I want to do so much more, but I just do not know what to do: Intermediate Teachers' Interactions with the Outdoors in Winter

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Abstract

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It is through spending time outside that we develop the ecological literacy and caring attachments to the land that will lead to greater concern and responsibility for the more-than-human world. But intermediate students in the formal education system are taught almost exclusively indoors, especially in winter. If Canadian teachers remain mostly inside when it is cold, they forego many opportunities to connect their students with the land upon which they live and learn. The purpose of this research is to understand the ways intermediate teachers in the formal education system interact with the outdoors in winter during the school day, how they feel about these interactions, and what influences their decisions when it comes to outdoor learning in winter. Understanding the lived experiences of teachers is essential, as it is they who decide whether instruct indoors or out. In the hierarchical education system, teachers' voices are not always considered in policy making. Photovoice is an ideal methodology for this study because it brings the lived experiences of a group who do not have the authority to make policy changes, to those who do. This photovoice study gave eight intermediate teachers the opportunity to document experiences in their own lives, raise their own consciousness about outdoor learning, and to share their voices with policymakers through their photographic art. This study draws four main conclusions: a) teachers need to develop stronger personal relationships with the outdoors in winter; b) schools need to reconsider the traditional recess model as it is often a time of stress for teachers and students; c) the curriculum needs to expect outdoor learning in all seasons; and d) teachers' voices need to be heard in relation to outdoor learning initiatives in schools. The

findings are significant because they can influence policymakers to improve outdoor learning in schools which, in turn, will help teachers and students develop more comfortable and caring relationships with the outdoors in winter.

Keywords: winter, outdoor education, environmental education, outdoor learning, photovoice, intermediate teachers, intermediate students, formal education system

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Chapter 1: Introduction

Canadians see nordicity as our uniquely defining quality, but we often fear, loathe, and reject everything that reminds us of our northern latitude (Abel & Coates, 2012; Grace, 2007). Our complex relationships with winter are reflected in the schools where Canadian children spend most of their days. If you visit an elementary school in winter, you will likely see joyful representations of the season in student art hanging on the walls. These celebratory images stand in stark contrast to the mostly empty schoolyards you will probably encounter. Teachers are important gatekeepers to the outdoors in winter, but the gates are almost always closed. For educators, winter is perceived as a barrier to outdoor instruction. When teachers choose to remain indoors in winter, we fail to provide our students with an essential relationship they will need to face and manage complex environmental issues: a relationship with the natural world in the place where they live. In Canada, most of our places have many icy, snowy, cold months. Like most Canadians, teachers have ambiguous relationships with the winter. These relationships need to be examined to understand how to develop strategies that will allow for more outdoor instruction in winter, thus helping our students have less ambiguous, and more loving relationships with the outdoors in winter. Canadian teachers might have some repair work to do on our relationships with the outdoors in winter before we can effectively spend more of the instructional day outdoors in winter. This repair work is crucial for the health of our places and our planet and is the focus of my dissertation.

Among people who define themselves as environmentalists, there is a frequent commonality: experience in the natural world at a young age (Ajaps & McLellan, 2015; Judson, 2015; Orr, 2011; Sobel, 2004; Sobel, 2008). If teachers retreat from the outdoors in winter, they are withholding from their students valuable time that could be spent acquiring the knowledge

and appreciation of the natural world that inspires its protection. When educators do not take their students outside when it is cold, Canadian teachers and students could be mostly separate from the natural world for six months of the year. With awareness of outdoor and environmental education growing, many educators know the benefits accrued from time spent outdoors, but this seems to affect little change in where educators instruct: mostly indoors, especially in winter. When students spend entire school days almost exclusively indoors, I question whether the education system is doing enough to inspire the ecological literacy and awareness that is needed to address the environmental issues confronting our world. Educators need to think about how to connect with more than just the romantic idea of Canada's northern-ness. We need to take ourselves onto the snowy, icy land to develop and nurture real, not imagined, connections with our long, cold, wonderful winters.

Personal Background and Context

My doctoral research is guided and informed by my experience as a teacher of intermediate students. I have spent most of my two-decade elementary teaching career with grade 7 and 8 students: first teaching internationally, then as a teacher of French as a second language, later as an intermediate classroom teacher, and now as a teacher of a special education program. In grades 7 and 8, students are becoming independent thinkers and they are beginning to gain a better understanding of the world. This time of growth is an ideal time for students to develop attachments to the natural world that will inspire environmentalism.

In my first years as a grade 8 classroom teacher, I shared with my students alarming facts about environmental degradation. My goal was to inspire them to demonstrate greater concern for the natural world. I did not know that invoking ecological crisis does not seem to have much impact when it comes to environmental action (Jickling et al., 2018). Anxiety over

environmental doom induces ecophobia, which can paralyse and overwhelm rather than empower and inspire (Chang, 2017; Kelsey, 2016). I was doing the opposite of what I aimed to do but I did not know how to do better for my students. Because I felt that my efforts to inspire environmentalism were ineffective, I turned to graduate school to learn how to become a better environmental educator. In the course of my studies, I learned that instead of causing students to fear for the plight of the planet, educators should help their students establish positive and caring attachments to the natural world, thus sowing the seeds for responsible citizenship (Chang, 2017; Louv, 2008; O'Brien, 2016). I realized that facts about environmental destruction were so alarming to me because I had a well-established and deeply caring and respectful relationship with the natural world, something most of my students had not yet developed.

My relationship with the natural world is anchored in my early years growing up on a farm in southwestern Ontario. It was here I learned that however humans use and alter the land, Mother Nature is ultimately in control. My relationship with the outdoors grew in the 1990s as I spent summers working at a church camp on the shores of Lake Huron. While I was at camp, I began to understand the natural world as a refuge—a place to find beauty and calm. Although I appreciated the outdoors, during my secondary school years, I did not identify as an environmentalist. Although I might have understood and aligned with the concerns of the environmental movement, I did not relate to their activist approaches. My understanding of environmentalism was narrow; I believed that to be an environmentalist, I was required to motivate people to change by being loud and aggressive. I did not know that there were other ways to be an environmentalist, so I rejected the label.

Through my university years, I spent summers working at a YMCA outdoor education centre situated on a small kettle lake in rural Ontario. It was through teaching environmental

programs to visiting school groups that I learned the science behind the wonder I saw in the natural world (this did not happen for me in formal schooling). Knowing the basic science of the interconnectedness of life on earth served to amplify my wonder. Post university, my relationship with the natural world was cemented through years of travelling around the world. It was through these travels that I saw natural beauty that had been previously unimaginable to me, so different from the southwestern Ontario landscape I was used to. While in South Korea, I became one of the mass of urbanites streaming into nature preserves on weekends; as a tour guide in Europe, I marvelled at the mighty Dolomites, Pyrenees, and Alps from the jump seat of a bus; while flying into Cairo, I was amazed by the vast desert with a precariously thin row of green plants clinging to the banks of the Nile; and in Australia, I wondered at the magical purple blooms on the jacaranda trees. Along with the beauty I found in the natural world in disparate parts of the globe, I became conscious of the ways people all over Earth are interconnected and utterly dependent on the planet.

When I returned to Canada and started teaching full-time, I finally started to identify with the idea of being an environmentalist. I realized that I could act on my environmental concerns in ways that did not fit into my previous narrow idea of what it meant to be an environmentalist. I understood that my way of being an environmentalist was to help my students connect to the natural world through modelling positive environmental behaviours and through spending time outdoors, connecting to the natural world in all seasons.

Just because I recognized that I wanted to connect my students with the natural world, does not mean I could easily make it happen. Sharing stories of ecological doom was certainly not helpful to students who were still working on developing their own relationships with the natural world. It took a great deal of time for me to realize that learning about environmental

destruction might not have been as devastating to my students as it was to me because most of them had not established the same caring attachments to Earth as I had. Because of my enduring care for the more-than-human world, I did not recognize that my relationship with the natural world was built over many years, it was not innate. Through my graduate studies, I learned that I needed to find ways to instruct outdoors so my students could form loving and protective relationships with the natural world that would motivate them to safeguard its future. With this new learning, I became alarmed when the participants in my master's research study (all intermediate teachers) told me that they did not want to instruct outside in winter, and they believed that their students did not want to learn outside in winter (McDonald, 2018). I recognized that this finding meant that students were missing out on valuable time that could be spent outdoors learning about the places where they lived.

I do not come to this research as someone who always loved winter. As a child, I spent time outdoors in winter, and like many teenagers, I retreated indoors when I believed I had outgrown playing in the snow. When I moved away from home to go to university, I did not have a car, so I spent many uncomfortably cold hours walking to school and waiting for buses. These experiences did not endear me to winter. I went to university in a city close to the outdoor centre where I worked in the summers, so I was able to pick up some weekend work throughout the school year. It was there that a colleague introduced me to a truism for outdoor instructors: There is no such thing as bad weather, just inappropriate clothing. While this should have been evident to me all along, it was not. Learning that I could be more comfortable outdoors if I wore appropriate clothing helped change the way I felt about being outside in winter. After university, I spent several years working as a tour guide in Europe. Watching tour clients experience cold weather, ice, and snow for the first time never failed to make me miss and appreciate Canadian

winters. Later, I had a year without a “real” winter while I was teaching in Australia. It was not until I was an intermediate classroom teacher in Ontario that I developed a true love of winter. It was through taking my students outside to learn in and about the outdoors in winter that I saw the real value in spending time outdoors in the cold Canadian winter. While grappling with the knowledge that many intermediate teachers did not have the same positive experience with the outdoors in winter, I had a teaching experience that demonstrated to me that outdoor instruction in winter could be embraced by teachers and students.

I spent the 2019-2020 school year in a remote First Nation in northwest Ontario. There, I saw caring adults modelling spending time outdoors in winter and intermediate students enthusiastic about being on the land when the temperature was far below zero degrees. Community members volunteered their time to take the students on to the land to teach them how to snare rabbits; one local member of the school staff happily drilled holes in the ice any time the students wanted to go ice fishing; and local educational assistants would take the lead on snowshoeing and skiing outings. Teaching in southwestern Ontario, I sometimes despaired that outdoor instruction might be almost impossible to implement in the winter. After spending a school year in a remote Oji-Cree community, my belief in the idea that intermediate students and teachers could be enthusiastic about outdoor learning was restored. In the North, my grade 7 and 8 students were happy anytime they had an opportunity to be on their land in the winter. The first snow fell on October 1, so for most of the school year, the weather was wintery. It was on the cold, snowy land where my students seemed the most happy, comfortable, and confident (Figures 1, 2).

Figure 1

Note: (McDonald, 2020a)

Figure 2

Note: (McDonald, 2020b)

Seeing the joy experienced by my students when learning outdoors in the cold provincial North made me question why educators are not more attuned to Indigenous pedagogies. As a non-Indigenous teacher, I was honoured to be invited into an Indigenous community that is committed to nurturing care for the more-than-human world in their youth. In the North, I experienced outdoor learning opportunities in winter that were not previously apparent to me as a non-Indigenous teacher. I learned that intermediate students will spend time outside with trusted adults who demonstrate to them that the outdoors in winter has value. I taught in the fly-in community for one school year (abbreviated by the arrival of COVID-19), so there is much I do not know or understand about the ways the community helped their young people connect with the land. I recognize that non-Indigenous teachers have much to learn from Indigenous pedagogies and epistemologies.

The Study

The work of an educator is often understood through the assignments completed by their students and by the stories students tell about their school days. For this study, I wanted to see through the lens of the people who plan the assignments and catalyze the stories—the teachers. There have been some studies done to understand how outdoor education is being done in Canada (Asfeldt et al., 2021; Purc-Stephenson et al., 2019), but these studies do not focus on the classroom teacher in the formal education system as the primary provider of the outdoor experience. Students spend most of their time at school with their classroom teachers, so understanding the teacher's role in the delivery of outdoor learning experiences is important. Years after the release of an environmental education framework and curriculum in Ontario and after the introduction of outdoor and environmental education initiatives in school boards and in

individual schools, there has been limited research done to determine how Canadian teachers are using the outdoors as a teaching tool during the school day. My doctoral research explores the ways intermediate teachers in the formal education system interact with winter during the school day. To discover the nature of these interactions, I conducted a qualitative, arts-based study, using photovoice as my methodology.

Photovoice encourages participants to document elements of their lives on their own terms, raise consciousness, and reach policymakers (Wang & Burris, 1997). There have been other photovoice studies conducted in the field of environmental education, but most focus on the experience of the students, not the teacher (Chanse et al., 2017; Sprague et al., 2021). Understanding the experience of the teacher is essential, as it is they who decide where to instruct. Through social media, we can see some of the ways teachers use the outdoors for instruction, but these are highly curated and often infrequent snapshots. Instead of seeing just social media moments, I want to see and understand the regular, day-to-day experience of an intermediate teacher. I asked each participant in this study to photograph their most significant interaction with the outdoors during the instructional day for ten consecutive school days in winter.

If we understand the ways in which educators interact with winter during the school day, we can study the nature of these interactions, whether recreational or academic, voluntary or mandated, comfortable or uncomfortable, joyful or miserable, etc. Photographs are powerful resources, conveying what may not be possible to express with words (Eisner, 2008, p. 5). This compelling, visual representation of what is happening in intermediate classrooms might resonate with policymakers, causing them to consider the value of supporting outdoor learning in

all seasons. The data and stories might motivate some intermediate teachers to learn more about the value of interacting with the outdoors in winter.

My research questions are: a) How do intermediate teachers interact with the outdoors in winter during the school day?; b) How do intermediate teachers feel about their interactions with the outdoors in winter?; and c) What influences the decisions intermediate teachers make about interacting with the outdoors in winter?

Limits

It is important to understand how teachers in all divisions interact with winter, but this study focused on intermediate educators. Focusing on one division ensured the data collected were from teachers with comparable schedules and curricula. I have spent most of my teaching career educating intermediate students, so I understand the curriculum, the particularities of grade 7 and 8 teachers and students, and the demands of an intermediate teacher's schedule. This study will examine the ways teachers, not students, interact with the more-than-human world during the school day. Students may have greater (or lesser) experiences outdoors during the school day than their teachers depending on the instructional time they spend with other teachers and if they have mandatory outdoor breaks scheduled. This study explored the experiences of teachers as it is they who determine if curricular learning happens inside a classroom or outside.

This study was conducted in one school board in Ontario. Every school board across the province of Ontario and throughout the country has varying supports for outdoor instruction. Since 2007, I have been an employee of the school board in which I am conducting this study. This allowed me greater insight into how the school board supports outdoor instruction. Addressing the systemic need for school board policy on outdoor and environmental education in different school boards is outside the scope of this study but could be a focus for future research.

Learning outside the walls of the classroom goes by different names in different places and circumstances. It might be called outdoor education (OE), environmental education (EE), place-based learning (PBL), or land-based learning (LBL). These are distinct, but overlapping disciplines and none have unequivocal definitions, so the terms are often used interchangeably. For the purposes of this dissertation, I will mostly use the terms "outdoor instruction" or "outdoor learning" to be inclusive of all the varied ways students might learn outdoors during the school day. In Ontario schools, OE, EE, PBL, and LBL are not stand-alone subjects—they are seen as pedagogical approaches to instruction, not as separate subjects with their own curricula and mandated instructional time. Instead, they are integrated into the curricula of other subjects.

Chapter Summaries

In Chapter 2, I look to the literature to explain three general ideas: Canada as a northern nation; the ways in which the education system deals with outdoor instruction; and examining how the formal education system can integrate Indigenous pedagogies, epistemologies, and ontologies. Chapter 3 is an exploration of the grade 7 and 8 curriculum documents that teachers are required to follow. This chapter looks at the ways the documents might encourage or discourage a teacher as they seek to integrate outdoor instruction into their practices. In Chapter 4, I explain the qualitative methods and photovoice methodology I used when completing my study. Chapter 5 of this dissertation outlines the findings of the study. In this chapter, we can see the ways in which intermediate teachers are interacting with the outdoors in winter and how they feel about these interactions. In Chapter 6, I explore how the findings could address the ways teachers might begin to develop or heal their relationships with the outdoors in winter. This chapter looks at the ways teachers and policymakers in the educations system can work to together to encourage more outdoor learning in winter. Finally, in Chapter 7, I conclude with the

way I shared the results of the study with policymakers and I explain the ways this study contributes to the research about outdoor learning in the formal education system.

Chapter 2: Literature Review

When a schoolyard is not used for instruction, the space speaks for itself, with students making sense of its emptiness by their own accord (Dyment, 2005). Ontario schoolyards are often empty during instructional times, especially in winter, because educators make the decision to instruct indoors. To understand why teachers choose to remain indoors for most of the school day, it is important to understand the relationship Canadians have with winter and the role the education system plays in influencing the decisions of teachers to remain indoors in winter. This literature review seeks to explain why most intermediate teachers choose to mostly instruct indoors in winter. The first section will explore the ways Canadians understand and relate to their northern geography and to winter. This will help contextualize rarely used schoolyards during instructional times in winter. Next, I will explain the ways in which the education system influences teachers' decisions about outdoor instruction. In this section, I will look at the systemic barriers to outdoor instruction and describe the programmatic approaches teachers could take to move their instruction outside the walls of their classrooms. In the third section, I will explore the ways integrating Indigenous epistemologies and ontologies into instruction could help students develop more caring relationships with the more-than-human world. For each of the three sections, I will explain how we arrived at our current understandings and then I will explore the lived reality of nordicity, outdoor instruction, and the use of Indigenous ways of knowing and being in intermediate classrooms in Ontario.

Canada's Nordicity

To define Canada as a northern nation, we first need to identify *where* is north—not an easy task: there is no border between north and south. The North is shifting and elastic; a process, not a fixed goal or condition (Grace, 2007). The idea of "north" in Canada has dual

meanings: it can refer to a distinct geographical region in Canada, or it can refer to the country as a whole (Dylan, 2019; Baldwin et al., 2011). Even within Canada, there are many ideas of the "North" (Arnold, 2012; King, 2010; Rabinovitch, 2011). While Torontonians may see the North as Algonquin Park, someone from Yellowknife might find it laughable that people living in Thunder Bay are referred to as "northerners" (Dylan, 2019). Arnold (2012) says that although it is not even clear where the North is, this ambiguity does little to diminish the power the North has over our collective imagination. Although the idea of North is central to understanding ourselves, the idea of northern-ness is both embraced and rejected in Canada. Canadians simultaneously celebrate and ignore the North—we are awestruck by the North's beauty and we are frightened by its extreme winter (Abel & Coates, 2012). Descriptions of the ambiguous relationships Canadians have with our northern geography appear routinely in the literature that attempts to explain Canadians' ideas about the North (Abel & Coates, 2012; Arnold, 2012; Coates & Morrison, 2021; Grace, 2007; Sangster, 2016). The texts differ about the *ways* Canadians are ambiguous about the North, but they all agree that our ideas *are* ambiguous. Symbols of nordicity like hockey and the Group of Seven paintings are embraced, while Canadians flock to warmer climates in the winter (Arnold, 2010).

Northrop Frye (1971) says that there is a tendency to understand Canadian identity through "where" rather than "who", so in discussions of Canadian identity, it is not surprising that Canada's northern-ness has been a pervasive and enduring theme in the Canadian self-narrative (Arnold, 2012). The idea of the North has come to be synonymous with Canada as a whole, the people, and values upon which the nation was built: a creation of a population forging a common destiny (Baldwin et al., 2011). Although the idea of north is rooted in geography, the north that figures prominently in Canada's cultural and artistic landscapes is a "north of the

mind"; it's an idea (or an idea about a place), not a place (Arnold, 2010). The North frames our "sense of identity and influences our understanding of our place in the world" (Abel & Coates, 2012, p. 8)—nordicity is one of the few things most Canadians have in common (Grace, 2007; Rabinovitch, 2011).

If Canadian nationalism is to be understood, its meaning must be sought in its myths, legends, and symbols (Berger, 1966). The North as a symbol for settler Canada dates to the nineteenth century when nation-builders were seeking to forge a Canadian identity that was distinct from the United States and Britain (Aladejebi et al., 2022; Berger, 1966). The Great White North is an enduring Canadian myth that has helped to define how we talk about and think about our history, geography, aesthetics, science, sports, and even comedy (Baldwin et al. 2011). Canadian national identity relies on various northern-imbued symbols such as: the polar bear, the maple leaf, snow, hockey, lacrosse, and maple syrup (Dylan, 2019). If one looks at the symbols that represent Canada, there can be little doubt that Canada is a northern nation (Arnold, 2012).

The idea of the North permeates all aspects of Canadian culture (Abel & Coates, 2012; Arnold, 2012; Grace, 2007) and this northern ethos has recently been aroused in a surprising place: its only NBA team, the Toronto Raptors. In a country where the winter sport of hockey is perceived to be king, it is basketball that uses the idea of North to unify its fans. Since 2014, "We the North" has been the rallying cry of the Raptors. The slogan neatly summarizes the entirety of what Canadians perceive to be national identity and it serves as a national metanarrative (Dylan, 2019). The North is seen as a symbol of strength and uniqueness and portrays the team as "outsiders". Torontonians who, because of their perceived isolation from the natural world, could easily be thought to be excluded from the northern myth, are proud to promote the northern-ness of their professional basketball team. Using "We the North" as the slogan for a team with mostly

Black players reimagines and broadens the ideas of what it means to be “northern”, while maintaining previous hegemonic ideas of Canada as a frozen wilderness (Aladejebi et al., 2022). The idea of North is closely linked to one a Canada’s four seasons: winter.

The North exists in all seasons, not just winter, but the idea of winter is embedded within the idea of the North and one does not exist without the other. Although winter is not a singularly Canadian experience, the lived experience of winter has become part of the mythology of our nation. David Osborne (2001) says that national cohesion requires a sense of collective awareness and identity that is promoted through a shared sense of experience. The one thing Canadians have in common is a vast landscape and a northern geography (King, 2010). The shared experience of cold, snowy winters has been unifying and has helped to define Canada as a northern nation. Margaret Atwood identifies that in French and English literature, the central symbol for Canada is Survival, *la survivance* (Atwood, 2012). Historically, Canadians have developed a sense of cohesion from not being killed by winter. Now we are starting to recognize that we must come to together as a nation to ensure we do not kill winter by forever altering the climate (Atwood, 2012). Winter is largely unexamined by Canadian scholars, perhaps because it is so much a part of life in Canada that it seems unremarkable (Cotes & Morrison, 2012). Coates and Morrison (2012) contend that winter has always played a fundamental role in determining the development of Canada, thus it is a season deserving examination. In the next section, I will explain the role winter played in the story of European settlement in Canada. Of course, the history of living through Canadian winters did not begin with settlers. Later in this literature review, I will explore the ways Indigenous people lived through and with winter for thousands of years.

How We Got Here

Historically what made settler Canadians unique was their engagement with their hostile and unforgiving land (King, 2010). But it took centuries for this engagement to really begin. While Indigenous people had been living in the place we now call Canada for thousands of years, it took Europeans many attempts to make this place their home in winter. In the tenth century, the Vikings were the first known Europeans to attempt to settle in North America, but they abandoned the settlement after no more than a decade (Shoalts, 2017). In the late fifteenth century, in response to John Cabot's reports of endless fish stocks off the coast of Newfoundland; Portuguese, Norman, Breton, French and Basque fishers came to establish a summer fishery. But they did not stay on this side of the Atlantic Ocean for the winter. In 1534, Jacques Cartier explored the Gulf of the St. Lawrence and claimed the land for his French king. He sailed home to France in September, before the winter set in. Cartier returned the next year and a winter of unanticipated cold and scurvy killed a quarter of the 112 men he brought with him (Harris, 2008). Until Cartier learned from Domagaya (one of his Haudenosaunee interpreters) that scurvy could be cured by making a tea from the inner bark and leaves of eastern white cedar trees, all hope for survival in Canada seemed lost (Shoalts, 2017). Ultimately, Cartier's attempt at colonization failed and the remaining prospective colonizers left in 1543. The French would not return to the St. Lawrence for many decades, until 1603, when Samuel de Champlain arrived in the New World. He would become the first European to settle in Canada long term, in no small part because he learned how to survive the Canadian winter. Champlain understood that to stay in Canada, he needed to depend on good will and alliances with Indigenous people and the adoption of Indigenous technologies for travel and survival (Harris, 2008; Shoalts, 2017).

Canadian winters could be so brutal that after over-wintering on what is now known as Hudson's Bay in 1610-1611, most of Henry Hudson's crew mutinied and abandoned him (Harris, 2008). The eighteenth and nineteenth centuries are rife with stories of winter peril faced by European explorers: James Knight's shipwreck in the shores of Hudson's Bay; Samuel Hearn's party reduced to eating burnt bones, scraps of leather, and lichen; and John Franklin ignoring Dene hunter Akaitcho's warnings that winter was nearer than the Englishman believed, resulting in the death of many voyageurs and maybe even cannibalism (Shoalts, 2017).

The cold, northern winter shaped the ideas of the Canada First movement in the late 1800s. The movement was an attempt to kindle nationalist feelings through the celebration of Canada's northern location and challenging climate (Forkey, 2012; Thorpe, 2012). Canada First promoted the idea that Canada was destined to be a pre-eminent power because its descendants were sprung from northern European "Aryan" nations, and in the cold climate, capacity for improvement was infinite and inevitable (Berger, 1966). They seized on the idea that Canada's northern climate would ensure it was "uncontaminated" by weaker, southern races (Mackey, 2000). Canada First's members believed that the northern latitude of Canada necessitated vigorous effort and the cold conditions made people self-reliant, strong, and hardy, so Canada would "breed a distinctive, superior and healthy people" (Berger, 1966, p. 12). The arts were one way that the idea of Canada as naturalized, northern nation was forged. In the next section I will explore some of the ways the Canada First movement might have influenced the most celebrated of Canadian visual artists: the Group of Seven.

The Arts

Canada's land-based, northern identity did not happen by chance or because the Canadian "wilderness" is more beautiful or special than that in any other country. This identity was

constructed and reinforced, in part by painters of the Canadian landscape. No art in the history of Canada has been as defining in the effort to create the idea of a northern nation as the landscape paintings of The Group of Seven. The paintings of the Group of Seven have influenced Canadians at a nuclear level—their works are a part of the national memory bank (King, 2010). Original Group of Seven member Arthur Lismer wrote that after the First World War, many settler artists in Canada "began to have a feeling that Canada was as yet unwritten, unpainted, unsung" (King, 2010, p. 324). The paintings that were produced in Canada in the first decade of the twentieth century were derided by critics as "not Canadian enough" (McKay, 2011). This led Group members to set about creating a new Canadian art, believing they were beholden to no tradition, celebrating what they believed set Canada apart from other nations: its solitary and inhospitable wilderness (King, 2010). In the post-war years, Group members went on painting trips to places they considered North: Algoma, Algonquin Park, and Georgian Bay. Group of Seven member Frederick Varley wrote that the painters were "endeavouring to knock out of us all the preconceived ideas, emptying ourselves of everything except that nature is here in all its greatness" (King, 2010, p. 147). It was on these outdoor "northern" painting trips that Group members experimented with bold colours and a new expressive style of landscape painting. The ambitions of the Group of Seven were lofty: they set out to establish themselves as nation-builders. They believed that the uniqueness of the Canadian "wilderness" in their paintings would inspire pride and that this national pride would lead Canada to greatness (McKay, 2011). The Group of Seven painters are acknowledged as the creators of the first school of settler Canadian art, a school devoted to the wild and rugged Canadian landscape (Nasgaard, 2017). For more than a century, Canadians have absorbed the Group's ethos of Canadian uniqueness found in the power, beauty, and strength of the northern geography of Canada.

In the 1920s, interest in the North was growing: the government was exploring and settling the Arctic in an attempt to claim the land there for Canada; books, including Vilhjalmer Stafanson's, *The Friendly Arctic* were popular; and the film *Nanook of the North* captured a great deal of attention (McKay, 2011). The Group of Seven was part of the country's growing interest in the North—the Group identified that it was northern-ness that made the Canadian landscape unique. Before the Group of Seven, Canadian snow paintings were rare because winter was a sore spot for settlers (King, 2011). The Group changed this when they created a way of seeing Canada that expressed the awe, beauty, and power they found in the Canadian winter. They demonstrated no fear of the wilderness, isolation, and power of the North (Rabinovitch, 2011) at a time when the northland's terrors and intractability, as well as its nearness to civilization, haunted Canadians (King, 2010). The Group had the idea that the art of the North could arise only if the artist had a "close affinity with and love for the essential characteristics of one's country" (Nasgaard, 2017, p. 253). Group member, Lawren Harris, said that the "emphasis of the north in the Canadian character that is born of the spirit of the north and reflects it, has profoundly affected its art, and its art in turn, clarifies and enhances the quality of Canadian consciousness" (Carney, 2017, p. 33). He said that Canadians understand the North better than anyone else as a result of having absorbed it (Carney, 2017). Group of Seven member, A.Y. Jackson reinforces the idea that Canadian patriotism is tied to the North when he says, "The Canadian who does not love keen bracing air … sunlight making shadows that vie with the sky, the wooden hills and frozen lakes. Well, he must be a poor patriot" (King, 2010, p. 125). While the Group was connecting Canadian patriotism to the northern wilderness, they were creating paintings that constructed an image of the North that was inimical to human habitation (Grace, 2007).

When searching for a Canadian style of painting, the Group members looked to the landscape, but they did not look to the people who best knew what the artists understood to be Northern wilderness: the Indigenous people who had always lived on the land. The Group of Seven artists were so determined to avoid the aesthetic of their European colonizer, they did not seem to recognize their own aesthetic was colonizing (Mackey, 2000). While travelling the country on the railway built to push Canadian civilization and industry into the far reaches of the continent, they often painted empty, engulfing, and overpowering wilderness (Mackey, 2000). These empty wilderness images reinforced the idea of *terra nullius* for people who did not understand that the paintings of the Group depicted land used by Indigenous people, mining companies, logging operations, and railways. The general exclusion of these activities from their paintings encouraged many to imagine that the North was a land of "untapped natural resources, just waiting for the right entrepreneurs to find them" (McKay, 2011, p. 188). The Group's paintings have often been accused of being empty of people, particularly Indigenous people, but King (2010) points out that there are far more people, including immigrants and Indigenous people in the Group's paintings than is generally acknowledged. The fact that the most popular paintings of the Group of Seven are those that appear unpeopled may say as much about the consumers of the art as it does about the artists.

We know that the goal of the Group was to paint the wilderness of Canada, so almost inevitably, they would have to paint snow, but the white snow in the Group's paintings is seen by some as more than just a part of the benign northern landscape. The cultural politics of nature, race, and whiteness need to be examined in relation to the paintings of the Group of Seven (Baldwin et al., 2014). The northern mythology exists in the Canadian consciousness in harmful ways when northernness is used as a metaphor for whiteness. Baldwin et al. (2014) view the

North as an enduring Canadian myth that asserts the dominance of whiteness. The Group often painted the North as pure, white, silent, and spiritual, where people are either absent, rejected, or absorbed (Grace, 2007). Fred Housser, a close friend of the Group, wrote a book in 1926 that helped to establish the Group of Seven as the fathers of Canadian art, and also disseminated white supremacist ideas, linking "whiteness" to the northern expanses depicted by the Group (Watson, 2017). Watson (2017) believes that the Group of Seven "thought of winter as Canada's season, as if the cold and the snow were metaphors of the nation's whiteness" (p. 278). When A.Y. Jackson was discharged from the Canadian military after the First World War, his only bonus was a twelve-tube box of white paint. He mused that he only became a snow painter because he could find no other use for the "stuff" (Harper, 1966).

For centuries, the Canadian landscape has inspired fear, mystery, wonder, and frustration; a place where one confronted not other people or oneself, but the forces of nature and the vastness of the universe (King, 2010). These feelings were not only represented by visual artists, but also by writers attempting to capture Canada's northern-ness in their texts. Margaret Atwood says that in Canadian literature, "the true and only season here is winter" (Atwood, 2012, p. 45). Canada's winter has long been explored by writers and poets, ensuring that the idea of Canada as a northern nation is entrenched in the imaginations of Canadians. Historically, authors' characterizations of winter in Canada have often been brutal and describe the conditions as inhumane. When thinking about winter, Maria Chapdelaine, the main character in Louis Hémon's 1913 novel about life in rural Québec, was filled with "la haine des hivers du Nord, du froid, du sol blanc, de la solitude" and "des grands forêts inhumaines" (Hémon, 1990, p.156). Archibald Lapman's poem, "Winter Uplands" evokes the bitter cold in his description of the "frost that stings like fire upon my cheek" (King, 2010, p. 42). Wilfred Campbell's 1889 poem

"The Winter Lakes" describes Northern Ontario as a "world of winter and death" (King, 2010)—a kind of frozen hell:

> Lands that loom like spectres, whited regions of winter,
>
> Wastes of desolate woods, deserts of water and shore;
>
> A world of winter and death, within these regions who enter,
>
> Lost to summer and life, go to return no more. (Frye, 1971, p. 140)

Fredrick Philip Grove's writing describes a winter storm as a merciless, numbing force, and described the winters as long and violent (Rabinovitch, 2011). There are other voices in early Canadian literature that extoll the virtues of the northern geography of Canada. Susanna Moodie's poem, "To the Woods! – To the Woods!" describes the thrill she feels about the Canadian winter:

> Hark! how the trees crack in the keen morning blast.
>
> And see how the rapids are cover'd with steam;
>
> Thaw your axes, my lads, the sun rises fast,
>
> And gilds the pine tops with his bright golden beam
>
> To the woods! – to the woods! (Moodie, 2017, p.227)

The different ways winter is represented in writing demonstrate once again that Canadians have ambiguous ideas about their northern-ness. As Margaret Atwood points out, "Snow isn't necessarily something you die in or hate. You can also make houses in it" (Atwood, 2021, p. 66). However varied our ideas about the North, the stories of Canada as a northern nation infuse our imaginations. Two of the most ubiquitous symbols of northern-ness: snow and ice, exist only outside, and only in the winter. If these symbols are important and imbued on the Canadian

consciousness, we need to examine the reasons many Canadians, including teachers, choose to spend winter days indoors.

