daston & Mitman, 2005; Taylor, 2013) as being self-indulgent, sentimentally displaced, contributing to a division of nature and culture. The dichotomy of viewing the child-nature/child-animal relationship as either sentimental or biologically attuned has characterized the dominant thinking in literature and early education practices (Gallard, 2015), subscribing to the binary considering humans as separate from nature. These humanist ontologies reinforce a Rousseau-inspired understanding that environmental education is tied to the purity of nature and the innocence of the child (Baker, 2001). The understanding that if a child has a positive experience with nature during early childhood, then a future adult who is committed to conservation and the anti-exploitation of nature will result (Maynard, 2007), maintains an approach of stewardship that limits the child's ways of being and narrows the opportunities for multispecies relations.

Nature-based preschools and kindergartens (Larimore, 2016; Sobel, 2014) meld environmental education with early childhood education, often founded on the biophilia connection to the natural world. When discussing the presence of animals in a daily

routine of nature centre preschools, Bailie (2012) uses language distinguishing the accepted human-nature divide, saying “animals in the classroom, finding animals outside, and nature centre resources including teaching animals, farm animals, and wildlife visits all contributed to engagement with animals” (Bailie, 2012, p. 228). Shifting towards posthuman imaginings and practices present different modes of understanding the complex entanglements of the child and nature, offering new ways of approaching an education of co-existence (Duhn, Malone, & Tesar, 2017).

2.2 Indigenous ways of knowing

Indigenous knowledges are numerous and varied. Although, as Mi'kmaq scholar Marie Battiste notes, “there is no one singular author of Indigenous knowledge and no singular method for understanding its totality” (Battiste, 2008, p. 500), one common thread throughout Indigenous literature and scholarship of Indigenous worldviews is the important role the more-than-humans play in the collective understanding and dynamic creation of knowledge (Nadasdy, 2007; Rowan, 2016). A. Irving Hallowell (1960) illustrates how the Ojibwe people considered animals, plants, stones and the natural forces of weather to be sentient and intelligent persons. A similar ontology is found among the Kluane First Nations in Yukon, Canada. Paul Nadasdy (2007) acknowledges the relations among the Indigenous people and forces (e.g. weather, animals, and plants) which are known to be “sentient and intelligent persons” (p. 29), where personhood is a concept bound by agency and volition, not by mortality and human attributes.

Often resisting the notion of human exceptionalism, Indigenous ways of knowing blur the boundaries of the nature-culture divide and consider the world a web of intertwining relationships among all beings, human and more-than-human, past and present (Herman, Vizinia, Augustus, & Sawyer, 2008; Ogden, Hall, & Tanita, 2013). This understanding is embodied in the Medicine Wheel, which illustrates a balance of mental, emotional, spiritual, and physical health, none of which is possible without a reciprocal dependency and respect for all who share the land (Legge & Robinson, 2017; Longclaws, 1994; Medicine Wheel, 1991). De-animation of the non-living has instilled hierarchies that have allowed displacement and exploitation of the nonhuman world to be justified and accepted. Dakota scholar Kim TallBear (2011) parallels the violence of the human-nonhuman split in Western thinking to the engendered violence of the settler-privileging colonial hierarchies.

In contrast of the Euro-American perspective of a universal and definable knowledge, Indigenous knowledges are often very locally specific, deeply embedded in and emerging from the land, the languages, and the lives of the human and more-than-human in the community (Price, 2008; Rowan, 2016). Crediting animal behavior, migration patterns, and medicinal plant growth cycles, the more-than-human are recognized as being one of the most influential determinants of the location and composition of Indigenous settlements: “It is the long-term association with place and the plants and animals that inhabit that place which translates into tangible, distinct tribal ethnicity” (Anderson, 1997, p. 17).

Colonialism and the effects of the changing climate on biodiversity have had disastrous consequences on Indigenous freedoms, knowledge systems, and traditional teaching. The forcible removal and displacement of Indigenous communities violently broke relationships with specific animals, damaged medicinal practices which depended on specific local plants and fungus, and uprooted language from its point of reference and origin (Legge & Robinson, 2017; NCCAH, 2016). The loss and trauma of local biodiversity due to climate change, deforestation, sport hunting, and pollution have forced many more-than-human beings onto endangered species lists or into extinction (Carrington, 2016; WWF, 2019). Despite the violent and damaging effect colonialism has on Indigenous people's culture, language, and environment, contemporary Indigenous knowledges and teachings remain rooted in traditional territories (Rowan, 2016).

Drawing on Indigenous perspectives of the more-than-human is important when trying to make sense of notions of animacy and agency. In calling for Indigenous viewpoints in interspecies research Kim Tallbear (2017) wrote, "Indigenous standpoints accord greater animacy to nonhumans, including nonorganisms such as stones and places, which help for (Indigenous) peoples as human constituted in much more complex ways than in simply human biological terms" (TallBear, 2017, p. 187). As a settler researcher, understanding and acknowledging the local histories and traditions of the land is essential to engage better in multispecies becomings.

2.3 Posthuman paradigms in environmental education

The posthuman paradigm is characterized by comprehensive ontological and epistemological theorizing proposed to challenge the nature/culture binaries accepted in Western cultures. The growing body of research drawing on posthuman frameworks focuses on the need to find ways to think beyond the nature/culture divide in early childhood education research (Bell & Russell, 2000; Murriss, 2016). Gannon (2017) addresses the implications of posthuman work in this field as overcoming the binaries of nature-culture/human-nonhuman that act as boundaries for learning about, and experiencing encounters and relations between bodies.

Anthropocentric ways of thinking have dominated Western educational systems in the context of environmental education (Bell & Russell, 2000; Pederson, 2010; Snaza & Weaver, 2015). By privileging human cognitive, social, and ethical abilities over others, educational humanism has “distinguished a ‘discerned Human’ from the Other” (Lloro-Bidart, 2018, p. 254). Research in the field of environmental and sustainable education has challenged this educational humanism by engaging the more-than-human shift in social sciences and the humanities. Theoretical shifts framed in animal rights theories (Regan, 2004; Singer, 2009), Indigenous thought (Todd, 2016), ecofeminism (Donovan, 2006; Plumwood, 1993), and feminist new materialism (Bennett, 2010) and posthumanist positions (Lather & St. Pierre, 2013) reflect emerging and ongoing theoretical shifts contributing to supporting a reconceptualization of the nature/culture, human/more-than-human binaries.

The notion that humans are hierarchically different and completely separate from nature has been critiqued by posthuman scholars who suggest that nonhuman elements (including animals) are currently, and have always been, existing quintessential parts of our human cultures, societies, and selves (Lindgren & Öhman, 2018; McPhie & Clarke, 2015; Snaza & Weaver, 2015). Spanning (2017) suggests that the posthuman pedagogical perspective can be understood as a movement deconstructing human superiority, revealing alternative understandings of the human/more-than-human relationships in education.

Through discussing a collection of works troubling the intersections of nature/urban/childhood, authors Duhn, Malone, and Tesar (2017) critically challenge the assumption that cities are places where humans reign over nature, and that childhoods are lived in human-centred, un-natured urban environments. In summarizing the collected works, the authors conclude that challenging the understanding of a limited and narrow view of the child existing as a separate entity from nature and reconceptualizing approaches to education with a posthuman ontology creates opportunities for new ethical imaginings for children and their nature encounters (Duhn, Malone, & Tesar, 2017).

In studying child-dog intra-species relations, Karen Malone (2016) adopts new-materialist and posthuman approaches to imagine a view of agency, which is not exclusively human. Malone gave children in La Paz, Bolivia, a city with a high stray dog population, disposable cameras and no specific instructions for photographic

content. Through discussions with the children surrounding their developed photographs, the powerful co-construction of multi-species encounters and the intimacy of the child-dog relations were explored. Agency is seen as entangled within the child-dog relationships, not as exclusive to the child. Malone (2016) presents some of the children's photographs pushing the reader to consider how the encounters are meaningfully co-shaped and co-experienced in hopes of contributing to the emerging ethical, political and ecological discussions surrounding environmental and sustainable education.

While posthuman literature in environmental education research tends to focus relationships and encounters with living and responsive more-than-humans, Lindgren & Öhman, (2018), Oakley (2009) and Russell (2016) explore how death positions human/nonhuman relationships in educational contexts. Jan Oakley (2009) reviews the pedagogical, ethical, and environmental concerns surrounding the common Western practice of animal dissection in science classes. Although not specifically framed from a posthuman position, Oakley explores the North American biology class dissection unit discussing how the practice involves farming animals to be used as "artifacts" for human use, contributing to human exceptionalism's hierarchy over the animal class. In the biology class context, animals are positioned as disposable learning aids and as a result, students are desensitizing to the morally weighted decision to take the life of an animal (Oakley, 2009). Joshua Russell (2016) frames more-than-human death as an essential element of environmental education and explores children's experiences with

the death of a more-than-human companion. Through interviews with children, Russell concludes that children are aware of a sense of “relationship and interconnectedness between humans, animals, and even ‘nature’” (Russell, 2016, p. 87). Encouraging children to become aware of death in agricultural animals, wild animals, and companion animals emphasizes participating in a wider discourse about human/more-than-human and human/nature interconnectivity, reliance, and relationship in our multi-species communities.

2.4 Stewardship and care in early childhood

Care is emerging as a significant theoretical and ethical approach to understanding and engaging in relationships between humans, more-than-humans, and the environment (Ailwood, 2017; Haraway, 2008; van Dooren, 2014). A common theme underpinning children’s encounters with the more-than-human is that of stewardship and care (Ailwood, 2017; Blanchard & Buchanan, 2011; Louv, 2008). Within the discipline of early childhood, multispecies care and relationship have often been endorsed as an anthropocentric means to benefit childhood learning and development where the more-than-humans have been dominantly positioned as pedagogical tools (Beetz, Uvnäs-Moberg, Julius, & Kotrscha, 2012; McCatney & Wadsworth, 2014; Melson, 2001)

The emphasis on children as the saviors who will rectify the abused and degraded state of the natural world by caring for and protecting the environment has largely been the focus of early childhood environmental education (Blanchard & Buchanan, 2011; Davis & Elliot, 2014; Yu, 2018). Tronto (1993) describes care as a purposeful practice,

prefacing it as an exclusively human activity privileging human welfare; “everything that we do to maintain, continue and repair ‘our world’ so that we can live in it as well as possible. That world includes our bodies, our selves, and our environment, all of which we seek to interweave in a complex, life-sustaining web.” (Tronto, 1993, p. 103). Although perhaps well-intentioned, Affrica Taylor (2017a) warns against human-centric stewardship pedagogies which name children as the protagonists and pride human agency as the only solution to better the state of the natural world. She posits that “stewardship pedagogies inadvertently rehearse the entrenched sense of human exceptionalism...They unwittingly rehearse the division of cultural and natural worlds, not their inseparability” (Taylor, 2017a, p. 1453).

