Canadian nature-based early childhood education and the UN 2030 Agenda for Sustainable Development: A Partial Alignment

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ABSTRACT

In 2015, Canada adopted the UN 2030 agenda for sustainable development and committed to its 17 sustainable development goals aiming to address issues of social, economic and environmental nature (United Nations, n.d.). Although Canada proposed an Indicator Framework with measurable targets to track progress on certain goals, these are still in the initial stage of development and discussion (Government of Canada, 2019). With increased demand for nature-based and outdoor educational programs in North America, exploring how the Sustainable Development Goals (SDG) may or may not align with current educational practices seems prudent. Specifically, we ask: Are the social, economic and environmental issues of concern integrated within outdoor nature-based programming? Could immersive outdoor programs be a viable avenue for helping Canada reach some of the global sustainable development goals? Finally, adopting a critical lens on the SDGs more broadly, are there additional ways in which teaching and learning for sustainability[1] can be implemented within Canadian nature-based programming?

In order to examine these questions, we start by briefly exploring the SDGs and the Canadian proposed targets. Utilizing some of the results of a Pan-Canadian large-scale survey study, we delved into survey questions that examined the diversity of the attendees, perceived benefits of programs, and the ways in which sustainability for education are incorporated within programs (e.g., climate change and environmental issues, conservation and stewardship, and Indigenous rights). Findings from the latter study suggest that outdoor nature-based programs can help address several SDGs and promote the development of children's key competencies that could enable them to engage with issues of sustainability. Yet, we contend that further studies are needed to examine how and to what extent outdoor nature-based programs can help equip future generations with a sustainable ethos.

Keywords: Sustainable development; Education for sustainability; Nature-based education; Early childhood education; Environmental education; Canada

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[1] Throughout this article, we rely on the phrase teaching/learning *for* sustainability to align ourselves with similar scholarship that conceives of the learner as embedded within a connected world and an active change agent within that world versus a focus on education of sustainability which focuses on "children's knowledge *about* the environment or their engagement *in* the environment" (Davis & Elliott, 2014, p. 5).

In 2015, Canada, alongside 192 countries worldwide, adopted the 2030 Agenda for Sustainable Development and expressed its commitment to achieving the United Nation's 17 Sustainable Development Goals (SDGs) (Government of Canada, 2019; United Nations, n.d.). According to UNICEF Canada (2017), the global SDGs are ambitious and designed to "provide lifelong education for all, protect the planet, and promote peaceful and inclusive societies – and they include goals and targets to protect children from violence, combat climate change and reduce inequality" (p. 2). In fact, *education* occupies a central part of the 2030 Agenda for being "both a goal in itself [i.e., SDG4] and a means for attaining all the other SDGs" (UNESCO, 2017, p. 1). As a result, UNESCO (2017) published a guide on education for sustainable development (ESD) for education professionals. ESD is defined as a lifelong learning process that "empowers learners to make informed decisions and responsible actions for environmental integrity, economic viability and a just society, for present and future generations, while respecting cultural diversity" (UNESCO, n.d.a., para. 1). UNESCO (2017) promotes the integration of ESD in both formal and informal education settings and within all levels of education, from preschool to tertiary.

Given the growing interest in nature-based education programs (Murray, 2019), especially with newfound attention to outdoor learning arising from the COVID-19 pandemic (Xing, 2020), an   We posit that the outcomes of this article could inform future research and practice and enrich the discussion within the fields of early childhood education, sustainability, environmental education, social justice, and outdoor education both in the Canadian context and elsewhere.

Early Childhood Education for Sustainability (ECEfS)

Many advocates agree that children, now and in the future, will bear the brunt of an unsustainable world (UNICEF, 2014) and "there is possibly no greater concern impacting on the lives of young children than the state of the environment and the equitable and sustainable use of its resources'' (Elliott & Davis, 2009, p. 66). Like others, we support a view of children as competent and capable of engaging in learning for sustainability (Caiman & Lundegård, 2014; Holbrook, 2009; Gothenburg Environment Centre, 2010). Furthermore, research shows clear evidence of children engaging in learning for sustainability and acting upon that knowledge (e.g., Boyd, 2016; Harwood, 2019; Mackey, 2012). Yet, clear gaps in ECEfS curricula and pedagogies are persistent.

Elliott et al. (2020) noted that multi-level systemic transformations are starting to take place in ECEfS around the world, although there remain significant challenges, such as moving beyond the assumption that playing outside in nature will automatically lead to developing a sustainable worldview (Elliott, 2017). Elliott et al. (2020) highlight that researchers in ECEfS (and we suggest educators as well) need to embrace a radical shift in how children are viewed and in what ways pedagogical approaches are transformed in early childhood education. Arguably, placing too much emphasis on concepts such as children's individual agency, environmental stewardship, and nature play, as well as viewing children as developmentally immature and in need of protection from the complex problems of the world (such as, climate change) is limiting and problematic. In fact, we, alongside Ärlemalm-Hagsér and Elliott (2020) and Engdahl, (2015), acknowledge that children are competent and capable of understanding and participating in complex issues affecting their lives; a stance that better supports the educational goal of helping deconstruct and transform a worldview deeply entrenched in anthropocentrism.