Schools in Winter

Dyment (2005) identifies the Canadian climate as a barrier to teaching outside. It could benefit students if educators attempted to overcome this real or perceived barrier. Jirasek et al. (2017) say that nature does not only offer aesthetic impressions and nice weather. They say that students need to be prepared for the discomfort of being outdoors when the weather is not perceived to be ideal. Chang (2017) identifies that we need to become attached not just to the beautiful places, but to the less-attractive places that contribute to a healthy ecosystem. He says that places like marshes might not benefit from the same level of conservation effort as more aesthetically beautiful places, but they are vital to the function of the planet, so they need attention. The same might be true about creating an attachment to place in the winter. Being outside when it is cold may not be as physically enjoyable for all students as being outside in the spring, summer, or fall, but it is important to form connections to the outdoors in all seasons. In Canada, this includes connections to winter. To develop profound respect for a place, it must be studied for a long time: its sights, sounds, tastes, and the way it feels (Orr, 2004). The sensory experience of being outside in winter is vastly different from being outside in the warm spring and fall. If we truly want to know the place where we live, we need to experience it in all its seasons. Spending time outside in winter will not just help students experience the beauty and wonder of the season, but also allow them to see first-hand the role winter plays in maintaining healthy ecosystems. The place where children spend most of their time is school, so the education system is well-placed to help students learn about the value of winter.

Education System

Teachers in Ontario cannot decide what to teach, per se (these decisions are mandated by the Ministry of Education), but they have a great deal of autonomy over how and where they teach. Incorporating outdoor learning is not mandatory, but all teachers have the ability to incorporate outdoor instruction across the curriculum. Learning outdoors can result in healthy habits that benefit individuals and society, but to implement outdoor learning, educators need research, partnerships, and professional development (Banack, 2015). When students lack direct experience with the natural world, they associate it with fear, not with joy and wonder (Louv, 2008). Why would anyone want to save something about which they are fearful? Students must have the opportunity to bond with the natural world, to feel comfortable in it, to learn to love it, before we ask them to heal the earth's wounds (Sobel, 1996). In this section, I will explain the history of outdoor learning in the formal education system. Next, I will explore the various ways educators can get outside for instruction, focusing specifically on environmental education, place-based learning, outdoor education, and land-based learning. Finally, I will address the ways systems thinking is needed to allow for effective outdoor instruction in schools. Before we consider how to incorporate outdoor instruction in the formal education system, we need to understand why it is excluded from most teachers' practices.

How We Got Here

In an immense country with great geographical and cultural scope, it is no surprise that outdoor learning has taken a variety of forms and has covered a range of topics in Canada (Purc-Stephenson et al., 2019). In Ontario, outdoor learning in the formal education system began in the 1800s in the form of agricultural education. In this province, school attendance in rural areas was irregular, so agricultural education bolstered school attendance by making the education

system relevant to farming communities (Davey, 2003). In the nineteenth century, many non-formal OE programs were established in Canada, mostly at summer camps. These programs aimed to create disciplined citizens in response to the "softening" effects of urbanization and industrialization (Mullins et al., 2016). These OE experiences allowed predominantly European youth to "go native" as they escaped into nature (Mullins et al., 2016). In the 1960s, as landscapes urbanized, concerns for the environment grew and school boards purchased land for outdoor education centres (Borland, 2011). Schools would send students to the OE centres where they were usually taught and guided by site staff. By the 1990s, these outdoor centres were considered non-essential, and most were closed. The ones that remained open switched from nature-based learning programs to more lucrative outdoor adventure activities and were offered to school and corporate groups for user fees (Borland, 2011). The existence of outdoor learning centres unintentionally communicated to educators that it was no longer their responsibility to help their students connect with concepts taught in their classrooms with real-world outdoor experiences—that was the job of the specialist at the outdoor centre (Borland, 2013). In the early 2000s, Environmental Science programs were removed from secondary schools with the promise that ecological concepts would be integrated into the science and geography curricula (Borland, 2011). With a change in government in 2003, outdoor education was identified as essential in Ontario schools, and in 2009 the government released a framework for environmental education in the province, *Acting Today, Shaping Tomorrow.* While this document exists, I have never seen it in a school, nor have been encouraged to find it online. The formal education system seems to have little interest in helping students acquire a sense of the aesthetic of nature or a love of the natural world (Jeffs, 2018). In the next chapter, I will explore the effectiveness of Ministry of Education documents in the promotion of outdoor learning in intermediate classrooms in

Ontario. For now, however, I will describe the ways classroom teachers' experiences with the natural world impact their decisions about outdoor instruction.

Educator Experience

Many teachers have had little contact with nature themselves, so they are not well equipped nor motivated to lead outdoor education and to appreciate the value of connecting with the natural world (O'Brien, 2016). Orr (2011) identifies that "place is nebulous to educators because to a great extent we are a displaced people for whom our immediate places are no longer sources of food, water, livelihood, energy, materials, friends, recreation, or sacred inspiration" (p. 264). Teachers cannot be expected to teach what they do not know. Blenkinsop (2014) says that to be an eco-teacher, educators need to know about the place where the teaching/learning is happening. Learning about the place where one teaches may be time consuming and challenging, especially for new teachers who move between schools frequently, but it is necessary for effectively using the outdoors for instruction.

Intermediate students' exposure to the outdoors during the school day is almost entirely dependent upon a teacher's decision to take their instruction outdoors. Ray and Jakubec (2018) say that teachers' curricular choices often reflect their personal experiences, values, and belief systems. They say that personal interest and values strongly influence a teacher's decision to incorporate outdoor learning in their teaching and Eick (2012) finds that the disposition (life experiences and beliefs) of the educator is important when a teacher is considering instructing outdoors. For an educator to be an advocate for the outdoors, Herbert Broda (2007) says that it is important for her or him to frequently experience its beauty, complexity, and its ability to soothe and revitalize. If a teacher has not had positive experiences in the outdoors in winter they may not understand its value. Even if they understand the benefits of learning outdoors, Gruenewald

(2003b) says that in an educational climate that is focused on quantitative outcomes at the expense of conversation of what it means to live well in a place, developing critical, place-based educational practices is a difficult proposition. Louv (2008) believes that educators have to walk their talk: if we tell students about the gifts and benefits of nature but we do not go outside, children hear very well what we really mean.

Teacher Training. I do not know any educator who became a classroom teacher because she or he is passionate about teaching in and about the natural world—most of those people chose careers where they can work outdoors. If someone is passionate about the environment, why chose a career that is "an indoor affair—surrounded by metal, plastic, glass, brick, and linoleum" (Bigelow, 2014, p. 37) and requires educators to teach a standardized curriculum that is anti-ecological (Steen, 2003)? I trained to become a teacher mostly so I could make enough money to pay back my student loans while travelling the world. I never intended for teaching in the formal education system to be my career—I only realized I that I thought I might want to be a teacher in a school while I was earning my Bachelor of Education. This personal experience informs me that what happens in teacher training programs matters.

To successfully teach about the environment, Hart (2010) identifies that teachers need to have a pedagogical background that is "interdisciplinary, outdoors-oriented, community-oriented, problem/inquiry-oriented and action oriented" (p. 157). This means that teacher training programs would need to take students who are probably not eco-literate and provide for them the opportunity to become passionate enough about the environment to have it become the core of their professional lives. This is a huge task, especially when teacher education continues to "function as if the most pressing problem we face is how to get everyone reading 'at grade level'…, or college or workplace 'ready'" (Greenwood, 2010, p. 140).

If teachers are going to develop the ecological consciousness that is essential for eco-literacy, teacher training programs need to model how to teach outdoors. Louv (2008) says that natural places are infinite reservoirs of information and they have the potential for inexhaustible new discoveries. Trainee teachers must go outside so they can learn to see this potential, but teacher education is mostly unresponsive to sustainability issues impacting local environments (Greenwood, 2010). Going outside to learn will allow them to develop connections to the natural world, to see how outdoor teaching is done, and will let them experience that learning outdoors is a legitimate way to educate.

Teaching outdoors means veering from what is considered normal in most schools, and this can be risky, especially for new teachers entering a precarious job market. Teacher training programs need to increase the capacity for educators to become agents of change (O'Brien, 2016), so change-making becomes the norm in schools, not the outlier. Hart (2010) identifies that thinking outside the dominant educational narratives takes courage—"working against the grain requires capabilities that technician-oriented practitioners are not trained for but for which teachers as professional educators ought to be" (p. 169). If we want teachers to confront the challenges of environmental degradation, their training program needs to show them how. If teacher training does its job, the vocabulary of outdoor learning will be spoken in the halls, classrooms, and offices of schools. Next, I will explore the implications of the hidden curriculum about the environment that is being taught implicitly to all students in the public education system.

Hidden Curriculum

People who are educated in industrialized economies think that they have no choice but to control and manage the planet (Longboat et al., 2013). Education is complicit in our failure to

empower young people to transition to sustainability and the reasons for this are mainly found in the hidden curriculum (Lautensach, 2013). In this section, I will explain how the curriculum hidden in the education system allows students to believe that they have few choices when it comes to caring for the environment. First, I will define the hidden curriculum, then I will explore the ways that the devaluation of the outdoors in winter is hidden in the curriculum taught by many teachers.

In schools, students learn from their educators much that is not in included in the official curriculum. The hidden curriculum is not a singular concept: it "encapsulates a diversity of premeditated, inadvertent, transmitted and received 'lessons' that intersect and co-exist with the formal aims and learning outcomes" (Cotton et al., 2013, p. 200). The hidden curriculum may be contained in learning materials, methods of assessment, rewards for achievement, teacher behaviour, and school rules (Lautensach, 2013). It may also be found in teacher and student inactions, in unwritten rules, and in what is and is not talked about (Warren et al., 2019). This implicit learning about beliefs and ways of behaving is often referred to as the hidden curriculum and with few exceptions, it is a powerful, detrimental force that can undermine and contrast with the formal curriculum (Cornbleth, 1984; Warren et al., 2019; Weston, 1996). The hidden curriculum in schools contributes to the development of potential relationships to capital, authority, and the process of work, helping to reproduce a system of class relations in society (Anyon, 1980; Lautensach, 2013). While most of the research about the hidden curriculum focuses on its undesirable aspect, it is not inevitably negative (Cotton et al., 2013). Students pay attention when teachers say something positive about the environment; however, they almost never hear the positives (Louv, 2012).

Teachers are often rewarded for their compliance with norms that govern the hidden curriculum and are obstructed when they attempt to question the hidden curriculum being taught in their schools (Langhout & Mitchell, 2008). It is a challenge for educators to understand the role of the hidden curriculum in their classrooms because, by definition, the hidden curriculum is implicit and not immediately accessible (Cotton et al., 2013; Lautensach, 2013). It is only by making the hidden curriculum visible that educators can understand the influence of teaching context on what their students are learning (Cotton et al., 2013). Teachers recognizing and attempting to address the hidden curriculum in their classrooms may not be enough—they require support to push back against this unspoken and implicit force. Questioning and changing the hidden curriculum is more likely when teachers are supported by leadership to challenge dominant narratives (Langhout & Mitchell, 2008).

It is possible that the formal education system equips students to be more effective vandals of the earth (Orr, 2004). Hidden in the curriculum is neglect or even contempt for the earth (Bigelow, 2014). If all education is environmental education, by not going outside to teach about the outdoors, educators unintentionally teach students that they are apart from rather than a part of the natural world (Orr, 2011). This messaging about the natural world might benefit the government who writes the curriculum. By designing a curriculum that maintains distance between students and their environments, Ontario students are less likely to develop relationships with the natural world that could inspire its protection. Neo-liberal forces have bent and twisted education about the environment to talk of their own interests (e.g., sustainable growth, sustainable mining), causing students to lose the ability to disrupt dominant attitudes and assumptions about the environment (Jickling et al., 2018). This means that students do not develop the tools they need to contest and question the environmental degradation created or

supported by their governments. It allows them to maintain an education system that does not develop in its students a better understanding of their relationships to humans and other-than-humans, but instead prepares them for the economic marketplace (Greenwood, 2010). Instead, we need to equip students to question the root concepts of Western civilization and how our civilization has helped or harmed sustainability (Bigelow, 2014).

Steen (2003) says that if students are being taught inside a school, then they are not, at least during that time, being educated elsewhere; they are being held separate from the natural world. Much of the learning intermediate students do about the natural world is done from inside the walls of a classroom. When educators teach about the outdoors from inside a classroom, we imply that the earth is not a valuable teacher. Judson (2015) believes that when we separate ourselves from nature in order to learn about it, we are showing what we think about our relationship to the natural world. This separation may be telling students that the outdoors is not a place for learning, that it is not an important place to learn in or about. Bigelow (2014) writes that in his schooling, he actively learned to not think about the Earth; that his class could have been anywhere—or nowhere. He says that he became inured to spending days in manufactured spaces, and that his schooling supressed any notion that he would spend his life outdoors. The message he received was that the outdoors was for play, "not for knowledge of self, culture, of the Earth" (Bigelow, 2014, p.38). The complete or almost complete elimination of instructional time outdoors during the school day implicitly teaches students that education is only about knowledge transmission and that it is not about attitude formation and behaviour change that can be directly influenced by spending time in the natural world, building connections with nature (Ajaps & McLellan, 2015). Educating through books (not through outdoor learning) thus belittles the environment, making it less than us: it making us "think that we are the kings of this world

and we hold the fate of this world" (Rasmussen and Akulukjuk, 2009, p. 295). If the curriculum students are learning is silent about environmental destruction, that silence normalizes environmentally harmful practices and implicitly tells students "Hey, nothing to worry about; that's just the way things are, the way they ought to be" (Bigelow, 2014).

If we want our students to connect with the natural world, the formal education system is a necessary partner in developing a more equitable and interactive relationship with Earth (Jickling et al., 2018). But we need to question if the education system is the problem or the solution in working towards a future that is sustainable (Hopkins & McKeown, 2005). More of the same kind of education will only compound our environmental problems (Orr, 2004)—we need a whole system redesign that considers the nature and structure of schooling (Hopkins & McKeown, 2005). Schools do not function as models of sustainable systems: the actions of the people in the formal education system speak louder than nice words and platitudes about caring for the natural world (Sobel, 2008). Our institutions, including the education system, often associate nature with doom, not with joy and solitude (Louv, 2008). The task at hand is not to add new bits to the existing curriculum, but rather to frame a new vision for education aligned to the extraordinary time in which we are living (Jickling & Sterling, 2018).

Hartley Banack (2015) believes that ultimately, if educators want students to appreciate spending time outdoors, they need to model being outdoors. If students do not see their teachers going outside on their breaks or planning lessons or field trips that incorporate spending time in the natural world, they will hear the unspoken messages their educators are communicating about the value, or lack thereof to be found in the outdoors (Banack, 2015). If a teacher says they care about the spending time outside, but they only do so when it is warm, that also sends a strong, tacit message to their students that it is only good to be outside when its warm, and this unspoken

lesson will be absorbed by their students. Empty schoolyards, abounding with sky, weather, wind, soil, and living things, are another way students learn that the natural world is not a worthwhile place to spend their instructional time.

The Schoolyard

Without a deep and abiding sense of comfort in the natural world, no amount of chastising about caring for the environment will make a difference (Sobel, 2008). Children spend most of their days in formal schooling, so the schoolyard is a place where most students feel comfort and familiarity. This is a logical place for students to connect with the natural world around them. The more we put concrete, drywall, and steel between us and the natural world, the more we lose important elements of our humanity (Broda, 2007). When children feel they belong in the outdoors, connection and the development of an ethic of care follow (Sobel, 2008; Wattchow & Brown, 2011).

Teachers often think of travelling to outdoor education centres when they consider learning outdoors, they do not always think about using their schoolyards. This means that outdoor learning opportunities for students are often planned in remote locations, far from where students live most of their lives (Wattchow & Brown, 2011). This means that powerful lived experiences in the natural world happen elsewhere, not “here” (Roberts, 2016). Students who have influential outdoor learning experiences in places far from their schools then became teachers who may not have considered the impact of using their schoolyards to teach about the natural world. Teachers have to make an effort to get past their romantic views of nature being “wilderness” to gain a deeper understanding of and feeling for the natural world just outside their school doors (Wattchow & Brown, 2011). We need to find wonder in the wildness of our home landscapes (Jickling et al., 2018). Experiences at outdoor centres are infrequent, they cost

money, and getting there requires the consumption of fossil fuels. Outside all classrooms, there is a freely available, relevant, experiential, and accessible location for learning opportunities—the schoolyard (Banack, 2015).

Greenaway and Knapp (2016) say "Learning from fleeting experience is unreliable, whereas learning from deeper or more extended experiences tends to be both more reliable and more significant" (p. 266). An advantage of learning on a familiar schoolyard is that it can be visited over and over, at different times of the day and in all seasons. Orr (2004) says that to encourage biophilia and establish connections with nature "here", we should "rediscover and reinhabit our places and regions, finding in them sources of food, livelihood, energy, healing, recreation and celebration" (p. 147). By repeatedly visiting local places, students can discover that "the space of everyday life offers rich material for learning" (Spence, 2018, p. 85). Using schoolyards for outdoor learning has another advantage: it allows students to return outside of school hours to the natural places to revisit and engage with the natural world (Wattchow & Brown, 2011). Students in Singapore who participated in OE for physical education classes "were more likely to undertake their own adventures outside of their formal schooling than their peers" (Ho et al., 2016, p. 282).

The schoolyard does not just offer the benefit of being just outside the classroom walls, Sobel (2004) finds that classroom interventions more effectively improve environmental behaviours than interventions in non-traditional settings. Not only are schoolyards conveniently located and free, they also offer the advantage of having caring adults who can guide students to be good stewards of the land. School based outdoor learning has the advantage of being taught by a teacher that students get to see every day, not site staff at an outdoor education centre who might only have known the students for a few hours or days (Wattchow & Brown, 2011). Most

environmentalists attribute their commitment to the natural world to many childhood hours spent outdoors with an adult who instilled in them a respect for nature (Sobel, 2008). The schoolyard offers the advantage of always being there, ready to be used, but educators' reliance on the internet might keep them inside their classrooms.

Disentanglement with Technology

Passion for the environment doesn't arrive digitally, inside a classroom, it is lifted from the earth itself (Louv, 2008), but students are often separated from the natural world because of the education system's reliance on technology. Devices have become ubiquitous in intermediate classrooms and provide many opportunities for learning that were previously unimagined. This is especially true for students with learning needs supported by technological advances like voice-to-text and text-to-voice applications. These tools are often mandated in Individual Education Plans, so getting outside to teach and learn might seem like it is becoming more of a distant reality as the integration of digital technologies to support student learning evolves.

The benefits of technology in the classroom are so immediate and apparent that teachers might lean heavily on technology as a teaching partner instead of seeking ways to support student learning in the less-efficient and less-predictable natural world. My school board lends all grade 7 and 8 students a tablet for their use while in the intermediate grades. The tablets come with many advantages, but one disadvantage is the reliance teachers and students develop on the devices for everyday learning. We become so used to having instant and personal internet connections and apps at our constant disposal that we can feel lost without them. Richard Louv (2012) asks, "What would our lives be like if our days and nights were as immersed in nature as they are in technology" (p. 3)? As formal educators, it would be interesting to challenge ourselves to find out. Because of technology, we have "pivoted further away from nature than

any generation before us" (Williams, 2017, p. 6). Students are more likely to be found online, gathering information about damage to a faraway water system than studying their local wetland. Hidden in this is the idea that global crisis is far away and the experiencing body is irrelevant to education (Wattchow & Brown, 2011). We seem to have lost touch with the knowledge that "Off the Internet, everything is connecting you with the world. *Everything*" (Louv, 2012, p. 25).

It is increasingly unlikely that many students have been more than momentarily without internet or cell phone access and this fundamentally affects how children regard the outdoors (Ord & Mallabon, 2018). Technology and social media have changed how we see the natural world and our expectations about what it is like to experience nature. Wattchow and Brown (2011) identify that "landscape is a dominant and pernicious idea in Western culture" (p. 61). They say that through the media, we are inundated with landscape pictures that are captured and arranged in imagined perfections. We carry these images with us and they do not match the reality of what we find when we look at the landscape with our own eyes—there are people in the way and the light may not be quite right (Wattchow & Brown, 2011). Photographs have changed how we see and understand natural places with sophisticated and rehearsed representational techniques that serve to reinforce the construct of the Nature/Culture divide that is at the root of the ecological crisis in North America (Cronin, 2014). Outdoor learning experiences often take participants away from social media, either because of no access to the internet or policies about cell phone use. This allows people to really see and experience the natural world around them. Although it may not be as exciting, to see the land as it really is, "we need to step back from the apparent grandeur of nature to embrace the mundane, everyday experience of particular outdoor places" (Wattchow & Brown, 2011, p. 88). The photographs taken by participants in this study illustrate not just the highlights of outdoor learning that are

curated for social media, but the everyday ways teachers interact with the outdoors in winter. The data collected for this study indicate that teachers struggle to know how to approach outdoor learning in a systemic way. Thinking and teaching systemically might help students see the ways we are all connected and dependent on the earth.

Systems Thinking

After more than a decade in the education system, most students graduate with no broad, integrated sense of the unity of things (Orr, 2004). Teaching about the environment requires systems thinking that is not inherent in the modern education system—the way schools are structured prevents them from meeting the goals of environmental education (Hopkins & McKeown, 2005; O'Brien, 2016; Orr, 2011; Steen, 2003; Stevenson, 2007; Tan & Pedretti, 2010). Part of my motivation to begin graduate studies stems from a single comment from a grade 8 student that caused me to worry about the lack of system teaching happening in my intermediate class. While learning about water conservation, one of my students told me that she thought the only reason people conserved water was to save money. I was alarmed that a student in her tenth year of formal schooling could have believed this to be true. Educators like me are clearly lacking the knowledge and tools to allow their students to think systematically. To understand how nature in all seasons sustains life, teachers need the capacity for systems thinking: "the ability to perceive how the different aspects of a living system exist, both in relationship to one another and relative to the whole that is greater than its parts" (Goleman et al., p. 7).

Teachers and students describe some of their best learning experiences as ones that were not neatly fit into a prescribed "teachable" subject (Jickling et al., 2018). So why are we still teaching as if the world is disconnected by disciplines (Orr, 2004)? Often in schools, educators

teach one subject or skill at a time, with a particular learning goal in mind, sometimes losing sight of the value that is found in understanding how everything is related to everything else. The division of the school day into subjects and mandating that each subject is taught for a required number of minutes each week interferes with systems thinking. Steen (2003) says that organizing learning into separate subject areas is highly artificial and does not resemble the life for which we are preparing students. In education, we "compartmentalize subjects as if the world can actually be broken down into discrete units. This overlooks the complexity of the 'real world'" (O'Brien, 2016, p. 88). David Suzuki (2011) identifies that when we fragment the world into its parts (e.g. economics, health, environment) and we try to manage them separately, there are immense repercussions for the air, water, and land, thus on human heath health and the economy. He says that by focusing on the parts, we lose sense of the whole. Education must move from specialization to holistic knowledge (Cajete, 1994).

The dominant model of schooling in our society is a system that is not based on ecological principles and does not have a great interest in holistic thoughts (Steen, 2003). The goals of EE are to promote critical thinking, problem solving skills, cooperative learning, and action projects (OME, 2009a), but it is expected to be taught in schools that were not intended to function as places of social change or reconstruction (Stevenson, 2007). Mitchell (2014) identifies that the assessment models in schools that emphasize memorization instead of assessing critical thinking and inquiry (i.e. examination at the end of a course), prevents educators from offering a truly interdisciplinary approach to EE. Now I will explain how four distinct, pedagogical approaches to teaching in and about the natural world: environmental education; outdoor education; place-based learning; and land-based learning, can inform and shape interactions with the outdoors during the school day.

Environmental Education

Environmental education endeavours to cultivate a love for nature, knowledge of the natural world, pro-environmental attitudes and behaviours, and the skills to act to protect the environment (Steen, 2003; Williams & Chawla, 2016). EE aims to do more than teach students *about* the environment, it seeks to move students to positive action *for* the environment. EE is "an approach to education that seeks to interest and involve students in world problems … to prepare them for contemporary reality" (Tilbury, 1995, p.199). The policy framework for EE in Ontario Schools, *Acting Today, Shaping Tomorrow* says that EE should enable students to develop the knowledge and skills they need to be environmentally active, responsible citizens who are able to work cooperatively and apply their skills and knowledge to effect long-term change (Ontario Ministry of Education [OME], 2009a).

In schools, EE seems to focus more on environmental degradation than cultivating a love for and understanding of the natural world. If the real goal is environmental protection, not just the injection of knowledge, Sobel (2008) reminds educators that "talking to trees and hiding in trees precedes saving trees" (p. 13). It can be tempting to "check the box" of EE, believing that it is done because you incorporated some environmental content into a lesson or because you did a special activity involving learning about the environment. If EE is to be taught well, it needs to be taught consistently throughout the school year and in all curricular areas. It is important to consider how to develop in students a real knowledge about the environment. In Ontario schools, this necessarily involves learning about the spending time outside in winter. It was not until about ten years into my teaching career that I decided I needed to teach my students about what happens to trees in winter. But I, an experienced teacher who was educated in Ontario schools, did not know. I had to do some research to learn how trees survived in winter. That is an

example of how far our education system is from truly developing in students the knowledge and appreciation of winter that could lead to an ethic of care for the natural world.

The Ontario curriculum gives teachers many opportunities to make environmental education a priority, but it does not encourage them to do so (Schweisfurth, 2006). For example, the grade 8 science strand, Understanding Earth and Space Systems, requires students to investigate factors that impact local water quality, but it does not require them to do so by visiting local sources of water, nor does it require them to act to address water quality issues. This means that the amount of EE students receive is at the discretion of the individual teacher. Incorporating EE into a teaching practice might not be an easy decision for educators. In a baseline study of Ontario teachers' views of EE and OE, participants revealed that if they use EE in their instruction, they feel like a marginalised minority in their schools and they feel they are characterised by both staff and students as being weird idealists (Pedretti et al., 2012). Even teachers who are passionate about EE often feel that they are acting in isolation and that they do not have opportunities to participate in meaningful PD that would give them basic knowledge and pedagogical strategies about environmental issues and education (Pedretti et al., 2012).

Within the education system, change can be slow and difficult, thus it might not be capable of truly reflecting the reality of the times. Orr (2011) believes that for the most part, we are still educating our young as if there were no planetary emergency; that our curriculum still looks much like it did in the 1950s. He says that we need education, just a different kind of education, that prepares people to heal the Earth and to build durable economies and good communities. Outdoor instruction might be a good foundation upon which students and teachers can develop stronger understandings of the natural world around them.

Outdoor Education

Outdoor education is a contested term with no universally accepted definition. OE might range from a self-propelled wilderness camping trip to writing a poem under a tree on a schoolyard, but at its base, OE involves using the outdoors as a tool for learning (Broda, 2007). The three goals of OE are: developing respect for self, others, and the natural world (Wattchow & Brown, 2011). OE aims to encourage participants to become active agents of change beyond their outdoor experiences (Dymant & Potter, 2014). Integrating OE into curricular instruction is not currently the norm for intermediate teachers in Ontario, but it is sometimes integrated into intermediate instruction in winter as one-off experiences like a field trip to a ski hill or to celebrate Carnaval. Many teachers see OE as a warm weather pursuit and do not always consider it in the winter.

The literature reveals that its benefits should cause educators to consider OE, not only for its ability to connect students to place, but also for its academic, environmental, and social benefits. Through OE, students do not just learn for the time they are outdoors, they also bring the learning they do outdoors back into the classroom with them (James & Williams, 2017). James and Williams (2017) say that when students are able to scaffold the learning they do indoors with outdoor fieldwork, their understanding is deepened, and they develop greater critical thinking skills. Fägerstam and Blom's (2013) study of Swedish grade 7 and 8 students learning biology and mathematics outdoors finds that outdoor lessons had an influence on what the participants remembered five months later. They conclude that by learning science outdoors, students see it not only as something to read about in books, but as something they can be a part of and something that is relevant in their lives. Reading about the natural world and believing you understand it is like mistaking the map for the road or the menu for the food (Bai, 2009).

Going outside to learn is not a panacea for the environment. Russell (1999) cautions to not accept the idea that merely having experiences in the outdoors will result in students who will be motivated to protect and care for the environment; teachers need to facilitate outdoor experiences carefully to ensure they meet learning goals. Ajaps and McLellan (2015) say that simply learning about the natural world may not produce behavioural changes in students that will benefit the environment, but the learning can be a basis on which norms, values, and beliefs will motivate people to adopt pro-environmental behaviours (PEB). They say that educators must go beyond cognitive learning to emphasise the affective domain where PEB can be developed through feeling and emotions, and they suggest that immersion in the natural world might produce greater PEB by increasing environmental knowledge and attitudes (Ajaps & McLellan, 2015).

OE in Canada is haunted by impulses of western colonial understandings: inventing, appropriating, and representing Indigenous stereotypes (Mullins et al., 2016). In pursuit of their own goals, OE practitioners might sometimes lose sight of the fact that "Indigenous people have been living in sustainable ways with the living earth on Turtle Island for 10,000-14,000 years" (Tully, 2018, p, 84), thus should be regarded as examples of environmental stewardship. The foundation of Indigenous knowledge is the interconnectedness of humans with the more-than-human world, so learning from this deep and contextual knowledge will help with the task of connecting students with the natural world. While looking to Indigenous communities as models for outdoor learning, it is important to be conscious of using the knowledge they offer in respectful ways and not stealing or appropriating Indigenous knowledge. Knowing how to do this can be a challenge, requiring non-Indigenous educators to listen, ask questions, and learn. Place-based learning is another approach to teaching students about the natural world around

them but is deeply imbedded in colonial processes and does not have a strong focus on connecting with Indigenous history, knowledges, and stories (Bowra et al., 2021).

Place-Based Learning

Lucy Lippard (1997) describes place as: "A layered location replete with human histories and memories, place has width as well as depth. It is about connections, what surrounds it, what formed it, what happened there, what will happen there" (p. 7). Place-based learning uses the local environment and community as a starting point to teach subjects across the curriculum, emphasizing hands-on, real-world learning experiences with the goal of increasing academic achievement, developing stronger ties to the community, enhancing appreciation of the natural world, and creating committed, active, contributing citizens (Sobel, 2004). Places teach us about how the world works; they shape our identities and possibilities (Gruenewald, 2003a). Until the Industrial Revolution, education was necessarily grounded in place, but in most industrialized nations, connections to place have been lost in the shift towards standardized curricula, achievement tests, and mass-produced curricular resources (Inwood, 2008). Mandated standards for teachers and students tend to work toward uniform, sometimes segregated skills, and outcomes that schools are expected to promote, rendering schools "placeless" (Gruenewald, 2003a).

If students are not taught the ways in which the natural world functions and supports life in the world around them, they might not work to protect the places where they live. Smith and Sobel (2010) ask: "if people are not familiar with the beauty of their environs or the diversity of species that surround them, why should they work to protect them?" (p.38). If Ontario students spend time outside mostly in the fall and spring, they might not develop an appreciation of the beauty and awe that can be found in winter in the pine needles, ice, blue jays, clouds, and

squirrel nests that can be found on almost every schoolyard in the province. Knowing the outdoors in winter will help students gain an understanding of the ways the seasons are interconnected and work together to sustain local plant and animal life.

PBL is needed for citizens to have a direct bearing of the wellbeing of the social and ecological places they inhabit (Gruenewald, 2003b). David Orr (2004) believes that "we cannot save the world without saving particular places" (p. 170), and he says that a weakening sense of place and a lack of competency necessary to live well in a place is at the heart of the ecological crisis (2011). If children do not connect with the places they inhabit, they will not feel a long-term commitment to protecting the environment (Louv, 2008). While PBL connects students to the places they live now, it is critiqued for not doing enough to connect the ways place is linked to the genocide of Indigenous people and the effects of settler colonialism (Calderon, 2016). Really knowing a place means knowing what happened on the land. All land in Canada is connected to the displacement and death of the Indigenous people who have always lived on this land.