Authors working in a posthuman theoretical space explore ethics of care as being relational within inseparable human and nonhuman naturecultures (Mol, 2008; Puig de la Bellacasa, 2017). Puig de la Bellacasa (2010; 2012) responds to speaking of care in terms of “doing for” others (which places humans at the centre of focus) and instead asks “What does caring mean when we go about thinking and living interdependently with beings other than human in ‘more than human’ worlds?” (Puig de la Bellacasa, 2017, p. 13). In calling for an end to human-exceptionalist practices and thinking, Stengers (2012) suggests abandoning the quest to know *about* the world in order to improve it, and, instead, experiment with thinking *with* the world in order to engage in more-than-human collective thinking.

Through a multispecies ethnography engaging with everyday pet practices in an early childhood centre, Fikile Nxumalo and Veronica Pacini-Ketchabaw (2017) challenge anthropocentric child-pet pedagogies. Drawn from a multispecies ethics of care, the authors explore the child-pet-educator relations emerging from the introduction of walking stick insects into the classroom. Interrogating questions of domestication and commodification, wildness, managing and controlling the growing insect population, and caring the authors discuss bringing an awareness of the presence of more-than-human others into early childhood spaces.

2.5 Common world encounters with children

Challenging how the natural world is regarded, common world pedagogies suggest learning emerges “from the relations taking place between all the actors- human and more-than-human alike”(Taylor & Pacini-Ketchabaw, 2015, p. 508). Common world ethnographic methods push beyond the popular romantic assumptions of childhood purity and innocence, resisting the division of nature/culture, human/more-than-human pedagogies (Taylor, 2017a; Taylor & Giugni, 2012; Yu, 2018). The emerging practice of *common worlding* with children engages with many implications of the environmentally precarious era of the Anthropocene, resituating the position and agency of the environments in which we live and reaffirming the entrenched inseparability of human and more-than-human worlds (Nelson, Pacini-Ketchabaw, & Nxumalo, 2018; Taylor, 2013; 2017a).

Members of the interdisciplinary network of researchers, the Common Worlds Research Collective (Common Worlds Research Collective, 2019), study forms of collective learning emerging from children's quotidian more-than-human encounters in natural urban settings. Research on children's relations with place (Duhn, 2012; Nxumalo, 2015) materials (Hodgins, 2015; Kocher, Pacini-Ketchabaw, & Kind, 2014) and other species (Atkinson, 2015; Taylor, Blaise, & Giugni, 2013) reconfigure children's relations with the more-than-human world. This growing body of literature reveals that many children already engage in forms of collective thinking with the more-than-human world.

Drawing from common world ethnographic practices, Kim Atkinson (2015) explores encounters between a group and children and more-than-human inhabitants of a local park on Vancouver Island. Grappling with questions of what it means and what it might look like to reconceptualize human-centred perspectives of teaching children about nature to shift towards methods attuned to the interdependencies, vulnerabilities, and responsibilities of multispecies relations, Atkinson considers the provoking tensions that arise during repeated trips to the park. Through vignettes of children's encounters with a slug, a wasp, a bee, and a mushroom Atkinson's reflections illustrate the possibilities of how *thinking with*, rather than *learning about*, the more-than-human can create opportunities for new conversations with children about our entangled relations.

Summary

The preceding review attests that there is a rich body of empirical and theoretical literature on the intersection of children and the more-than-human world. By recounting examples of the binary perspectives of children and nature, one might begin to understand the premise and problems of the romantic nature/culture, human/non-human bifurcations prominent in Western early childhood practices. Literature regarding more-than-human encounters in early education largely surrounds nature-based preschools, kindergartens, and elementary schools (Bailie, 2012; Larimore, 2016; Sobel, 2014). The focus of research done in nature-based education environments highlights a gap in literature that this proposed study seeks to address; encounters in a non-nature-based preschool and considering opportunities in public Ontario kindergarten. The lenses and language used in the reviewed literature that consider humans and nature as distinct are challenging when considering posthuman, common world perspectives. My proposed study intends to use these perspectives to contribute to subverting the binary, anthropocentric assumptions in early education research.

Maintaining awareness of locally specific and contextually relevant Indigenous land-based knowledges can enrich and strengthen our understanding of the entwined relations we have with the natural world (Rowan, 2016; 2017). As a settler researcher on the lands of the Anishinnaabeg, Haudenosaunee, Leni-Lunaape, and Attawandaron peoples, acknowledging and considering the local histories and funds of knowledge is vital to engage in better multispecies becomings.

My study will contribute to the growing body of research drawing on posthuman philosophies and offer specific insights based on a London, ON child care setting so as to offer new ways to interpret and situate prior research. Karen Malone's (2016) work studying child-dog relations in Bolivia provide a framework and methodology relevant to the construction of this proposed study. My study seeks to address provocations raised in Malone's study by also using documentation co-constructed with the children to explore multispecies encounters with a posthuman approach. My study, however, expands on Malone's focus to include a range of more-than-human species. My study will also supplement this work by providing research from a local Ontario child care setting.

In the urgent times of the Anthropocene, the significance of developing practices which emphasize interspecies dependence and relationality is highlighted (Beacham, 2018; Buck, 2015). Emerging interest in the complex and, not always innocently, interwoven children/more-than-human assemblages identifies the need to explore the specific and multiple effects of our multispecies care entanglements. By thinking of care as curiosity, my study steps away from ideas of paternalistic human agency (Puig de la Bellacasa, 2012), and instead considers a pedagogy of care and conviviality (van Dooren & Rose, 2012), where we think about what it means to live with, learn with, and be with the more-than-human in a common space.

The reviewed literature provides a scope of the field in which the proposed study will fit and highlights areas to address in order to contribute new and current information.

This thesis research contributes to emerging common world scholarship by making visible the entanglements occurring on a daily basis between preschool children and the more-than-human at a local child care centre. This research can be used to provide opportunities to examine the complex ways the human/more-than-human relationship can be reconceptualized in similar local early years settings.

Chapter 3

3 Methodology

While I was curious to explore the entanglements of children and the local more-than-humans, I knew that simply observing such a topic was not enough and foresaw a feeling of dissatisfaction as a researcher had I taken what some might call a basic qualitative approach. Based on what I knew of the existing present literature, I recognized the importance of immersing myself among the children, educators, and more-than-humans in order to create a collection of pedagogical documentation and analysis articulating the children's quotidian engagements with the more-than-human. This chapter presents the methodology and procedure that established the infrastructure of my research study and analysis.

3.1 Methodology: Toward post-qualitative research

In an attempt to move beyond purely humanist ontologies, I positioned my research from the viewpoint of assemblages (Coleman & Ringrose, 2013; Fox & Alldred, 2015; Lather, 2007; St. Pierre E. , 2000), and of intra-action (Barad, 2007; Jackson & Mazzei, 2012; Taguchi, 2012), employing research practices and processes based on a methodology of post-qualitative research. Fox and Alldred (2015) articulate assemblages as comprising of “the bodies, things and abstractions that get caught up in social inquiry, including the events that are studied, and the researchers” (Fox & Alldred, 2015, p. 2). The social inquiry comprising my exploration assumed the

perspective that research is not a human-centred enterprise, but is collectively being produced by an assembly of beings.

Queering the familiar sense of causality and individualism, Karen Barad's (2007) notion of intra-action reconfigures the distinction between individual and environment and understands agency as materializing amidst the relationships of all entities (Barad, 2007; Kleinman, 2012) Rather than assuming individual independence and existence, individuals instead exist only within their entanglements among intra-acting phenomena. Intra-action focuses on reconfiguring meaning as being co-constituted between researcher/researched, human/more-than-human, adult/child.

Post-qualitative inquiry pursues to explore methodological and conceptual patterns that reject the presumptive centring of the human subject (Lather & St. Pierre, 2013) and attempts to move beyond the problematic power dynamics of subjectification within qualitative research approaches (Gerrard, Rudolph, & Sriprakash, 2017). Traditional qualitative methodologies can be seen to preserve binary structures (Kumm & Berbary, 2018), presume the researcher's authority, and may limit the possibility of research outcomes by using normative methodological categories of language and representation (Lather & St. Pierre, 2013). Post-qualitative inquiry provides an alternative approach to the boundaries and limitations of traditional qualitative research (St. Pierre & Pillow, 2000).

By inviting the entanglements of human and more-than-human bodies into the central focus of my research study, I required a research approach that moved beyond the

dualisms of humanist thinking: nature/culture, human/non-human, self/other (Fullagar, 2017). Departing from the humanist interpretive practice of qualitative inquiry, I explored post-qualitative inquiry to push beyond considering only individual and collective human experiences. With a post-qualitative approach, my research placed a greater importance upon the agentic nature of the more-than-human and the powerful interactions that occur between humans and the more-than-human.

3.2 Multispecies ethnography

Within this post-qualitative context, I designed a multispecies ethnography to address my central and supplemental research questions. A multispecies ethnography extends ethnography beyond the human realm, acknowledging the interrelation and inseparability of humans and the more-than-human (Kirksey & Helmreich, 2010). Multispecies ethnography is an anthropological inquiry seeking to “replace dualist ontologies by relational perspectives, to overcome anthropocentrism by pointing to the meaningful agency of nonhuman others, and to highlight the intersections between ecological relations, political economy, and cultural representations” (Locke & Muenster, 2015, p. 1). Multispecies ethnography considers the complex ways humans and more-than-humans constitute each other and incorporates the agency of all more-than-human life forms and their social and ecological connectivity with us (Lloro-Bidart, 2018). This research approach acknowledges the deep entanglements between humans, animals, and environments and was very appropriate for my research.

My engagement in the weekly trips outside, often to a local cemetery, with the preschool class was carefully designed and structured around a methodology greatly influenced by multispecies ethnography. In support of my research goals, multispecies ethnography as a methodology emphasizes collective being, entanglement, and mutuality, offering new ways in which to reconsider knowledge and understanding through explorations of interspecies interactions and intra-actions (Locke, 2017). This approach created a space for my research to explore the unique dyadic relationships and networked agency of the preschool children and the more-than-humans in the shared cemetery space.

Multispecies ethnography works within the common worlds framework by shifting the focus from exclusively following the child to engaging with the more-than-humans as active research subjects (Blaise, Hamm, & Iorio, 2016; Lloro-Bidart, 2018). It moves from focusing on children's meaning-making to considering how learning is affected by the world (Pacini-Ketchabaw, Taylor, & Blaise, 2016a), and how to think collectively with more-than-human others (Latour, 2005; Pacini-Ketchabaw, Taylor, & Blaise, 2016a).

3.3 The research site and participants

My research occurred in a mid-size city in Southwestern Ontario child care centre with the specific research sites including the preschool classroom, the outdoor playground area, and outdoor natural areas surrounding the child care centre building. Participants were children in a preschool class, between three and four years old, who regularly

attended the daily child care. The children were organized into the preschool classroom assignment prior to the commencement of the study. Research incorporated supplemental observations of participant's interactions with children and educators from other classes who, at times, shared the outdoor settings, all of whom provided consent for research participation. The sample group consisted of the 16 children enrolled in the preschool classroom and the two adult educators, all of whom provided consent for participation. The size of the classroom fluctuated daily between eight children to a maximum of 16 children. The classroom was English speaking and maintained a very even balance of male and female children. All children's names included in this research are pseudonyms.