Land-Based Learning

Land has been at the centre of Indigenous education since time immemorial; all life comes from the land and it is the foundation for all cultural and traditional teachings (Bowra et al., 2021). "Land" is used as a term to encompass not just land, but also water, air, and subterranean earth (Bang et al., 2016). Land-based learning "is in contrast with western systems that continue to perpetuate colonialism through the erasure of Indigenous lives, cultures, and knowledge" (Bowra et al., 2021, p. 132). Land education asks teachers and students to think of land as a "dynamic ecological and cultural project of recovery and rehabilitation" (Calderon,

2016, p. 33). It will require a great deal of unlearning and relearning by everyone in the deeply colonial education system to understand Indigenous worldviews.

Indigenous Worldviews

When Mother Earth gets tired from giving birth and feeding her children, the winds from the north and east get together to bring a blanket of snow to cover Mother Earth so she can rest (Porter, 2008). The Haudenosaunee understand winter as a season that has value and importance. Paradoxically, for non-Indigenous people in Canada, winter is often seen as a menace—a threat we must confront and battle. The central struggle of settler Canada has been "the effort to conquer winter, to resist its limitations, and through technology or determined effort, to overcome its harsh realities" (Abel & Coates, 2012, p. 10). While Indigenous people have traditionally lived through and with winter by watching the sun and moon, and listening to the birds and animals (Johnston, 2003), non-Indigenous Canadians often shy away from our northern realities, repelled by extreme winters, seen as a burden of history and geography (Abel & Coates, 2012). We know winter is going to happen every year, but every year, most settler Canadians continue to fight it, worry about it, and complain about it. Despite being subjected to aggressive assimilation policies and practices for centuries, Indigenous people have maintained their identity and communities (Truth and Reconciliation Commission [TRC], 2015) and it is becoming apparent to many in Canada that non-Indigenous people need to listen to and learn from Indigenous understandings of winter.

Education about the land must start from the understanding that all places were once Indigenous lands, and continue to be (Calderon, 2016). This is difficult when mainstream society in Canada has very little understanding of Indigenous life-worlds, struggle for autonomy, and life projects (Poirier, 2017). Indigenous people are "very seldom approached as neighbours and as

equal partners who share the same lands, and as people with deep knowledge of these lands" (Poirier, 2017, p. 230). This lack of recognition and respect impacts teachers and students in the education system because we have never fully opened ourselves to the knowledge of the land held by Indigenous communities. Bypassing Indigenous knowledge is epistemic folly that reinforces colonial processes, resulting in continued ecological injustice (Tully, 2018), yet non-Indigenous educators do this all the time. Teachers in the public education system do not always consider Indigenous worldviews, because we do not have to.

Indigenous life ways are attentive to the environment (Borrows, 2018). As a practitioner of outdoor education in formal and non-formal settings for more than two decades, I almost never thought about how to incorporate Indigenous worldviews into my instruction—I did not even know that Indigenous people had a worldview that was distinct and different from my own. The more I read about Indigenous understandings of the natural world, the more I realized that the goals of OE, EE, and PBL have many commonalities with Indigenous knowledge. While Inuit, Métis, and First Nations share common worldviews, Aikenhead and Mitchell (2011) caution against pan-Indigenous ways of understanding the land—all Indigenous communities and nations in Canada have unique understandings rooted in their geographical sense of place. In this section, I use the term "Indigenous worldviews" to describe ways of understanding the world where relationships and responsibilities are recognized among plants and animals, people, the spirit world, ancestors, and those yet to come (McGregor, 2013). Each living being has a specific role to play, and each is endowed with its own gifts, intelligence, and story (Kimmerer, 2015); it is a way to think not just of one perspective, but a total entanglement with the world where there are tangible consequences for everyone concerned (Thom, 2017).

I am writing this literature review as a non-Indigenous person, relying on the knowledge of Indigenous people writing in English (a language that has not always been their own) and mostly through written texts (a means of passing on knowledge that is not traditionally theirs). I know that the English language does not have the words to adequately communicate Indigenous ontologies and epistemologies and I acknowledge that I do not have the language nor the lived experiences to truly embody Indigenous worldviews. As someone who has lived my life embedded in colonial processes, I seek to listen and learn and to start walking down the road of decolonizing my teaching practices. The goal of this section is to use the literature to explore some of the reasons the education system overlooks Indigenous epistemologies and pedagogies and to explain some ways they can be integrated into the work of all educators. In this section, I will: a) outline the Canadian history of ignoring Indigenous worldviews; and b) describe specific ways teachers may integrate Indigenous worldviews into the ways they teach in and about the more-than-human world. I will begin by explaining the long history of Indigenous resilience in the face of colonial powers intent on their disappearance and assimilation.

How We Got Here

European settlers have maintained a power imbalance with Indigenous people for almost as long as there has been contact between European and Indigenous people in what is now known as Canada. Their power was first wielded with guns and false promises that resulted in Indigenous people losing sovereignty over their own land, seemingly justified by the ideas in the Doctrine of Discovery (discussed below). The church then leveraged the power of the federal government to establish and maintain the residential school system in Canada, leaving in its wake a horrific legacy of intergenerational trauma and recovery. In this section I will examine how we arrived at a place where the education system felt able and justified in ignoring the

worldviews of the people who have lived on this land from time immemorial. I will do this by explaining the ways Indigenous people were forcibly disconnected from their land, including by the settlers seeking both farmland and wilderness, and by the residential school system. Then I will look at the challenges Indigenous people have experienced communicating their worldviews to non-Indigenous Canadians.

Forced Dislocation from the Land. Before the arrival of Christian missionaries in North America, "Indigenous people had systems that were complete unto themselves and met their needs. The systems were dynamic; they changed over time and were capable of continued change" (TRC, 2015, p. 49). These were systems that were not recognized as valid and valuable by European settlers. During the age of expansion, European countries believed that seizure of Indigenous land was justified and legitimate. The basis for their belief was founded on fifteenth century documents of the Roman Catholic Church. The Doctrine of Discovery "refers to a set of Papal Bulls that justified the invasion and confiscations of lands, and the genocide of the original inhabitants of those lands who did not declare themselves to be Christians" (The United Church of Canada, 2017, para. 1). During the age of expansion, The Doctrine of Discovery was applied to the New World as a legal means for Europeans to claim sovereignty and rights of property and trade in regions they allegedly discovered, without consultation with the resident populations of the land (Reid, 2010). The Doctrine of Discovery relies on the idea of *terra nullius*: lands that belong to no one. The pope ruled that land discovered by European explorers was 'empty' and its millions of Indigenous inhabitants were 'non-human' (The Anglican Church of Canada, 2020b). The doctrine was based on "the presumed racial superiority of the European Christian people and was used to dehumanize, exploit and subjugate Indigenous Peoples" (Assembly of First Nations [AFN], 2018, p.2). This ideology has resulted in practices that continue in modern-day laws and

policies (AFN, 2018). Modern Canada is built upon foundation of the Doctrine of Discovery and the idea of *terra nullius.* In a statement from the Catholic Church in 2023, the Church acknowledges that the papal bulls upon which the doctrine was based "did not adequately reflect the dignity and rights of indigenous people" (Holy See Press Office, 2023, para. 6), though it denies that the Doctrine of Discovery is part of the teachings of the Catholic Church (Holy See Press Office, 2023).

When European settlers arrived in Canada, many were scared of the land and the Indigenous people who lived on it. To quell their fears, they sought to impose order. As settlers moved across nascent Canada, government surveyors drew straight roads and borders for the private ownership of farms on the hills, streams, and valleys that made up the landscape (Bocking, 2000). The new map lines eviscerated Indigenous knowledge from the land, and presented the land as empty and untrammelled space, available for anything the Europeans wished to do with it (Harris, 2008). Most Europeans in Canada "saw themselves as separate from the world they navigated and claimed, but able to impose their will upon it" (New, 1997, p. 29). They believed that for the land to be fully possessed, it must be farmed—they were appalled by Indigenous peoples' apparent failure to make a better life for themselves by cultivating the land (Cook, 2006). Settlers often failed to recognize Indigenous land management practices as agriculture (Turner & Spalding, 2018), thus they failed to learn from practices that had been developed over millennia. Because Indigenous people were using the land in ways that were not discernable to Europeans, colonial officials felt they were justified in denying Indigenous claims to the land (Coates, 2019).

While explorers and settlers were claiming land, a great deal of their energy went into breaking Indigenous people's intimate connection to the practices and knowledge that connect

them to the land (Simpson, 2017). Stonechild (2020) explains that the birthright of Indigenous peoples—their relationship with the land that would guarantee longevity and prosperity for millennia—"was stolen by outsiders who usurped the land's resources for their own selfish goals of power and wealth" (p. 62). The result of dislocating Indigenous people from the very land settlers were using to create an identity has been devastating. In conversation with Tanya Talaga (2018), a Cree community leader describes taking Indigenous people off the land and from their traditional way of living as the beginning of destroying their souls. Cajete (1994) explains that Indigenous people were joined to their land with such intensity that when they were forced onto reservations, they suffered a form of "soul death".

The Idea of Wilderness. Wilderness is often understood to be unpeopled land, but for many Indigenous people, there is no word for wilderness in their languages because they do not separate themselves from the natural environment (Jickling et al., 2018; Rasmussen & Akulukjuk, 2009). Indigenous people have lived on and used their homelands for millennia—the land has never been empty of human activity (Thorpe, 2012). Indigenous people understand that all life and nature have "personhood" that is expressed in many ways and at all times (Cajete, 1994). They talk to Mother Earth as if she can hear them, understand, and talk back (Johnston, 2003), so no place is uninhabited. The idea of an empty, northern wilderness was invented by European settlers. Since its beginnings, the idea of Canada as a northern wilderness has remained constant in nationalist mythology (Campbell, 2005; Mackey, 2000). While settlers were forming an identity through the idea of Canada as a northern wilderness, they were displacing and disregarding Indigenous people who had lived in relationship with the land since time immemorial.

Wilderness and Garden. European settlers in Canada believed in the dichotomy of the land as wilderness or garden. They believed that people who created and lived in the garden were good and deserved to acquire more territory, and people who lived in the wilderness deserved to give their territory to the morally superior people who lived in the garden (New, 1997). The demarcation between wilderness and garden contrasted with the relationship Indigenous people had with the land—they saw the land as direct extensions of themselves (Cajete, 1994; New, 1997). Western culture disconnected itself from the natural world in its quest to conquer it (Cajete, 1994). For Indigenous people, the land is central to their understandings, beliefs, perceptions, laws, and customs—it gave everything required to live (Johnston, 2003) and they measured their progress not by human ambition or profit, but in terms of health and harmony (Stonechild, 2020). European settlers took from the land, and Indigenous people "allowed the land to be, taking from it only the resources necessary for their survival, but always remembering that it was given to them as a gift" (Cajete, 1994, p. 77). As European settlers moved north and west, they continued displacing Indigenous people from the land they saw as wilderness. The romantic idea of the northern wilderness was appealing for many Canadians in the nineteenth century.

"Back to Nature". After more than a century of settling and industrializing much of the land in the south, Canadians, especially those living in growing cities, began looking north for ways to escape growing urbanization and industrialization. The "back to nature" movement emerged at the end of the nineteenth century, resulting in many urban Canadians trying camping, birding, and other outdoor pursuits (Bocking, 2000). In the early twentieth century, travel writers insisted that it was imperative for men to take breaks from civilization in the northern "wilderness" to recuperate and build up their bodies and souls so they could return to their urban

lives as more effective contributors to civilization (Bocking, 2000; Thorpe, 2012). Anti-modernist tourists continued to push further north onto Indigenous lands. For these tourists, Indigenous people were seen only as part of the "wilderness"—they were part of scenery instead of being recognized as a people who existed in the present (Thorpe, 2012). The development of the national park system continued the practice of removing Indigenous people from their land while simultaneously using their stories and symbols to draw tourists.

With the development of the national park system, Indigenous people were pushed off the land in an attempt to create "natural" landscapes that appealed to the late-Victorian idea of the Canadian wilderness (Forkey, 2012). The first national park in Banff created the misconception of empty space through the dislocation of the Stoney people who had used the land around what is now the park for generations (Sandilands, 2010). In the early 1900s, Indigenous families who lived on the land that is now part of Jasper National Park were evicted from their homes, paving the way for the mythology of untouched wilderness in the park: a mythology that could be marketed and sold (Cronin, 2014). Author of 1920s guidebooks to National Parks, Mabel Williams, described Indigenous presence in the Rocky Mountains as only worth mentioning because of their legends, which helped give the Rocky Mountain parks a sense of enchantment (MacEachern, 2011). A totem pole made by a Haida carver stood in Jasper National Park from the early twentieth century until 2009. The fact this pole did not originate in the Rocky Mountains did not seem to matter to the many park visitors. National parks in Canada are often celebrated as untouched by humans, but they are as domesticated and as human manipulated as the rest of the landscapes in Canada (Cronin, 2014). National parks are not "islands of wilderness", they are the work of human hands reserving nature for people's use (Campbell,

2011). The lands on which all national parks have been developed were inhabited and used by Indigenous people.

Physical dislocation from home territories meant the severing of relationships that would normally be renewed through practices on the land, interrupting the transfer of Indigenous knowledge to younger generations (Jobin, 2016). Indigenous people are not natural environmentalists—teachings about caring for the land must be acted on by each generation (Borrows, 2018). Through the effects of colonialism, Indigenous people's "natural abilities and responsibilities have been eroded … identities and self-perception have been negated, disregarded, re-visioned, and reconstituted according to the ideals of another people" (Horn-Miller, 2016, p. 33). The intergenerational transfer of Indigenous knowledge was profoundly affected by residential schools. When students were in the schools, they were denied access to their traditional teachers and land (Turner & Spalding, 2018).

Residential School System. The residential school system in Canada "was dedicated to eliminating Aboriginal peoples as distinct political and cultural entities and must be described for what it was: a policy of cultural genocide" (TRC, 2015, p. 133). The rationale for residential schools was education in the service of assimilation. Indigenous adults were seen as irredeemable and a hindrance to the civilizing process, so government targeted their assimilation efforts at their children (Milloy, 2017). The vision for the residential school system in Canada was "anchored in the fundamental belief that to educate Aboriginal children effectively they had to be separated from their families—that the parenting process in Aboriginal communities had to be disrupted" (Milloy, 2017, p. 23). Because the churches agreed with the idea that children needed to be removed from their parents to become "civilized" Canadians, the government felt like their position had strong, moral backing. The federal government provided funding and the

churches staffed and took care of the day-to-day operations of the schools. In residential schools, land-based education was not allowed. Instead, children were forced to receive universalized education that was not tolerant of any other life paths (Borrows, 2019). In the schools, too many children were abused physically, sexually, emotionally, and spiritually. Because of the schools, families were torn apart and communities were damaged. The children in residential schools were not respected as human beings who were equally loved by the Creator as they were: as First Nations, Inuit, or Métis people (TRC, 2015).

By the 1960s, the churches had relinquished much of their control over the residential school system to the government. In 1969, the government announced that the residential school system would be phased out and that Indigenous children would be integrated into provincial and federal schools. The process of integration and closure of residential schools was long and difficult. In the decade it took to close the schools, children still left their homes, families, and communities to attend residential schools. Many died, many were lost to culture and community, and many who returned home were "unable, because of their residential school experience, to contribute to the life and health of their communities" (Milloy, 2017, p. 191). The legacy of the schools is painful and complex and ongoing.

Survivors of the residential school system were often unable to adequately deal with the damages done by the schools because they were cut off from the traditional beliefs and practices upon which they had always relied. The legacy of these schools continues to this day and is reflected in many ways, including: the educational, income, health and social disparities between Indigenous Canadians and other Canadians; the racism and discrimination experienced by Indigenous people in Canada; and loss of Indigenous languages across the country (TRC, 2015). In many Indigenous communities, the reconstruction of knowledge systems could only begin in

the 1970s when residential schools were being dismantled and Indian agents and missionaries were leaving communities.

The interruption of knowledge transfer by centuries of colonial practices combined with the deep, systemic, generational poverty experienced in many Indigenous communities has, in some places, resulted in the disruption of traditional land care practices. One of Greenwood's (2009) students says that "it's hard to be concerned about the 'environment'…when someone's foot is on your neck" (p. 276). Borrows (2019) identifies that poverty can cause people to further degrade their environments in order to survive. When Indigenous people are not able to care for the environment the way we think an idealized Indigenous person should, it does not demonstrate that Indigenous knowledge is not valid or important, nor that they do not care for the land. It demonstrates that when someone is living in poverty, there is little space for anything but survival.

Hearing Indigenous Voices. After centuries of disregarding and ignoring Indigenous knowledge, many settler Canadians struggle to recognize its existence. The deeply contextualized local knowledge held by Indigenous people in Canada does not come in forms that are readily intelligible to settler audiences—it would take many years for this knowledge to be recognized and valued (Piper, 2019). Because it does not follow the procedures established by western science, critics are suspicious of Indigenous knowledge because they are unable to discover its precise methods or contents (Barsh, 2000). Added to the challenging task of trying to understand a different worldview, original meanings of local knowledge can be obscured by translation into English. Often translations become heavily laden with connotations that are not there in the original meaning (Cruikshank, 2006). Unlike Indigenous languages, English speaks of the environment as if it is "out there", not embracing the idea that we are the environment

(O'Brien, 2016). It is not just inaccurate translations that cause ideas about human connection to the natural world to be misunderstood or erased. The loss of Indigenous languages represents a loss of vital cultural information that blurs our capacity to understand the world and humanity's place in it (Orr, 2011). Not only are ideas difficult to translate, some communities know their knowledge systems are fragmented and in decay, so they experience anxiety over exposing them to critical outsiders (Barsh, 2000).

In spite of the challenges Indigenous people face when they attempt to be heard and understood, in the mid-twentieth century, they raised their voices (in the languages of their colonizer) in protection of their land. Many non-Indigenous Canadians began to take notice. In the 1970s, the importance of hearing Indigenous knowledge was highlighted in Thomas Berger's report on the inquiry into the Mackenzie Valley pipeline. Berger (1988) reported that although Canadians think of ourselves as a northern people, we have just "begun to realize that we have something to learn from the people who have for centuries lived in the North" (p. 32). Scientists started to understand that to obtain information, they could do long term experiments, or "we could learn from the indigenous people who have long inhabited, sustainably utilized, and extensively modified local ecosystems" (Barsh, 2000, p. 154). As the environmental movement garnered more attention in the 1970s and 1980s, environmentalists had to confront the idea that "their view of a northern wilderness might not correspond to that held by Natives, who regarded hunting of wildlife as integral to the economic, social, and cultural integrity of northern communities" (Bocking, 2000, p. 22). In the late twentieth century, local Indigenous voices were finally, if faintly, being heard.

When Indigenous knowledge is requested and shared however, it is not always respected. In the early 1990s, the Environmental Assessment Panel struck to review a mining application in

the Northwest Territories gave equal weight to science and to traditional Dene knowledge. When the Dene raised environmental concerns about the mine, critics charged that Indigenous leaders "concoct claims of traditional knowledge simply to ransom development projects and extort funds from Ottawa" (Barsh, 2000, p. 153). Sheila Watt-Cloutier (2015) explains that Inuit people were intimidated by white people—"they clearly had power and a willingness to exercise it" (p. 73). Tom Porter (2008) describes the colonial process as leaving him, a Mohawk Elder, still searching for validation from white people to confirm his existence. It is not hard to understand why Indigenous people have concerns about sharing their knowledge with people they do not trust to use it wisely (Barsh, 2000). Because of the generational impacts of colonization, Indigenous people might feel it is too risky to share knowledge with a partner who treats knowledge as a commodity, leading to the fierce protection of the knowledge; the knowledge can be held so tightly that it is not liberated to do its work (Kimmerer, 2013b).

Stonechild (2020) believes that if newcomers had been more respectful of Indigenous life-ways, a healthier and more stable society would have emerged in Canada. Leanne Simpson (2017) urges Canadians to understand that the country of Canada has been a death dance for Indigenous peoples because non-Indigenous people have not stopped plundering the land. The nation of Canada was built upon the confinement of Indigenous people on tiny reserves, marginalizing them from the lands that were always theirs (Thorpe, 2012). After so many years of systemic exclusion, the education system is grappling with how to incorporate Indigenous understandings into its colonial structures.

Integrating Indigenous Worldviews into the Formal Education System

Indigenous people are fundamentally different from everyone else in Canada and the basis for the difference is land: their passion for it, their understanding of it, and their

relationship with it (Akiwenzie-Damm, 1996). Indigenous pedagogies have always been bound to the land. Traditionally, Indigenous education "was not separated from the natural, social, or spiritual aspects of everyday life. Living and learning were fully integrated" (Cajete, 1994, p. 33). This way of teaching does not easily align with the indoors, subject- and age-specific ways many students (especially intermediate students) are taught in Ontario schools. It is no surprise that the education system struggles to incorporate Indigenous ways of knowing and being into their documents and practices—Indigenous worldviews challenge the heart and soul of modern society (Stonechild, 2020). Some might question whether Indigenous worldviews, so complex and non-linear, can be truly understood or integrated into the colonial education system. Integrating traditional wisdom into the education system means recognizing "that this knowledge base is wide-reaching and valuable to modern life" (Watt-Cloutier, 2015, p. 319). But Leanne Simpson (2017) says that instead of "Indigenizing" education, Indigenous people should stop looking to the system for recognition, and instead should move outside the system to work for a resurgence of Indigenous teaching and learning. Borrows (2019) believes that no one has absolute interests in land in Canada: we are entangled. This entanglement could encourage non-Indigenous educators to "re-imagine cultural and pedagogical complexity as a possibility and strength, rather than a challenge or deficit" (Lowan-Trudeau, 2015, p. 114).

The lack of traditional Indigenous knowledge is a detriment to people, and the cost of this exclusion is damage to Mother Earth (Kimmerer, 2013b). The formal education system's disregard for Indigenous ways of knowing and being has meant separating teachers and students from the land, and the ramifications of this elision have been consequential. The education system as it is now constructed leaves little room for Indigenous-informed frameworks (Calderon, 2016)—but it doesn't have to be this way. Senator Murray Sinclair says that "while

education is what got us into this mess, education is also the tool that will get us out" (Sinclair, 2019, para.7). If teachers learn about Indigenous worldviews, they have the power and ability to incorporate these perspectives into their pedagogical approaches in all seasons. In the next section, I will explain five ways Indigenous worldviews can be incorporated into the teaching practices of educators in the formal education system: a) using the land as a teacher; b) taking time; c) developing relationships; d) animating the outdoors; e) reciprocity with the land. Finally, I will explain some of the challenges involved in integrating Indigenous worldviews into the education system. I will begin by explaining the concept of inviting the land to be a co-teacher.

Land as Teacher. Nanabush walked the world to understand their place in it: their links to all creation and to the global community (Simpson, 2017). Just being outdoors matters. The land builds character, nurtures judgement, courage, strength, and patience, and the connectedness of all human activity (harmful and positive) on the planet (Watt-Cloutier, 2015). When teachers and students go outdoors, they can learn *from* the earth, not just *about* the earth (Kimmerer, 2013b). This idea is a paradigm shift for many educators. If students are always learning inside, they will not have the opportunity to know that they can learn from the more-than-human world around them. From observing plants, students will see that that they take light, air, and water and turn it into food, they make medicine and distribute it for free, and they "build soil, clean the air, purify the water and nurture life all around them" (Kimmerer, 2013b, p. 60). Where better to look to for guidance than the land? Indigenous knowledge recognizes that plants and animals are among the oldest teachers—they have been on earth far longer than humans, so we can learn from their experience (Kimmerer, 2013a, Stonechild, 2020).

This valuable teacher is just outside the walls of the classroom, but mostly empty schoolyards might imply that few teachers understand how to use the land as a teacher. Teachers

might feel so disconnected from the natural world that they do not feel comfortable relying on the land as a co-teacher. These connections can be built or rebuilt with intention. A Haida Elder says that stories, songs, and language "haven't gone anywhere. They're still in the places your ancestors found them, in the forests, in the trees, in the winged ones, in the oceans, in the swimmers and in the four-legs" (Jisgang, 2018, p. 13). The Creator wants people to learn through experiencing the world (Stonechild, 2020). By placing land at the centre of their teaching, the disconnection many teachers and students feel with the land could begin to heal and it could help both adults and children form strong and loving attachments to the natural world.

Educators might see the land as an unreliable co-teacher in an education system where learning goals are tightly scheduled and regulated; you cannot know what the land might or might not offer. Understanding that "Knowledge cannot be taken; it must instead be given" (Kimmerer, 2015, p. 76) might be unnerving to teachers attempting to follow a learning continuum. Trusting in the land as a co-educator and having the patience to see and recognize the gifts being offering are valuable lessons that can be learned, but this only happens with practice and patience. Learning from the earth takes time, presenting a challenge for teachers working in the highly scheduled formal education system.

Time. Attachment to places grows by stealth, it takes time and requires competence and forbearance (Orr, 2011). By taking the time to connect with the natural world, people get "a glimpse of the connectedness of animals, humans, and the environment to themselves. (Which impatient scientists miss often, when things have to be waited out to get the results. A hunter/'understand-er' has to be patient)" (Rasmussen & Akulukjuk, 2009, p. 289). The education system, with its division of knowledge into subjects, and different teachers teaching different subjects, does not always allow time for the time required for teachers and students to

become “understand-ers”. One of the barriers to recognizing the significance of more-than-human voices is “not having opportunities and time to cultivate the attention required” (Jickling et al., 2018, p. 39). In the linearly scheduled daily routines at school, educators can feel that they are not able to get outdoors to teach slowly.

Taking the time needed to learn from the land can be difficult in public schools where teaching time is managed by bells, dividing the teaching day into segments that are tightly scheduled and supervised. Because teachers and students have places they need to be and things they are required to do, it can feel that there is never enough time to learn deeply about something or someplace. The education system would benefit from adopting a more flexible approach to scheduling, guided by Indigenous pedagogies. Traditional Indigenous teaching was mostly done orally and by modelling—“students would watch their teachers complete tasks repeatedly” and had this opportunity as they were “involved in almost all aspects of adult life and activities” (Bell, 2013, p. 91). In traditional Indigenous communities, children learn by watching, by listening, and by experience—“they are expected to learn from all members of the community, human and non” (Kimmerer, 2015, p. 76). Restructuring the daily schedule to allow the time for students to develop relationships with the natural world is important.

Relationship. Invoking ecological crisis does not seem to have much impact when it comes to environmental action (Jickling et al., 2018). Looking to Indigenous knowledge might be a better way to inspire protection for the earth. Instead of teaching students about the environmental doom that could induce ecophobia, educators can instead teach our students about the ways in which they are in relationship with the natural world. For Indigenous people, land is everything: identity, connection with ancestors, pharmacy, library, and the home of non-human kin (Kimmerer, 2013a). In traditional Indigenous ways of knowing, everything on the land is

connected like a spider's web: touch one thing and you affect them all (Bell, 2013). If students learn about the ways they are tied to everything in the natural world, they might "recognize a holistic interconnection of all Creation (humans, more-than-human, living and non-living entities in nature)" (Lowan-Trudeau, 2015, p. 19). Traditionally, Indigenous children learn about "life through participation and relationship in community, including not only people, but plants, animals, and the whole of Nature" (Cajete, 1994, p. 26). One of the Grandmother and Grandfather teachings of the Anishinaabe is humility: "we are not greater nor lesser than the people, animals, plants, rocks, and waters that surround us. We are a part of the world and not separate from it" (Borrows, 2019, p. 120). Anishinaabe environmental knowledge is about relationship—relationship with all living things, the spirit world, ancestors, and those yet to come (McGregor, 2013).

Leanne Simpson (2017) says that Indigenous people do not relate to the land by possessing or owning it, but they relate to the land through connection—"generative, affirmative, complex, overlapping, and non-linear *relationship*" (p. 43). Antithetically, students educated in the Western world understand human relationships with more-than-humans as a hierarchy, not a web in which everything interacts with and affects everything else. When humans are seen as having greater power, more-than-human beings are not valued or treated with respect, and this can lead to behaviours that negatively impact the environment, including contamination of land and water and species loss (Evering & Longboat, 2013). While European settlers saw themselves as separate from the land they claimed and sanctioned to impose their will upon it, Indigenous people saw nature and themselves as extensions of each other: "the land was them and they were the land" (New, 1997, p. 29). "Indigenous education traditionally cultivated ecological piety, based on letting the other be, and appreciating other entities for their unique being" (Cajete,

1994, p, 76-77). Living with Indigenous values fosters non-interventionist relationships with the natural world (Stonechild, 2020), an understanding that seems to contrast with the way Western civilization views its relationship with the earth. Taking the time to establish and foster relationships with the natural world can help students identify their responsibilities within the web of life. “Not until people recognize that every insect and blade of grass has equal validity will they be capable of living in harmony with nature (Stonechild, 2020). Understanding everything in nature as having a life force can help students develop stronger relationships with the natural world around them.

Animate the Outdoors. People in Western civilizations have become increasingly disconnected from the natural world. Jickling et al. (2018) say that the Earth has largely been de-animated and has been reduced to a backdrop for humanity. Traditional Indigenous knowledge recognizes that all life is inspirited, so all life is sacred (Kimmerer, 2013b). All things in nature that sustain life are considered family: the sun, mountains, rainbows, water, plants, and animals are addressed as relatives (Bell, 2013). When you dance for them, the trees hear and get stronger; gardens and medicines grow because they are thankful you are dancing for them (Porter, 2008). Stonechild (2020) says that even rocks are regarded as beings in the same way that humans are people—they are considered special because of their longevity and because they have been a witness to events for a long span of time. We need to recognize that the world is a gift and consider the changes we need to make to respond to that fact (Kimmerer, 2013b).

Indigenous people believe that land recognizes and knows them (Akiwenzie-Damm, 1996), but many of us do not really know the land on which we live and study. Learning the names of the more-than-human life close to home is a good place to start building relationships with them. When we are introduced to new people, we always begin by stating our names. Just

as humans build connections between themselves with names and words, so too can words and names help humans build relationships with plants (Kimmerer, 2015). Having language for what they are seeing can change the way a student experiences the outdoors. Having words to name what you see in the natural world helps with understanding: “With words at your disposal, you can see more clearly. Finding the words is another step in learning to see” (Kimmerer, 2015, p. 11). Most Indigenous languages use the same words to address the living world as they do for family (because they are family), reminding them of their kinship with the animate world (Kimmerer, 2013a). Indigenous languages, grounded in the natural world, are powerful tools for describing and explaining natural phenomena. Tom Porter (2008) describes the Mohawk language as like 3-D and in Technicolour. He says that Mohawk words relate to the land, like the word for green that refers directly to the grass. A language of animacy builds on the idea that the world is alive and has agency, therefore must be respected (Borrows, 2018). When asking about an animate object like an apple, Anishinaabe speakers ask, “Who is that being?”, and the answer is “Apple that is being” (Borrows, 2018). Knowing and naming the natural world is important, and so is giving back to the earth.

Reciprocity. Under the tutelage of the earth, Indigenous people learned that “in response to the gifts of land and air and water we’ve been given, we must in turn give our gifts to sustain them” (Kimmerer, 2013b, p. 67). When you take something, you must put something back and there must be a reason or purpose for taking it in the first place” (Bell, 2013, p. 102). Some Indigenous herbalists see plants as the “hairs” of Mother Earth: each time you pull a plant from the earth, she feels it, so you must always make an offering of tobacco and prayers. This ensures that the pulling of her hairs does not hurt too much and it shows that you comprehend her relationship to you. You understand that she is giving you one of the parts of her body and your

offering demonstrates that you understand your reciprocal relationship to all of life and nature (Cajete, 1994). Reciprocity is not just for the individual, but for the continuum of life of Earth. Individuals are custodians, safeguarding the land for the next generation (Bell, 2013; Talaga, 2018). When making decisions, Anishinaabe people consider the wisdom of the elders who have walked here before and the seven generations to come (Bell, 2013). Tom Porter (2013) says that when Indigenous people make decisions, they have to make sure that what they do today is not going to hurt the next seven generations. The decisions made in daily life are not just for you, they are "just as much for the ones that are not born yet" (Porter, 2008, p. 25). This is a way to consider and to give to the generations yet to come.

Reciprocity is closely tied to responsibility. Haudenosaunee children who hear the story of Sky Woman from birth "know in their bones the responsibility that flows between humans and the earth" (Kimmerer, 2013a, p. 5). Anishinaabe people ask what they can give to the environment and their relationship with it (McGregor, 2013). But reciprocity with the land is not always considered by outdoor educators. Learning outdoors can exhaust, deplete, and harm the environment (Jeffs, 2018). Giving thanks for the land on which we learn is a way that students can show they recognize that they are in relationship with the land when they learn outdoors. We seem to have lost sight of the Indigenous understanding that the product of respectful relationship with the land, its flora and fauna, is abundance (Stonechild, 2020). Educating our students to understand traditional Indigenous ideas about the role humans play in their reciprocal relationship with the more-than-human world might be an effective way to inspire students to care for the land. Because schools are part of a large, colonial system, teachers will face challenges if they attempt to integrate Indigenous ways of knowing and being into their programming.

Challenges

For Indigenous people, the land belongs to the Creator, not to humans. The strength of Indigenous people is in their relationship with the land, but this birthright was stolen by outsiders who seized Indigenous lands and its resources (Stonechild, 2020). It is no surprise that the education system struggles to incorporate Indigenous ways of knowing and being into their curriculum documents and practices—Indigenous worldviews challenge all entrenched colonial processes in Canada. Many OE programs in Canada attempt to recreate early explorer experiences: learners encounter physical and mental challenges that they must overcome without modern conveniences (Purc-Stevenson, 2019). The ongoing colonization of land and people are embedded in educators' practices and understandings (McCoy et al., 2016). Dominant settler ideas about the land leave little room for Indigenous worldviews in the classroom (Calderon, 2016), so if teachers want to incorporate Indigenous frameworks in their classrooms, they have to be prepared to fundamentally change how they teach. When integrating Indigenous knowledge into instruction about the land, it is important that environmental educators not replicate the patterns of colonization (McKeon, 2012).

Educators can be nervous about using Indigenous knowledge to inform their instruction: scared they do not know enough, worried they will do or say the wrong thing, or concerned about appropriating a cultural knowledge that is not theirs. These are valid feelings, but ignoring Indigenous worldview in public schools is just as troubling. By not integrating Indigenous ways of knowing and being, what is the message educators are conveying to our students? If non-Indigenous teachers want to incorporate Indigenous knowledge of the land into their teaching, they must take on the work of learning Indigenous epistemologies and ontologies, as these are rarely incorporated into the curriculum or professional development at the school level. A place

for teachers to begin could be listening to the stories of the Indigenous people who have cared for the land since time immemorial.

Conclusion

The literature is clear that spending time outdoors in all seasons is a strategy teachers may use to help their students develop the relationships with the natural world that are required for its protection. But schoolyards are almost always empty during instructional time, especially in winter. In this literature review, I have explored: a) the ways Canadians relate to the outdoors in winter; b) how outdoor learning can be done in the formal education system; and c) the ways Indigenous ways of teaching about the outdoors can help all educators and students develop stronger relationships with then natural world. The literature reveals that while Canadians wonder at our northern geography, we do not want to be outside in the winter that defines our nation. This has implications for the ways we educate our children. The education system is well-placed to help teachers and students connect to the outdoors in winter and to show them the value of a northern winter, but the literature reveals that it is not doing this work. By going outside for instruction, students have the opportunity to experience the wonder of winter and they have the chance to see and learn first-hand winter's ecological significance. Before students can connect with the more-than-human world in winter, their teachers need to establish and nurture their connections to the outdoors in winter. Because teachers are the conduit to outdoor instruction, it is necessary for the education system to provide the time, resources, and professional development needed to instill in teachers a love and appreciation for the outdoors in winter. This could be accomplished, in part by developing a greater understanding of the ways Indigenous people know and interact with the natural world.

At times of instability in a system, there is the "possibility of breakthroughs to new forms and ways of thinking and acting" (Goleman, 2012, p. 3). The education system has dealt with great instability in the past few years due to the COVID-19 pandemic. Instead of replicating and falling back on what we have always done, now is an appropriate time to think about how the education system can address the fact that we are earthbound and our "practices must be revitalised to recognize and respond to this vital fact" (Borrows, 2018, p. 69). While the literature cautions that going outside is not a panacea for the environment, its benefits for connecting students to the natural world are substantial. Rachel Carson says that "the more clearly we can focus our attention on the wonders and realities of the universe about us, the less taste we shall have for its destruction" (Moore, 2005, p. 265). Winter in Canada is certainly wondrous. It is my hope that more intermediate teachers go outside to experience winter so their students will learn to know and value the land upon which they depend. The wonderful winter is so close—we just have to walk out the school doors.

Chapter 3: The Curriculum

Canada is defined by its response to winter (Abel & Coates, 2012), yet references to winter are almost absent in the curriculum documents from which Ontario teachers plan their instruction. Classroom teachers base their programming on the expectations outlined in curriculum documents, so these documents are a logical place to look when seeking to understand teachers' interactions with the outdoors in winter. The curriculum from which Ontario intermediate students learn does not expect them to know much about winter nor does it expect them to spend much time learning in or about the outdoors in winter. Analyzing the curriculum taught in intermediate classrooms across the province might help to contextualize empty schoolyards, especially in winter. In this chapter, I will describe: a) the curriculum documents; b) how Canada's nordicity is incorporated into curriculum documents; c) the barriers the curriculum documents place in the way of outdoor teaching and learning; and d) the ways Indigenous knowledge is included in and excluded from the curriculum.

Curriculum Documents

In Ontario, curriculum documents are written by the Ministry of Education. The documents state the expectations that students are required to meet for each grade level and for each subject. They outline best practices for meeting curricular expectations and the ways in which student learning should be assessed. The Ontario curriculum is divided into subjects and the subjects are divided into strands. For example, the science curriculum is organized into five distinct, but related strands: a) STEM Skills and Connections; b) Life Systems; c) Matter and Energy; d) Structures and Mechanisms; and e) Earth and Space Systems (OME, 2022). For each strand, there are two sets of expectations: overall and specific. The overall expectations "describe in general terms the knowledge and skills that students are expected to demonstrate by the end of

each grade" (OME, 20013, p. 18). For each strand in the curriculum, there are two to three overall expectations for teachers to meet. An example of an overall expectation from the Life Systems strand of the grade 7 science curriculum is: B2: "demonstrate an understanding of interactions between and among biotic and abiotic components in the environment" (OME, 2022, p.160). When teachers report on student achievement, the report card reflects student achievement of the overall expectations. Under the overall expectations, specific expectations are listed. The specific expectations "describe the expected knowledge and skills in greater detail" (OME, 2013, p. 18). There could be up to 11 specific expectations listed under one overall expectations, but generally there are 5-6 specific expectations for each of the overall expectations. One of the specific expectations listed below overall expectation B2 in the grade 7 Life Systems science strand is: B2.3 "describe roles and relationships between producers, consumers, and decomposers within an ecosystem" (OME, 2022, p. 161). Together, the overall and specific expectations are the mandated curriculum for students in Ontario schools.

Beneath the specific expectations, there are commonly examples and/or sample questions (written in italics) that provide clarification, guidance, and directions for study. Teachers are not strictly required to cover all of them; they decide which to follow based on their own contexts (Mnyusiwalla & Bardecki, 2017). It is in the examples where references to the outdoors are more likely to be found than in the actual expectation. This allows teachers the flexibility to avoid teaching in or about the outdoors, and still meet the expectation. For example, specific expectation B1.1 for grade 8 Health and Physical Education states that by the end of grade 8, students will "actively participate according to their capabilities in a wide variety of program activities (*e.g., individual, small-group, and large-group activities; movement and rhythmic*

activities; dance; outdoor activities on the land) (OME, 2019, p. 269). This means that the teacher is not required to provide outdoor activities on the land to meet this expectation.

Before expectations for learning are listed, in each curriculum document, there are approximately 50 pages of frontmatter text. These pages explain the rationale for the learning expectations and the factors that teachers need to consider when planning how they will meet curricular expectations based on Ministry of Education policy and initiatives at the time the curriculum is published. Just one of these pages is focused on EE (where the ministry "pigeonholes" outdoor instruction). To explain why this might not capture the attention of most teachers, I will list some of the factors the curriculum document requires teacher to consider: student well-being and mental health; instructional approaches (e.g. differentiated instruction, lesson design); planning for students with special needs; planning for students who are English language learners; building healthy relationships; human rights, equity, and inclusive education; the role of information and communications technology; career and life planning; experiential learning; pathways to a Specialist High Skills Major; health and safety; and ethics. The documents also explain that integrated or cross-curricular learning is how each subject should be taught. Teachers are encouraged to plan to incorporate several topics into their teaching including: financial literacy; STEM education; Indigenous education; critical thinking and critical literacy; mathematical literacy; social-emotional learning skills; and environmental education. Additionally, the curriculum documents outline the transferable skills teachers should consider when planning their lessons: critical thinking and problem solving; innovation, creativity, and entrepreneurship; self-directed learning; collaboration; communication; global citizenship and sustainability; and digital literacy. It is no wonder that outdoor instruction can get lost in the long list of teacher responsibility! While these explanations in the curriculum

documents are valuable, until I was researching to write this chapter, I had never read them in any great detail, and I expect I am similar to most Ontario teachers in this respect. As a teacher, I only focused on the expectations I was required to teach. Buried in the preamble of each curriculum documents are references to outdoor instruction that do not appear in the expectations for learning, and the expectations are the part of the document to which teachers pay the closest attention. Later in this chapter, I will look at the references to outdoor learning in greater detail.

In addition to subject-specific curriculum documents, the Ministry of Education writes and distributes documents designed to support teaching and learning in Ontario classrooms. Two such documents are the policy framework for environmental education in Ontario: *Acting Today, Shaping Tomorrow,* and *Environmental Education: Scope and Sequence of Expectations*. These documents state that environmental education will be a part of every child's learning. All Ontario Ministry of Education documents take their definition of EE from *Shaping Our Schools Shaping Our Future,* the 2007 report of the working group on environmental education in Ontario. In this document, EE is defined as:

> education about the environment, for the environment, and in the environment that promotes an understanding of, rich and active experience in, and appreciation for the dynamic interactions of:
>
> - the Earth's physical and biological systems;
> - the dependency of our social and economic systems on these natural systems;
> - the scientific and human dimensions of environmental issues;

- the positive and negative consequences, both intended and unintended, of the interactions between human-created and natural systems. (OME, 2007, p. 6.)

Acting Today, Shaping Tomorrow outlines how the curricula provided by the ministry plays an important role in the promotion of EE in Ontario schools. The framework states that the ministry of Education will "embed environmental education expectations and opportunities in all grades and in all subjects of the Ontario curriculum" (OME, 2009a, p. 12). This is a good place to start, but it must be remembered that that EE does not necessarily require that students to go outside to learn. The ministry is tasked with updating its *Environmental Education: Scope and Sequence of Expectations* annually, and with linking the EE framework with other ministry policies and initiatives. To build student capacity to act on environmental issues, the framework says the ministry will "integrate opportunities throughout the curriculum for students to take actions that foster engaged citizenship within and outside the classroom" (OME, 2009a, p. 15). *Acting Today, Shaping Tomorrow* was released more than a decade ago and the *Environmental Education: Scope and Sequence of Expectations* is updated annually, but I have never seen a copy of either document in any school in which I have worked, nor have I heard them mentioned in staff meetings or professional development opportunities.

In this chapter, I refer regularly to the curricula for science, geography, and history. The curricula for the "core" subjects of language and math are not useful for analysis because they contain no mentions of the outdoors or outdoor learning. The Core French Curriculum is equally lacking in references to the outdoors. If an intermediate teacher integrates outdoor instruction into literacy, math, or French lessons, it is never because they are covering an expectation in the curriculum; it is always because they see value in outdoor learning. The physical education

curriculum has several refences to outdoor pursuits and how to stay safe while participating in them. By virtue of the (not curricularly mandated) tradition of incorporating the school team sports schedule (i.e. soccer in the fall, volleyball and basketball in the winter, and track and field in the spring) into instruction, students expect to spend physical education classes outside in the spring and fall. The arts curriculum includes several expectations asking students to respond to environmental degradation (e.g., urban sprawl, struggles between humans and nature, and global warming) (OME, 2009b), but few references to connecting with the natural world. I chose not to focus on the arts curriculum in this chapter as in my experience, the arts are often taught as stand-alone subjects, not integrated with other area of the curriculum, and they are often neglected (especially the dance and drama strands) because of limited instruction time and possible lack of teacher skill or interest.

While the curriculum documents for all subjects deserve close attention, for the purposes of this chapter, I have decided to focus on three subjects: science, geography, and history. I examine the geography and science curricula as expectations for these subjects refer directly to natural phenomena. I chose history because of the integral role the winter played in the history of European settlement of Canada. I will start by discussing the ways Canada's northern-ness is incorporated (or not incorporated) into the curriculum documents in Ontario.

Nordicity

In many ways, the realities of winter determine the ways we work and study at public schools in Ontario. From November to April, we might wonder about bus cancellations, road closures, cold weather alerts, and whether our schools will be open after a snowfall. But our focus on the central role winter plays in our lives seems to disappear once we enter a classroom. David Greenwood (2003a) says that our relationships with places have been "obscured by an

educational system that currently neglects them" (p. 621). When reading the Ontario curriculum for intermediate students, refences to our wintery, northern realities are almost non-existent. The formal education system certainly plays a role in shaping the way Canadian students feel about winter through its almost complete elision from the curriculum. In this section, I will look to the intermediate curriculum to explore the ways it mostly excludes any instruction about Canada's northern geography and our nation-defining winters.

One of the basic themes in the historical understanding of Canada is learning how to live with winter (Able & Coates, 2012), but the history curriculum for intermediate students makes no specific mention of winter. Though we know the central role winter played in the lives of people living in nascent Canada in the eighteenth century, students are not required to learn about its historical importance. For example, in the grade 7 history strand, New France and British North America, 1713-1800, in specific expectation A3.4, students are asked to "describe some significant aspects of daily life among different groups living in Canada during this period" (OME, 2013, p. 141). For the same strand, in specific expectation A1.2, students are tasked with analysing the main challenges that groups and/or individuals faced in Canada between 1713 and 1800 and to assess how the responses to the challenges were similar or different to the challenges and responses of present-day Canadians (OME, 2018). The curriculum gives seven examples of challenges that may be used to meet this expectation, and only one among them is climactic and environmental challenges, and it does not specifically mention winter as a challenge. In the grade 8 history curriculum, the only mention of climate is in expectation B1.3 where students are asked to analyse the main challenges that non-Indigenous groups and/or individuals faces in Canada between 1890 and 1914 (OME, 2018). Climate only appears in the sample questions for the

expectation where a question is posed about the environmental challenges that would have faced Prairie settlers, but winter is not identified as one of those challenges.

William Lyon Mackenzie King said that "If some countries have too much history, we have too much geography" (Ratcliff, 2018, p. 108). By reading Ontario's intermediate geography curriculum, it would be difficult to discern that the physical and human geography of Canada is defined in large part by our wintery, northern location. There is no mention of winter in specific expectation A1.1 that asks grade 7 students to describe the ways people have responded to various challenges and opportunities presented by the physical environment (OME, 2018). A teacher could certainly ask students to think about winter when working on this expectation, but there is nothing in the curriculum that would suggest that winter in Canada might be a challenge or an opportunity for Canadians. In grade 8, where the focus is on human geography, expectation A1.1 asks students to analyse some of the ways the physical environment influences settlement patterns (OME, 2018). This seems like an obvious place to mention the ways cold, wintery climates impact settlement, but it is not mentioned in the examples, nor in the sample questions provided. The intermediate geography curriculum reads as if the geography of the place the students live is not relevant to the subject. This is just one of the obstacles to outdoor instruction in Ontario schools.

Outdoor Instruction: Curricular Barriers

Even if teachers would like to go outdoors to instruct, the curriculum presents several barriers to outdoor instruction. In this section, I will describe three of these obstacles: a) curriculum documents do little to promote connections to the natural world; b) learning local content is virtually absent from curriculum documents; and c) what the packed curriculum means

for outdoor instruction. I will begin by describing the ways in which the curriculum documents might get in the way of students forming connections with the natural world.

Connecting with the Natural World. It is a truism in environmental education that for students to develop a desire to protect the natural world, they need to love it, know it, see it, hear it, and sense it (Broda, 2007; Jensen, 2013; Louv, 2008). Virtually absent in the Ontario curriculum is any mention of students forming connections with the natural world around them. In all curriculum documents released by the Ontario Ministry of Education, there is an almost exclusive reliance on EE when it comes to teaching in and about the outdoors. EE is one pedagogical approach to teaching about the natural world, but as described in Chapter 2, it is far from the only approach. The definition used for EE in the Ontario curriculum promotes experiences learning about, for, and in the environment that promote students understanding of, experience in, and appreciation for the natural world (OME, 2007). This definition omits an important feature of EE as defined in the previous chapter: love of the natural world. If curriculum expectations focused on students building attachments to the natural world, they might develop a determination to protect the environment (Kelsey & Armstrong, 2012).

Too often, teaching about the natural world becomes more about the damage we are doing to Earth instead of talking about its wonders. If teachers provide students opportunities to develop connections to the natural world before they learn about environmental catastrophes, students might have a greater opportunity to understand the implications of their behaviours and the knowledge to make choices that reduce the impact they make on the environment (Goleman et al. 2012). Jickling et al., (2018) say that we live in bubbles that filter or even mute signals from the world. By staying in our classroom bubbles to meet curricular expectations, we put an artificial barrier between ourselves and the natural world. Sobel (2008) laments that

opportunities to get outside and explore have been replaced by memorizing lists of plants you might see *if* you got outside.

No Expectation to Go Outside. We know that "one transcendent experience in nature is worth a thousand nature facts" (Sobel, 2008, p. 13), but education is still viewed as a seated, standardized, and still endeavor (Jickling et al., 2018). An intermediate teacher can meet every curricular expectation without ever going outside. There are many expectations that could be met outside, but considering the volume of content in the curriculum, efficiency is key for many intermediate teachers. In the service of efficiency, we try to inject knowledge without providing for students the experiences in the outdoors that allow love for the natural world to slowly take root and then flourish (Sobel, 2008). Planning to meet a curricular expectations outdoors is likely less efficient than meeting the same expectation inside a classroom. Consider grade 7 science expectation B2.3: "describe roles and relationships between producers, consumers, and decomposers within an ecosystem" (OME, 2022, p. 161). A teacher could approach this expectation in many ways, the most efficient of which might be to have students use technology or a textbook to research the different elements of an ecosystem. Through this indoor research, a student would almost certainly find information about an ecosystem far from where they live and they certainly would not interact with any elements of the ecosystems upon which they depend.

In the *Environmental Education: Scope and Sequence of Expectations*, a document teachers might look to if they want to incorporate learning about the natural world into their programing, there is only one paragraph about learning outdoors. This paragraph tells educators that the outdoors offers a unique learning context to develop a connection to local places and a greater understanding of ecosystems. It says that natural and human-built spaces can be used "as sites of discovery, problem-solving, and active learning" (OME, 2017, p. 5), but it does not offer

any suggestions about how to do this. In the five-sentence paragraph, two of the sentences are focused on safety issues when taking students outdoors to learn. This document, ostensibly written to help students understand the natural world, offers very little help for teachers wanting to help their students form connections with the outdoor places where they live and study.

Local Content. It may not be possible for students to develop a love for the entire planet, but it is possible for them to love the places they can see, touch, smell, and experience (Orr, 2004). If we want to encourage our students to develop an ethic of care natural world, they must learn to love the places where they live and study. The more a student understands their own place, the more they are able to see implications of the globe and the links between the local and global (Chang, 2017). Learning about the trees where a student lives is a precursor to saving the rainforest (Sobel, 2008). If students know, love, appreciate, and want to protect their local places, they will have a better understanding of why others around the world love their places. Thus, their actions will need to align with the understanding that local places matter and that all local places are affected by the actions of people in other places.

The province of Ontario covers more than one million square kilometres and includes communities as disparate as Toronto, Sioux Lookout, Windsor, and Temagami. The province is home to almost fifteen million people—from Indigenous people who have been on this land from time immemorial to people who have newly moved to Ontario from other parts of the world. The curriculum is written for all students in all schools in this vast and diverse province. In the grade 7 and 8 curricular expectations, there is only one refence to learning about issues or systems local to students: the grade 8 science curriculum refers to local and global water systems. This means that if a teacher adheres to the expectations written in the curricula, she or he might only talk about local content briefly in one strand of one subject. The omission of local knowledge

means that students often learn more about the Amazon rainforest than about the oak, maple, cedar, and pine trees on their own schoolyards (Sobel, 2004).

The only refences to teaching about local areas are in the approximately 50 pages of preamble in each curriculum document that proceed the lists of expectations. As I describe these references, it is important to understand that as mentioned at the beginning of this chapter, in two decades of teaching, I had never read these pages in any detail, an experience that I suspect is common amongst most teachers. In this section, I will refer to the curricula for two subjects that include learning expectations about the natural world: the science curriculum (released in 2022), and the geography curriculum (revised in 2018) to explain how curriculum documents include the idea of using local content for instruction.

The introduction to the science curriculum states that students should "see themselves reflected in classroom resources and activities" (OME, 2022, p. 6). Later in the document, the importance of experiential learning is emphasised and examples of ways to provide learning experiences in the community, outdoor education, field studies, and field trips are listed. Because these ideas are not incorporated directly into the curricular expectations, it seems that the onus to incorporate local content into the curriculum is the responsibility of individual teachers. If the expectations were written to include local elements, it might be more reasonable to expect teachers to think locally, which might include going outside to explore and understand their local area. For example, grade 8 science expectation D2.1 requires students to identify various types of systems (OME, 2022). To incorporate local content into this expectation, the expectations could be: Go outside on your schoolyard or in your community to identify various systems that impact your daily life.

Embedded in the introduction of the history and geography curriculum is a Citizenship Education Framework. This framework states that students will "Identify and develop their sense of connectedness to local, national, and global communities" and that they should "Voice informed opinions on matters relevant to their community" (OME, 2018, p. 10), and outlines the importance of community partners. The problem is: there is no overall expectation (the expectations upon which teachers base their assessment) in any of the curriculum documents that say that students must demonstrate an understanding of local issues in their own communities.

The short EE section in each curriculum document directs teachers to *Acting Today, Shaping Tomorrow*, and the *Environmental Education, Scope and Sequence of Expectations*, both of which are available online, but as previously mentioned, neither of which I have ever seen in a school. *Acting Today, Shaping Tomorrow* says that "specific goals and processes must be defined locally to meet the differing environmental, social, and economic conditions that exist in Ontario communities" (OME, 2009a, p. 4). This policy framework for EE in Ontario schools also explains that the implementation of EE must be locally relevant, enhance the understanding that local issues might have provincial, national, and global consequences, and build capacity for decision making and environmental stewardship that is local (OME, 2009a). This focus on the local is important, but the fact that it is in a document that has never been incorporated into any of the professional development I have done since its release in 2009, I am not sure how much of an impact this framework has made on the education system in Ontario.

So Much Content. In Ontario schools, students are required to have 1500 minutes of instructional time each week. In that time, intermediate students are provided instruction in: mathematics; language; French; science; health and physical education; the arts; and history and geography. While the curriculum documents say that it is ideal for teachers to instruct across the

curriculum, this may not be possible for some teachers who instruct on a rotary schedule. Interdisciplinary approaches to education become more challenging in the intermediate grades as subject-specific teachers are more common than in the primary and junior grades. Although I have always managed to work with my principals to do as little rotary teaching as possible, one school year, part of my assignment was to teach a grade 8 class history and geography while my grade 7 class was receiving music instruction from another teacher. I had two, 30-minute classes with these students each week. Without the benefit of being able to teach across the curriculum, I found that there was no way I could teach to all the expectations in the grade 8 geography and history curriculum. Below I will describe what is involved in meeting just one of the grade 8 geography expectations.

From the grade 8 geography curriculum in the Global Settlement: Patterns and Sustainability strand, one of the three overall expectations is: "A1. Application: analyse some significant interrelationships between Earth's physical features and processes and human settlement patterns, and some ways in which the physical environment and issues of sustainability may affect settlement in the future" (OME, 2018, p. 178). Just one of the specific expectations listed under overall expectation A1 is:

> A1.1 analyse some of the ways in which the physical environment (*e.g., climate, landforms, soil type, vegetation, natural resources)* has influenced settlement patterns in different countries and/or regions around the world *(e.g., how climate, vegetation, and natural resources have influenced settlement patterns in Brazil; how landforms have influenced settlement patterns in Japan; how landforms, climate, and soil types have affected settlement patterns in Egypt)* (OME, 2018, p. 178)

Under the specific expectation are several sample questions teachers may use to meet specific expectation A1.1.

> "Why are there so many high-rise buildings in Hong Kong?" "Which countries or regions in the world are the most sparsely populated? What physical factors account for their low populations?" "What does this land-use map of the United States tell you about which physical environments are most conducive to settlement?" "If you could establish a settlement anywhere in the world, where would it be? What criteria would you use to select the location?" (OME, 2018, p. 178)

Meeting just this one expectation could take months. Especially when the teacher considers meeting this expectation by incorporating good teaching practices, meeting the needs of all learners, and integrating transferable skills into their lesson planning. And there are still the other expectations in this strand to meet, the expectations in the other strand of geography, and the expectations in the two strands of history. All in 60 minutes a week. It is not surprising that teachers might choose to cover this expectation inside a classroom where the learning environment feels more predictable and technology is readily available for research.

Because there are so many expectations in the curriculum, teachers sometimes have to use their professional judgement to determine which specific expectations they will use to teach to the overall expectations. If an educator is not comfortable teaching expectations related to the environment, those expectations are the first to be dropped from their lesson plans. It is not just specific expectations that may be skipped because there is not time to teach them. It is not uncommon for entire strands to be left untaught or for strands to be taught quickly at the end of term just to make sure there is enough assessment done to generate a mark for a report card.

With so many expectations to meet, it makes sense that teachers would seek to instruct in the most efficient ways. This might mean that even when teaching about the natural world, teachers will instruct from inside the walls of the classroom. And the curricular document she or he is following does nothing to tell her or him that this is a problem.

Indigenous Knowledge. Teaching curriculum developed within an Indigenous framework is different from teaching Indigenous content within the existing curriculum. In the Ontario curriculum, there is little mention of learning Indigenous epistemologies and ontologies, but most curriculum documents include expectations that incorporate learning about the lives Indigenous people. These expectations are heavily included in the grade 7 and 8 history curriculum, perhaps leading teachers and students to think of Indigenous people in a historical context, and not as scientists, storytellers, and mathematicians.

Before colonialism, Indigenous children learned mostly through watching and listening to role models and children were given opportunities to try a new task until it was mastered. Ideas about ways of life, morals, and values were taught through storytelling and lived experience (Bell, 2013). Some version of these ways of learning are included in Ontario curriculum documents, but instead of being labelled “Indigenous pedagogies”, they are called experiential learning (where hands-on experiences are offered), and integrated learning (where different subjects are taught within a single activity). Although experiential and integrated learning are encouraged in the curriculum documents, there remain the systemic barriers of children learning in age-specific groups; in groups that might exceed 30 students; and intermediate classes are often scheduled so these kinds of learning are not possible.

As described in the previous chapter, Indigenous pedagogies do not fit neatly into the formal education system. In curriculum documents, there are two paragraphs about Indigenous

education (in documents that can be more than 200 pages long). The documents state that students in Ontario will have an "awareness of the importance of Indigenous ways of knowing in a contemporary context" (OME, 2022, p. 29), but gives no indication of what exactly is an "Indigenous way of knowing". As explained earlier in this chapter, it is the curricular expectations where teachers look for the content of their lessons. In the grade 7 and 8 science curriculum, there is only one mention of Indigenous people in expectation B1.3: "analyse how diverse First Nations, Métis, and Inuit practices and perspectives contribute to environmental sustainability" (OME, 2022, p. 160). This one expectation could never provide all students a "knowledge of the rich diversity of First Nations, Métis, and Inuit histories, cultures, perspectives, and contributions" (OME, 2022, p. 29).

While there are a few expectations in most subject areas that include Indigenous content, it is troubling that most mentions of Indigenous people are in the history curriculum. The Ontario history curriculum was revised in 2018, and with that revision, many overall and specific expectations include learning about some aspect of Indigenous history in Canada. Students are tasked with analysing the impacts of colonialism and the role of Indigenous people in historical events from 1713-1850 in grade 7 and from 1850-1914 in grade 8. This emphasis on Indigenous history is valuable, but it could result in students thinking that Indigenous people were part of the past, not as an integral part of the present and future of this country. While the overall expectations in the history curriculum require that students compare historical events with the present day, the fact that Indigenous content is taught in a historical context sends a strong, tacit message to students about where Indigenous people fit in this country. In the summer of 2022, it was revealed that the Ontario government had removed an Indigenous framework from the revised science curriculum (Alphonso, 2022). Incorporating the ways Indigenous people see the

world could have helped students begin to see Indigenous people not as historical content to be studied, but as a people who have different ways of understanding the world.

Because there is so much content to be taught, learning about Indigenous history could become marginalized. Expectation B1.1 in the grade 8 history curriculum asks students to analyse historical and current similarities and difference between various groups in Canada between 1890-1914. The examples and sample questions might cause a teacher to conclude that the expectation could be met without much consideration of Indigenous people. Expectation B1.1 asks students to:

> analyse key similarities and differences in the experiences of various groups and communities, including First Nations, Métis, and Inuit communities, in present-day Canada and the same group/communities in Canada between 1890 and 1914 (*e.g., the urban poor, the unemployed, workers, farmers, recent immigrant, different Indigenous communities, Québécois, African Canadians, Chinese Canadians, South Asian Canadians, Jewish Canadians, women, children, the elderly)*
>
> *Sample questions:* "in what ways is the life of a new immigrant to Canada today different from that of an immigrant around 1900? In what ways is it the same? What accounts for some of the differences?" "What programs or services are available for the urban poor today that were not available at the turn of the century?" "In what ways are the experiences of present-day farmers on the Prairies different from those of farmers at the beginning of the twentieth century? In what ways are they similar?" "How were Inuit settlement patterns during this period different from those of the present

> day?" "Who could vote in Canada in 1900? Who could not? Who can vote now? Who cannot?" (OME, 2018, p. 163)

As a grade 8 teacher reading this expectation (knowing that there are 15 other specific expectations that must also be met for this strand of the history curriculum and knowing I might have only 30 minutes a week to teach history), I might not do a very good job of including Indigenous communities in my teaching of this expectation.

The mentions of Indigenous people in the intermediate geography curriculum are about Indigenous people from other continents. The grade 7 geography curriculum provides sample questions about: the ways the Maori in New Zealand have acted to preserve their land; the impact of mining in Yanomami territory in South America; and how Aborigines in Australia have traditionally approached using the natural environment to meet their needs (OME, 2018). Learning about Indigenous people in different parts of the world is important, but by not comparing these experiences to what is happening in Canada and Ontario fails to contextualize these experiences for Ontario students. The exclusion of local geography from the intermediate curriculum may be a way for governments to prevent students from learning about environmentally sensitive issues when they are at an age when they can understand the environmental impacts of their government's decisions. If learning about the ways Indigenous people are impacted by mining practices, it might be more relevant for students to learn about the "Ring of Fire" in Ontario. Is this excluded from the government issued curriculum because it might cause students to question the decisions of the government when it comes to environmental issues? It certainly fails to align with the curriculum's stated goal of reflecting "local Indigenous communities as well as First Nations, Métis, and Inuit individuals and communities from across Ontario and Canada" (OME, 2018, p. 15). This is another example of

the words in the preamble of the curriculum documents about the value of the natural world not matching the learning expectations.

Conclusion

In this chapter, I described a) the curriculum documents; b) how Canada's nordicity is incorporated into curriculum documents; c) the barriers the curriculum documents place in the way of outdoor teaching and learning; and d) the ways Indigenous knowledge is included in and excluded from the curriculum. This close examination of the curriculum documents helps to explain why most intermediate teachers instruct mostly indoors, especially in winter. In the curriculum, there is little mention of the winter that defines our country, no expectation to go outside, and little reason to explore local outdoor spaces. Although the curriculum documents say that experiential learning is important, there may be no time for this because there is so much curricular content to teach that taking time to go outdoors might seem impossible. Incorporating Indigenous epistemologies in the curriculum might be a way to include more outdoor learning experiences, but they are almost completely excluded from curriculum documents. With a greater emphasis on Indigenous ways of knowing and being instead of on content about Indigenous history, non-Indigenous students could develop a more sustainable relationship with the natural world.

There are some nice words about the importance of the natural world in the curriculum documents, but they are printed in the front of the document in the pages that teachers rarely read. They are not included in the expectations that form the foundation of all instruction in Ontario schools. Literalist accountability to the curriculum might be what is holding teachers back from teaching in the environment (Feille, 2013). If there were expectations to go outside to learn in and about the natural world in the places where students live and learn, I believe there

would be intermediate students in the communities and on the schoolyards at every school in the province.

Chapter 4: Methodology and Methods

The goal of my research was to answer the questions: a) How do intermediate teachers interact with the outdoors in winter during the school day?; b) How do intermediate teachers feel about their interactions with the outdoors in winter?; and c) What influences the decisions intermediate teachers make about interacting with the outdoors in winter? To answer these questions, I conducted a qualitative, arts-based study of intermediate teachers using photovoice to collect and analyse my data. In this chapter, I will explain the methodology I chose and I will describe the methods I used to collect and analyse the data.