The preschool class participated in weekly excursions off the property of the child care centre. The duration of the weekly trips to the cemetery, including the walk back and forth from the child care centre, was between 90 and 120 minutes. My involvement with the Climate Action Network project began in April, 2018. During this research I was among the children and educators for four hours; one morning per week. I maintained the same visiting schedule while exclusively collecting research for this thesis. The research took place between September 4, 2018 and November 29, 2018.

3.3.1 More-than-human informants

The theoretical and methodological foundations of my study ponder the complex ways in which matter and meaning is co-constituted by both human and more-than-human agentic bodies. In addition to the children participants, this posthuman multispecies

ethnography is also informed by the more-than-human actors who are co-inhabiting the research sites. Attending to the action and agency of the more-than-human, the study resists following only the children's focus and reaction.

The more-than-human informants within this research include both flora and fauna, also extending to involve the geological composition of mud. The cemetery research site is home to many plant, animal, and insect species which introduce unpredictable and ever-changing more-than-human informants from week to week.

3.3.2 The cemetery

Opening in 1879, the cemetery began as an overflow site for a local cathedral whose own cemetery had become overcrowded. The present cemetery and crematorium now accommodate over 50,000 burials across its approximately 96-acre expanse (Woodland Cemetery, 2018). The cemetery is rich in military history, housing graves of many who died during military service and many of Canada's peacekeeping missions around the world. The cemetery is well known for World War I memorials, which provided grieving families a location to mourn those buried where they fell on the front lines (WCLOC, 2016).

As the child care centre's location was in close proximity to this vast, urban cemetery, walks to a central open green space within the cemetery boundaries were routine. The preschool and toddler classes had been visiting the cemetery prior to the commencement of my research and a welcoming and friendly relationship with the cemetery staff and many frequent visitors was already in place. A paved road encircled

the grassy meadow creating a space separate from gravestones, memorials, and mausoleums and provided a natural boundary for the group's play and exploration. Although only an iron fence separated the corner of the cemetery we frequented and a major four-lane road, the space was home to many deer, squirrels, birds, insects, and plants. The cemetery afforded many encounters among the more-than-human and became a primary research site.

3.4 Data collection

In order to answer the central and supplemental research questions, data was gathered over the course of three months in the preschool classroom of the child care centre in a mid-sized urban city in Southwestern Ontario. I was present in the classroom once a week, for four hours. Throughout the study I remained consistent with the day of the week and the time of day that I attended. Specific sites of data collection included the preschool classroom and outdoor natural areas surrounding the child care centre building; most commonly, an urban cemetery located across the street from the child care centre. Data was gathered on site through the methods of field notes from observation, photography, and audio and video recordings.

Following the tenets of multispecies ethnographic, observations were incited by Stenger's (2005) prompt to engage in "collective thinking in the presence of [more-than-human] others" (Stengers, 2005, p. 1002). Attempting to avoid positioning observations among human-exceptionalist and human-centric ways of noticing and thinking where the human researcher and children are seen as separate from the

environment, I endeavored to maintain a practice of thinking *with* the world, noticing the entangled multispecies presence of others (Instone & Taylor, 2015). This entailed not only observation as a method of attempting to understand engagements from the more-than-human perspective, but by also participating in more-than-human engagement practices myself. This allowed me to learn with them and alongside the children.

In multispecies ethnography, more-than-humans are parallel to humans and are therefore considered equal subjects of research. Consequently, a variety of data collection methods were employed. Using multiple collection methods enabled me to explore the multispecies relations from a variety of perspectives and supported me in my challenge to perform my research while “learning to learn without the tools of human exceptionalism” (Haraway, cited in van Dooren, 2014, back cover).

Unstructured interviews occurred with the children, individually and in spontaneous groups, during and following our weekly trips to the cemetery. I sought to have rich and detailed discussion while maintaining the characteristics of an informal conversation (Bryman, 2008) while being cognizant of avoiding child-centric questions and statements. Exploratory studies like this multispecies ethnography, which is looking in-depth at individual instances, are considerably less structured than confirmatory studies, which are trying to compare cases and produce generalizable data (Silverman & Marvasti, 2008). Thus, the unstructured interviews were not standardized and prompted.

I used photographs and video to capture candid moments and encounters and record conversations among the children or between myself and the children. Recognizing photography as a human-centred practice which privileges the anthropocentric gaze (Hultman & Taguchi, 2010), I viewed and analyzed the photographs as being co-created by the intra-acting forces of the multi-species entanglements being captured. Rather than being understood as a fixed being, the subject of the photograph is seen as becoming-with (Deleuze, 1990; 1995) the assemblage of the setting and all human and more-than-human subjects captured. Photography and videography were used as a process of “collaborating and moving *with* the world, and in-between space, rather than a view from either the outside or the inside” (Kind, 2013, p. 429). Photographs and videos were used as creative and dynamic tools to make the shared world visible. This data became important pedagogical documents that depicted learning in a common world (Latour, 2005).

Through conversations with the children and reviewing pedagogical documentation in the form of journals, video, and photographs I began to explore the entangled roles in the present multispecies relationships. Informal conversations in the classroom, playground, and cemetery space were documented through field notes and audio recordings. All conversations were transcribed promptly following my weekly participation at the child care centre. Photographs were saved to my computer and often printed and inserted into my journal with accompanying notes, descriptions, and reflections. My journal, which was always on hand at the child care centre, was an

important tool to capture and track relevant data and themes emerging through conversation and observations.

3.5 Data analysis: A diffractive approach

Reflective practice has been a dominant process of inquiry in education for over 30 years (Hill, 2017). Encouraging educators and professionals to think critically, act intentionally, and empower themselves as agents of change within classrooms and communities, reflective practice involves an “in-depth consideration of events or situations: the people involved, what they experience, and how they felt about it” (Bolton, 2010, p. xix). In reflection, when examining the self and other, the emphasis is on uncovering facts about existing things and making meaning from recurring events and experiences (Barad, 2007; Korthagen, 1985; 2001; Schon, 1983). In contrast, diffraction is a practice attending to emerging material entanglements (Barad, 2007). “Thinking diffractively, in short, means thinking as a process of co-constitution, investigating the entanglement of ideas and other materialities in ways that reflexive methodologies do not” (p. 74). With diffractive practice, material objects and agentic encounters are produced and re-shaped through their intra-actional relationships with one another. Diffractive methods of data analysis illuminate phenomena produced through entanglements (Taguchi, 2012) between human and more-than-human bodies (Hill, 2017). Karen Barad (2007) discusses these entanglements as intra-action; a mutual constitution of discourse and meaning making.

As a researcher, I endeavored to apply Barad's diffractive methods to my research practice and analyze my data through a diffractive lens. Instead of reviewing the data from afar and understanding the data as separate from myself, I practiced engaging the data and becoming-with (Haraway, 2008) the data. Lenz Taguchi (2012) articulates that "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'" (Taguchi, 2012, p. 274). Installing myself within the data, within the intra-activity between the children and the cemetery inhabitants I become-with the multispecies entanglements, I become-with the collective thinking, I become-with the common world.

3.5.1 Constructing the data

After three months of collecting data in the child care centre environment, I was left with an abundant compilation of data. Data entries often included numerous methods of collection; observational notes, interview transcriptions, video recordings, and photographs. When revisiting the data, I was curious to attend to moments that opened up a spectrum of intra-active patterns of human/more-than-human movement.

Diverging from self-reflection from a fixed position ontologically separated from the research, I embarked on a process of analysis which motivated a practice of *becoming-with* the data (Taguchi, 2012), exploring the ways reading and reviewing the data interfered with dichotomizing positions of difference. Becoming-with the data enabled

me to understand it as a co-constitutive force working both with and upon me, as a researcher.

After collecting and sorting months of data, I required a strategy to assist me in selecting, writing, and analyzing my research. Navigating the crucial process of winnowing the data required me to enact my agency as the researcher to make intentional decisions about what to include and what to exclude in my presentation of data. These decisions involved considering how the boundaries created by the inclusion and exclusion of certain data might influence the analysis and discussion. Returning to Barad's conceptualization of intra-action (Barad, 2007), I incorporated a strategy of selecting stories that illuminated the fluid and evolving realities of agentic beings present within diverse multispecies encounters. This strategy drew me to five distinct data excerpts which, through deep entanglements with the agencies and complexities within each of the excerpts, presented opportunities to imagine new ways of understanding agency, matter, and meaning as co-constructed forces. These moments combine to enact the complexities of forces acting within human, more-than-human relationships.

During the writing process, I sought to attend to the emergence of multispecies encounters, observing how these particular entanglements become agential co-constructions of reality. Throughout my writing process I ventured to produce works to accompany the data in a way that might unveil relations, forces, identities, and agencies that might otherwise be overlooked or unrecognized by reflective practices of analysis.

In approaching the five stories, data analysis was viewed as an unpredictable and emergent process which relied on my ability to “let go of the already-known” (Davies, 2014, p. 735) to enable a space for the not-yet-known to emerge.

3.6 Ethical considerations and research ethics

There are no anticipated risks or harm associated with the participation in the proposed study. I had been involved in activities and programs in the preschool classroom on a consistent weekly basis for four months prior to the start of the study which enabled me to develop connections with the classroom community and allow the children participants to feel comfortable and relaxed with me present. The presence of the researcher, for the purpose of the proposed study, is not expected to cause major interruption or distraction among the children and their daily schedule while collecting data and documentation.

My study fell under the ethics approval of the larger study *Climate Action Network: Exploring climate change pedagogies with children* (“CAN”), which has ensured informed consent has been obtained for all participants. As part of the CAN project, this study obtained ethical approval from the Western Non-Medical Research Ethics Board. Complying with CAN’s code of ethics, measures were taken to ensure that the rights of the participants were respected, the integrity of the research was maintained, and every precaution taken to maintain the security of all collected data and materials, as well as the confidentiality of all research participants. All digital files were stored on a secure, encrypted and password protected Western University sanctioned server.

Participants' voluntary inclusions in the study have been indicated by informed consent, given by each child's parental or legal guardian as well as assent from the individual children.

3.6.1 Climate Action Network: Exploring climate change pedagogies with children

The Climate Action Network is a Social Sciences and Humanities Research Council funded project exploring human-climate relations in early childhood studies. Principal Investigator Dr. Veronica Pacini-Ketchabaw is using an innovative feminist environmental humanities framework to inform our understanding of children's multifaceted and complex relations with their environment. Employing qualitative methodologies and a multiple methods research design *CAN* explores questions of how children between one to five years of age engage creatively with climate change related impacts on animals, trees, food, energy, and weather. *CAN* is committed to make significant contributions to the timely issues of children's roles in response to climate change in a range of diverse worldwide geographic regions.

CAN extends across five collaboratories, selected because of each site's unique local challenges with climate change and their potential impact on children. Synthesizing knowledge at local, national and global levels, the sites in Toronto and London, ON; Vancouver, BC; Birmingham, UK; and Canberra, AUS involve the participation of approximately 100 children and 30 practitioners in total. The *CAN* project began in the

Spring of 2017; my involvement and research occurred during the second year of its three-year duration.