Methodology

Qualitative Research

Qualitative research is interested in "how people make sense of their world and the experiences they have in the world" (Merriam & Tisdell, 2016, p. 15). Qualitative researchers aim to create a complex picture of the issue under study by reporting on multiple perspectives and identifying the factors involved in the issue (Creswell, 2014). Qualitative studies are designed to be emergent and flexible to respond to the conditions of the study (Merriam & Tisdell, 2016). For my study, I chose photovoice, a type of arts-based research (ABR) study.

Arts-Based Research

Arts-based research reflects a way of being in the world "that is paradigmatically different from other ways of thinking about and designing research" (Knowles & Cole, 2008, p. 1). ABR uses the artistic process "as a primary way of understanding and examining experience by both researchers and the people they involve in their studies" (McNiff, 2008, p. 29). ABR draws on the capacities of artistic expression to "capture qualities of life that impact what we know and how we live" (Barone & Eisner, 2012, p. 5). It is a research methodology that offers a

way into places and events that would otherwise be inaccessible (Leavy, 2020). ABR is a type of qualitative research that endeavours to extend beyond the constraints of discursive communication to express meanings that otherwise might be ineffable (Barone & Eisner, 2012; Smith, 2013). The purpose of ABR is to "raise significant questions and engender conversations rather than to proffer final meanings" (Barone & Eisner, 2021, p. 166). It "celebrates an infinite variability of outcomes even when people use the same materials in the most structured ways" (McNiff, 2013, p. 7). Eisner (2008) cautions us that arts-informed research may be more useful for generating questions and raising awareness than for finding solutions. For my study, this may mean that the research can: a) offer the participants the opportunity to consider their relationship with the outdoors in winter and how this might translate into their teaching; and b) make policymakers in the school board aware of issues around outdoor learning in intermediate classrooms. While this study will raise awareness, it is up to the policymakers to make decisions that will facilitate effective outdoor learning for intermediate students.

A strength of ABR is its potential to advance "public scholarship and correspondingly conducting research that is *useful*" (Leavy, 2020, p. 28). Arts-informed research connects the work of the academy with lives in the community "through research that is accessible, evocative, embodied, empathetic, and provocative" (Cole & Knowles, 2008, p. 60). Arts-based researchers challenge the entrenched academic community, bringing inquiry out of institutions and into the realm of the local, personal, and everyday (Cole & Knowles, 2008; Finley, 2008). ABR acknowledges "individuals in societies as knowledge makers engaged in the act of knowledge advancement" (Cole & Knowles, 2008, p. 60). The arts-based researcher provides tools and opportunities for participants to perform inquiry, reflect, and create (Finley, 2008).

"Art makes us look; it engages us" (Weber, 2008, p. 44). ABR contains an emotional element that can motivate people to "replace parts of an unexamined value system with new appreciations, attitudes, and even behaviors" (Barone & Eisner, 2021, p. 167). Images "make us pay attention to things in new ways" and "communicate more holistically; incorporating multiple layers, and evoking stories or questions" (Weber, 2008, p. 44-45). Figures 3 and 4 are photographs of my grade 7 students learning and exploring outdoors in winter. Even though I was behind the camera, I can think of many questions that might be elicited by these photographs. In Figure 3, is this student feeling the isolation of winter? Is she happy being outside alone, or does she wish she was inside the warm classroom? The photograph also causes me to consider the role of the teacher when it comes to modeling time spent outside. When I took this photograph, I was clearly inside, looking out.

Figure 3

(McDonald, 2019a)

Figure 4 reminds me of the joy that is readily available outside in winter. The group photograph stands in contrast to the isolation of Figure 3. I wonder if being outside together with peers and a

teacher is an incentive to spending time outside in winter. How can teachers stay inside all day when the joy of these grade 7 students playing the snow is so evident?

Figure 4

(McDonald, 2019b)

Arts-based researchers believe that "Ultimately, the research must stand for something" (Cole & Knowles, 2008, p. 66). Arts-based practices are "useful for research projects that aim to *describe, explore, discover,* or *unsettle*" (Leavy, 2020, p. 22). I want my research to be tied to a moral purpose and to attempt to make a difference by reaching audiences beyond the academy (Cole & Knowles, 2008). I would like for my research to help policymakers understand the systemic challenges of integrating outdoor learning in winter into intermediate teachers' practices. It is my hope that this knowledge will result in deep and meaningful systemic changes that will allow educators in the formal education system to prioritize outdoor learning in all seasons. Now I will explain why I believe photovoice is the best methodology to accomplish this goal.

Photovoice

Photovoice methodology draws inspiration from participatory action research (PAR). The purpose of PAR studies is "to engage people in taking action on their own behalf as part of their own communities" (Merriam & Tisdell, 2016, p. 58). "Participatory research can serve as a democratizing agent in the production of knowledge" (Latz, 2017, p. 28) because participants in PAR studies are co-researchers. They conduct research in their own communities with the intention of challenging power relations and initiating positive change (Merriam & Tisdell, 2016). "PAR joins social analysis and social action, bringing both to bear on knowledge production in service of practical problem-solving" (Lawson, 2015, p. 6). It entwines participants' knowledge generation with real-world problem-solving (Lawson et al, 2015). PAR is an appropriate methodology for complex problems that defy ready solutions; it provides a starting point for finding solutions to wicked problems (Lawson et al., 2015). PAR is an approach to research that is a departure from what the academy has traditionally seen as research (Latz, 2017). Photovoice is a methodology that allows participants to draw attention to issues in their own communities. In my research, participants as co-researchers in the sense that they chose the photos they took and the explanations they offered. However, this study differs from PAR as my participants did not co-construct the research questions.

"Photographs can be powerful resources for portraying what cannot be articulated linguistically" (Eisner, 2008, p. 5). Images can be more memorable than academic texts, and they are more accessible, thus more likely to influence how we act and think after we see them (Weber, 2008). Photographs can help access "elusive, hard-to-put-into-words aspects of knowledge that might otherwise remain hidden or are ignored" (Weber, 2008, p. 44). Photography is not about capturing an experience, but "communicating insights through

photography that would otherwise be left unsaid" (Latz, 2017, p. 77). Digital technology enables data generation in ways that were once impractical and expensive, allowing researchers to use the arts in ways that were not possible previously (Leavy, 2020).

Photovoice is a research framework conceived by Caroline Wang and Mary Ann Burris to use the "immediacy of the visual image to furnish evidence and to promote an effective, participatory means of sharing expertise and knowledge" (Wang & Burris, 1997). Photovoice has three aims: a) encourage participants to document elements of their lives on their own terms; b) raise consciousness within participants through dialogue; and c) reach policymakers to catalyze positive changes that will address needs identified by the participants (Wang & Burris, 1997). Creation of new knowledge is possible, but not always the primary aim of photovoice research (Latz, 2017).

Photovoice participants are both participants and co-researchers, shifting the nature of the research, "making it more authentic to the experiences and perspectives of the participants" (Latz, 2017, p. 21). Participants should be involved in three stages of analysis: selecting photographs; contextualizing the photographs; and codifying (identifying issues, themes, or theories that emerge" (Wang & Burris, 1997). Photovoice doesn't just assess needs, but invites people to become advocates for the well-being of their communities (Wang & Burris, 1997). It allows participants to demonstrate not just what is going wrong, but also what is going right in their communities.

Photovoice research highlights the experiences and perspectives of people who have been marginalized, people whose voices are not always heard by people in power (Latz, 2017). Photographs "listen into speech" that which would ordinarily not be heard and speak them into the halls of power (Wang & Burris, 1994). Photovoice brings the marginalized to the centre,

influencing and implementing positive change (Latz, 2017). Photovoice participants do not have the authority to make policy changes themselves, so they aim to affect change through reaching out to those who do (Latz, 2017). While it would be difficult to define Ontario teachers as a marginalized population (they have university educations, high salaries, and strong union representation), within the structure of the education system, classroom teachers' voices are not always considered. Teachers are given curricula they must follow from the provincial ministry of education and they are not consulted on in-school or in-board professional development. Classroom teachers rarely have access to senior staff in the school board. This study allows the everyday experiences of eight classroom teachers to be seen by senior staff of the school board. This brought their voices, previously unheard, to the "halls of power".

This research is different than many traditional photovoice studies in that the participants were not actively seeking to have more frequent or significant interactions with the outdoors in winter. I only know one intermediate teacher colleague who incorporates regular outdoor instruction across the curriculum into his practice, and neither of us know other intermediate teachers in our board who do the same. In fact, this study was conceived after another study I conducted concluded that many intermediate teachers did not think about teaching outdoors in the winter (McDonald, 2018). Instead of recruiting participants who advocate for spending more instructional time outside in winter, I selected participants I know to be open to new pedagogies and instructional tools. In the next section, I will discuss the methods I used to collect and analyse my data.

Methods

In this section, I will: a) explain the ways I met the aims of photovoice research; b) detail how I recruited participants; c) describe how I negotiated my role in the research; and d) explain how I did all of this ethically.

Meeting the Aims of Photovoice

The first aim of photovoice is to encourage participants to document elements of their lives on their own terms (Wang & Burris, 1997). To meet this aim, I asked each participant to photograph their most significant interaction with the outdoors in winter during the instructional day for ten consecutive school days. Individual participants determined for themselves what they believed was their most significant interaction with the outdoors each day. Ten school days was an ideal number of days for the study. If the study was longer than ten days, it might have been seen as a burden of extra work and participation in the study might not have been motivating. If the study was shorter than ten days, teachers might have made an effort to insert extra outdoor instruction into their plans, and the results may not have been an accurate reflection of their interactions with the outdoors in winter. Ten days would have been too long for participants to integrate something new into their teaching that was not already established as a part of their practice.

In December 2022, I sent participants a schedule of the range of days during which all participants were to take their photographs. Setting the range of dates for the participants ensured the weather and temperatures on the days the photographs were taken were relatively the same for all participants as they teach in the same school board. If a teacher was away from school during the course of the study, they understood that they were able to submit fewer than ten photographs. The photographs were organized and shared with me in a Google slideshow

template that I provided to the participants and they each titled and captioned every photograph to clarify the activity in the picture and how they felt about the activity.

The second aim of photovoice is to raise consciousness within participants through dialogue (Wang & Burris, 1997). “Participants interact with and describe the images they created, which is a keystone of photovoice” (Latz, 2017, p. 75). It is not the role of the researcher to interpret the photographs—that is the domain of participants (Latz, 2017). Without explanations of the photographs, the images have little meaning (Latz, 2017), but McNiff (2008) warns that the translation of art experiences into language presents challenges for the researcher.

Once the photography was complete, I met with the participants individually, and asked them to narrate the contents of their photographs. While meeting as a group would have produced productive conversation about outdoor and environmental education for intermediate students in our school board, it was not possible to meet with all ten participants as a group because of work schedules and the distance between workplaces. Instead, I conducted individual discussions with each of the study participants. The individual nature of the conversations aimed to make the participants feel as safe as possible when sharing a part of their teaching practice. With each participant, we worked together to generate thematic strands within their narrations. In all of the conversations, participants were open about their challenges and honest about how they felt about the outdoors in winter.

The third aim of photovoice is to reach policymakers to catalyze positive changes that will address needs identified by the participants (Wang & Burris, 1997). Derr and Simons (2020) caution that in some of the EE-focused studies in their research, this step sometimes lacked emphasis. They say that to advance environmental education, researchers need to pay critical attention to this aim of photovoice (Derr & Simons, 2020). Before the study began, I reached out

to the superintendent responsible for programming in my school board. She quickly responded that she would be pleased to see and learn from the results of this photovoice research. Unfortunately, this superintendent retired before the end of the study. She reassured me that her replacement is very interested in ecological justice and she communicated information about my study to the new superintendent. Before I had the opportunity to reach out the new superintendent, I was offered an opportunity to speak to the newly formed Environment Committee for my school board. The committee members consist of about 30 people from all departments in the school board working under the leadership of an administrator who is the "Environment Lead". As a member of the committee, I felt that was a good place to share my research. I knew the meeting would be attended by the new superintendent responsible for programming, and many other board staff interested in making systemic changes that could improve the ways students learn about the environment. The presentation is described in Chapter 7.

Participants

Purposive sampling is the most appropriate way to select participants for a photovoice study because it is a form of participatory action research (Latz, 2017). I recruited participants for this study from a group of my peers: teachers who are employed in the same school board as me. Because I have worked for many years in this small school board, I have existing relationships with many teachers in a variety of schools throughout the board. I recruited five of the participants from these existing professional relationships. Because I had no previous relationships with teachers at the only grade 7-8 school in the board, nor at a rural school, I employed snowball sampling (Merriam & Tisdell, 2016). I asked teachers I knew to have connections at the intermediate school and at a rural school to recommend other teachers I did

not yet know. As a result of purposive and snowball sampling, the participants include teachers from all the types of schools attended by grade 7 and 8 students in the school board (i.e., K-grade 8, grades 7-8, and grades 7-12). This representation was important as intermediate teachers at some schools have scheduled outdoor recess breaks and some do not, and some teach on rotary schedules, and some do not. I was interested to discover how these differences might impact teachers' interactions with winter. In the study, I include participants with varying years of teaching experience and of different genders, however, it was limited in terms of race and class. It was important to me to include some participants who I knew to be comfortable outside in winter, and some who were not. Though I did not know most of the participants' feelings about winter before the study, I wanted to ensure that participants with strongly positive and strongly negative baseline feelings about winter were included in the study. The school board for which the participants in this study work provides all intermediate teachers and students with tablets, so access to technology for taking the photographs was not a barrier to participation. It is normal practice for intermediate teachers to consistently use tablets during instructional time, so participants always had access to the technology needed to take photographs. Below is more detail on each of the participants in my study.

Eve and Nora teach at the only grade 7-8 school in the school board. The intermediate school opened in 2020 in an urban school building that was previously used as a secondary school. Eve is a woman in her 50s. Teaching is her second career and she has been teaching intermediate students for six years. Eve enjoys being outside in winter, particularly when she is active. Nora is a woman in her 30s and has been teaching for more than a decade; four of those years teaching intermediate students. Nora likes winter and thinks it is beautiful to look at.

Ryan is a man in his 40s. He teaches at a large Kindergarten to grade 8 school. He has been a teacher for more than 20 years and has taught intermediate students for eight of those years. I know Ryan to be a teacher who enjoys the challenge of learning and employing new pedagogical approaches. Ryan likes winter but likes summer more; he points out that he creates the happiest memories with his family when he is off in the summer, so this might influence his ideas about winter.

Valerie and Francis both teach at a grade 7-12 school. The elementary students have their own wing of the school but operate on the same schedule as the secondary students. Valerie is a woman in her 30s and she has been teaching intermediate students for her entire 14 year teaching career. Valerie likes winter, especially when it is snowy and sunny. Francis is a man in his late 40s who has taught intermediate students for seven years of his more than two-decade career. Francis values outdoor teaching and learning in all seasons and seeks to integrate learning about the natural world into his teaching practice.

Melissa is a woman in her 40s who teaches at a rural Kindergarten to grade 8 school. She has been teaching for more than two decades, most of those years teaching intermediate students. Melissa has been at the same school for her entire career and regularly plans to be outside on her large schoolyard in all seasons. Melissa enjoys spending time outdoors in winter both at school and in her personal life.

Jared and Grant work at different grade 7-12 schools. In Jared's school, the intermediate students have a different schedule from the secondary students, and at Grant's school, the intermediate students have the same lunch break at the secondary students. Jared and Grant are in their 30s and both have been teaching for fewer than 10 years. Neither Jared nor Grant like winter and they do not want to be outside in winter during the school day.

Negotiating My Role

Wang and Burris (1997) say that it is a requirement for the facilitator to have an understanding of the history and culture of the topic at hand. As an experienced teacher, I have my own firsthand experience teaching intermediate students and in making decisions about how and when I should take my students outdoors to learn. I share with the participants in this study a common understanding of intermediate students, the grade 7 and 8 curriculum, and of the priorities of policymakers in the school board. Because I have spent years actively working to promote environmentalism in the schools in which I have taught, and because of the topic of this study, many of the participants likely know that I value outdoor learning in schools. This might have compelled teachers to take photographs of what they thought I wanted to see. I made it clear that I wanted my research to reflect the reality of their teaching experience and that I was seeking a wide diversity of perspectives. I told participants that being honest about their interactions with the outdoors in winter would be invaluable to my research and in deepening my understanding of the reality of what is happening in schools.

As a teacher in the public education system in Ontario for many years, I have seen a growing recognition that outdoor learning is valuable, but I am not sure how this understanding is influencing teachers to incorporate outdoor learning in winter into their instruction. The research I conducted for my master's thesis informed me that intermediate teachers are open to outdoor learning experiences in the spring and fall, but they are not interested in teaching outside in the winter and they believe that their students would complain if they did (McDonald, 2018). Given my experience as an intermediate educator, I have some ideas about teachers' interactions with winter, but there has been no research specific to this topic.

Data Collection and Analysis

All the data for this study were collected in January 2023. Each participant submitted a photograph for each of the ten days of the study along with titles and captions. This data meets the first aim of photovoice: participants documenting elements of their own lives on their own terms (Wang & Burris, 1997). At the end of January, I conducted individual semi-structured interviews with each of the eight participants. Semi-structured interviews include a combination of more and less structured questions with some questions having predetermined wording but allowing room for emergent conversation (Merriam & Tisdell, 2016). These conversations allowed participants to meet the second aim of photovoice: raising consciousness within participants through dialogue (Wang & Burris, 1997). I prepared guiding questions to ask my participants and asked additional questions determined by the flow of the interview and the information they offered.

The guiding questions I used in my interviews are:

1. What is your gender and age?
2. What grades are taught at your school?
3. Does your school require students to go outside for recess? If so, how long are the breaks and when are they?
4. What grade(s) do you teach?
5. What subjects do you teach?
6. For how many years have you been a teacher?
7. For how many years have you taught intermediate students?
8. How do you feel about winter?
9. How was your relationship with winter established? How has it developed?

10. What kinds of professional development about environmental or outdoor education have you received?
11. Is there anything that stands in your way of getting outside more during the school day?
12. What might help you get outside more often during the school day?
13. During COVID-19 restrictions, did you get outside more during the school day? Why?

After the semi-structured interviews, the participants arranged the photographs into themes of their own choosing. Once the photographs had been organized into themes, we discussed what was happening in the photographs and how the participants felt about each experience. Participants were free to move photographs between themes or include a photograph in two different themes. As they were discussing their photographs, participants expounded on answers they provided during the semi-structured interviews.

Before the photographs were taken, I organized a time to meet individually with the participants. The interviews took place either at the end of the teaching day, during the teacher's preparation time, or during the teacher's lunch break in the course of the school day. The interviews took place in the teachers' own classrooms or in a quiet space in the teachers' schools. Each interview took approximately 25-40 minutes. The interviews were audio-recorded on my phone using the application Voice Recorder. The app transcribed the interviews, and I reviewed each transcript and I corrected any mistakes to ensure accuracy. If any of the comments made during the interviews required clarification, or if more information was required to analyse the data, I corresponded with the participants by email.

Qualitative researchers build patterns, categories, and themes by organizing data into units of information (Creswell, 2014). After I was sure the transcriptions were accurate, I began

the process of sorting and arranging the data into categories. I printed the transcripts and categorized the data by hand. During this process, I developed a sense of the general ideas and patterns emerging from the data. When all the relevant data had been assigned to categories, I began coding the data into themes. Five themes emerged: a) ambiguous relationships with the outdoors in winter; b) curriculum as a barrier to outdoor instruction; c) not knowing "how" to be outside; d) global issues; and e) community building.

Ethics

Before collecting data for this study, formal approval for this research was acquired by Trent University through the Trent University Research Ethics Board (REB). Approval was granted by the school board through the process of completing an External Application to Conduct Research. Potential participants were provided with information about my study either in person or by email (see Appendix A) and a consent form (see Appendix B) to help them decide whether they were willing to participate in this study. In both the information and consent forms, it was noted that participant involvement was voluntary, participants could refuse to answer any question, and they were able to withdraw at any time from the study. Before taking their photographs, participants were sent guidelines for taking photographs (see Appendix C). These guidelines included information about deidentifying schoolyards and any students included in the photographs. Participating in research within the context of one's employment can be sensitive, thus participants selected or were given pseudonyms and their identities are known only to me. There was no physical harm or risk for participants of this study and there was no deception.

Chapter 5: Findings

Five themes emerged from my analysis of the data collected from the participants. The first theme to emerge is that participants and their students have ambiguous ideas about spending time outside in winter. The feelings that were expressed about winter were varied—sometimes extremely positive or negative, sometimes almost disinterested, and sometimes worried. The second theme centres around the curriculum from which teachers plan their instruction. Participants said that the curriculum is a major barrier to spending more time outside during the school day. They said that they would likely go outside more often in winter if they could figure out meaningful ways to teach curricular expectations outdoors. The third theme relates to knowing "how" to be outside. The data reveal that the participants and their students are often unsure how to teach and learn outside, and this keeps them inside. The fourth theme considers the ways global issues can influence how teachers think about outdoor instruction. The two most significant global issues influencing the teachers at the time of this study are climate change and the COVID-19 pandemic. The final theme is the use of the outdoors as a space for community building. While many participants struggled to find ways to teach curriculum outside, they saw the outdoors as a space where students could connect and develop relationships. This theme demonstrates that teachers have found a positive and meaningful way to be outside in all seasons.

The data for this study include: a) the photographs taken by the participants of their most significant interactions with the outdoors for ten consecutive school days in January; b) photograph captions and titles; and c) interviews I conducted with the eight participants. The instructions for taking photographs (see Appendix C) required participants to exclude identifying features of their schoolyards, students, themselves, and other staff at their schools. Several of the photographs include no students, and if students are pictured, they are often seen at a distance

with their facial expressions blurred. For this study, I relied on participants to tell me how they and their students felt during the activities shown in their photographs. They provided these explanations in the captions they wrote and in the interviews we conducted. Amanda Lantz (2017) says that photovoice participants will consistently amaze you. This is true of my participants. Their photographs and captions are full of meaning, humour, and great care for their students. Wherever possible, I have allowed the participants' voices speak for themselves. I will begin this chapter in the same place I began Chapters 1, 2, and 3: Canadians mixed feelings about winter.

Ambiguous Relationships with Winter

Many Canadians have ambiguous relationships with the outdoors in winter—they like the idea of winter more than they like the reality of winter. This ambiguity is reflected in the attitudes and actions of both teachers and students. Grade 7 teacher, Nora says that she likes winter: she does not mind the cold, likes how pretty it looks, but says that winter "can be super, super sad" because of the darkness. Valerie likes the season but does not "need winter to be any longer than it is". Francis likes winter but does not like driving or walking in the snow and ice. Grant's photograph, *Regular Day* (Figure 5) illustrates the ambiguity some participants have about the outdoors in winter: it is nice to look at from the indoors.

Figure 5

Regular Day

Note: Caption: *Very limited in my outdoor exposure. I do have amazing windows that I can look out of though!* (Grant, 2023a)

This photograph symbolizes the perceived, but persistent idea that the indoors is for learning and the outdoors is excluded from that learning. There are windows in every classroom to let us know the outdoors is there, but the school wall acts as a barrier between indoor and outdoor worlds. The barriers between the indoors and out are breached each day for play at recess. Recess can be a time of great ambiguity for study participants and their students.

Recess

All the participants in this study work at schools where recess is mandatory for students who remain at school for their lunch break. Figure 6 depicts a common experience for intermediate teachers. Just getting students out the door for recess in winter can be challenging.

Figure 6

Keeping Drugs (Students) Off (Out Of) the Streets (Recess Halls)

Note: Caption: *Lately we've been having a problem with students deke-ing out of recess. Instead they will hide in the bathroom, or do laps around the school, or join a club they're not really interested in (chess, lego) to avoid the outdoors. So here, we have a teacher stand in the halls to ensure everyone is herded outside.* (Jared, 2023a)

In his caption, Jared talks about teachers "herding" students outside—this does not sound like a positive experience for students or teachers. Recess is part of the daily schedule at elementary schools and is meant to be a time for free play and a break from classroom learning. For all participants in this study, recess experiences are different.

I will begin with Melissa, Jared, and Ryan, all of whom teach at schools with two twenty-minute recesses and two twenty-minute nutrition breaks. The breaks are in the late morning and early afternoon. Melissa's school is rural, and both Jared's and Ryan's schools are located too far from fast-food outlets or homes for most students to go there for the 40-minute break, thus most

students remain at school for recess. Teachers at the three schools offer clubs and teams at recess, so although recess is mandatory, some students may only go outside for one recess each day, or maybe none. Melissa and Ryan report that in winter, some of their students try to avoid recess in the same ways as Jared describes in the caption of Figure 6. Although their recess times and expectations are similar, Melissa, Jared, and Ryan have varying feelings about their recess experiences in winter.

For each scheduled recess and lunch time, teachers are assigned supervision duties. Melissa and Jared are assigned to supervise two 20-minute outdoor recess breaks each week and Ryan supervises outdoors four times each week. Amongst the participants, it is Melissa who enjoys outdoor recess supervision the most. Figure 7 shows Melissa's large schoolyard at recess with students actively engaged in several different activities.

Figure 7

Recess Duty

Note: Caption: *It brings me joy when kids are active while they are outside at recess. During this particular day, kids were playing gaga ball, swinging on the swings, playing soccer and a group were playing tag.* (Melissa, 2023a)

Joy is a powerful feeling. Because Melissa likes spending time outdoors, it is understandable that she is joyful when her students feel the same happiness outside. Melisa teaches at a rural school, so many of her students have vast and varied outdoor experiences outside of school time; many of her rural students have grown up with more autonomy when they are outside than their urban peers. Melissa is the only participant in this study who teaches at a school where the all the intermediate students have been in the same school building since kindergarten. At the other participants' schools, intermediate students either come from more than one feeder school, or they have changed school buildings in grade 7. This means that Melissa's students generally

know each other and the schoolyard in a way that none of the students in the other schools do. This might contribute to their comfort and participation on the schoolyard at recess.

Jared does not like winter and describes his two outdoor recess duties as “grueling” and “punishing”. Figures 8, 9, and 10 describe how Jared experiences recess and lunch supervision.

Figure 8

“I love the feeling of fresh air on my face and the wind blowing through my hair.” said no winter yard duty teacher ever.

Note: Caption: *This field is wide open, so that when the wind whips, it whips. 20 minutes never felt so long.* (Jared, 2023b)

Figure 9

Like Visitation Hours at a Prison, Thankful I'm Free

Note: Caption: *Taken through the windows of the cafeteria. Many teachers prefer the outdoor yard duty for it can get quite loud in the cafeteria. But for me, the cacophony feels like true warmth if it means staying indoors.* (Jared, 2023c)

Figure 10

Hey Kids, Get Off My Lawn

Note: Caption: *Much of the winter yard duty involves policing. While students have a number of things to do at recess - basketball or gaga ball, or soccer, or stand around talking about how inspiring their teachers are - inevitably the biggest draw is sliding across ice. As it should be. It's fun. I want to do it. I want them to do it. But I must police. So I yell, "Hey you kids…"* (Jared, 2023d)

Jared's photographs and captions describe recess as a stressful and difficult time. Outside in winter, he is uncomfortable in the cold and conflicted about the ways schools place limitations

on the activities that students can do on the schoolyard in winter. When a teacher feels uncomfortable or conflicted, intermediate students have a way of picking up on these feelings, and this might influence the way they feel about going outside for recess in winter. Jared knows this and tries to leave his feelings about winter outside of the classroom.

Ryan enjoys outdoor supervision, so he arranged his schedule to include four outdoor supervisions each week (something I did when I was a classroom teacher). He says “I like the social part of it better. I always request outside”, and even if it’s cold, “I find the fresh air helps” and “it breaks up the day”. To arrange to do only outdoor yard duty, he negotiated with a teacher he knows prefers indoor supervision, so he exclusively supervises outdoors and she exclusively supervises indoors. This means there is an intermediate teacher at Ryan’s school whose students might never see her outside for recess. Ryan teaches at a large school where during his four recess supervision times, there can be about 400 students of varying grades on the yard. Although he enjoys being outside, recently there are student behaviours on the schoolyard that make the experience more challenging. These behaviours might include students unable to resolve conflict peacefully or difficulty cooperating with classmates during free play. Ryan attributes this in part to the students experiencing two years of being separated on the yard due to COVID-19 restrictions. This has resulted in some students having trouble dealing with the social situations that arise at recess when students have unstructured time outside.

Now I will consider the data collected from the five participants who teach at schools where there is one break in the middle of the school day. During this break, students have a required recess and an indoor lunch break, but (with the exception of Grant’s school) students are not required to stay at school, so many do not participate in recess. At the time of this study, at Grant’s school, only grade 8 students are allowed to leave the schoolyard during recess, and only

on Fridays (due to behaviour during lunch breaks off school ground that was deemed inappropriate). This means that most students at his school go outside for recess on most school days. He does not have any outdoor supervision time scheduled, but he sometimes fills in for a colleague who is not able to go outside at recess (Figure 11). Even though he does not like being outside in winter, after being outside for yard duty "I noticed that when I came back inside, my head was clearer" and he felt better.

Figure 11

Outside Supervision

Note: Caption: *I was asked to do a supervision switch which resulted in me having to go outside for duty.* (Grant, 2023b)

Grant recognizes that he feels good when he goes outside, but his caption refers to “having” to go outside for recess. Although he knows it makes him feel good, going outside seems like more of an obligation than an opportunity. His picture and caption in Figure 11 present a real juxtaposition: students running towards whatever adventure awaits them on the open yard and a teacher reluctant to be out there with them.

At the two other schools with one break in the middle of the school day, students are allowed to leave the school property every day at recess. Students who remain at school have a required recess and time to eat lunch inside. Neither Eve nor Nora is scheduled to supervise outside at recess, so they do not have a good idea of how many students remain at school for recess. Valerie and Francis both have scheduled recess supervision time at their grade 7-12 school. They say that out of approximately 140 intermediate students, only about 25 students are at the school for recess.

It is important to note that six of the participants in this study teach at schools that were built to be secondary schools. While all of the schools have added some recreational infrastructure over the years, like basketball nets and gaga ball pits, they do not have playgrounds (natural or human built) and even sports equipment is not ubiquitous on schoolyards. Eve says that her school did have some balls for students to use on the yard, but they were all “missing in action”, just halfway through the school year. Grant notices that when his students are outside for recess in the winter, they just want to stand around, as opposed to the spring and fall when they play more games. At Valerie’s school, there is little play equipment for students, so they make their own fun (Figure 12).

Figure 12

Footprints in the Mud

Note: Caption: *Outside on yard duty making footprints in the mud was one of the activities of choice.* (Valerie, 2023a)

Because many students are not actively participating in physical activity at recess time, they rely on PE and daily physical activity (DPA) planned by their teachers to get them moving during the school day.

Physical Education and Daily Physical Activity

Most schools do not have PE classes every day of the week, but teachers are required to provide students with at least 20 minutes of DPA during the school day. On days with no PE

classes scheduled, teachers are not assigned space in the gymnasium, so DPA often happens outside. When DPA is outside, it may be an organized game (Figure 13) or free time on the schoolyard (Figure 14). Several of the participants said that they split their DPA time about equally between organized games and free play time for their students.

Figure 13

A Little Kickball

Note: Caption: *DPA outside.* (Nora, 2023a)

When a teacher organizes a game for DPA, all students participate. This might give a feeling of security for students who may not feel comfortable outside or may not have classmates with whom to be active during recess. If free play is offered to students for DPA, they usually have the option of using a large portion of the schoolyard (sometimes larger than at recess) and their play is not encumbered by younger students or space restrictions.

Figure 14

Free Time DPA

Note: Caption: *We went out for 30 minutes of free choice DPA. Most students played one of a few activities:*

- *Basketball*
- *4 square*
- *Kicking around a soccer ball*
- *Swings*
- *Walking*

I met with a few students about an alternate work idea. I often do participate with students.

(Ryan, 2023a)

During free play for DPA, teachers have the opportunity to play and talk with students in a way that they cannot during yard supervision at recess when they need to be attuned to many more students, and students that they do not know as well as they know their own.

The schoolyard is the most common place for DPA, as it is the most convenient place to get outside, but some schools are close enough for classes to walk to a nearby park for free play on the equipment and swings (Figure 15). By the time students get to the intermediate grades, they are not often seen using public park equipment for recreation on their own time. Visiting these parks for DPA allows them the time and space to play on equipment that they might perceive they have outgrown.

Figure 15

Play Time Needed

Note: Caption: *I knew my students needed a break to stretch their legs and be active, as we had done lots of work at desks this afternoon. We headed the few minutes away to a park and played*

a couple of games. Great to have something close by. Though I am not sure that the games didn't cause more arguments than staying in the classroom. Gratitude is hard. Thinking of others is hard. Thankfully, the space outside provides kids the opportunity to get distance if needed. (Francis, 2023a)

Although Francis's caption in Figure 15 demonstrates that DPA is not always conflict-free, he says that students who choose to forego recess time "will be up in arms if they don't get their DPA time outside". Students at his school enjoy and look forward to being outside for DPA, but very few choose to participate in recess. The reasons for this will be discussed in detail in Chapter 6.

Even on days when students have a PE class scheduled, teachers may still choose to offer DPA if students have been sitting for a long time and need a break. Valerie's class always has PE in the morning, so she says that her students need an active, outdoor break in the afternoon (Figure 16).

Figure 16

Quick Break

Note: Caption: *We took the opportunity to get outside for 10 minutes to stretch our legs and reset our brains before continuing our work for the afternoon.* (Valerie, 2023b)

All participants said that they enjoy outdoor DPA in the winter and so do their students. Valerie says “when we go out for the 10 minute break, the kids will go and play and be great”. She says that even in the middle of snowstorm, her students enjoy being outside for DPA and they understand their need for these physical activity outdoor breaks

Jared’s experience with an outdoor PE class is a good example of the ways teachers and students can be ambiguous about the outdoors in winter. On the last day of the study, the gymnasium at Jared’s school was not available to use for the first 30 minutes of his PE class. He decided to take his students for a walk on a trail by the river near his school for 30 minutes until

the gym was free for him to use. Jared does not like being outside in winter, and he confessed that he probably would not have thought to go for a walk if it was not for his participation in this study. He said that when his students found out they were going for a walk “they really didn’t like it”, but when they got outside, Jared said “it was lovely, like really lovely”. He described his students wanting to show him how on the weekend they bit into milkweed pods and let the fluff pour out of their mouths, and some students wanting to run ahead and then back to the group. He says he planned the walk to be 30 minutes so they could return to school to use the gym for the last 20 minutes of the PE period, but he thinks they could have kept going for the entire period and that his students would have been happy. He said that on the walk both he and his students recognized that this was a fun, communal activity. Figure 17 shows students climbing, waving, and exploring the land in their community—and doing it together as a community. After this positive experience outside, Jared believes that if he offered a walk as a PE activity on a day that the gym was available, his students would be upset about it. Just like most people, Jared’s students seem to like to stick with what they have always done—indoor PE in winter.

Figure 17

Started with a Whimper, Ended with a Bang

Note: Caption: *We share the gym with the high school and because it's the end of their semester they needed the whole space for assessments. So during phys ed. our class went for a walk around the neighborhood. Students complained LOUDLY about this walk before we left but by the end they were asking if we could extend it. All had a great time. Even me, noted winter grump.* (Jared, 2023e)

Jared's story of taking his class outside for PE in winter reinforces the idea that the thought of going outside in winter seems to be worse than the actual experience.

Valerie says that 90% of her PE classes are outside in the fall and spring. Often, teachers follow the team sports schedule when they plan their PE for the school year. While teachers plan many and various activities to keep their students active throughout the year, the general schedule is: soccer in the fall, volleyball and basketball in the winter, and track and field in the

spring. This means that most PE teachers plan to be inside in the winter. Melissa's school has outdoor ball hockey equipment (Figure 18), a hill for sledding, and extra winter clothing available for students. Transitioning to outdoor PE in winter is simple for her in a way that it is not at other schools. Figure 18 shows Melissa's students working together to prepare the schoolyard for winter ball hockey, another communal, outdoor activity available to her students.

Figure 18

Ball Hockey Preparations

Note: Caption: *This time of year, students look forward to playing ball hockey at recess. My class helped me out by getting all of the nets out of the shed for the games to begin on Monday.* (Melissa, 2023b)

Melissa talks about students bringing their own hockey sticks and regulating their own games. She says that students make their own teams by throwing the sticks in a pile, closing their eyes and dividing the sticks into groups.

Eve's students participate in "Marathon Mondays" for one PE class each week. Each Monday, students walk around the community, tracking their steps with the goal of walking an entire marathon. Eve's PE activity does not just help students develop physical fitness, it motivates students to be outside in all seasons. Figure 19 shows students demonstrating some independence and autonomy walking ahead with the teacher taking the picture from the back of the group. One of the wonderful aspects of teaching intermediate students is watching them learn their own ways of being in the world and figuring out what they value. Having PE experiences like "Marathon Mondays" gives students an opportunity to figure out that the outdoors might offer them as a place to help their minds and bodies feel good.

Figure 19

Marathon Mondays

Note: Caption: *Just completing our walk today…a few more steps to achieving our marathon goal.* (Eve, 2023)

Using the community for physical activity may inspire Eve's students to return to the same spots outside of school hours. It also allows students to see the changes that occur in the places where they live throughout the seasons, and if done consistently, through the years. Eve teaches in an urban area where students probably would not have their own hockey sticks like they do at Melissa's rural school. Each teacher understands the community in which they teach and they use what is available to them for outdoor PE.

Ryan regularly takes his class to a treed park near his school to play a tag game for PE (Figure 20). It takes some time to get his class prepared to be outside and then to walk to the park, so he usually plans this activity to take two periods of his day. Because he teaches the same students all day, unlike most of the participants in this study, he has the flexibility to change his schedule to do this. He says that if he had PE scheduled for the morning, he would not do indoor PE at his scheduled time, and instead take his class to the park for two periods in the afternoon. Ryan talks fondly and appreciatively about the time he spends with his students in the park; he makes it a priority to spend time here in all seasons.

Figure 20

Mantracker

Note: Caption: *On occasion we head to the nearby park and play a game of Mantracker (a tag game) in the tree area. Beyond phys ed, a lot of this is meant to allow students to engage with each other in nature and allow some natural sense of play in a gr 7 context.* (Ryan, 2023b)

Ryan talks about these games in the park as supporting his idea that PE should be "all about vigorous participation, strategic thinking, and sportsmanship". He believes that experiences like playing Mantracker in the park will help his students develop a greater love of physical activity. Ryan does not explicitly talk about these outdoor experiences connecting his students to the land.

I believe that this elision is common amongst teachers as connecting to the land is not a common topic of conversation or PD in schools.

Participants and their students have conflicting ideas about the outdoors in winter. They seem to like small, controlled activities with the people in their classes, but longer and more open-ended time outside can be difficult. Most teachers do not regularly plan to go outside in winter (except for DPA) but seem to enjoy it when they do get outdoors. This enjoyment could inspire teachers to attempt to overcome the barrier that they identify as the most significant to outdoor instruction: the curriculum.

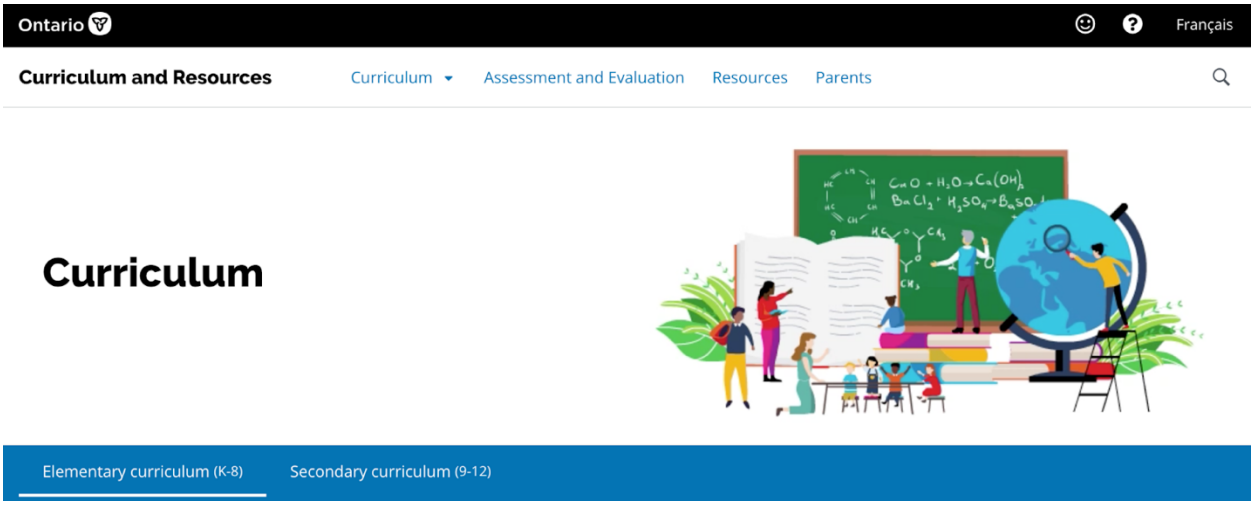
The Curriculum

Melissa says that the only thing getting in her way of spending more time outside during the school day is knowing how to link curricular expectations to outdoor learning. Valerie echoes that sentiment; she is unsure how to connect outdoor learning to curricular expectations. Ryan says that "the natural pressure we feel as teachers to cover the curriculum" is the main obstacle to outdoor instruction. When asked what is her most significant barrier to outdoor instruction in winter, Nora quickly and easily identified that covering the curriculum is her biggest obstacle to outdoor instruction.

Francis has thought a lot about the ways the intermediate curriculum conflicts with his goal of going outside to connect his students the natural world. Figure 21 shows a digital version of the Ontario curriculum, an apt symbol of the ways teachers are tethered to technology and the internet.

Figure 21

The Ontario Elementary Curriculum



Note: Caption: *I chose to include this because this is single-handedly the largest deterrent to taking my teaching outdoors. I incorporate as much as possible from these documents into my outdoor teaching practice, but it is, for the most part, very difficult. I really wish that Climate Change was more than 2 specific expectations in the grade 7 science curriculum. I really wish that we could incorporate more observation and reflection of nature into our language document. I have zero control over the curriculum document makeup, only how I choose to interpret it. It is very difficult to use these documents in the outdoors. I do the best I can, but it isn't enough.* (Francis, 2023b)

Francis says that there are too many expectations in the curriculum and it is "extremely overwhelming and to try to fit that all in in a year is nearly impossible". He says that taking students outside takes more time, especially in winter when students need to go to their lockers to put on coats and boots. Asking a teacher to go outside more when they are already feeling stretched for time, is asking a lot. Francis believes that there are "fantastic learning opportunities

outdoors, but people will default to indoors" because the curriculum is "written to teach indoors", it is not written from an "outdoor or environmental lens". He believes the government is not interested in creating a more environmentally focused curriculum because there is not "a dollar sign with it". He says this curriculum "feels so out of my control but it controls our life so much". He uses the control he does have to deliver the expectations in ways that align with his outdoor teaching philosophy. He says that working to meet curricular expectations outside makes his job more difficult.

> I have to do it instead of the people in charge making sure we do this and so it adds all this extra mental load on my job as a professional educator, which some might argue, "then just don't do it", but that's not why I got into education.

Francis concludes his caption in Figure 21 by saying that when it comes to outdoor learning, he does his best, but "it isn't enough". Curriculum documents are actually preventing Francis from the offering outdoor learning experiences that the literature shows is beneficial for students.

While teachers regularly plan for outdoor instruction in PE, there is little thought given to outdoor instruction in long range planning in other subject areas by most of the participants in the study. This means that when students and teachers are outside, they are mostly focused on their bodies, not on developing greater understandings of the land. Learning about the land could be done by planning to teach other subjects outside. Eve says she plans outdoor instruction for PE, but she has not thought of it for science, but she "probably should". Valerie does not really think about outdoor instruction because "it's not an area of comfort", but she does incorporate outdoor instruction into some science instruction. Ryan does not incorporate outdoor learning into his planning for the school year. The time he spends outside with his class is more

spontaneous and not connected to meeting curricular expectations. Nora plans to be outside for DPA on the days she does not have PE classes scheduled, but she does not incorporate outdoor learning into her yearly plans outside of PE.

Grant says that he is so "focused on hitting the curriculum objectives that I want to hit" that he does not consider outdoor instruction. Most of his day is spent teaching math, and he struggles to see how he can make teaching intermediate math meaningful outside. He says that his understanding of outdoor instruction is so limited that the only way he can think of to get outside for math instruction is to take whiteboards outside. He recognizes that the curriculum is so "classroom-centric" that he does not know how to move his instruction outdoors while meeting curricular expectations. Because Grant teaches on a rotary schedule, he needs to get outside in ways that are quick and local. He wants to learn how to teach activities that connect to the curriculum that he can do consistently, not just once (like a field trip or presentation). As a teacher inexperienced with outdoor instruction, it is important to Grant that what he is doing is creative and engaging. He says that if he isn't confident in what he is teaching, his intermediate students will pick up on it "almost instantly, and they're not going to buy into the learning that could be really rich for them".

Only Francis and Melissa plan to be outside regularly when organizing for the school year. Melissa incorporates spending time outside during math classes and gives the example of measuring items on the schoolyard (Figure 22).

Figure 22

Measuring

Note: Caption: *To start off our measurement unit, I had students measure various distances inside and outside of the school.* (Melissa, 2023c)

Francis strives to use the natural world not just as a teaching venue, but as a teaching tool (Figure 23). He believes that students need to learn *about* nature, not just *in* nature. In a previous teaching position, he taught an outdoor program for younger students, and now he integrates outdoor learning across the curriculum, including a bird watching unit in the spring. The outdoor teaching that Francis does is not required in curricular expectations. He recognizes that all curricular expectations can be met inside a classroom.

The lack of snow for most of this study, conducted in January, was an unexpected and visceral reminder of the ways climate change is creating greater unpredictability in the Canadian winter. In Figure 23, Francis captured the brief appearance of snow on his schoolyard.

Figure 23

Beautiful Snow

Note: Caption: *Wonderful timing of our snowfall. I am working on particle theory and changes of state with my grade 7's for science, as we delve into our Heat unit. Wonderful timing to get kids outdoors for meaning experiments with the snow and adding heat. Water vapour in our breath in the cold air also worked well. The timing of this was perfect and significant. It worked so well to make our outdoor time incredibly relevant and rich! I grabbed a picture of the puddle so I could add multiple states of matter!* (Francis, 2023c)

I asked Francis what he would have done if it had not snowed the day he took the photograph in Figure 23, and he answered that he would have waited to teach that lesson on a day that there

was snow. As an experienced teacher who cares about outdoor instruction, Francis has the capacity and desire to change the order of lessons in a way that a new teacher, or a teacher who does not highly value outdoor learning, might not have the facility to do.

While Francis might have been able to move his lesson to another day, this is not always possible. Meeting curricular expectations outside can be hampered by the weather. Eve says that weather can be a significant barrier to planning to get outside to meet curricular expectations. She identified that teaching is done on a continuum, so if she plans to teach a science concept with an outdoor activity and the weather forces her class to stay inside, it not always possible to reschedule the activity for a later date. Instead, she teaches that concept inside. If Eve can teach the entire science curriculum indoors, it is no wonder that students and teachers often struggle to connect to natural systems.

When it comes to outdoor instruction, Valerie wants “to do so much more but then I just don’t know what to do”. She identifies that coming up with ideas for implementing outdoor instruction is a “big time commitment”, and time is something teachers often feel is in short supply. Many participants say that they could use some PD to help them know how to take their instruction outside while meeting curricular expectations.

Professional Development

Professional development could help to shape teachers’ ideas about how to work within the context of their own schools and schedules to incorporate more outdoor learning into their practices. Eve says that she has never been offered any professional development about outdoor instruction, and she would participate in their kind of PD “in a heartbeat”. She is eagar to know what else she could do. Melissa has never been offered any PD about outdoor instruction. More than 20 years ago, Ryan took a two-day course about outdoor education. He remembers that

content of the course was not tied to the curriculum, but more games that a camp counsellor would play. Jared knows there are Additional Qualification courses with an environmental focus, but these courses are not on his radar, so he skims over them as he is more drawn to other topics. Grant has never participated in any PD about OE or EE, but he would consider taking this opportunity if it was presented to him. The only PD about outdoor learning in which Francis has participated was self-created. Before he taught an outdoor program, he was able to access funds to observe a colleague teaching outdoors.

Grant knows that he needs some guidance when it comes to outdoor instruction. He believes that with some training on how to teach outside, he could "pull on the influence" he has as the classroom teacher to convince his students that outdoor learning is "worth buying into". But first he has to know what to do and how to do it. PD focused on how to meet curricular expectations outside could make teachers feel more confident taking their students outside for instruction. Knowing "how" to be outdoors in the school day can be a real struggle for both teachers and students.

"How" to be Outside

When asked about how their relationships with the outdoors in winter have evolved through their lives, all participants cited happy childhood memories of time spent outdoors. The memories that teachers shared involved recreational activities: Francis built forts, went tobogganing, skiing, and snowshoeing, and spent time "just playing in the snow"; Jared went tobogganing and had family friends with an outdoor hockey rink; Valerie enjoyed winter as a child growing up on a farm snowmobiling, tobogganing, and building forts; and Ryan remembers being outside a lot in winter playing ball hockey every night. None of the participants talked about times their teachers took them outside in winter. It can be difficult to imagine

teaching outside in winter when it was never something the participants experienced, and not something they regularly see happening in their schools. Some of the activities the participants remember so fondly are allowed to happen at schools, but they are highly regulated. Nora recognizes that when planning outdoor activities, teachers must strictly adhere to safety guidelines written by the Ontario Physical Health Education Association (OPHEA). There are so many specific guidelines to follow that outdoor activities in winter might become so complicated to organize that a teacher gives up of their idea.

Many participants said that their students would not be happy if they unexpectedly went outside during the school day. Eve says “I don’t think they’d be excited about that” and that they would have a “big rumble”. She attributes this to a societal move away from spending time outdoors. When students do not have a lot of experience going outside during the school day, they might struggle to concentrate when there are no walls around them. As Francis notes in his caption for Figure 24, the longer students are in school with little interaction with the outdoors other than for recreation, they might have trouble staying focused in a place that is not as regulated and controlled as a classroom. The lack of infrastructure at his school for outdoor learning might make his students’ struggles with being outdoors even more pronounced. When Francis’s students go outside, they sit on foam mats that he provides. Having students sit on small foam mats when they are outdoors might work better for younger students than it does for Francis’s intermediate students.

Figure 24

Distracted

Note: Caption: *My most significant outdoor experience today was the level of distraction of my students. We were standing talking in a circle for about 5 minutes, but so many were entirely lost in their own exploration. This is a picture of kicking leaves around. This isn't a bad thing for them, just difficult to explain the task at hand. I firmly believe that this is a product of the lack of outdoor/nature time/play that our students have had. Very limited exposure, so they have difficulty focusing in the outdoors. I know Kindergarten is very play and nature based, but they definitely lose those opportunities as they move along in school.* (Francis, 2023d)

Francis identifies that by the time students are in the intermediate grades, they have become accustomed to learning being an indoor endeavour. With fewer and fewer opportunities to learn

outdoors with each passing school year, students stop seeing the schoolyard as a place for learning and might see it only as a place for recreation. This is reflected in the caption for Figure 24. When learning outside, his students become “lost in their own exploration” perhaps because they are unused to focusing on meeting a curricular learning goal somewhere other than a classroom. It takes time and practice to learn in a different environment, and this process might deter teachers from instructing anywhere but a classroom.

As a child, Nora appreciated the “peacefulness that winter brought especially when it was snowing”. I wonder how many intermediate teachers offer their students a chance to feel this sense of peace that helped Nora appreciate the outdoors in winter. I wonder if it is possible in the education system as we know it today to provide opportunities for students to feel that they can slow down and appreciate the cold beauty around them instead of always keeping them busy and actively working to meet a learning goal. Figure 25 shows that maybe both can be accomplished at the same time and at school.

Figure 25

Nature Connections

Note: Caption: *It has been terrible weather to get outside. Wet or icy, not very good to move learning outside. Today was much better. Cold, but not raining. We went for a walk to a local forest about 7 minutes walk from the school. We spent some time playing, but also did some quiet reflection on connections in nature that we can still see in the winter. I took a picture of these Turkey Tails on the end of the log, reminding me of a few lessons. We all rely on each other. If you have the strength to hold on, you can find your place and thrive. Lastly, these connections are all around us, and nature education can happen at all times and all kinds of places.* (Francis, 2023e)

This is a thoughtful reflection from a teacher who truly values connections both natural and human and it shows that there are significant life lessons to be discovered and reinforced by time spent outside. To glean those lessons, teachers and students first need to be at ease and attuned to what is happening outside. Finding ease and comfort outside takes time, time that does not always seem to be available in a busy school day. Educators need to consider if these lessons might sometimes have more or equal value to the busy curricular learning they would otherwise be doing in a classroom. Peaceful reflection and learning can only happen if students and teachers are warm outside in winter, so the outdoor clothing they wear matters.

Clothing

Clothing was mentioned by most of the participants in the study as a barrier to spending time outside in winter. If students are uncomfortable outside, they will not be in a position to learn lessons. Nora says that when students do not wear snow pants and winter boots, “it is more challenging to engage outdoors”. Students do not always wear clothing appropriate to the weather in winter either because they do not have access to winter clothing or they do not want to wear it.

Jared says that some of his intermediate students can be “too cool to have a coat”, an attitude that he did not see when he was teaching younger students. At Valerie’s school, she does not think that a lack of winter clothing is not associated with affordability, but “an issue just because they’re too cool for school”. Nora’s students do not always wear weather appropriate clothing in winter because they are “so concerned about how they look”. At Melissa’s rural school, many of her students live on farms and actively participate in outdoor activities in their time outside of school. She does not cite lack of appropriate winter clothing as an issue at her school. Melissa does have a box of snow pants in her classroom for students who either forgot

theirs or who unexpectedly need them for a particular outdoor activity. In Jared's school, there is free winter clothing available to students on a coatrack near one of the school's entrances. Jared worries that the way the clothing is offered to them is "a barrier to kids actually taking it", but he is unsure of a better way to offer the winter clothing to students. Eve says that she has students who do not have the proper footwear. She keeps two coats in her classroom for students who come to school without them.

Even if students have clothing appropriate for winter weather, getting it on and off can take a great deal of time. Nora's students have lockers on a different floor of the school than her classroom, and she says that "there's a lot of lost time" when students are getting dressed to go outside. This can especially be an issue for teachers who have a rotary schedule, as they might not teach their students for large blocks of time. Ryan identifies that getting outside in winter requires more effort than when it is warm. Once the effort is made to get dressed for the weather and you have made it outside, he says it is worth it. Even if all teachers and students have appropriate clothing for winter and time to put it on, a teacher's ability to meet curricular expectations outside the doors of the classroom can vary depending on their schoolyard.

Schoolyards Not Created Equal

Figure 26

School Grasslands

Note: Caption: *My frustration for trying to get my kids outside to do education focussed on nature is that our schoolyards are bereft of natural features for the most part. Most are artificial, with trees planted sparsely, and grass dominating. Makes it necessary to leave the schoolyard, which eats up time, and energy (though the walk is good!).* (Francis, 2023f)

Most of the participants in this study have large, open, mostly empty schoolyards that look like the one in Figure 26. Francis identifies that schools could develop their yards to be more naturalized, not dominated by grass. It is difficult to teach about interactions amongst plants and

animals and to see changes in plants and animals through the seasons if schoolyards are mostly covered in one plant.

Students are attracted to natural spaces, but these are not often found on schoolyards (Figure 26). Francis has tried to plant trees on his schoolyard and says, “it’s so hard to get done”. He says that he has to “jump through hoops and go through these processes and procedures to plant trees”. Valerie’s photograph in Figure 27, shows that her students are attracted to trees on schoolyards.

Figure 27

Hiding Hedge

Note: Caption: *My students are constantly attracted to this hedge on our yard. Unfortunately that attraction has left it greatly damaged and it is beginning to look like an eye sore on our yard. It was central to my thoughts when outside for a short break this afternoon.* (Valerie, 2023c)

If a single tree can draw the attention of so many intermediate students, naturalized sections of schoolyards could draw in more students. While students might be attracted to natural spaces, they might not know much about them. Grant does not believe that his students would know what happens to a tree in the winter beyond some notion of sap. He says, “I guarantee you they have no idea what’s going on”. Spending time in naturalized areas would help students learn more about the outdoors in winter without having to leave the schoolyard. As evidenced from Grant’s statement, even the most basic lessons are needed.

Using the community. Nora and Eve take their students for walks in the community in winter. Because these participants teach at a school in the centre of a small city, they have safe sidewalks on which to walk and events in the community in which to participate with their students (Figure 28). Both participants took their students to a symphony concert during the course of the study. They knew when they signed up to attend the concert that they would have to walk there with their students. For Eve, this was not a deterrent, in fact, she saw the walk as something that made the experience of attending the concert even better.

Figure 28

Fresh Air

Note: Walking with my class to view a concert. (Nora, 2023b)

Like Eve and Nora, Valerie often uses places around her school to get her students outside and exploring. She sometimes takes her students for walks by a creek that runs near to her school where some beavers had built a den and a dam. For all three teachers, the time spent outside is not directly linked to curricular learning but is more just for the benefit of being active outdoors. Not all schools are located in places where community walks are easy or accessible. Some participants teach at schools at the edges of towns where walking around residential neighbourhoods and to parks is possible but would take some time. Melissa is the only participant who teaches at a rural school, and her school is situated on a 32-acre plot of land, so she feels like all her outdoor learning needs can be met on her schoolyard.

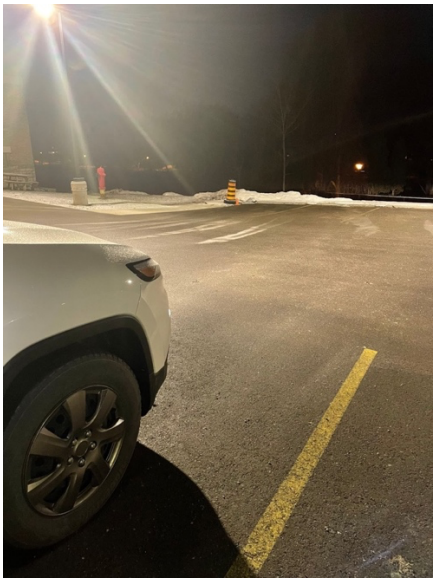
Even if there is community space close to schools, it is not always accessible for teachers to use. When COVID-19 public health guidelines were introduced, Ryan thought about using the wooded area close to his school as a space to get outside with his students. He says the experience of organizing to use that space was “deflating” because it was so bureaucratically difficult to use a natural area that he thought was so obviously a good place for learning. He had to ask the town and his administrator for permission to take his class to the forest, and he felt like he was not supported by either. The complications that present themselves when organizing outdoor instruction might keep even teachers who want to go outside, inside the school all day.

Teachers Spending Days Inside

Students might not know “how” to be outdoors in winter at school because they do not regularly see their teachers modeling spending time outside. The participants of this study took many pictures of days when their most significant interaction with the outdoors was their walk into the school from the parking lot or out of the school to the parking lot at the end of the school day (Figures 29, 30, 31). This means that students often see their teachers, strong adult examples in their lives, spend entire school days indoors.

Figure 29

You'd think it was nighttime



Note: Caption: *Parking lot view at 7 am.* (Nora, 2023c)

Figure 30

In we go…

Note: Caption: *Despite the bus cancellation today, over half of my students still attended. Unfortunately, my slide into school was the only time I was outside until I slid out of school.* (Valerie, 2023d)

Figure 31

Heading home for the day

Note: Caption: *Today the only exposure to outside was to and from my car into the school.*

(Grant, 2023c)

We need to consider the lessons students are learning when they can go for days without seeing their teachers interacting with the outdoors in winter. We also need to question how a teacher can instruct outside if they do not often interact with the outdoors in their daily professional lives; their knowledge of what is really happening outside might be very limited. Even teachers who choose to be inside all day have been exposed to some form of outdoor education in the past few years as one of the strongest public health recommendations during the COVID-19 pandemic was to spend time outside.

Global Issues

Events and issues from around the world find their ways into daily activities in schools. Two of the most significant global issues impacting the work of the participants of this study are climate change and the COVID-19 pandemic. While climate change feels gradual, especially in southern Ontario where we are surrounded by the Great Lakes, its effects are real. The 10 days over which this study was conducted were mostly warmer and cloudier than I had anticipated when I was planning this research. Changes to the climate are causing teachers reconsider the ways they can use the outdoors for instruction. In past winters, a teacher might have reliably depended on snow always being on the ground in January for winter activities. The lack of snow in the winter of this study demonstrates that teachers will have to be more flexible in the ways they plan to use snow or ice as teaching tools because they might not be there every winter. The COVID-19 pandemic did not impact our lives gradually like climate change, but immediately, urgently, and personally. While schools were navigating COVID-19 pandemic restrictions, teachers were motivated to keep their students healthy and happy and school administration directed teachers to take their students outside, so teachers and students spent more time outside.

COVID-19 Pandemic

In the two school years preceding this study, teachers were responsible for adhering to public health guidelines intended to keep students as safe and healthy as possible during the COVID-19 pandemic. Eve says that when COVID-19 restrictions were in place, “everything was so regimented”. She spent more time outside doing learning circles, she had clipboards for her students to work on, and she took her students outside for “more breaks and walks”. Valerie would take her students outside to work on picnic tables. The tables are no longer at her school as they were borrowed from the town when during the pandemic when they could not put the

picnic tables in public spaces like parks. When public health restrictions loosened, the town picked up the tables to bring them to parks, and they were not replaced with another outdoor learning space at the school. Ryan did not take his students outside for instruction during COVID-19 restriction, instead, he used time outdoors to develop connections between his students. He saw peer relationships forming outdoors in ways they could not indoors given the personal space restrictions in the classroom. Indoors, students had to be physically separated, so they were not able to have the kinds of close interactions that help establish strong peer relationships. He says that "going outside felt liberating" as his students were free to interact without as many restrictions. Francis talks about needing outdoor mask breaks as much as his students needed them. For many teachers, spending more time outdoor during the pandemic was a significant change in routine. For Melissa, spending time outdoors was a regular part of her routine and she has an excellent space for outdoor instruction at her school (visible from her classroom windows), so this was not a difficult transition for her.

Jared's experience with spending time outdoors during and after COVID-19 restrictions is an example of what many teachers have experienced. He says that when indoor masking was required, he would walk with his class to a wooded area close to the school, or use the schoolyard for independent reading time, writing activities, and small group work. In the 2022-2023 school year, public health guidelines eased, and Jared said that now he is doing fewer outdoor activities and returning to the "standard of how I would do it before COVID, which is unfortunate because I really did enjoy it". He says that subconsciously he might have felt that this school year was a "return for normalcy and this is a normal way of being so we should be in here". Jared repeats that spending time outside was a success and "it was so nice to be outside".

The inconsistent instruction that many students navigated during the pandemic had academic consequences that study participants are now recognizing and addressing. Francis notes that his students "are not where they would have been three years ago" due to gaps in learning that occurred when instruction moved online. He says that he does not know if students "missed things or that just the learning was not as good online". Francis now feels like he has to spend more time on curricular learning to ensure his students are working at grade level, keeping him more tethered to his indoor classroom.

Going outside during COVID-19 restrictions was not always a positive experience for all teachers. Some schools divided their yards into sections so each class cohort could have their own area designated area in which to spend recess. Ryan's students were allocated space in an open field with no trees nor playground equipment and the ground was often swampy. He says, "it was hard to keep the kids entertained" and "it was really cold out there" and there was "a point at which that wind gets pretty miserable". Weather plays a role in teachers' decisions about spending time outside and climate change is making the weather more unpredictable.

Climate Change

The winter of 2023 was unusually warm and cloudy with little of the snow, ice, and cold sunny days that we often associate with winter. For most of the 10 days of the study, the temperature hovered around zero degrees Celsius, some days a little cooler, some days a few degrees warmer. This study was conducted in southwestern Ontario, where it is expected to be cold and snowy in January. The weather in many parts of Canada was similarly unseasonably warm in January. On January 16, 2023, it was 1°C for the participants of this study, 4°C in St. John's, -5°C in Winnipeg, -6°C in Whitehorse, and 7°C in Vancouver. The teachers in this study are not alone in learning how to teach amidst unpredictable weather, teachers across Canada

have to adapt to teaching in a changing climate. Ontario winters may no longer have as many of the cold, crisp, sunny days they had been used to. Ryan talks about going outside in winter when it is sunny as uplifting, but we now have more grey, cloudy, and warm winter days. Changing our ideas about what is "nice" weather in winter might be part of how we adapt to climate change. Figure 32 captures the grey reality of much of the winter of 2022-2023.

Figure 32

Rain … in January

Note: Caption: *This is a bit of a puddle at the edge of the road. I had a significant reflection on Climate Change on my way into school. Strange, different weather in the winter is now common. Seemingly gone are the days of 4 foot snowbanks in January. Worth some reflection. Very wet out today to get the kids outside, as it was raining all day. Indoor recess as well.* (Francis, 2023g)

Having rain instead of snow in January not only changes the participants' ability to use snow as a teaching tool, it keeps students inside for recess and DPA, maybe the only time they would get outside during the school day. When students can get outside, the warm winter weather restricts their access to all parts of the schoolyard (Figure 33).