Chapter 4

4 Multispecies encounters

The following chapter provides an opportunity to meet and engage with five distinct stories of young children's encounters with the more-than-human. The moments, activities, and conversations were accounted from my position as a participant in the preschool classroom's activities, as well as a researcher in this thesis study. The diffractive analysis unfolding below each story identifies and explores the complex network of intra-acting forces within entangled, inseparable human/more-than-human relations. The chapter concludes with a cumulative analysis which emerges from the intersections of the data, theory, and methodology.

4.1 Becoming-with bugs

The children have begun to recognize that my arrival in the classroom almost always precedes a visit to the cemetery. This morning as I enter the classroom, the noise and excitement seems to explode as the children rush to greet me and inform me who has and has not gotten their sunscreen applied already. Once the children are organized with shoes and hats and partner's hands, we begin our journey across the sunny street. The heat of the morning doesn't seem to even be noticed by the children.

Michaela and I are walking in the back of the line. From this position I see the systematic parade of children quickly breakdown as something interesting has drawn their attention to the sidewalk. The children are huddled over a large stiff insect that was slowly and crookedly moving across the pavement. The children seem to recognize

that this insect is acting strange and Michaela makes the discovery that it is actually dead and being carried by a troop of ants. “There’s so many ants underneath it!” Michaela notices, “and they’re moving so fast even though he’s so big”. The three ants work together to briskly move the dead insect to the crack between the sidewalk squares and then soon disappear into the grass.



(Figure 1)

Once we arrive at the cemetery’s green open space, five children have grouped together to recreate the insect procession witnessed on the walk; Michaela, Vic, Tessa, Paul, and

Cayden. Michaela, pretending to be the dead bug, is laughing as she lies across Tessa, who has gotten down on all-fours and attempts to carry Michaela, as the ants carried the larger bug. Tessa immediately collapses under Michaela, inciting more laughter from all five children.

Getting up and straightening her dress Tessa thinks aloud, “I need more help, Vic hold up her legs maybe.” Although the teamwork of the ants is mirrored in the children’s play, none of the children’s transports appear as effortless as the ants on the sidewalk. The children take turns trying to move each other across the grass, I observe the play evolve into crawling around the grass like ants and then unpredictably rolling over each other trying to “squash” the dead bug. Michaela and Paul are getting quite animated enacting the death of the insect, making sound effects and moving their arms around as if in painful chaos. Cayden is silently lying on the grass, perhaps waiting for the ‘ants’ to try to move him.

4.1.1 A diffractive reading

I encounter this data-story as an event of becoming-minoritarian (Deleuze & Guattari, 1987; Taguchi, 2012), whereas the entangled multispecies relations and cross-species play escapes the normalized child-centred thinking of pure children in innocent nature. The exploration emerges with the intra-activities of the sidewalk, the children, the three ants, and the dead bug. The educators contributed in an important way by not diverting the children’s focus or moving them along to continue the walk to the cemetery, thus creating a space for the

agency of the ant bodies to become intelligible to the children. The zig-zag pattern of the ants avoiding the children's shadow movements on the sidewalk demonstrate how the children have made themselves intelligible to the ants and have affected them within that moment.

Although the two journeys go on, the children travelling to the cemetery and the ants moving on with their quest of moving the dead insect, the multispecies encounter continues to co-construct the morning's activities for Michaela, Vic, Tessa, Paul, and Cayden. The children continue to be stimulated and affected by the encounter, embodying the insects, enacting the ants' relationships to each other and to the dead bug in their play. This more-than-human mimetic play blurs the boundaries of the human/more-than-human identity.

Diffractively reading this data-story with a common worlds lens discloses a reality which interferes with the anthroponormative romantic notion of innocent children in idyllic nature. Observing children identify with insects, both dead and alive, discloses a reality contrary to the popular cultural narrative of child-centred relationships with "cute" and unoffending animals which are understood as passive tools for the child's development. This data offers an opportunity to decentre the human (Pacini-Ketchabaw, Taylor, & Blaise, 2016a) by exploring the way three ants and a dead bug emerge as agentic in their encounter with children.

4.2 An invitation from dandelions

This morning was gloomy and ominous; the sky was dark and rain threatened the forecast. Christine led the children in a discussion about where our adventure today should take us. The familiar cemetery, the child care centre's playground, and a local fish pond destinations were considered, but a rolling green hill behind the parking lot was the final decision. In the event a storm suddenly rolled in, the educators did not want to be far from the protection of the child care centre.

The children filed out of the child care centre doors, many taking the few steps across the asphalt parking lot at a running pace. Educators Christine and Marcey marched the boundaries of the hill, asking the children to remain on the grassy knoll. The green hill was blanketed with yellow dandelions. Almost immediately the children fanned out and began picking the bright wildflowers, collecting them, sharing them, and smelling them. The yellow heads stained the nose of a preschool girl who was repeatedly sniffing at them. I graciously accept a bouquet of about a dozen dandelions from two girls before they hurriedly rush off to pick more, presumably to give to someone else.

The sense of sharing and kindness was very tangible as the children gave these "flowers" to each other, to me, snuck them into each other's pockets, and saved them to bring home to their parents. The idea that these bright yellow flowers are commonly accepted as annoying, destructive weeds was not voiced or acknowledged by any of the children or the educators. The jagged and prickly leaves of the dandelion plants didn't deter the children from sitting on the green hillside.



(Figure 2)

As I sat with two children on the side of the hill, Bryan draws our attention to two tiny ants crawling across one dandelion. He has immediately become concerned for the ants and was worriedly protecting this wildflower from passing children. “Not this one” he instructed, quickly moving his arm out as if to shield the dandelion and the ants from harm. Giovanni moved from my side to squat next to Bryan, hovering over the dandelion to get a better look at the ants. Bryan confidently informed him, “They’re getting its pollen.” Giovanni nodded his head in understanding.

4.2.1 A diffractive reading

Considering the prevalence of dandelions across London, ON in the summer months, the children have likely had plenty of opportunities outside of today's activities on the hill to encounter these bright wildflowers. Yet, there was an atmosphere of sincere enthusiasm and curiosity among the children who are being drawn to the grass, dandelions, trees, and insects around them. As I read the data and review the photographs which accompany my handwritten notes, I remember that it was not only the children I was directly engaging with who were absorbed in the fun and adventure of exploring the dandelions; children in the background of the photos are poking and picking the wildflowers, some are on all fours smelling and examining the wildflowers. The materiality of the natural space and the emotional responses of the children become performative agents enacting an expression of collective being in this common space.

Following Haraway (2008), I read this story actively resisting situating Bryan's care of the dandelion/ant assemblage as stewardship and protection of the natural environment and instead consider how his care comes from a position of curiosity. Considering Bryan's intra-action with the dandelion/ant assemblage as curiosity offers an opportunity to explore care as being relational within inseparable human and more-than-human naturecultures.

This consideration requires the posthuman move to decentre the children and reposition them in a common world.

Through a diffractive reading of this data it is possible to begin to see threads of a different reality of children engaging in collective being and thinking with more-than-humans that are colloquially seen as ‘pests’ and ‘invasive’, spreading and travelling in rhizomatic patterns reminiscent of Barad’s (2007) analogy of diffractive analysis. Centring the relationality of humans and ants and dandelions, a diffractive reading of the data invites attention to the joy and kinship enacted through these ironic entanglements. These colorful wildflowers invited the children to explore and engage with nature and some of the smallest more-than-human beings on the hill. Witnessing Bryan and Giovanni engage with the dandelion and its resident ants was an inspiring moment of reverence for the fragility of the tiny ants and the necessary cycle of growth and plant life.

4.3 Worlding with mud

On this warm and clear morning, the toddler class was also visiting to the cemetery. Upon arriving at the green space we were greeted by a neat line of small shoes stuffed with tiny socks, left along the curb; some toddlers were barefoot. Many of the children expressed their desire to also be barefoot, removing their shoes and socks even before detaching themselves from the walking rope.

Although the morning was clear and sunny, there had been plentiful rainfall that week and the ground was soft and wet beneath our bare toes. It was not long before a group of children found a low point of land with puddles of ankle deep water. As the children play and laugh, the area became muddier and messier. “It’s alive!!” Aaron exclaimed as he held up his hands, squeezing handfuls of mud between his fingers eliciting laughter from the other children.

After digging around the swampy grass at a low point by the road, Paul came towards me with his two hands rolled tightly into dirty fists. I bent over to ask him what was in his hands; he showed me two worms he had dug up from the ground. He was delighted to feel them squirming around his hands. As he kept opening and closing his hands to show off the worms, one dropped into the grass and he gently picked it up again. A girl, Karina, joined us. Watching the worms wiggle from both ends, she asked “which side is his head on?” Paul quickly answers, “They have two heads, see?” and poked one end, causing the one worm to immediately curl up into itself. Karina tentatively reaches her pointed finger out and gently touches the second “head” of the same worm. She simply says, “Oh yeah” when it indeed reacted the same way, retracting and curling back into itself.



(Figure 3)

4.3.1 A diffractive reading

What might be learned from attending to how the children and the mud are affected by each other? Stomping and splashing in the deep puddles create muddy swamp pockets within the grassy space, which in turn leaves the children's feet, legs, and short and dress hems soaking wet and dripping with mud. Witnessing this child/mud intra-action also affects the educators who laugh together about their reluctance to put muddy feet into socks and shoes, wondering how to leave the mud behind at the cemetery. Mud entanglements have acted on the children, inviting them to move and be intra- active with their environment.

The mud and the worms have demonstrated their capacity to captivate the children, their entanglements running away in unpredictable directions. The mud puddle presents itself as a site of corporeal agency, the worm twitching in reaction to a curious prod is a site of becoming. A diffractive reading of this data decolonizes the normative nature/culture binaries, imposing matter and meaning that is collaboratively created and mutually articulated. The sympoietic system (Haraway, 2016; Murriss, 2018) creates an understanding of the urban common world that only exists through the intra-action of the human/more-than-human agencies within it.

Worlding with mud curiosities offered us a new opportunity to recognize the non-humans co-existing with us in the cemetery space. Of course, the mud isn't alive in the same sense that humans, animals, and plants are alive but that exclamation demonstrates how the mud can act as a complex, agentic being. The mud requires us to think and act in different ways; the children engaged in the mudmaking are participating in an interplay between human and more-than-human elements: the educators ask questions about how to get the children back to the child care centre and get them cleaned off, and being barefoot in the mud invited us to reclaim a connection to the earth lost by wearing shoes (Stengers, 2008).

4.4 Encountering 'wild' animals

Although humid and hot this morning, the children exhibited their regular level of enthusiasm and excitement about the opportunity to visit the cemetery. Having only a small number of children in class today afforded us the chance to explore the cemetery in a different way this morning. Standing under the wrought-iron gate arching over the entrance to the space educators Katie and Christine presented the idea of going for a walk on the roads and paths that snaked through the cemetery instead of playing in the familiar green space we visit weekly. The children unanimously agreed, a few voicing their hope to see a deer. I contributed my own excitement and curiosity. Having never explored the cemetery outside the grassy knoll, I was looking forward to seeing how expansive the cemetery grounds were.

It was quiet and peaceful. Without direct instruction, the children displayed great respect for the space, not stepping on any stones or memorial plaques, not yelling or shrieking. Were they fully aware of the meaning of the headstones? Were they being quiet in attempts to not scare away the deer? Were they sensing the atmosphere of quiet reverence, often found in cemeteries?

It was not long before Katie, an educator, noticed a pair of deer, slowly picking their way among the headstones, appearing to be in no hurry. One preschool girl, Alia, became so excited she was practically shivering; "Eeee! Look over there!" At once, seven little heads spun around to face where Alia was pointing. Once she saw the deer Tessa announced to us all, "It's a baby and her mama! I see them!"

“Nobody move, we don’t want to scare them.” Alia quickly instructed in a loud shouty-whisper. Although neither deer appeared to be frightened by our group, the children froze and no child nor adult made another sound.



(Figure 4)

While we have seen the deer, the deer have also seen us. They both calmly and synchronously peered over the stones at the group of children, apparently not as excited to see us as Alia is to see them. The opposite reaction of the deer to the child provoked the question of how many people these deer have seen versus how many deer these

children have seen. The children remained silent and still, their gazes locked on the pair of deer.

Eventually the deer broke eye contact, flicked their tails, and moved along on their way. “Keep your eyes wide open for more wild animals” I heard from Alia as we started to move down the road again.

4.4.1 A diffractive reading

“Wild animals”? Are we the real wild ones; the out-of-place visitors exploring a new space, the living on the burial grounds, the colonial settlers on traditional Indigenous land? The dichotomies Alia’s language provoked in me, the researcher, made this data an interesting nomination for a diffractive reading experiment.

As I read the data-story and review the photographs taken that morning, I am able to clearly recall the calm and inviting welcome of the quiet cemetery paths and shadows and the sense of eagerness and anticipation among the children and educators. The children and the cemetery are acting-with one another even before we enter the grounds. Like many Indigenous ontologies, posthumanism assumes inseparability of humans from the natural environment and the more-than-human and material relations (Murriss, 2018). To read this data with critical posthumanism one cannot simply follow Alia’s story and attend to her language, but see how the more-than-human act to decentre the child and

reconfigure subjectivity. The subject of the data emerges through the co-constructed children-deer encounter.

Compared to humans, deer have an advanced sense of hearing and smell (Samuel, 2008), so it is very likely the two deer were aware of our parade long before Katie and Alia spotted them. The boundaries between the deer's calm awareness of the children, the quiet reverence of the cemetery, and the curiosity of the eight silent preschool children have been blurred, creating a human/more-than-human sympoietic system (Haraway, 2016; Murriss, 2018). The face-to-face encounter with the pair of deer offered a moment of human/more-than-human intra-action connecting deer bodies and child bodies. The deer and the child no longer separate, isolated beings, both beings are affected and changed within this new assemblage.

This moment of becoming is a practice which disrupts the nature/culture, us/them, human/more-than-human binaries that underscored Alia's colloquial reference of "wild animals". The intra-action within this encounter emphasizes the inseparability among all present within our common world.

4.5 A squirrel's provocation

On this clear, crisp fall day in the cemetery the children explored the fallen leaves, bright colors, and cool air. While most of the children gravitated to a large pile of crunchy leaves at one end of the green space, Lucas pulled my hand toward a familiar

stump closer to the road. In the summer, this stump used to be a tall tree, too wide to wrap your arms around, now it was a flat stump to which the children continued to return; climbing, jumping, sliding, exploring the bugs under the bark.

The children have mostly scattered across the greenspace but Lucas, a preschool boy who often explores the trees and fallen sticks on his own, held back, noticing something different about the stump. Inquisitively, he planted both his hands on the edge of the shoulder-high stump and leaned down to investigate. This morning, the stump offered Lucas and I a new provocation; there were cracked shells of nuts and acorns left in a small pile. Lucas saw these shells and began asking questions as he climbed on top of the stump, sitting beside them.



(Figure 5)

Lucas appeared very focused, not lifting his eyes from the shells when he asked, “How did these get here? Did they fall from the tree? How come they’re all broken?” I answered him saying, “It looks like a squirrel might have brought them here for a snack”. His focus remained captured by the nut shells and still not raising his head, he continued the conversation, “A squirrel did? Where did he get them? Is he coming back?”



(Figure 6)

Lucas’s mittened hand gently prodded the nuts, moving them around, then looking up into the tree beside us. Perhaps he was looking for the satiated squirrel that ate the nuts and left the shells. “There are squirrels at my grandma’s house,” he remarked thoughtfully. Returning his interest to the cracked casings, he leaned closer to the stump and continued, “They go across the fence and in the tree in her backyard.”

“Maybe your grandma is actually at the squirrel’s house?” This thought makes Lucas laugh and replied simply, “No, it’s my grandma’s house”. Lucas’s laugh implies to me what a ridiculous thought it is, that we humans are the ones out of place and are invading the living spaces of the local animals and plants. His confident reply that it is his grandma’s space and not the squirrel’s space prompts the question about whose space it really is.

4.5.1 A diffractive reading

The rise in urban density of London, ON has caused enormous hardships for these intelligent rodents (City of London, 2019). With their habitat being destroyed and food becoming increasingly scarce every year, the squirrels of London, ON are coming into closer contact with humans in a shared common world. Over the past few weeks of visits to the cemetery, the squirrels and the children have seemed to exhibit a mutually blasé attitude toward one another. The squirrels have never seemed to appear interested in or threatened by our boisterous presence, and the children have not generally seemed focused on or drawn to the squirrels who dart between the headstones or sit on branches above our heads.

Introducing a diffractive processing of this data-story through my previous notes and memories of the cooperative, yet somewhat indifferent, experience of co-habiting with squirrels in this cemetery space unveils a new reality. This uncovered diffraction exhibits the agency of an absent squirrel, affecting Lucas

and inciting a dialogue that was not present during encounters with many squirrel bodies. The nut shells have incited interest in the squirrel's habits and whereabouts, and L connects the squirrels in the cemetery to squirrels he has seen in other familiar spaces. Sitting on the stump, alert to any more-than-human movement in the trees above him, poking at the nuts left behind, I see Lucas as becoming-with the squirrel that was in the same place not too long before.

There is tension in Lucas's language, and I am aware of how his language contributes to the human/more-than-human divide. Lucas's confident claim of his grandmother's land ownership provokes many questions about how the children understand their relationship to this cemetery space in which we have become so comfortable. Are we visitors to this green expanse, acting as pests and annoyances to the resident plants and animals, or are we the one's accommodating and tolerating the presence of these more-than-humans in a space that we possess? What does it mean to be in relation to the cemetery and its more-than-human inhabitants?

Summary

A cemetery might seem like an odd place to contemplate the boundaries of beings. The irony of the children reenacting death and exploring possibilities of living with more-than-human others in a cemetery is not lost on me as I revisited the data. As a research site, this large and popular urban burial ground departs from popular romantic views of

children and nature and highlights the multiplicitous and complex tensions that exist in places where children encounter nature.

Through recounting the data-stories of child/more-than-human encounters, the diffractive analyses attend to the multispecies connectivity in place within even the most fleeting and quotidian moments of cohabitation. It is clear from each data-story, when read with each other, that more-than-human encounters are not homogenous, nor generalizable across children or across more-than-human beings. The bug encounter presented different explorations and challenges than the encounter with the pair of deer, and within those encounters the children were affected by the agentic beings in different ways. The mud invited different parts of the children's bodies to connect and combine with the natural environment to form new entanglements. The blanket of dandelions offered opportunities for meaningful connection with human others, in the act of sharing the bright flowers, and connection with more-than-human others, in the inseparability of the child-bug-dandelion entanglement.

Reading the data with common worlds theory produces an emergent and unpredictable series that work together to disrupt the binaries of educator/child, human/more-than-human, and nature/culture as matter and meaning is not child-focused and caused by educators educating children, but rather by agential bodies intra-acting, co-constructing meaning and unveiling potential realities. Through the more-than-human becomings that emerged within the data-stories, the more-than-humans expressed their individual agentic characteristics by affecting the children's and educator's actions, imaginations,

language, and emotional expressions. Reading the data with a posthuman lens uncovers encounters that recognize that we, as humans, are not acting as fully autonomous beings independent from the world; rather, it highlights our intra-dependence within our common world.

Chapter 5

5 Discussion

In today's Age of the Anthropocene questions of how to live well with others has never been more pressing. Through recounting five moments of my multispecies ethnographic research, my study aimed to provide a rich reconceptualization of child/more-than-human relations and explore the pedagogical possibilities it may afford. A diffractive reading accepted the invitation from selected data samples to explore how the children's engagements disrupt the binaries often present in early childhood education. This final chapter discusses the findings from my research and analysis by returning to the research questions posed in chapter one. Next, the implications for practice are considered and some considerations worth noting are articulated. The chapter concludes with some final reflections on the powerful intra-active affect humans and more-than-humans have on each other through even the most fleeting encounters.

5.1 A return to the research questions

Inspired by Barad's notion of intra-action (2007), this research explored how attending to the ways children in a London, ON child care centre engage with more-than-human entanglements. This thesis was never aiming to discover or establish a prescribed process for approaching and understanding human/more-than-human entanglements in universal early childhood settings; our common worlds are too wonderfully diverse and

everchanging. Rather, by attempting to move beyond human-centred research practices and explore alternative multispecies pedagogies, this thesis worked to recognize the unpredictability of these entanglements and the surprising ways children might express collective being and thinking within local, urban, multispecies assemblages. The agency three ants and a dead bug had over a class of a dozen preschool children was a powerful example of how these worlding practices (Haraway, 2008) can, quite literally, stop the children in their tracks and allow them to experiment with learning how to live amid the inescapable relations within common worlds.

The application of a posthuman framework and common worlds infrastructure elucidated the possibilities children have to live well within the shared, urban spaces they occupy and resulted in a reconceptualized understanding of child/more-than-human relations. The sometimes minor and seemingly inconsequential encounters that occurred outside the child care centre and in the cemetery were explored to reveal the valuable non-divisive relations that many children in the preschool class have with the world. The data yielded by the multispecies ethnography present examples of the opportunities children in a London, ON child care program have to encounter the more-than-human. By following both children and non-human research participants, my thesis explored how the intra-acting agentic subjects are questioning and learning how to live together in difference with the more-than-human in ways that allow all beings to flourish (Haraway, 2008).

Attending to the countless multispecies entanglements that occur, whether a fleeting encounter or a sustained relationship, create space for children to think, feel, wonder, and ask questions. It is within these wonderings that the children express collective being and thinking with the more-than-human who are present in the common space. Through a careful diffractive analysis of the texts through common worlds and posthuman theory, I was drawn to the circumstances where the children tangled with unpredictable more-than-humans that defied the popular image of the children with cute and safe animals. The curiosities that were evoked from worms, mud, and invasive weeds recognize the significance of all messy and uncomfortable encounters. Contrary to Western notions of romanticized idyllic child/animal relations, the cross-species imitation the children enacted while playing as insects, both dead and alive, was expressive of complex curiosities within the children's non-divisive understanding of the natural world.