Figure 33

Mud and Muck

Note: Caption: *Recess duty outside…not wanting to venture very far off the sidewalk for all the mud and muck on the yard.* (Valerie, 2023e)

It is not easy to form connections with the natural world by standing on a sidewalk. If students do venture onto muddy yards, they end up with muddy classrooms (Figure 34). This could

dissuade students from spending time on muddy schoolyards, confining them to small, concrete spaces.

Figure 34

The Sisyphean Broom

Note: Caption: *Our yard gets muddy. And then it freezes. And then it warms enough to coat mud on the students' shoes. And I sweep and sweep and sweep the muddy boulder uphill.* (Jared, 2023f)

The work it takes to stay clean and dry when outside on warm winter days might be a deterrent to going outside for both teachers and students.

Teachers have to adapt to a climate that is changing in ways that they might not be able to anticipate when they are doing long- and short-range planning. For teachers learning how to

integrate outdoor instruction into their teaching practices, this might present a barrier to entry. Why plan an outdoor lesson that you may not be able to teach? Planning a contingency means the double the work, and this is not realistic for many teachers. After considering so many obstacles to outdoor instruction, the last theme in this chapter focuses on an activity that the participants consistently do outside with their students, even in winter: community building.

Community Building

While participants cited many reasons it was difficult to teach outside, especially in winter, the outdoors was mentioned as an ideal place for community building activities. Melissa uses her large schoolyard as a place to take walks with her students. Figure 35 shows students occupying space on their yard; they are walking, talking, and sharing an experience outside the walls of their classrooms.

Figure 35

Morning Walk

Note: Caption: *On days where the kids are sitting a long time, we break up the morning with a walk around the school. I enjoy this time, as I get to engage in conversations with my students about everyday life and what is important to them.* (Melissa, 2023d)

Melissa says that both she and her students enjoy these regular morning walks and that students ask to go outside for a walk even if she does not initiate the activity. These interactions with the outdoors are essential for students to develop relationships with the outdoors, with classmates, and with educators. Each day, Melissa walks and talks with different students, helping her establish connections with all her students. These experiences may seem small and insignificant, but they are neither. Through these experiences, students will see the outdoors as a place for developing and enhancing relationships.

Ryan uses a naturalized area near his school to play tag games with his students (Figure 20). He sees these games as an important way to develop sportsmanship amongst his students.

Nora uses time outdoors to play cooperative games but notes that yard conditions in winter are not always ideal for these games. When describing taking his class for a walk along the river for PE class, Jared says “it’s nice to the outside, it’s nice to the doing something that feels like a communal experience”. At Grant’s school the teachers plan to go outside on an afternoon of activity like playing Capture the Flag. He says that the teachers “put it under the banner of community building”. He admits that at his school they do this more in the fall and spring when the weather is “nice”.

Ryan identifies that his students “more naturally interact outside”. He offers opportunities for unstructured play time outside because he believes that students need time to socially interact outside of the classroom. Ryan knows that recess can be a stressful time for some students, so he feels that these outdoor breaks are important for his students. Francis says that there is “great team building stuff you can do outside that provide” … “rich activities that you can do outdoor that you can’t really do in the classroom”. He gives the example of building shelters after reading a survival story. He says these types of activities build communication, cooperation, and collaboration.

Summing Up

The data show that participants have ambiguous feelings about the outdoors in winter. When teachers are ambiguous about spending time outdoors during the school day, their intermediate students might develop an ambivalence to spending time outdoors. The curriculum is cited by the participants of this study as the most significant barrier to being outside in all seasons, including winter. Participants say that if they knew how to meet curricular expectations outside in winter, they would be more likely to go outside. Because most participants are unsure “how” to be outside for instruction in winter, when they do go outside during the school day,

they are usually learning *on* the land, not *about* nor *from* the land. It is important to find ways for them to learn how to engage with natural processes, so they can incorporate these into their teaching. Participants identify that the global COVID-19 pandemic was a potential catalyst for real change when it came to outdoor learning, but then the system reverted back to "what has always been done". Even when there are many real or perceived obstacles to outdoor learning in winter, teachers are consistently getting outside to facilitate community building activities with their students. The participants' photographs tell a compelling story about their interactions with the outdoors in winter. In the next chapter, I will discuss the data and what it means for the integration of outdoor learning in winter into the formal education system.

Chapter 6: Discussion and Next Steps

The data reveal that outdoor learning in winter is not common amongst the intermediate teachers who were participants in this study. There are individual teachers who push back against an education system that sees winter as almost irrelevant, and do the work of getting their students outside. This work is too important to be left to small pockets of educators. For teachers and students to develop an ethic of care for the environment, they *all* need to be outside more often during the school day in *all* seasons. The responsibility for getting outside in winter cannot rest solely with individual teachers. In this chapter, I will use the language of Wang and Burris (1997) when I talk about the people who can enact systemic change: policymakers. For the purposes of this dissertation, policymakers will include school administrators, school boards, and the Ministry of Education for the province. To catalyze meaningful change, policymakers in the education system must first recognize the value in outdoor learning, and then support it in all seasons. They must also create the conditions in which this can be done. In this chapter, I will discuss the ways individual teachers and policymakers can work in tandem to get students outside in winter.

On provincial report cards, Ontario teachers are required to provide students with next steps for improvement. Teachers are asked to use clear language to identify specific strategies that will support achievement (OME, 2010). Throughout this chapter, I provide next steps for teachers and policymakers to increase the capacity for outdoor learning in Ontario schools. The next steps address outdoor learning in all seasons, but special attention is paid to outdoor learning in winter, as this is a specific challenge for all partners in the education system. The formal education system is powerful, and when it devotes its resources, layers of support, and connections to meeting a goal, it can change how schooling is done.

Arts-informed research may be more useful for generating questions and raising awareness than for finding solutions (Eisner, 2008), thus the discussion will focus on questions that arose from my analysis of the data. The questions follow the general themes of: a) ambiguous relationships with the outdoors in winter; b) curriculum; c) knowing "how" to be outside; d) global issues; e) community building; and f) the role of gender in this study. Throughout out the chapter, I will include some new participant photographs and captions that aid to advance the discussion. I will begin this chapter by discussing the gap between the data that reveal most participants have an appreciation for winter, and their photographs that reveal that most choose to remain inside.

How can teachers and students build positive relationships with the outdoors in winter?

In this section, first I will discuss the importance of individual teachers developing stronger relationships with the outdoors in winter. Then I will explain some of the ways school administrators can create the circumstances where outdoor learning in all seasons is a viable possibility for educators. With more time spent interacting with the outdoors in winter by both teachers and students, relationships with the outdoors should become less ambiguous and more caring.

Teachers

The data show that the teachers in this study have ambiguous relationships with the outdoors in winter. These relationships might retain their ambiguity because most participants are not actively working to change the ways they interact with the outdoors in winter. The only participant who reflected on an improving relationship with the outdoors in winter was "noted winter grump", Jared. He says that as a new parent, he enjoys going for walks in the woods with his young child and for the first time this winter, he continued running outdoors when the

weather got cold. While Jared still does not like being outside in winter, he has developed a new appreciation for the season. It was through *being* outside that Jared began to develop a greater appreciation of winter. Without purposefully planning to be outside, it seems unlikely that Jared would have discovered a newfound respect for spending time outside in winter.

While all the participants in this study express some kind of appreciation for winter, the data show that during the school day, most go outside only when they have to. If teachers intentionally spend more time outside in winter, they should begin to feel more comfortable and connected when they are outside. To become less ambivalent about the outdoors in winter, teachers need to take on the challenge of developing the relationships with the outdoors that we wish for our students to have. Richard Louv (2008) identifies that "The most effective way to connect our children to nature is to connect ourselves to nature" (p. 166). If teachers develop a deeper appreciation of winter's ecological importance, aesthetic beauty, and health benefits, they can share their appreciation with their students. When a teacher feels more comfortable outside, and feel they know the natural world more personally, they might make instructional decisions that take them outside more often in winter. When an intermediate student watches their teacher intentionally working to develop a relationship with the outdoors in winter, it could have a significant impact. Teachers often tell students that going outside (in the context of recess) in winter is good for them. Students would certainly notice if teachers were walking their talk about the benefits of being outside in winter.

The winter I was conducting this study, I became very interested in the images of winter I saw and language I heard (and used) about winter. In the winter of 2022-2023, I became more aware of the concept of using winter as a weapon of war because of the Russian invasion Ukraine. In December, I heard a radio announcer talking about wishing the snow would hold off

until we really want it on Christmas Eve. During the World Cup of soccer, a news anchor said that she wished it was as warm in Canada as it was in Qatar. On the same national news channel, the weather reporter regularly solicited photographs of beautiful winter scenes from across Canada. I even found myself in the staff room of a school in January talking about how nice it was that we were having a warm day. Complaining about the cold weather in winter seems to be almost a reflex for Canadians, and not a true reflection of our feelings about winter. The language a teacher chooses is important and influential. Ryan said that "if you were to track my comments, they [students] would generally get the impression that winter is negative". I believe that is true about most teachers, me included until just a few years ago when I became very aware of the words I used when talking about winter. If teachers make a conscious effort to use positive language around winter, it could help them and their students break the cycle of complaining about a season that most of us actually appreciate.

Policymakers

Several years ago, when I was trying to figure out ways I could consistently get outside with my grade 8 class, I came up with the idea of teaching my PE program outside for the school year. I thought that teaching the entire curriculum outside would be good for students' mental and physical health and show students new ways to do activities that they had previously only done inside. I believed that being outside for every PE class would build consistency, negating any debate about where PE class would be happening each day. When I brought this idea to my administrator, I was told that because the activities I could do outside would not align with what the other classes would be doing inside the gym, that I was not able to enact this plan. Because of the hierarchy in schools, that answer meant that there was no recourse for me—I could not teach my PE program exclusively outside. I look back on that sometimes and think about how as an

enthusiastic new teacher, I was not able to teach outdoors in a way that aligned with my knowledge and expertise. I was forced to take my ideas about and passion for outdoor learning and put them away because they did not fit into the administrator's ideas about proper PE instruction. If I had been able to teach my PE program outside that year, I wonder what I could have learned and how the program could have developed. Mostly, I wonder what those students would be saying about that experience now and how their ongoing relationships with the winter would have been affected. School administrators have a lot that they must consider and balance when making decisions that affect students in their care. Just as teachers need to develop their knowledge of outdoor learning, so do administrators. They could seek expertise amongst their staffs and find ways to promote outdoor learning in their schools.

After my time teaching in the North, I told my southern students about physical education in winter in the North. Many were amazed by my stories of tobogganing, snowshoeing, cross country skiing (Figure 36), ice fishing, rabbit snaring, and partridge hunting. Not all the northern activities would work in a southern school; no matter how much a southern teacher or student wanted to use a slingshot to hunt birds, I do not foresee permission being granted! But some activities would work and would help students to connect to the land where they live and study. Policymakers in the South do not always look north for educational guidance. When it comes to outdoor learning, the North is a valuable place to turn for inspiration and advice.

Figure 36

Note: (McDonald, 2020c)

Many adults do not spend time considering what is going on in the natural world in winter because we often seek to rush out of the cold and into buildings, like Grant in Figure 37.

Figure 37

The Walk to Work

Note: Caption: *Today my only outdoor exposure will be walking from my car to the building and back.* (Grant, 2023d)

Taking the time to be outside for longer periods of time in winter would help both adults and students gain a deeper appreciation of winter. Slow-paced activities enable an appreciation and interaction with place that results in the formation of different perspectives—students are able to see and understand aspects of their local community in a different light (Wattchow & Brown, 2011). This is difficult for many intermediate teachers who have rotary schedules. Rotary teachers specialize in a particular subject or subjects and teach different groups of students in a school day. This can prevent them from planning slow-paced activities. If a grade 8 science class was learning about the local water system, and it took 30 minutes of a 40 minute class to walk to

a stream and back, the teacher might talk to the class about the stream rather than go to the stream. If the teacher knew they were with the same students all day, there is a greater chance that they would consider walking to the stream, and maybe even doing so several times in the school year to see the seasonal changes in the stream. If this same teacher taught their students several subjects, they could build cross-curricular learning into their walks to the stream, making the potential to go on these walks even greater.

Spending extended time outside in all seasons is not an unrealistic dream in formal education settings. Administrators could give educators schedules that are flexible enough to allow them to dedicate long periods of time to being outdoors. A non-rotary schedule means that a teacher has the ability to be flexible if the weather is too cold, too windy, or too snowy at a particular time of the school day; they could simply move their walk to the stream to another part of the day. Of the participants in this study, only Valerie and Ryan have non-rotary schedules, and both say they prefer the flexibility that teaching the same students all day offers them.

DPA is an outdoor activity in winter that all participants say they and their students enjoy. Teachers schedule DPA on days when there is no PE class scheduled, and it can be impromptu if the teacher sees that their students could benefit from a break outside. For DPA, students go outside with their classmates and they are supervised by their teacher. The participants report that their students enjoy DPA in all seasons whether the activity is organized (like a group game) or free play. Part of the appeal of DPA for a student might be that it is a break during instructional time; it might be perceived by students as a time when they are "getting out" of doing schoolwork. The appreciation of DPA might also be that it is directly supervised by a teacher with whom students feel comfort and students are only interacting with their classmates, so the interactions are relatively predictable.

Recess is a scheduled break when students have free play outside (confined by schoolyard boundaries and rules), and it is not as universally liked as DPA. During recess, different grades and classes mix and interact on the schoolyard, and students are supervised by school staff whom they may not know. All the participants say that they have students who will do just about anything to stay inside for recess in winter (e.g., hiding in washrooms, joining clubs they do not care about) and some of the participants admit that they too avoid recess yard supervision. If recess is a time of stress and struggle and DPA is a time of happiness and relief, schools might need to address the recess model as a way of getting students outside. There are several issues to be looked at and addressed, including: difficulty with free play; lack of natural or human-made equipment on the schoolyard to engage students; and lack of comfort (social or physical) on the schoolyard. Recess and DPA make up a small portion of the school day. The majority of the day is spent on curricular learning, time that is mostly spent indoors.

How can the system support educators to use the curriculum to get outdoors in winter?

Study participants point to the curriculum as their most significant obstacle to outdoor instruction. The provincial curriculum is such an obstacle to outdoor learning that I devoted Chapter 3 of this dissertation to exploring the ways it ignores winter, gets in the way of teaching ecological literacy, and keeps students inside. This section will address some of the issues raised in my analysis of the data collected from participants. I will begin by talking about how teachers are influenced by the kind of outdoor learning done in the non-formal education system; a system that is vastly different from the formal education system. Then I will discuss the foundational need for PD focused on meeting curricular goals outside. In this PD, it is essential to look to Indigenous worldviews for a greater understanding of the connections all teachers and students have with the more-than-human world. As I concluded in Chapter 3: explicitly stating in

the curriculum that students must spend time in the natural world will get all teachers and students outside. Until this happens, educators need to use the curriculum they have and find ways to integrate outdoor learning into teaching its expectations.

Teachers

When teachers consider planning for outdoor learning, their refence point is often found in the non-formal education system. While there is overlap between the formal and non-formal education systems, for the purposes of this dissertation, formal education will be defined as the teaching and learning done in schools and non-formal education will be defined as any teaching learning that happens outside of schools and is facilitated by an instructor other than a classroom teacher (Jirasek et al., 2017). The non-formal education referenced in this dissertation will mostly be camps and outdoor education centres. Like me, many teachers in the formal education system worked in non-formal educational settings when they were younger and many more have gone on OE field trips with their students. While these experiences are valuable, they cannot be cut and paste into the formal education system. Teachers in schools have a fundamentally different job than outdoor educators in the non-formal system. The most significant difference is the curriculum that must be taught in provincial schools. As a new teacher, I did not want to acknowledge that the curriculum was an obstacle to outdoor learning. When I started teaching, I believed I could infuse my classroom instruction with the knowledge, skills, and love for the natural world I found while working at summer camps and outdoor education centres. No matter what I tried, I could not adequately put my OE skills to work while meeting curricular goals. It seemed as if the outdoor learning I understood so well in a non-formal setting was like a square peg I was trying to fit into the round hole of formal education. Because most teachers never experienced school-based outdoor learning when they were students, their reference for outdoor

learning might be from the non-formal education system, a system with different goals, values, and outcomes.

Many outdoor education centres, like the one where I worked, offer educational experiences that are short, making the process efficient and allowing more people to participate and to do more activities (Roberts, 2016). Outdoor centres offer a range of activities that might include high ropes courses, nature walks, cooperative games, snowshoeing, and canoeing. When I bring my students to one of the outdoor centres where I worked when I was in university, I can sometimes predict exactly what the educators will do or say, because I did and said the same things more than twenty years ago. Roberts (2016) identifies that there are many positive elements of outdoor centre programs, but they embody the McDonaldization of experience for its participants: efficiency, predictability, calculability, and control. OE centres mostly offer close to the same experience for all students in a group and for all groups that visit the centre day after day and year after year. At most outdoor education centres, the continuum for learning is a few days (at most), and usually just a few hours. A teacher in the formal system teaches new lessons each day. They follow a year-long learning continuum that fits within the 14 years-long learning continuum, covering the entirety of a child's time in the public education system. There is a risk that if teachers lean on the short-term experiences offered in the non-formal education system as an example, they will eliminate some of the long-term exploration and inquiry that can come through basing outdoor learning on the curriculum.

Teachers in the formal education system generally do not have the facilities, deep knowledge of the natural world, and passion for outdoor learning that are typically found at outdoor education centres. Trying to translate the outdoor teaching done in the non-formal education system into a classroom will be frustrating, especially in winter. Many camp and

outdoor centre experiences happen when the weather is warm, so teachers might only have warm weather experiences to draw upon. I am not saying that teachers in schools should ignore non-formal OE—there is so much good in the non-formal system from which teachers can learn. Figure 38 shows the iconic camp game of Capture the Flag game being played for PE by Ryan's class.

Figure 38

Capture the Flag

Note: Caption: *For gym, we went to the soccer field at the park nearby and played flags.* (Ryan, 2023c)

I believe that the formal and non-formal education systems are so different that the formal education system needs to find its own way into outdoor learning, and not attempt to replicate an existing model in a context in which it does not work. The basis of outdoor learning in schools needs to be the curriculum, or it might not be accepted or embraced by teachers or by policymakers.

I find getting outdoors for instruction challenging. If I care enough about outdoor learning to pursue a doctoral degree, and I cannot always get my students outside, a teacher who does not place ecological literacy at the centre of their teaching philosophy might see outdoor instruction as either impossible or too difficult to implement effectively. This is where professional development would help and support teachers.

Policymakers

Professional Development. None of the participants in this study have received PD about how to integrate outdoor learning into the curricula they are required to teach. Although they have received no PD, they are tasked with integrating outdoor learning into the all subjects they teach. It is not difficult to understand why are they are struggling to make this happen. Educators have not been provided with the knowledge and skills to get outside to meet curricular expectations. I have seen paradigm shifts in the ways teachers understand their profession as a result of concerted PD (e.g., equity and inclusion, the use of technology in the classroom). It would be exciting to see what could happen if the formal education system decided to put its weight behind PD for outdoor learning.

Teachers do not get to choose their school- or school board-based PD. Most of the decisions about PD are made at the ministry and school board level. It is important to have policymakers in these offices who understand and value the importance of ecologically literate students. Policymakers in the education system, whether they are school principals, school board superintendents, or the provincial Minister of Education generally do not take these positions of authority because they have a desire to promote environmentalism in schools. Most of these people have been successful in a system that is anti-ecological (Orr, 2004; Steen, 2003). In fact, many of the educators I know who care most deeply about outdoor learning are frustrated by the

education system, and some drop out of it permanently or temporarily because of their dissatisfaction. If outdoor learning in all seasons is to become a PD priority, there first need to be people in policymaking positions to catalyze this change. Apathy towards outdoor learning and decisions disconnected from research about how to address environmental issues have brought us to where we are today. PD can begin by showing teachers that there are existing frameworks for outdoor learning into which they can fit their curricular learning (Table 1). Unlike attempting to emulate OE the way it is done in non-formal settings, the use of these frameworks for organizing instruction in and about the natural world can be effective in formal education settings because they are frames of reference, not models for instruction.

Table 1

Aims	Place-Based Learning	Environmental Education	Outdoor Education	Land-Based Learning
Connect students with the natural world.	✓	✓	✓	✓
Learn about natural systems.	✓	✓	✓	✓
Develop relationships with others.			✓	✓
Develop relationships with self.			✓	✓
Encourage taking action for the environment.		✓		✓
Consider the future of the land.	✓	✓		✓
Decolonizing the land.				✓
Acknowledge the land as a sentient being.				✓

Not all teachers know what outdoor education, environmental education, place-based learning, and land-based learning are, and some do not care, yet they are being asked to not only teach these disciplines, but also to integrate them into other subjects—all without defining what they are. This is an impossible task! Teachers need to understand OE, EE, PBL, and LBL as separate, but overlapping, disciplines and they need to have the ability to choose a framework that can work for them in the context of their own schools. A grade 8 PE teacher might find that OE works as a model for them and the curriculum they teach. A grade 7 science and language teacher might be able to meet curricular expectations by integrating LBL into their practice.

The data show that teachers are interested in teaching outdoors. Grant says that outdoor learning is "one of those ways that I can push that learning for me to help them [his students] get everything that they could possibly need to be successful". If Grant knew all the different frameworks for outdoor instruction, he could choose one that fit with his own knowledge, skills, and school facilities. Without PD on the frameworks for outdoor learning, teachers could flounder as they try to figure out outdoor instruction. Teachers are often goal oriented, and if they can see a framework for outdoor instruction, they have a set objective to meet.

Any professional development around outdoor learning needs to include the importance of instructing outside in all seasons. Teachers can sometimes independently think of ways to instruct outside in the spring and fall, but winter can be more challenging. Educators need the time and support to make concrete plans to get outside when the weather gets cold. PD is essential for teachers to gain a firm understanding of why instructing outside in winter is important. As Grant identifies, students will pick up on it if the teacher is not convinced and confident, and they will not buy into the outdoor learning. Any PD about outdoor learning needs

to include ways teachers can meet curricular expectations outside over time, not just as one-off events.

When planning PD opportunities, it is important to keep in mind that all educators need to be trained to instruct outdoors, not just some teachers. If only some are trained, outdoor learning becomes the responsibility of *those* teachers and removes responsibility from *all* teachers. It also could mean that not all students will experience outdoor learning if they are not placed in the class of the "outdoor-teacher". Right now, outdoor learning is often seen as something done by one or two teachers in a school who are passionate about the environment. Students need to experience learning outdoors in all subjects and with all their teachers, so they internalize its value.

When teachers think of outdoor learning, most probably think first of PE, science, or geography. The largest portion of instructional time in an intermediate student's school day is spent learning math and language, subjects that are often seen as indoor pursuits, especially in winter. Unlike most subjects, math and language are taught every day. Providing teachers with outdoor PD grounded in math and language instruction might make teachers more likely to integrate outdoor learning into their practices. When providing PD, it is essential that every teacher is given an opportunity to find a way into outdoor learning. This means that outdoor PD needs to be broad enough to include all subjects like French and music.

For too long, Indigenous worldviews have been excluded from curricular documents, and continue to be. However, Indigenous knowledge holds profound expertise in outdoor learning and is perhaps our greatest guide. Providing PD so teachers can learn from Indigenous understandings of the more-than-human world would support non-Indigenous educators as they seek to develop greater understanding and relationships with outdoors in all seasons.

Indigenous Worldviews. "Traditional Anishinaabe people feel a kinship with everything—animals, plants, stones, mountains, rainbows, stars" (Bell, 2013, p. 100). This is a way of knowing and being that contrasts with western understandings of the land. Many non-Indigenous educators do not fully recognize that Indigenous people have different ways of knowing and being—I know, because I was one of those educators. It was only through learning from Indigenous scholars in graduate school and the lived experiences I had while teaching in the North that I started to develop a more nuanced understanding of the ways Indigenous worldviews are different from my own. There is no reason for people in Canada to come to these understandings in graduate school. Indigenous worldviews could be written into the curriculum, in all subjects, so non-Indigenous students learn that there are different ways to know what is happening outside. As identified in Chapter 3, the curriculum includes Indigenous people as topics, often in the history curriculum, but does not expect students to understand Indigenous worldviews. Taking students onto the land to learn about and through Indigenous worldviews would help students learn in an embodied way that they are a part of natural systems and reliant upon the more-than-human world.

Integrating Indigenous worldviews into all subjects will only be done if it is written into curricular expectations, not curricular front-matter, where it now exists. Teachers can only integrate Indigenous worldviews into their teaching if they learn to understand the value of teaching about the land as a sentient being. This will not be easy: the education system is invested in perpetuating the ideas of consumerism, competition, and detachment—essentially supporting and shaping the forces that have led to ecological crisis (Cajete, 2000). Excluding Indigenous voices will only perpetuate the problem. Indigenous people have cared for the land that is now Canada since time immemorial, so if we want more environmentally responsible and

responsive students, we should look to Indigenous worldviews for guidance. Indigenous knowledge can help us learn "how" to be outside.

How can teachers and students be supported as they learn "how" to be outside in winter?

Knowing "how" to be outside in all seasons is essential if outdoor learning is going to be successful for teachers and for students. Because neither educators nor students seem to really know "how" to be outside during the school day, they can learn and discover together. This can involve: developing the skills and capacity to teach outside; creating schoolyards conducive to outdoor learning in all season; wearing appropriate cold-weather clothing that will allow for greater comfort when spending time outside in winter; and drawing on experts in the community to show us "how" to be outside.

Teachers

Almost all the participants in this study expressed that they did not know how to teach outside in winter. When talking about going outside for instruction, Valerie said, "I literally don't know what we would do". This might be because teachers never spent time learning outside when they were in school. With access to outdoor education centres starting in the 1960s, teachers in the formal education system understood that it was not their responsibility to go outside to teach—outdoor instruction was done by educators at the outdoor centre (Borland, 2013). This idea may have contributed to students in a rapidly urbanizing nation not feeling capable in the natural world, as spending time in natural places was not a part of their everyday, lived experience. These students then became teachers who may not have considered the importance of teaching outside the walls of the classroom.

Like many teachers, Valerie identifies that outdoor education is "just not an area of comfort". Earlier in this chapter, I discussed the discomfort many teachers feel when they are

outside in winter. This discomfort may be alleviated if teachers felt more knowledgeable and capable when they are outside with their students. Teachers are used to being successful; they have at least two university degrees and they got hired in what can be a difficult employment market. Feeling unsuccessful or unsure are not good feelings, but they will be necessary to go through in the process of learning how to instruct well outside. “If getting our kids out into nature is a search for perfection, or is one more chore, then the belief in perfection and the chore defeats the joy” (Louv, 2008, p. 164). Educators consistently ask students to accept challenges and do new things. Students are expected to do so even though they cannot be sure they will find success. Teachers are not always confronted with the task of trying new, potentially uncomfortable things that they are not sure they will do well. When it comes to teaching outside, teachers need to position themselves in a learning stance. This will allow them to try new things, learn from what does not work, and build on what does work. This is a vulnerable position for a teacher, but one that is needed if they are going to change the way they teach, not just add “nature activities” to what they already do. As discussed in the previous section, before outdoor learning can begin, teachers need PD to help them understand why it is vital and the support to implement this new way of teaching.

Teaching outside needs to be practiced. Like learning anything new, a teacher will likely not be a great outdoor educator the first time they try. They need to get outside often, in all seasons to build their capacity to instruct on their own schoolyards and in their own communities. Through this process, teachers can model for their students what it looks like to gain confidence outdoors. In winter, part of this modeling is the clothing the teacher wears. When many students get to grade 7 and 8, they eschew snow pants, toques, and sometimes even coats and mitts or gloves. Teachers can normalize the wearing of snow pants and warm clothing

when they are outside, so students can see that people do not age out of wearing clothing appropriate for the weather. As the cost of winter clothing can stand in the way of its purchase, to erase some of the stigma around wearing used winter clothing, teachers can model wearing used or found winter clothing.

When talking about potential ways that he can get outside with his students, Grant brought up tapping the trees on his schoolyard. For a math teacher like Grant, there is so much possibility here. I asked Grant if he has maple trees on his schoolyard, and he said that he was not sure. Becoming familiar with schoolyards could be an accessible place for teachers to start feeling capable and skillful outside.

Policymakers

Schoolyards. Knowing "how" to be outside during the school day involves learning about the outdoors through study and play. Most schoolyards are bare and open, and some have human-made play structures. But students are drawn to natural elements on schoolyards, like ice and snow in winter, and trees, as shown in Figure 27. Most schoolyards do not have naturalized areas where students can engage with anything other than short grass. One school year, I taught grade 7 at a school that was within close walking distance to a bush. At first, I was hesitant to let my students out of my direct gaze when we were in the bush, but I quickly realized that the students were safe and busy in the naturalized space. There was room for students to spread out, sticks to move around, and logs to walk across. We went to the bush for DPA, PE, and for curricular learning in all seasons, and there was never an incident or issue that caused me to be concerned for my students' safety. Creating naturalized spaces on schoolyards is a way to provide safe spaces for free play and for curricular learning. In discussions I have had about creating naturalized spaces, the issues of yard maintenance and supervision are consistently

mentioned. If naturalized spaces are created on schoolyards, these issues will need to be addressed—and they can be. These should not act as a deterrent to creating naturalized areas on schoolyards. It can take many years to grow forests on schoolyards, but as the old proverb explains: the best time to plant a tree was 20 years ago. The second-best time is now.

Of all the participants in this research, Melissa is the only teacher who reports only positive feelings about going outside in winter during the school day. Melissa teaches at a K-8 school with a large, rural schoolyard. Her photographs reflect her students' enjoyment of going outside in winter: they are playing ball hockey, gaga ball, soccer, and tag at recess and she regularly uses the outdoors as a venue for learning. The play and learning spaces available to Melissa's students are varied and spread across the large schoolyard, including a covered pavilion with picnic tables, just outside of her classroom. Having a yard well-equipped for outdoor play and learning is an advantage not shared by the other participants in this study. Six of the participants teach in schools that were previously secondary schools. This means that the schoolyards were not built with intermediate students in mind. All the participants who teach at grade 7-12 schools say that their schoolyards are not well-equipped for outdoor learning for any subject other than PE. Unlike Melissa's school, they do not have many options for outdoor play and if outdoor instruction spaces exist, they do not work well, so they are not used.

Outdoor spaces on most schoolyards are not conducive to much curricular learning. PE is an exception, as schoolyards are often organized to accommodate outdoor sports like soccer and track and field. At most schools, yards are seen as a place for outdoor play, not outdoor learning. Schools need to invest in the infrastructure needed to make outdoor curricular learning a reality on their schoolyards, and all seasons need to be considered. These changes do not need to be complicated. Francis says that he would like a circle of logs for his students. Valerie talks about

something as simple as having picnic tables on her schoolyard that would allow her to take her intermediate students outside more often. Melissa describes several outdoor meeting spaces at her school that are made of stumps. Having multiple outdoor learning spaces makes it possible for more than one class to work outside at the same time. Even if there is space outside that is amenable to outdoor learning, teachers sometimes have difficulty finding something as basic as clipboards for their students to take outside and it is up to them to purchase mats for their students to sit on when they are outdoors. Every schoolyard is different and the requirements and wishes each school staff might have for outdoor instruction will be different. Policymakers should collaborate with teachers and students to create schoolyards that would be useful for outdoor learning and provide them with the tools they need to get outside more often. These collaborations should keep outdoor learning in winter in mind to ensure students are benefiting from being outdoors in all seasons. Learning outdoors is an important way to begin to know "how" to be outside, and so is outdoor play. The outdoor play that students most want to engage with in winter is mostly off-limits to them: snow piles and ice sheets.

During the winter when I was writing this chapter, my itinerant teaching role brought me to a school just a few days after a significant snowfall. The area around the school was cleared, creating large snow piles that ringed the asphalt. Before I took students outside, I had to ask them if at their school, they were allowed to play on the snow piles. Happily, they were. When the students went outside, they played on top of the piles, ran around the ring of drifts, and created slides down to the ground. They were having fun in the snow! This does not happen at all schools. Deterring students from playing in snow sends a message to students about the danger to be found outside in winter. Instead of blanket bans, schools should consider how they can safely allow students to interact with natural elements on their schoolyards in the winter.

Winter Clothing. Not having clothing appropriate for being outside in winter acts as a barrier to positive outdoor learning experiences. No one feels good when they are uncomfortable, and winter clothing can provide a great deal of comfort. We know that winter happens every year in Canada, and if schools value outdoor instruction, they need to ensure all students are able to actively and fully participate. Many schools have air conditioners to keep students comfortable for indoor learning when the weather is hot. So should they make certain that students have clothing that keeps them comfortable and able to learn outdoors when the weather is cold. No student should perceive winter as a barrier to learning outside. This will look different according to the needs of the students in each school.

In some schools, there are few problems with families having the resources to purchase winter clothing, so those schools could focus on changing the mindset that wearing winter clothing is not cool. For too many students, lack of family resources to purchase winter clothing is the reason they do not have clothing appropriate for the weathers. Teachers, school groups (like parent and student councils), administrators, and community partners can develop plans to ensure students have access to the winter clothing that will keep them comfortable and engaged while learning outdoors. Schools can invest in "gear labs" with uniform loanable items as class sets. This represents a significant cost for a school, but it would be an investment in quality outdoor learning. There are many partners in education, and they can be drawn upon to support outdoor learning in winter.

Community Connections. Teaching in a remote Oji-Cree community taught me about the power of community support and connections. Elders were in the northern school every day, patiently and steadily teaching students about their culture in their own language. Community members were invited into the school to take students ice fishing, to teach them how to make

rabbit snares, and to take students snowshoeing and canoeing. One morning, I walked into the school and there was a frozen caribou in the entrance way, put there to thaw so community members could teach students how to prepare the meat. Every time I approached a community member to guide an outdoor activity, the answer was always yes. There was no mention of a fee to be paid or a schedule to be negotiated—community members made students connecting with the land their priority.

While the experience of teaching at a school in southern Ontario is not the same as teaching at a school in the North, there are many community members who could be drawn upon to support outdoor learning in the South. Colonial processes have removed all Indigenous communities (though not all Indigenous people) from the land upon which the school board where the study was conducted is located. Every piece of land in North America is Indigenous land, no matter what is built upon it (Simpson, 2017)—even schools. It is this knowledge that has motivated leadership in my school board to develop connections with local Indigenous knowledge keepers. For Indigenous and non-Indigenous policymakers, teachers, and students, hearing these voices in schools and offices is important.

There are many non-Indigenous community members whose expertise can be drawn upon to learn more about the land. Schools can establish connections with members of their communities who demonstrate ecological intelligence, courage, and creativity and use them as mentors and role models (Orr, 2004). Melissa talked about employees of a local conservation area coming to her school to provide lessons in and about the natural world. The expertise of farmers in the small, rural school board where the study was conducted could be tapped. Many farmers are careful and conscientious land stewards, and many have generational connections to the land upon which they rely on for their lives and livelihoods. Farmers know the flora and

fauna of the local area because of the time they spend outdoors, and older farmers can speak credibly about the impact of climate change on the land.

While community connections are invaluable, policymakers should be cautioned not to rely solely on them for connecting students to the land. The bulk of the work needs to be done internally, with employees of school boards so the work can be sustained and consistent. Providing one-time or short-term programs positions outdoor and environmental learning as something that is separate from students' "regular" education. Outdoor learning is not something that should only done as a special event or activity, it should be done regularly with classroom teachers.

How can global issues precipitate more outdoor learning in winter?

All schools are impacted by global issues like the COVID-19 pandemic and climate change. Pandemic restrictions experienced in schools from 2020 to 2022 demonstrated that the education system is capable of change, but the data show that even positive changes can be short-lived. Climate change can feel like a slow-moving issue in southern Ontario, but its impacts are increasingly being noticed and experienced. The education system needs to be prepared and ready to deal with these changes both in how teaching is done and with the facilities where learning is done.

Teachers

COVID-19. Public health pandemic protocols introduced in 2020 caused teachers to change their practices. Teachers recognized the health benefits of taking students outside—so they took their students outside—even in winter. As outlined in Chapter 5, as soon as the public health guidelines were lifted, most teachers reverted to what they were used to: fewer regular outdoor breaks and less time outdoors for learning. Instead of being content with "the way things

have always been", teachers should reflect on best practices and work to become more comfortable with change. What we have always done is teachers choosing to be inside during the school day, especially in winter. What we have always done got us to a place of low ecological literacy amongst teachers and students. What we have always done needs to be examined, and changes need to be made. Teachers have demonstrated that they are adaptable, flexible, and that they care deeply about doing the best they can to keep students safe and healthy. While it might be more challenging to convince people to make changes in practice in response to an issue perceived to be gradual like climate change, it is necessary.

Climate Change. The impacts of climate change are clear in the participants' photographs. There is almost no snow on the ground in pictures taken over two weeks in January in Ontario's snowbelt. Melissa drew attention to the lack of snow in Figure 39.

Figure 39

Excited for Snow

Note: Caption: *When we went out for our morning walk, we were excited to see snow flakes coming from the sky (not sure if you can even see them?). Too bad it didn't really accumulate. Having snow on the ground allows for more fun winter activities to be done.* (Melissa, 2023e)

In schools, teachers have to strike a delicate balance between educating about the impacts and causes of climate change, and not making their students fearful, potentially invoking ecophobia. As discussed throughout this dissertation, helping students form the caring relationships with the outdoors that will lead to a desire to protect the environment is an important way educators can approach teaching about climate change.

Showing students how to take action to protect the environment is also needed in schools. Climate action and awareness is often shouldered by students in schools and siloed into the activities of extra-curricular environment clubs. In my experience, the work of environment clubs often involves waste diversion and challenges to reduce energy consumption because these

activities are logistically possible in schools. This work is not always informed by the idea that spending time in and learning about the natural world are good ways to help promote caring for the environment. Instead of leaving this work to individual teachers or student clubs, educators need to show students how to lead on climate change, and this starts with developing stronger relationships and understanding of the outdoor in all seasons.

Policymakers

COVID-19. In 2020, policymakers were provided with information that made them understand that being outside during a pandemic was beneficial. Teachers were told that they had to go outside during the COVID-19 pandemic and schools encouraged and facilitated outdoor learning. They readily did so because they were informed about the ways their students would benefit from spending time outside. Participants in this study say that after COVID-19 restrictions were lifted, and they were no longer required to go outside during the school day, they retreated indoors. Unfortunately, most policymakers stopped expecting outdoor learning when it was no longer required by public health guidelines. Policymakers in the education system need to provide teachers with information about the myriad benefits accrued from being outside in all seasons and schools should actively work to promote and encourage outdoor learning in all seasons. With systemic support, teachers are more likely to feel like outdoor instruction is a viable option for them, even without pandemic restrictions.

Climate Change. Environmental actions in schools often seems superficial, as if demonstrating care for the environment is a box that needs to be ticked to say that something is being done. Policymakers in the education system need to consider ways to create meaningful and sustained climate action. This should include financially supporting PD for teachers and

administrators that promotes the value of outdoor learning and explains its connections to climate care and action.

If policymakers recognize that time spent learning outside will lead to greater protection of the environment, the schoolyard needs to be a place that works for outdoor learning in all seasons. The participants in this study took their photographs in an unseasonably warm January, so the schoolyards were muddy and sometimes difficult to access for outdoor learning. Because of climate change, teachers across Canada can expect more unpredictable weather in winter. Educators can no longer rely on cold Januarys with snow covered and frozen yards, accessible to most students. Policymakers need to consider how to design schoolyards that can be used for outdoor learning even when it is wet and muddy for weeks at a time.

People in the education system who are in positions to make policy about climate change need to walk their talk. They need to be seen to make not just superficial changes, but meaningful changes like procuring responsibly sourced resources, doing their work outdoors, and actively supporting outdoor learning in schools. It will not be easy for teachers to change their practices to address climate change, neither will it be easy for policymakers—but the work is needed. If teachers and students see people in positions of authority actively making decisions to mitigate climate change, they might be inspired to do the same. Taking system-wide action to address climate change will only be sustainable and meaningful if teachers and students observe that everyone in the system is working towards the same goal.

Can outdoor community building be leveraged into expanding outdoor learning?

Most of this dissertation identifies deficits in outdoor learning, especially in winter. Community building is one area of relative strength when it comes to outdoor learning. All the participants said that they engaged in community building activities outdoors with their students

in all seasons. It might be possible to leverage these outdoor experiences to extend outdoor learning into other areas of curricular instruction.

Teachers

Most of the participants in this study did not feel that they were using the outdoors well in their teaching and did not feel positive about the way they interacted with the outdoors in winter. After analysing the data, I realized that the participants were doing something very important outside in winter: building community amongst the students in their classes. Community building engages "students in activities that promote teamwork and problem solving" (Asfeldt et al., 2020, p. 7). This might be participating in cooperative games or it might be as simple as walking around the track with classmates. Developing a strong community amongst classmates helps students feel more confident and comfortable when they are learning inside and out. Students gain an enhanced sense of independence and responsibility through collaboration and cooperation with peers as they work to master challenges (James & Williams, 2017). Most of the discussion has focused on outdoor learning being difficult to integrate into intermediate teachers' practices. Community building outside seems to be an activity in which the participants of this study feel confident. When it comes to community building, Ryan and Francis say doing this outside is more effective than doing it inside. This might be because students feel more free outdoors and have more space to move around and express themselves. Outside, students are less constrained by expectations to be still and quiet.

During the writing of this dissertation, I have noticed social media posts from educators and schools that show multi-class activities outside in winter like snowshoeing and Carnaval celebrations. These activities demonstrate to students that the outdoors in winter is a happy and welcoming place for them to be. The outdoors is not just a place for individual teachers to build

community amongst the students in their classes, but it can also be used to build community between different classes in the school. Beyond individual schools, community could be built amongst the rural and urban schools through outdoor learning. The data reveal that there is a clear difference in the ways participants described rural and urban students' experiences of being outside in winter. Rural students are more comfortable being outside than urban students. As someone who grew up on a farm, I know that farm kids can feel a disconnect from urban life, just as I am sure that urban kids can feel disconnected from the land. When it comes to knowledge of the land, rural students and teachers often have a far more sophisticated and nuanced understanding than their urban counterparts. Rural knowledge of the land could be shared between school communities to help develop a greater understanding of the land in urban areas while bridging the gap that sometimes exists between rural and urban students.

One of the reasons teachers go outside to build community might be due to their previous outdoor education experiences at camps and outdoor education centres. Teachers who have participated in or worked in OE can bring these experiences to bear when seeking to develop community amongst their students. Teachers have seen and often lived these community building OE experiences, so they know their power to draw students together. It makes sense that many teachers are more comfortable facilitating community building activities outdoors than they are teaching curriculum expectations outside because they have probably had more experience doing so.

Policymakers

Policymakers at all levels of the education system recognize that community building is an important way for teachers to establish and maintain positive learning environments for their students. There is a requirement in the Health and Physical Education curriculum for

intermediate students to learn the skills to develop healthy relationships. Because there are so many curricular expectations to be met, some teachers might not place a great deal of emphasis on this expectation. Policymakers can help by promoting the importance of this curricular expectation and providing teachers with the support they need to do this important work on their schoolyards in all seasons.

Many teachers—with no real encouragement or training—have demonstrated an ability to do community building outdoors. They regularly take their students outside to participate in cooperative games and to walk, talk, and play together in all seasons. Policymakers could encourage teachers to extend their outdoor time into instructing in all other areas of the curriculum. Because community building outdoors is a demonstrated strength of intermediate teachers, policymakers could recognize and build upon this existing competency. Outdoor education aims to use the outdoors to develop in students a respect for themselves, others, and the natural world (Wattchow & Brown, 2011). Through outdoor community building activities, many teachers are already meeting the aims of developing respect for self and others. It would not take the acquisition of much more knowledge about OE to move teachers to use community building activities to connect their students to the natural world. Even providing teachers with the aims of each outdoor learning framework as outlined in Table 1, would go a long way to helping teachers understand and incorporate outdoor learning opportunities for their students.

What role did gender play in this study?

When I was recruiting participants for this study, I aimed for gender equity, teachers who taught at all the types of schools with intermediate students in the school board (i.e., K-grade 8, grades 7-8, and grades 7-12), and varying levels of teaching experience. During the recruitment process, with few exceptions, the women were slower to agree to participate and had more

questions about their participation than the men. The only teacher I asked to participate who ultimately decided not to participate was a woman. When I was analysing the data, I noticed that the longest captions were written by two of the male participants and the shortest captions were written by two of the female participants. With only one exception, the interviews I conducted with the male participants were longer than the interviews with the female participants. The men seemed more inclined to talk about personal experiences and to delve into their own teaching philosophies than the women. This might be due to the previous relationships I had with the male participants: I had taught with three of them in the past. Of the women participants, I had only taught with one of them, and I met two of the female participants for the first time just before their interviews.

Of the participants, the only two who did not like being outside in winter were men: Jared and Grant. Both said that their students knew they did not like winter and they sometimes joke with their students about their dislike of the season. All the women said they enjoyed winter and being outside in it. The data reveal that there was no real difference in the amount of time the men and women participants spent outside during the school day in the course of the study.

In their captions, participants were asked to name the activity in the photograph and describe their feelings about the activity. If a participant did not explain their feelings in the captions, in their interviews, I asked them about how they felt about some of the activities depicted in their photographs. The men and women were equally forthcoming when sharing their feelings about their outdoor experiences. Francis and Melissa openly shared their vulnerabilities in their captions. When writing about the curriculum, Francis said, “I do the best I can, but it isn’t enough”. Writing that you do not feel that you are meeting the needs of your students is

hard to do; Francis's words are affecting and meaningful. Melissa wrote a deeply personal caption on the day her brother-in-law passed away (Figure 40).

Figure 40

Life is too short, enjoy every moment

Note: Caption: *Today I was at home, as my brother-in-law lost his battle with brain cancer on the weekend. My husband and I walked along the beach at our house, which is our favourite spot. The sun was shining down on us, it was perfect. Last week was hard; teaching while knowing that this was happening. It is a lesson we all learn; how to mask what is going on in our personal lives and to push through and be brave for our students.* (Melissa, 2023e)

Melissa's picture and caption describe the strength and comfort she accrues from spending time outdoors. At this profoundly difficult time, Melissa found sanctuary in the outdoors.

Summing Up

In this chapter, I explored questions that arose from the data and I provided some possible next steps for addressing issues around outdoor learning in winter. From the discussion it is clear

that neither teachers nor policymakers can do the work of outdoor learning alone—this endeavour must be a partnership. The goal of outdoor learning is to engage students with the land so they develop the caring relationships with the natural world that will inspire its protection. Before this can be done effectively, the adults in the education system need to build or repair their own relationships with the outdoors in winter. This should motivate them to provide students with the lessons, clothing, and schoolyards that are conducive to outdoor learning in all seasons.

Chapter 7: Conclusion

At the end of my conversation with Francis, he concluded that "education is not set up very well for outdoor learning, I guess". I think he is correct. The education system as it is now constructed is not conducive to outdoor learning. However, I believe that change is not only possible—it is necessary. The existential threat of climate change is not going to be faced and managed if we do not change the way our students are educated. This arts-based study gave voice to teachers who are making decisions every day about how and where they are teaching. Listening to their experiences could help shape the way students are taught about the natural world where they live in and learn. This photovoice study gave eight intermediate teachers the opportunity to document experiences in their own lives, raise their own consciousness about outdoor learning, and to share their voices with policymakers through their photographic art. I brought the voices of the participants to policymakers in early 2023.

Sharing the Data

In some photovoice studies focused on EE, the step of sharing the data with policymakers sometimes lacks emphasis (Derr & Simons, 2020). I did not want this to be the case for my study. I was invited to share my research at a meeting of the Environment Committee for the school board in February 2023. The committee is comprised of employees who are interested in advancing environmental awareness and actions from all departments of the board. The purpose of the meeting February was for committee members to work on the Environment Action Plan (EAP) for the school board. I was allotted 20 minutes to speak with the group. Included in my presentation was some time for small group conversations to consider the hidden curriculum in schools and a presentation of my findings. I created a slideshow with photographs that were representative of the five themes that emerged from the data: a) ambiguous feelings about the

outdoors in winter; b) curriculum as a barrier to outdoor instruction; c) not knowing "how" to be outside; d) global issues; and e) community building. Viewers of photovoice presentations are encouraged to not interpret the photographs separately from the captions, but to interpret and be affected by the total presentation (Latz, 2017). To this end, I included photographs along with the titles and captions written by participants of the study. As I presented the photographs, I provided some context for the data. This context came from interviews with the participants and from my own knowledge of the literature around outdoor learning in winter. The most significant response from the presentation of the data was when I showed the group Figure 31, a photograph of a stairwell with a caption that indicated that the only time this photographer spent outdoors that day was walking from and to the parking lot. Several of the people at the meeting have jobs that keep them inside looking at screens for a large part of the day and this photograph seemed regrettably relatable to them. If the committee had just heard me describe teachers who spend most of their days indoors, I am sure they would have understood, but the photograph allowed them to relate to participant's experience on a deeper level. The visual representation of a participant's daily experience, similar to their own, allowed them to visualize the walls that stand between them and outdoors.

The people who saw this presentation have a special interest in environmental advocacy. Through the participants' photographs, they saw the day-to-day reality of teachers who do not necessarily place environmentalism at the heart of their teaching. The images and captions are powerful because they are a visual representation of the lived experiences of intermediate teachers. Images can be more memorable than texts, and they are more accessible, thus more likely to influence how we act and think after we see them (Weber, 2008). It is my hope that the data inspired policymakers to place connecting with the natural world—through time spent

outdoors in all seasons—at the centre of their work on the Environmental Action Plan for the school board. At the time of the meeting, I understood that the goal was to release the EAP to all members of the school board on Earth Day 2023. I have since discovered that the implementation of the EAP is paused.

Contributions of the Research

The study offers four key contributions to the research on outdoor learning in the formal education system: a) Canadians need to break our ambiguity about winter; b) the way recess is typically done needs to be examined; c) the curriculum needs to include outdoor learning on and about the land; and d) teachers voices should be heard in discussions about outdoor learning.

Spending More Time Outside in Winter

As I was finishing this dissertation, I walked by a window of a coffee shop in my hometown. The mural painted on the window said, “Spring is just nature having its coffee”, implying that there is no life or energy outside in winter. The same shop had a beautiful painting celebrating the cold winter just months ago. Canadians’ ambiguity about winter runs deep and is almost taken for granted. If we want children to develop the caring relationships with the natural world that will inspire its protection, we need to break this ambiguity towards the outdoors in winter. One way to go this is to spend more time outside in winter, using all of our senses to know the season. Getting outside in winter could help us develop and nurture real, not imagined or idealized, connections with the season. The education system is well-placed to do the work of getting students outside—but the system needs to value outdoor learning in all seasons before this work becomes a reality.

If teachers are going to get outside in all seasons, the first step is to appreciate all that winter has to offer. This means that going outside needs to be prioritized and practiced on days

that are not cold, crisp, and sunny. The winter of 2023 made it abundantly clear that climate change is making those quintessential winter days fewer and further between. Teachers and students need to embrace the understanding that winter is wonderful even when it is not snowy and sunny. Breaking our ambiguity towards winter cannot be done through talk, books, or screens—the only way to develop a love and appreciation for winter is to go outside.

Recess

As an intermediate teacher, I understood that recess in winter could be a fraught experience for teachers and students, but I did not realize the extent of the stress caused by recess. If a student is willing to sit alone in a bathroom stall for 20 minutes instead of going outside, or if a teacher asks to only supervise inside, schools may need to rethink the way they offer outdoor time. DPA causes far less stress for students, maybe it is because they are outside only with their own classmates, maybe it is that they are outside with their own teacher, or maybe it is due to the organized games that are offered by some of the participants of this study. If we want intermediate to teachers and students to have positive experiences outside in winter, we need to include in their time outdoors the elements that make them feel safe and comfortable. Recess is a fairly uniform experience at most schools. To engage more intermediate teachers and students with the outdoors during the school day, individual schools could think beyond the traditional idea of recess and make plans for outdoor time that meet the needs to their school populations.

Curriculum

The participants of this study clearly and unequivocally stated that the curriculum is their most significant barrier to outdoor instruction. Before any changes to the curriculum are made, we need to acknowledge that what we have always done has got us here. If the curriculum keeps

doing what it has always done, the results will be more of the same: lack of substantive action for the environment. Writing a curriculum that promotes ecological literacy probably will not happen as long as the government does not find it advantageous to develop environmentalism in its students. As Francis says, the government is not interested in writing curriculum with an environmental lens because there is "not a dollar sign with it". Due in part to the current curriculum, environmental learning done in schools is often superficial and fleeting. Deep changes to the curriculum are needed to develop in teachers and students the ecological literacy and caring attachments to the land in all seasons that will lead to greater concern and responsibility for the more-than-human world. Change is the key word here. If teachers are told they need to add some form of outdoor learning onto what they are already doing, they will (perhaps rightfully) balk—teaching is a demanding profession without adding more responsibility onto educators. Any new curriculum should expect that instruction is done outdoors, learning on and about the land, and should rely on Indigenous ways of knowing and being as a guide. Until there are changes to the curriculum, teachers need to be supported through professional development to meet existing curricular expectations outdoors in all seasons.

Listening to Teachers

Evolving the cumbersome education system to encourage and support outdoor learning will take policymakers collaborating with educators, and this work cannot be done well if there is no communication or common understanding. This is not always easy to find in the hierarchical education system. Until I reached out to school board superintendent about my research, I had never spoken on-to-one with a member the senior staff. Photovoice research highlights the experiences and perspectives of people who have been marginalized, people whose voices are

not always heard by people in power (Latz, 2017). When I described my photovoice research to an administrator, she responded with incredulity when I suggested that teachers' voices are marginalized in the education system. The deeper I got into my research, the more I understood that teachers, the front-line workers when it comes to teaching in and about the natural world, feel that they have few opportunities to be heard by policymakers. Communication all along the hierarchy in the education system needs to be open so parents, teachers, administrators, and school board staff can support each other in the important work of getting students outside for learning in all seasons. If teachers feel empowered with the knowledge and skills to make choices that meet the needs of their students, and feel that they are supported by policymakers, the transition to outdoor learning is likely to be more permanent.

Photovoice aims to reach policymakers to catalyze positive changes that will address needs identified by the participants (Wang & Burris, 1997). One of the needs identified by the participants is the desire to know how to get outside consistently on their own schoolyards. Grant asks, "How do I then apply what we're doing in class and do it where it's just local? I want to do it consistently". Teachers told me that they want to be able to instruct outdoors regularly, but the support they get for outdoor education is often for trips and special guests and presenters to come to the school. These one-time activities are beneficial, but they are not as impactful as students receiving outdoor instruction from their own teachers, consistently throughout the schoolyear. To make outdoor learning an everyday experience for students, curricular learning must be done outside. Teachers are creative and innovative, and I know that they can tear down the curricular barriers, but they need the time and support to do this. It is frequent outdoor learning through every schoolyear that will show students the value of the natural world outside the walls of their classrooms. The participants in this study said they would likely go outside more often if they

knew how to meaningfully meet curricular expectations outside. Teachers do not need to know how to replicate OE experiences from the non-formal education system, they need to learn how to do outdoor learning in the formal education system, the system in which they teach. Policymakers should listen to what teachers need and provide for them what they require to make this a reality: PD to learn how to meet curricular expectations on their schoolyard in all seasons.

Reflections

Before I started writing this dissertation, I believed that if teachers knew enough about the natural world and worked hard enough, they could successfully integrate outdoor learning in winter into their practices. Now I know that that is not realistic. No amount of knowledge and hard work will ever be enough for individual teachers to maneuver within an education system that can protect teachers and students from experiencing winter. From the curriculum, to schedules, to schoolyards, the message that winter is irrelevant is infused into the entire education system.

Change is possible in the education system—we saw this clearly when teachers and students spent more time outside during the COVID-19 pandemic. There are so many priorities for teachers and policymakers in the education system to consider and balance. Conducting this study reinforced for me that outdoor learning needs to be moved up the list of priorities. The health of students, teachers, communities, and the planet would benefit from time spent learning outdoors in all seasons. I am not sure of any other instructional strategy with so many short- and long-term advantages.

The study reminded me how wonderful teachers are. Eight educators opened their practices to me and honestly and openly explored a topic that for most, was new and different.

Their desire to learn more so they can offer their students the best education possible is deeply inspiring. One of the aims of photovoice is to raise consciousness within participants through dialogue (Wang & Burris, 1997). Jared said that he appreciated participating in this study because it gave him the opportunity to think and talk about outdoor instruction in winter, something he might otherwise not have considered. I have seen several of the participants since we conducted our interviews, and they let me know that they have continued to think about outdoor learning in winter and about their own relationships with winter. Arts-based practices are useful for research projects that aim to unsettle (Leavy, 2020). It is my hope that this study will help all the participants unsettle some of their ideas about teaching and move outdoor learning into a place of priority in their practices. Maybe these disruptions will create outdoor learning ripples or even waves in participants' schools.

When I began my doctoral studies, I was demoralized by an education system that seemed apathetic towards outdoor learning in winter (Figure 41).

Figure 41

Just a Reflection

Note: Caption: *Looking outside, while inside looks outside.* (Nora, 2023d)

It was only after taking a leave of absence from my teaching job in southern Ontario, and spending time teaching in a remote Oji-Cree community in the provincial North (Figure 42) that I started to really believe outdoor learning in winter was viable in the formal education system. The most significant lesson to me was that it is only through spending time on the land, directly interacting with the land, that a person can feel comfortable and capable outside. When

Nanabush journeys around the world, he observes, reflects, listens, experiments, struggles—he participates (Simpson, 2017). Participating in winter—that is the goal.

Figure 42

Note: (McDonald, 2020d)

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Appendices

Appendix A: Information Letter

I would like to formally invite you to participate in the research that I am conducting for my Ph.D. dissertation at the Frost Centre for Canadian Studies at Trent University in Peterborough, Ontario. The title of my dissertation is *Teachers' Interactions with the Outdoors in Winter*.

While Canadians often wonder at our northern geography, we do not always want to be outside in the winter that defines our nation. This study seeks to understand the ways in which intermediate teachers interact with winter during the school day and the way they feel about these interactions. Understanding these interactions will help determine the gaps that need to be filled in professional development for intermediate teachers and in resource allocation for outdoor instruction, specifically in winter.

The goal of my research is to answer these questions: a) How do intermediate teachers interact with the outdoors in winter during the school day? and b) How do intermediate teachers feel about their interactions with the outdoors in winter? I believe that the knowledge and experience that you possess could provide me with useful insight into these questions.

For this qualitative, arts-based study, I will be asking seven to eight intermediate teachers in the Avon Maitland District School Board to participate. As a participant in this study, you will be asked to photograph your most significant interaction with the outdoors in winter during the instructional day for ten consecutive school days. Photographs will be taken in January 2023. You will title and caption your photographs and share them with me in a slideshow template that I will provide.

Sometime at the end of January 2023, I will meet with you individually for about 30 minutes. Together, we will identify themes in your photographs and select the photograph, titles, captions that will be included in the final presentation of the data. These meetings will be audio-recorded and sections of the meetings will be transcribed by myself. Transcriptions of parts of conversations from the meeting might be included in the final presentation of the data. The final presentation will be made by me to at least one senior staff member from the AMDBS.

You will not be paid to participate in this research. You may benefit from participating in the research through the opportunity to reflect on your teaching practice and through changes the AMDSB might make to support for environmental and outdoor education for intermediate teachers.

Data from this study will form the basis of my Ph.D. dissertation and may also be used in academic publications and presentations. Following completion of the study, the study results will be forwarded to you by email (if you have requested it), as well as to the Research Manager at the AMDSB.

Your participation in my research is entirely voluntary. As a participant, your rights include: the right to not participate; to withdraw at any time during the data collection phase and to have any collected data related to you not included in the study; to privacy and confidentiality; and to having safeguards in place to ensure security of data. You will have the right to refuse to answer any question. You will be given the opportunity to review the final presentation of data, if desired, to ensure that it accurately reflects your perspectives. You may withdraw from the research at any time without penalty.

All data gathered through this research will be kept confidential, the name of your school and school board will not be identified, any students in your photographs will not include any identifying features, and pseudonyms will be used in my dissertation and any associated writing or presentations (though other identifying characteristics may appear in your photographs and in your answers).

There is little foreseeable risk of harm from participating in this research. The only identified risk is that the school at which you teach might be recognized by people familiar with the board's school yards. This is a minimal risk because you will have control over the photographs you submit to the study.

Only my supervisor, Dr. Karleen Pendleton Jiménez, Professor and the Trent University School of Education and Professional Learning, and I will have access to the raw data. All of the data collected during the study, including photographs, transcriptions, recordings, and related correspondence will be downloaded to a secure hard drive (not connected to the internet) and stored in Dr. Karleen Pendleton Jiménez's office at the School of Education and Professional Learning at Trent University for five years before being destroyed. Only Dr. Pendleton Jiménez will have access to the data while it is being stored.

The plan for this study has been reviewed for its adherence to ethical guidelines and approved by the Research Ethics Board (REB) at Trent University and by the Research Manager at the Avon Maitland District School Board. If you have any questions related to the ethics of the research and would like to speak to someone outside of the research team, please contact Jamie Muckle, Certifications and Regulatory Compliance Officer at the Trent University Ethics Board at 705-

748-1011 ext. 7050 or jmuckle@trentu.ca. You may also contact Allison Segeren, Research Manager at the AMDSB at 519-527-0111 ext. 311 or allison.segeren@ed.amdsb.ca.

Later I will send you a consent form, which I will collect before we begin the interview. At the beginning of the interview, we will review this letter and the consent form to ensure that you understand the nature of your participation in the research.

If at any time, you have any questions or concerns regarding the research please feel free to contact me by email at michellemcdonald@trentu.ca, or by telephone at 519-301-0490. You also may contact my supervisor, Dr. Karleen Pendleton Jiménez by email at kpendletonjimenez@tentu.ca, or by telephone at 705-748-1011 ext. 7728.

Thank you for considering participating in this research. Please keep this letter for your records.

Thank you.

Sincerely,

Michelle McDonald
Ph.D. candidate
Frost Centre for Canadian Studies
Trent University
michellemcdonald@trentu.ca

Appendix B: Consent Form

Consent to Participate: ***Teachers' Interactions with the Outdoors in Winter***

I, _____, have read and understood the information about the research project, including the potential risks and benefits of the study and I hereby consent to my participation in the research.

I understand:

- Data from the study will be included in the researcher's Ph.D. dissertation and may also be used in academic publications and presentations.
- My identity will remain confidential in disseminations of the research findings (publications, presentations, etc.).
- I will be invited to take photographs of my interactions with the outdoors for ten consecutive school days in January 2023.
- I will be invited to participate in a meeting to discuss the content of the photographs and generate thematic strands within the narrations.
- The photographs with titles and captions, and parts of our conversation about the photographs will be presented to members of the senior staff of the Avon Maitland District School Board.
- I consent audio recording of my interview using an electronic audio recording device in order to increase accuracy of documenting my responses.
- My participation in this research is voluntary; I may choose not to answer any question, and I may withdraw from the research at any time without penalty.
- I understand the potential benefits and risks associated with my participation in this study.
- There is no direct benefit to me through participation in the research. Indirect benefits include the professional development that may arise through intentional reflection on my teaching practice and potential changes in support for environmental and outdoor education for intermediate teachers in the AMDSB.
- All of the data collected during the study, including photographs, transcriptions, recordings, and related correspondence will be downloaded to a secure hard drive (not

connected to the internet) and stored in a locked office at Trent University for five years before being destroyed.

- The research has been approved by the Trent University Research Ethics Board and the Avon Maitland District School Board.
- A summary of the research findings will be sent to me, if I provide an email address below.
- If I have questions about the study, I may contact:
    - the researcher: Michelle McDonald (michellemcdonald@trentu.ca, 519-301-0490);
    - her research supervisor: Dr. Karleen Pendleton Jiménez (kpendletonjimenez@trentu.ca, 705-748-1011 ext. 7728);
    - the Trent Office of Research: Jamie Muckle, Research Compliance Officer (jmuckle@trentu.ca, 705-748-1011 ext. 7896); or
    - the Research Manager at the AMDSB: Allison Segeren (allison.segeren@ed.amdsb.ca, 519-527-0111 ext. 311).
- I have received a copy of the information letter and consent form for my records.

Participant, Date

Researcher, acknowledging receipt date

Please email me a summary of the research results to this email address.

Appendix C: Instructions for Taking Photographs

Instructions for taking photographs:

- You will take one photograph each day for ten consecutive school days, from January 9-20, 2023.
- Each photograph will depict the most significant interaction you had on that day with the outdoors.
- Your photographs should not include identifying features of your school or school yard.
    - If this cannot be avoided, use digital strategies (e.g., blurring or cropping) to edit your photographs.
- Your photographs should not include identifying features of students. This includes faces and distinctive clothing.
    - If this cannot be avoided, use digital strategies to (e.g., blurring, filters, or stickers) to edit your photographs.
- Your photographs should not include identifying features of you or any member of the staff at your school.
    - If this cannot be avoided, use digital strategies to (e.g., blurring, filters, or stickers) to edit your photographs.
- If you need assistance in implementing digital strategies to conceal the identity of any person (other than yourself) in a photograph, please contact the researcher at the email address below and I can provide support.
- Students who do not have an AMDBS consent to be photographed form signed by a parent or guardian should not be included in any photograph.
- If a school or student may not be reasonably de-identified, the photograph will be used in the analysis of the data but will not be displayed publicly.

Thank you very much for your participation in my research,

Michelle McDonald
michellemcdonald@trentu.ca