In an attempt to displace the dividing nature/culture binaries often present in early childhood studies (Lloro-Bidart, 2018; Whatmore, 2006), the concept of assemblage was used to bridge the human/more-than-human distinction. This thesis's posthuman understanding of these assemblages moves beyond understanding the 'child in nature' where the child is the only agential body and reimagines the encounters revisited in chapter four as being co-constructed and co-shaped by the human and the non-human. Interrogating situated examples of multispecies assemblages throughout this thesis

shifted conceptions of bodies and beings as distinct and boundaried, and instead saw the complex and inseparable networks mutually acting and mutually affecting.

5.2 Significance of findings and implications for practice

This research is significant for practice as it considers the need for reconfigurations of the human/more-than-human divide and reinforces that we are living in a challenging time that requires us to radically rethink our agency in the common world, understanding we are just one among many. Post-qualitative research methods are an important tool to rethink how research can be approached and paradigms can be challenged and reimaged. Continued multispecies ethnographic research is recommended to reveal new ways of responding to the challenge of the interconnected realities present in the everyday spaces we visit with children.

The research presented in my study have several implications for practice. Foremost, my study demonstrates the importance of acknowledging more-than-humans as an already agential force in an early childhood setting and the powerful impact that decentring the human can have on how we understand our relationship to the spaces we co-inhabit. In the present ecological epoch of the Anthropocene, I encourage educators to connect the ideas of multispecies intra-action and more-than-human agency in order to inform new ways of ethically living in a common world. Mindfully noticing how children and educators are affected by the material agency of the more-than-human could explore a wide range of political and ethical dimensions of responsibility and sustainability in everyday practices in educational settings.

Considering the multiplicities of the multispecies relations among a single community of children in an urban space in London, ON can persuade educators, researchers, and individuals to embark not just on grand inquiries, but on local small-scale experiences. Understanding the legacies and situated natures of the local spaces children spend time in is important to emphasize the consequences and influences of the way children and more-than-humans' world together daily. As Donna Haraway (2016) suggests; transcending the “dominant dramas” (p. 55) of the Chthulucene, or Athropocene, and instead following the banal stories we may stand to find ourselves inextricably bound to those who have always gone unnoticed or unvalued.

Emphasizing interconnectedness, interdependence, and critical awareness of our human place in our common worlds, the knowledge generated from this study creates a context for educators and researchers to break down binary norms, like the nature/culture and human/more-than-human dualities, and focus on multispecies relationships that disclose new ways to approach early childhood education that does not position the more-than-human as out-of-place in our shared urban spaces. By resisting to project what we think we know about the more-than-human and dominating the multispecies engagement by centring the child, we are offered new and nuanced ways of being and learning.

This thesis contributes to the current literature by providing situated examples of how slowing down with children and seizing opportunities to think with the more-than-human disrupts the colonial hierarchy of humans dominating the Great Chain of Being (Lovejoy, 2009). The cemetery research site offers a layer to the multispecies

ethnography that highlights the complex ethico-political tensions that exist in the places children encounter. This contributes to the generative common worlds framework by offering pedagogical work that articulates and intensifies the relations that take place within unexpected and unpredictable moments.

The application of this work is extremely humbling as it requires us all to recognize our position as merely one small part of a much larger whole. It is my hope that the pedagogical work done in this research inspires readers to step away from ideas of strictly human agency and allow knowledge and experience to be co-constructed and co-experienced by all who share our common spaces. I believe that this situated pedagogical work offers one of many ways of knowing that contributes to the robust and emerging frameworks of child/nature discourses.

5.3 Considerations

The thinking done in this research intentionally shifts away from humanist, qualitative structures; such knowledge structures that privilege the human, often do at the expense of the more-than-human (Ulmer, 2017). The posthuman and post-qualitative frameworks that are used to construct this thesis acknowledge that knowledge is always situated, partial, and never complete and therefore cannot recognize research limitations (Braidotti, 2018). However, when approaching the research performed in this thesis, there are some considerations to note.

The use of a multispecies ethnographic research methodology was vital in my ability to obtain a rich and textured compilation of data-stories involving the children and more-than-human participants. By focusing my research on a small participant number I was able to develop comfortable relationships with the children and educators which allowed me to engage in sincere conversations and observe genuine encounters. However, by doing so, my study was only able to focus on one preschool class within one child care centre and the more-than-human informants were limited to only those present at the time and in the location of data collection. Given the small sample size, it would be inaccurate and inappropriate to make generalized claims based on the conclusions of this study.

The photographs and videos I took to accompany my written observations greatly increased the focus and detail of my field notes. However, I recognize the images and videos are strictly from the gaze of the researcher which implied a polarity of power between the researcher and the researched. Since the practice of taking photographic and videographic data emphasizes the researcher as active and subjugates the ones being photographed as passive, in a future research project I would consider giving a camera to the child participants and including the photograph and video recordings they took themselves as data, much like Karen Malone did in her study on child-dog relations (Malone, 2016). Future research performing a diffractive analysis exploring the difference between the researcher's observations and the photographs and videos

from the child's perspective could yield fascinating insights to support the conclusions made from this research study.

Given the time constraints involved in a Master's research project, my period of observation was limited to a three-month period. This period of time was adequate to provide a sufficient amount of data to analyze and conclude my study. London, ON is recognized as having four distinct seasons with different weather conditions, animal migration patterns, and plant cycles (City of London, 2019). Given that, a longer data collection period would enable the investigation of sustained relationships among place and the more-than-human inhabitants. Data involving different seasons could explore a wider range of multispecies encounters and expand the focus to consider the material agency of weather and climate.

Closing thoughts

When responding to the calls of the Anthropocene, Affrica Taylor (2017a) advocates;

“it is a low-key, ordinary, everyday kind of response that values and trusts the generative and recuperative powers of small and seemingly insignificant worldly relations infinitely more than it does the heroic tropes of human rescue and salvation narratives” (p. 1458).

Every being has a voice to tell its story, and no two stories are the same. Through the stories and journeys with the preschool class in the cemetery and on the hill, it is clear we all experience the messy and complex entanglements in special and unique ways. While the multispecies encounters explored throughout my time with the preschool class might outwardly present as somewhat inconsequential, there is pride in each

small-scale, fleeting opportunity seized to engage with these dynamic beings. To becoming-with our more-than-human common world co-inhabitants is to recognize the powerful intra-active affect we have on each other.

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Appendix A

Climate Action Network: Exploring climate change pedagogies with children

Western University Non-Medical Research Ethics Board Delegated Approval Notice



Research Ethics

Western University Non-Medical Research Ethics Board NMREB Delegated Initial Approval Notice

Principal Investigator: Dr. Veronica Pacini-Ketchabav

Department & Institution: Education\Faculty of Education, Western University

NMREB File Number: 109337

Study Title: Climate Action Network: Exploring climate change pedagogies with children

NMREB Initial Approval Date: September 06, 2017

NMREB Expiry Date: September 06, 2018

Documents Approved and/or Received for Information:

Document Name	Comments	Version Date
Western University Protocol		2017/06/27
Recruitment Items	Appendix A - Information Session	2017/05/07
Recruitment Items	Appendix B - Email reminder to be sent to Educators	2017/05/08
Recruitment Items	Appendix C: Families - Invite to Info Session	2017/06/27
Recruitment Items	Appendix D - Verbal reminder to families provided by Educators	2017/05/08
Assent	Appendix E - Children Assent	2017/05/08
Other	Appendix F - Confidentiality Agreement	2017/05/08
Letter of Information & Consent	Educators	2017/09/05
Caregiver Letter of Information & Consent	Families	2017/09/05
Instruments	Protocol to use with educators in monthly evening meetings.	2017/05/08
Instruments	Steps to conduct pedagogical documentation, including ethical considerations.	2017/05/08
Instruments	Steps of pedagogical documentation. Source: Understanding the British Columbia Early Learning Framework: From Theory to Practice (Government of British Columbia, 2015).	2017/05/08

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed and approved the above named study, as of the NMREB Initial Approval Date noted above.

NMREB approval for this study remains valid until the NMREB Expiry Date noted above, conditional to timely submission and acceptance of NMREB Continuing Ethics Review.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario.

Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB.

The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Ethics Officer, on behalf of Dr. Randal Graham, NMREB Chair or delegated board member

EO: Erika Basile __ Grace Kelly __ Katelyn Harri __ Nicola Morphet __ Karen Gopaul __ Patricia Sargeant __ Kelly Patterson __

Western University, Research, Support Services Bldg., Rm. 5150
London, ON, Canada N6G 1G9 t. 519.661.3036 f. 519.850.2466 www.uwo.ca/research/ethics

Appendix B

Climate Action Network: Exploring climate change pedagogies with children

Western University Non-Medical Research Ethics Board Continuing Ethics Review Approval



Date: 9 August 2018

To: Dr. Veronica Pacini-Ketchubaw

Project ID: 109337

Study Title: Climate Action Network: Exploring climate change pedagogies with children

Application Type: Continuing Ethics Review (CER) Form

Review Type: Delegated

Meeting Date: 07/Sept/2018

Date Approval Issued: 09/Aug/2018

REB Approval Expiry Date: 06/Sep/2019

Dear Dr. Veronica Pacini-Ketchubaw,

The Western University Research Ethics Board has reviewed the application. This study, including all currently approved documents, has been re-approved until the expiry date noted above.

REB members involved in the research project do not participate in the review, discussion or decision.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario. Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB. The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Please do not hesitate to contact us if you have any questions.

Sincerely,

Daniel Wyzynski, Research Ethics Coordinator, on behalf of Prof. Randal Graham, NMREB Chair

Note: This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).

Appendix C

Climate Action Network: Exploring climate change pedagogies with children

Letter of Information and Consent – Families



Letter of Information and Consent

Climate Action Network: Exploring climate change pedagogies with children Letter of Information and Consent – Families

Principal Investigator

Dr. Veronica Pacini-Ketchabaw, Faculty of Education

1. Invitation to Participate

Your child is being invited to participate in this research study about developing climate change pedagogies with children because he/she is enrolled in Springbank – London Bridge Child Care Centre and one or more of the educators at your child's classroom have agreed to participate in this study. The child care centre is a partner in the project. The Association of Early Childhood Educators Ontario (AECEO) and Early Childhood Educators of British Columbia (ECEBC) are also partners in the Climate Action Network.

2. Why is this study being done?

The purpose of this project is to advance our understanding of children's relations with their environment in order to synthesize knowledge at local, national, and global levels regarding children's creative responses to the impacts of climate change. We are interested in how children engage creatively to address climate change related impacts on animals, trees, food, energy, and weather within their own local contexts. Your child is invited to participate in an inquiry on trees. In addition, we are interested in the roles early childhood practitioners play in working with children to creatively and locally respond to climate-related issues. We hope that such knowledge will help us create effective and engaging new curricula, pedagogies, and policies.

3. How long will you be in this study?

It is expected that your child will be in the study for one school year, between 6 to 9 months. The collection of data will begin after September 5, 2017 and will be ongoing during this academic year.

Your child will participate in the project during regular child care hours. Researchers will visit your child's classroom once or twice a week (approximately 3 hours per visit) during this period to work alongside classroom educators.

Please note that the educator might or might not choose to extend the activities with children (without the researchers being present) more than twice a week, during the regular programming.

4. What are the study procedures?

This is a participatory and collaborative project. If you agree to voluntarily let your child participate, her/his participation will be through his/her engagement in classroom activities and the pedagogical documentation that reflects this participation.

As outlined in the provincial pedagogical documentation is part of the regular pedagogical practices in your child's classroom. Children and educators participate in pedagogical inquiries and documentation as part of the regular activities and events of the child care program. This project is distinct from the regular pedagogical activities of the centre in that selected data will be collected from the regular documentation for analysis and dissemination beyond the centre.

The process of pedagogical documentation involves recording of the inquiry (both by educators and by project team), and individual and collective discussions with educators and children based on the recordings. The purpose of these discussions will be to:

- (a) make visible the learning that takes place in everyday practices in the program;
- (b) deepen and extend the activities observed; and
- (c) follow children's interests and curiosities.

Daily practices that relate to issues of [select one: food, weather, plants, animals, and energy] will be recorded using video, photographs, and field notes. Videos and photographs of your child will be taken only with your permission. In addition, if we have your permission, we will ask children to provide verbal assent to indicate their voluntary participation in the photos and videos.

It is anticipated that researchers will share with others the results of this project in the following ways:

- Through an art exhibit
- In publications and presentations, for example in books, chapters, articles in refereed and professional journals, academic and professional conferences, white papers.
- In masters or doctoral theses.
- In project website and professional social media (see below for more information)

Photographs and video recordings that include children's faces might be used in publications and presentations, if permission is given. However, NO images of children's faces (i.e., images where children are recognizable) will be used online. (Please see the section on Anonymity & Confidentiality below for more information.)

Some of the information collected and the ongoing analyses will also be shared through the project's website (e.g., in a blog) and professional social media accounts (e.g., Twitter). Circulating research knowledge through online platforms will increase the scope of the provincial, national and international audience that our research is shared with. Utilizing a professional research website and Twitter allows researchers to readily connect and share

inquiry analyses in an accessible form with early childhood educators, students, scholars, and research institutions and units worldwide. This is vital for the sharing of learning to help build knowledge in the field of environmental early childhood education pedagogy and to improve climate change practices for children.

An example of research websites where ongoing pedagogical documentation is shared through a blog is the Common World Childhoods Research Collective at <http://commonworlds.net>. Examples of social media use (i.e., Twitter) with research inquiries can also be found on this site.

Your child's educator will act as co-researchers in the process of the research. The educator will have access to the pedagogical documentation collected in the program to use according to your Centre's guidelines. The educator might or might not choose to:

- incorporate ideas generated through the project into his/her daily practices for further observation and interpretation
- display some of the information collected and the ongoing analyses in your classroom.
- communicate the ongoing analyses through regular updates via your classroom's newsletter so you are aware of the activities in which your child is participating as well as the learning that takes place in everyday practices at the centre
- disseminate the findings in articles in professional magazines, and at conference presentations.
- contribute entries to the project website blog and professional social media accounts.

5. What are the risks and harms of participating in this study?

There are no known or anticipated risks or discomforts associated with participating in this study. However, participation in this study may cause some inconvenience to your child.

An inconvenience for children might be the interruption or intrusion of being recorded while engaged in daily activities. Since both photography and video are currently used in the centres by the educators, the intrusion will be the presence of the researcher collecting documentation. If this occurs, recording will be stopped. It is expected that the children will eventually become familiar with the presence of the researchers and this will stop being intrusive.

6. What are the benefits of participating in this study?

The potential benefits to your child include the learning that will take place during their participation in the project.

The possible benefits to educators may be to have further insights into how to engage pedagogically with issues related to climate change.

This research project may generate potential benefits to society, such as the possibility of increased understanding about how to address issues of climate change through early

childhood education practices. It may also help researchers understand how young children can learn about climate issues.

7. Can participants choose to leave the study?

If you decide to withdraw your child from the study, you have the right to request withdrawal of information collected about your child. If you wish to have your information removed please let the researcher know. Choosing to withdraw from the study will not impact your relationship with the child care centre or any other institutions connected with the research study.

However, please note that it will be very difficult for us to remove what your child had said during group conversations. This is due primarily to the fact that after removing one person's dialogue in a discussion, the entire conversation might not make sense in total. We will minimize your child's data to respect your decision to withdraw him/her while ensuring that we can still gain a good understanding of other participants' experiences and insights.

When photos/videos are involved, we will crop the images and delete clips that involve your child.

8. How will participants' information be kept confidential?

Representatives of The University of Western Ontario Non-Medical Research Ethics Board may require access to your study-related records to monitor the conduct of the research.

Your child's participation in this study will not be kept confidential from their educator. The educators participating in the study will know which children are participating in the study in order to know who can and cannot be included in pedagogical documentation shared with the researchers.

While we do our best to protect your child's information there is no guarantee that we will be able to do so. The inclusion of your child's images through photographs and videos may allow someone to link the data and identify him/her.

Any photographs and/or video recordings to be shared on the project website and through professional social media accounts (e.g., Twitter) might have partial images of children (e.g., hands visible, feet visible) but will NOT have images of children that are recognizable (i.e., no faces will be visible).

We acknowledge the importance of your child's privacy, but are not able to assure absolute confidentiality. As with any person working with children, we are bounded by the professional and legal obligations of duty to report.

The researcher will keep any personal information about your child in a secure and confidential location for a minimum of 5 years. A list linking your child's study number with his/her name will be kept by the researcher in a secure place, separate from his/her study file. As well as making sure any identifying information is stored securely please note the following:

- If the results of the study are published, your child's name will not be used.
- Researchers might use your child's personal quotes in the dissemination of the project.
- Please be advised that although the researchers will take every precaution to maintain confidentiality of the data, the nature of group research with children prevents the researchers from guaranteeing confidentiality. The researchers would like to families to respect the privacy of other children participants in the classroom and not repeat what is said in the group meetings to others.
- In addition, your child will be able to be identified by the child care setting community (i.e., educators in your centre, other families) and potentially by other child care settings in the community (given the size the community).

9. Are participants compensated to be in this study?

You and your child will not be compensated for participation in this research.

10. What are the rights of participants?

Your child's participation in this study is voluntary. You may decide not to let your child take part in this study. Even if you consent for your child to participate he/she has the right to not answer individual questions or to withdraw from the study at any time. If your child chooses not to participate or you choose to withdraw your child from the study at any time it will have no effect on your child's care and education.

It is possible that you may feel influenced to participate because your child's educator is a participant or because Springbank – London Bridge Child Care Centre is a partner in this project. It is important to stress that your child's participation in this research must be completely voluntary. If you feel influenced to be involved because of this perceived power-over relationship, you should decline participation.

We will provide you with an update if the nature of the research changes during the duration of your child's participation in the study, this will ensure that you always have current information in making decisions of whether you would like your child to remain a participant in the study.

You do not waive any legal right by signing this consent form.

11. Whom do participants contact for questions?

You are encouraged to ask any clarifying questions with regard to your child's participation in this research and I will answer your questions to the best of my knowledge and your satisfaction.

If you have questions about this research study please contact Dr. Veronica Pacini-Ketchabaw,

If you have any questions about your rights as a research participant or the conduct of this study, you may contact The Office of Human Research Ethics

This letter is yours to keep for future reference.

Consent

Project Title: Climate Action Network: Exploring climate change pedagogies with children
Letter of Information and Consent – Families

Principal Investigator

Dr. Veronica Pacini-Ketchabaw, Faculty of Education

I have read the Letter of Information, have had the nature of the study explained to me and I agree for my child to participate. All questions have been answered to my satisfaction.

I agree for my child to be photographed in this research

YES NO

I agree for my child to be audio-recorded in this research

YES NO

I agree for my child to be video-recorded in this research

YES NO

I consent to the use of images of my child (including his/her face) obtained during the study in publications and presentations

YES NO

I consent to the use of partial images of my child (e.g., hands visible, feet visible) obtained during the study in the project website and researchers' professional social media accounts

YES NO

I consent to the use of my child's personal, identifiable quotes obtained during the study in the dissemination of this research

YES NO

I consent to the use of my child's unidentified quotes obtained during the study in the dissemination of this research

YES NO

My signature (Dr. Veronica Pacini-Ketchabaw) means that I have explained the study to the participant named above. I have answered all questions.

_____	_____	_____
Print Name of Person	Signature	Date (DD-MMM-
Obtaining Consent		YYYY)

Child's Name: _____

Parent / Legal Guardian / Substitute Decision Maker (Print): _____

Parent / Legal Guardian / Substitute Decision Maker (Sign): _____

Parent / Legal Guardian / Substitute Decision Maker (Date): _____

Appendix D

Climate Action Network: Exploring climate change pedagogies with children

Letter of Information and Consent - Educators



Letter of Information and Consent

Climate Action Network: Exploring climate change pedagogies with children Letter of Information and Consent – Educators

Principal Investigator

Dr. Veronica Pacini-Ketchabaw, Faculty of Education

1. Invitation to Participate

You are being invited to participate in this research study about developing climate change pedagogies with children because you are an educator at Springbank – London Bridge Child Care Centre. The child care centre is a partner in the project. The Association of Early Childhood Educators Ontario (AECEO) and Early Childhood Educators of British Columbia (ECEBC) are also partners in the Climate Action Network.

2. Why is this study being done?

The purpose of this project is to advance our understanding of children's relations with their environment in order to synthesize knowledge at local, national, and global levels regarding children's creative responses to the impacts of climate change. We are interested in how children engage creatively to address climate change related impacts on animals, trees, food, energy, and weather within their own local contexts. You are invited to investigate children's responses to trees. In addition, we are interested in what roles early childhood practitioners play in working with children to creatively and locally respond to climate-related issues. We hope that such knowledge will help us create effective and engaging new curricula, pedagogies, and policies.

3. How long will you be in this study?

It is expected that you will be in the study for one school year, between 6 to 9 months. The collection of data will begin after September 5, 2017 and will be ongoing during this academic year. The anticipated total time commitment for this study is approximately 234 hours.

You will participate in the project during your regular working hours. Researchers will visit your classroom once or twice a week (approximately 3 hours per visit) during this period to work alongside you. You may or may not choose to extend the activities with children (without the researchers being present) more than twice a week, during your regular programming.

In addition, there will be a 2 hour evening group discussion meeting once a month during the school year to revisit and interpret the documentation collected in which other participating educators from the centre and researchers will be present.. You may or may not choose to dedicate additional time to your own analysis of the pedagogical narrations. If so, you will determine the minimum/maximum amount of time beyond work hours devoted to this project.

4. What are the study procedures?

If you agree to voluntarily participate you will be asked to engage in pedagogical documentation, as described in *How Does Learning Happen* in your classroom.

Your specific responsibilities will be to facilitate and document, alongside researchers, a pedagogical inquiry related to trees. Part of facilitation includes photographing, video/audio recording, and taking field notes of pedagogical moments, discussions and investigations to contribute to a collaborative pedagogical inquiry.

As you are aware, the process of pedagogical documentation involves recording of moments of practice (both by yourself and by the researchers), and individual and collective discussions with you (both during activity time and in scheduled meetings) based on the recordings. The purpose of these discussions will be to:

- (a) make visible the learning that takes place in everyday practices in the program;
- (b) deepen and extend the activities observed; and
- (c) follow children's interests and curiosities.

You may or may not choose to incorporate ideas generated by these analyses into your daily practices for further observation and interpretation.

Practices will be recorded using video, photographs, and field notes. Videos and photographs will be taken of you only with your permission.

You will also be responsible for attending evening discussion meetings related to the pedagogical inquiry. Researchers will also take notes during/after evening discussion meetings. Some of the scheduled meetings will be video or audio recorded for later revisiting. During these meetings, videos of you will be taken only with your permission.

You will have access to the pedagogical documentation collected from your own program to use according to your Centre's guidelines.

It is anticipated that researchers will share with others the results of this project in the following ways:

- Through an art exhibit
- In publications and presentations, for example in books, chapters, articles in refereed and professional journals, academic and professional conferences, white papers.
- In masters or doctoral theses.
- In project website and professional social media (see below for more information)

Photographs and video recordings that include educators' faces might be used when sharing results of this project, if permission is given.

Some of the information collected and the ongoing analyses will also be shared through the study website (e.g., in a blog) and professional social media accounts (e.g., Twitter). Circulating research knowledge through online platforms will increase the scope of the provincial, national and international audience that our research is shared with. Utilizing a professional research website and Twitter allows researchers to readily connect and share inquiry analyses in an accessible form with early childhood educators, students, scholars, and research institutions and units worldwide. This is vital for the sharing of learning to help build knowledge in the field of environmental early childhood education pedagogy and to improve climate change practices for children.

An example of research websites where ongoing pedagogical documentation is shared through a blog is the Common World Childhoods Research Collective at <http://commonworlds.net>. Examples of social media use (i.e., Twitter) with research inquiries can also be found on this site.

As a co-researcher, you might or might not choose to:

- display some of the information collected and the ongoing analyses in your classroom.
- communicate the ongoing analyses through regular updates via your classroom's newsletter so parents are aware of the activities in which their child is participating as well as the learning that takes place in everyday practices at the centre.
- disseminate the findings in articles in professional magazines, and at conference presentations.
- contribute entries to the project website blog and professional social media accounts.

5. What are the risks and harms of participating in this study?

There are no known or anticipated risks or discomforts associated with participating in this study. However, participation in this study may cause some inconvenience to you. Engaging in discussions related to your pedagogical narrations during staff meetings might detract you from other activities.

An inconvenience for children and for you might be the interruption or intrusion of being recorded while engaged in daily activities. If this occurs, recording will be stopped.

Another potential inconvenience to you, if you choose to be part of the project outside working hours, is that that time will be taken from other non-work related activities of your life.

6. What are the benefits of participating in this study?

The potential benefits for children include the learning that will take place during their participation in the project.

The possible benefits to you may be to have further insights into how to engage pedagogically with issues related to climate change.

This research project may generate potential benefits to society, such as the possibility of increased understanding about how to address issues of climate change through early childhood education practices. It may also help researchers understand how young children can learn about climate issues.

You will be provided with a certificate that acknowledges your participation in monthly, evening meetings.

7. Can participants choose to leave the study?

If you decide to withdraw from the study, you have the right to request withdrawal of information collected about you. If you wish to have your information removed please let the researcher know. Choosing to withdraw from the study will not impact your relationship with the child care centre or any other institutions connected with the research study.

However, please note, that it will be very difficult for us to remove what you have said during the group sessions. This is due primarily to the fact that after removing one person's dialogue in a discussion, the entire conversation might not make sense in total. We will minimize your data to respect your decision to withdraw while ensuring that we can still gain a good understanding of other participants' experiences and insights. When photos/videos are involved, we will crop the images and delete clips that involve you.

8. How will participants' information be kept confidential?

Representatives of The University of Western Ontario Non-Medical Research Ethics Board may require access to your study-related records to monitor the conduct of the research.

While we do our best to protect your information there is no guarantee that we will be able to do so. The inclusion of your images through photographs and videos may allow someone to link the data and identify you.

We acknowledge the importance of your privacy, but are not able to assure absolute confidentiality. As with any person working with children, we are bounded by the professional and legal obligations of duty to report.

The researcher will keep any personal information about you in a secure and confidential location for a minimum of 5 years. A list linking your study number with your name will be kept by the researcher in a secure place, separate from your study file. If the results of the study are published, your name will not be used.

You may however want to consent for us to reveal your identity when you are co-authoring articles/chapters/presentations with us. We will ask for your consent every time an opportunity for publication arises.

In addition, given the collaborative nature of this research, you might decide to waive your confidentiality.

Researchers might use your personal quotes in the dissemination of the project.

Please be advised that although the researchers will take every precaution to maintain confidentiality of the data, the nature of group meetings prevents the researchers from guaranteeing confidentiality. The researchers would like to remind participants to respect the privacy of your fellow participants and not repeat what is said in the group meetings to others.

In addition, you will be able to be identified by your own child care setting community (i.e., colleagues in your centre, families) and potentially by other child care settings in the community (given the size of our community).

9. Are participants compensated to be in this study?

If you agree to participate in this study, we will issue a certificate of participation for the meetings that take place outside working hours which could be used towards your professional development hours. Please note that this certificate must not be coercive. It is unethical to provide undue compensation or inducements to research participants. If you would not participate if the compensation were not offered, then you should decline. If you agree to participate in this study, this form of compensation to you must not be coercive.

If you withdraw from the study, you will still receive a certificate for the professional development hours you have completed up to the withdrawal date. If you do withdraw from the study, and no other educators from your classroom are participants in this study, the children participants from your classroom will also be withdrawn from the study.

10. What are the rights of participants?

Your participation in this study is voluntary. You may decide not to be in this study. Even if you consent to participate you have the right to not answer individual questions or to withdraw from the study at any time. If you choose not to participate or to leave the study at any time it will have no effect on your employment status.

It is possible that you may feel influenced to participate because Springbank – London Bridge Child Care Centre is a partner in this project. It is important to stress that your participation in this research must be completely voluntary. If you feel influenced to be involved because of this perceived power-over relationship, you should decline participation.

We will give you new information that is learned during the study that might affect your decision to stay in the study.

You do not waive any legal right by signing this consent form.

11. Whom do participants contact for questions?

You are encouraged to ask any clarifying questions with regard to your participation in this research and I will answer your questions to the best of my knowledge and your satisfaction.

If you have questions about this research study please contact Dr. Veronica Pacini-Ketchabaw, 1

If you have any questions about your rights as a research participant or the conduct of this study, you may contact The Office of Human Research Ethics

This letter is yours to keep for future reference.

Consent

Project Title: Climate Action Network: Exploring climate change pedagogies with children
Letter of Information and Consent – Educators

Principal Investigator

Dr. Veronica Pacini-Ketchabaw, Faculty of Education

I have read the Letter of Information, have had the nature of the study explained to me and I agree to participate. All questions have been answered to my satisfaction.

I agree to be audio-recorded in this research

YES NO

I agree to be video-recorded in this research

YES NO

I consent to the use of images of myself obtained during the study in the project in the project website and researchers' professional social media accounts

YES NO

I consent to the use of personal, identifiable quotes obtained during the study in the dissemination of this research

YES NO

I consent to the use of unidentified quotes obtained during the study in the dissemination of this research

YES NO

I agree to have my name used in the dissemination of this research

YES NO

Print Name of Participant

Signature

Date (DD-MMM-
YYYY)

My signature means that I have explained the study to the participant named above. I have answered all questions.

Print Name of Person
Obtaining Consent

Signature

Date (DD-MMM-
YYYY)

Appendix E

Climate Action Network: Exploring climate change pedagogies with children

Confidentiality Agreement - Researchers

APPENDIX F
Confidentiality Agreement
CAN

(To be signed by co-applicants, research assistants, and educators co-researchers)

1. Confidential Information

I understand confidential information will be made known to me for the study Climate Action Network: Exploring climate change pedagogies with children being conducted by Professor Pacini-Ketchabaw of the Faculty of Education, Western University.

Confidential information shall include all data, materials, photographs, video, and other information disclosed or submitted, orally, in writing, or by any other media, to _____ by **Veronica Pacini-Ketchabaw**.

2. Obligations of Co-Applicants/Collaborators/Research Assistants/Educators

A. _____ hereby agrees that the confidential '**Climate Action Network: Exploring climate change pedagogies with children**' research study and is to be used solely for the purposes of said study. Said confidential information should only be disclosed to employees of said research study with a specific need to know.

_____ hereby agrees not to disclose, publish or otherwise reveal any of the Confidential Information received from Dr. Pacini-Ketchabaw, research assistants or other participants of the project to any other party whatsoever except with the specific prior written authorization of Dr. Pacini-Ketchabaw.

B. Materials containing confidential information must be stored in a secure online location at Western University (and then deleted from computer) so as to avoid third persons unrelated to the project to access said materials. Confidential Information shall not be duplicated by _____ except for the purposes of this Agreement.

3. Completion of the Work

Upon the completion of the work and at the request of Dr. Pacini-Ketchabaw, _____ shall return all confidential information received in written or tangible form, including copies, or reproductions or other media containing such confidential information, within ten (10) days of such request.

At _____ option any copies of confidential documents or other media developed by _____ and remaining in her possession after the completion of her work need to be

destroyed so as to protect the confidentiality of said information. _____ shall provide a written certificate to Owner regarding destruction within ten (10) days thereafter.

With his/her signature, _____ shall hereby adhere to the terms of this agreement.

Signature: _____

Date: |

Name of Principal Investigator: _____ (please print)

Signature of Principal Investigator: _____

Date: _____

Curriculum Vitae

- Name:** Sarah Kathleen Black
- Education:** University of Western Ontario
London, Ontario, Canada
2007-2011, Bachelor of Arts
Major in Psychology, minor in Religious Studies
- University of Western Ontario
London, Ontario, Canada
2017- present, Master of Arts
Curriculum Studies
- Awards:** Faculty of Education, Entrance Scholarship
2017-2019
- Related Experience:** Graduate Research Assistant
CAN: Exploring Climate Change Pedagogies with Children
April 2018-November 2018
- Graduate Research Assistant, Administrative and Financial
Coordinator
Provincial Centre for Early Years and Child Care and Secretariat
May 2018- present
- Presentations:** Care and conviviality: Reconfiguring everyday place encounters
in early childhood education, paper presentation with Meagan
Montpetit
American Educational Research Association April 2019
- Troubling Place in everyday encounters in Early Childhood
Education, poster presentation with Kelly-Ann MacAlpine, John
Drew, Cory Jobb, and Ashley Do Nascimento
American Educational Research Association April 2019