Canada and the SDGs

Since 2015 when Canada agreed to the goals set out in the 2030 Agenda, the federal government has moved forward on implementation through a public consultation process and an SDG funding program. Public consultations were held in 2019 and the results were published in an interim document titled, *Towards Canada's 2030 Agenda National Strategy*. This document contains a set of proposed measurable targets to demonstrate where Canada would like to be in 2030 and presents a draft version of the Canadian Indicator Framework (Government of Canada, 2019). In order to further Canada's implementation of the 2030 Agenda, the government of Canada launched an SDG funding program which provides financial support for projects that aim to either raise awareness of the SDGs or focus on research and innovation. To date, 47 organizations have received a total of 4.3 million in the 2019-2020 SDG funding (Employment and Social Development Canada, 2020).

On a related note, the 14ᵗʰ edition of UNICEF's Office of Research Report Card, *Building the future: Children and the Sustainable Development Goals in rich countries,* was published in 2017. This report examined the children's well-being with regard to the SD goals across 41 rich countries. More specifically, it "ranks countries based on their performance and details the challenges and opportunities that rich countries face in achieving interdependent global commitments for children, shared economic prosperity and a sustainable environment" (UNICEF Canada, n.d., para. 1). A companion report was published to highlight how Canada compares to the other countries. Overall, Canada ranked 25th out of the 41 rich nations. The country performed well in some areas (e.g., ranking 6th on SDG 12: Ensure sustainable production and consumption) but drastically low in others (e.g., ranking 37th on SDG 16: Promote peaceful and inclusive societies) (UNICEF Canada, n.d). At the time of writing, the Canadian government had not yet had a published plan on how to achieve the SDGs, despite 2030 being now less than a decade away.

Methodology

In order to examine the connections between outdoor nature-based early learning in Canada and the sustainable development goals (SDGs), we revisit results from a national survey study conducted in 2019. Survey participants consisted of 200 educators working in 165 various outdoor nature-based programs across Canada. Please, see Harwood et al. (2020) to gain a better understanding of the study and its outcomes.

For the purpose of this paper, we focus on a set of survey questions that are relevant to our queries: 1) Does education for sustainability represent a part of the contemporary outdoor nature-based programming in Canada? 2) Could immersive outdoor programs be a viable avenue for helping Canada to reach some of the SDGs? Descriptive statistics were conducted to analyze the closed-ended questions and a thematic analysis was completed for the open-ended questions. Within the scope of this article, we focus on discussing the children's mental and physical health, cultural diversity, inclusion of children with special needs, teaching for sustainability and the development of key ESD competencies.

Mental and physical health

Health and well-being across the spectrum of life stages is the focus of the UN Sustainable Development Goal 3. Canada has scored 29ᵗʰ out of 41 rich countries in terms of "Unhealthy Weight" with 1 out 4 Canadian children is being reported as overweight (UNICEF Canada, 2017). Although many factors can contribute to this unhealthy weight, one potential cause is the increasingly prevalent sedentary lifestyles. For instance, ParticipACTION[2] (2020) has reported that "only 39% of children and youth meet the physical activity recommendation within the Canadian 24-Hour Movement Guidelines" (p. 38). In contrast, outdoor nature-based programs may contribute to children's healthy behaviours, physical and mental health. In fact, there is a growing body of literature suggesting that outdoor nature-based programs can help promote the children's mental health and emotional well-being (e.g., Marchant et al., 2019, McCree et al., 2018; Roe & Aspinall, 2011) and provide the children with opportunities to become more active (Fjørtoft, 2004, Harwood, et al., 2017; Marchant et al., 2019; O'Brien & Murray, 2007). In our survey study, we asked respondents to report activities that children typically experienced within the program, including hiking for short and long distances, risky and/or adventurous play, storytelling, and dramatic play (see Figure 1).

What is evident from the survey responses is that a broad range of activities occur within these types of programs. For instance, over 85% of respondents communicated that children in their programs engaged in exploratory play, risky play such as climbing trees, play with loose parts, construction play, short hikes, creative play, and/or practical skills; activities that entail moderate to vigorous physical movements and generally promote gross and fine motor skills. Interestingly, only 22 respondents out of 164 reported digital technology as a form of their programs' activities, suggesting that nature-based programs are not typically contributing to children's screen time which is often associated with more sedentary behaviours. Survey participants also listed several other activities in addition to the

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[2] ParticipAction is a Canadian organization that has advocated for and monitored the physical health of Canadians since the 1970s

proposed list above, including Indigenous teachings (*n=4*), tool use (*n=4*), and various aspects of socio-emotional learning such as relaxation, empathy, mindfulness, conflict resolution (*n=6*).
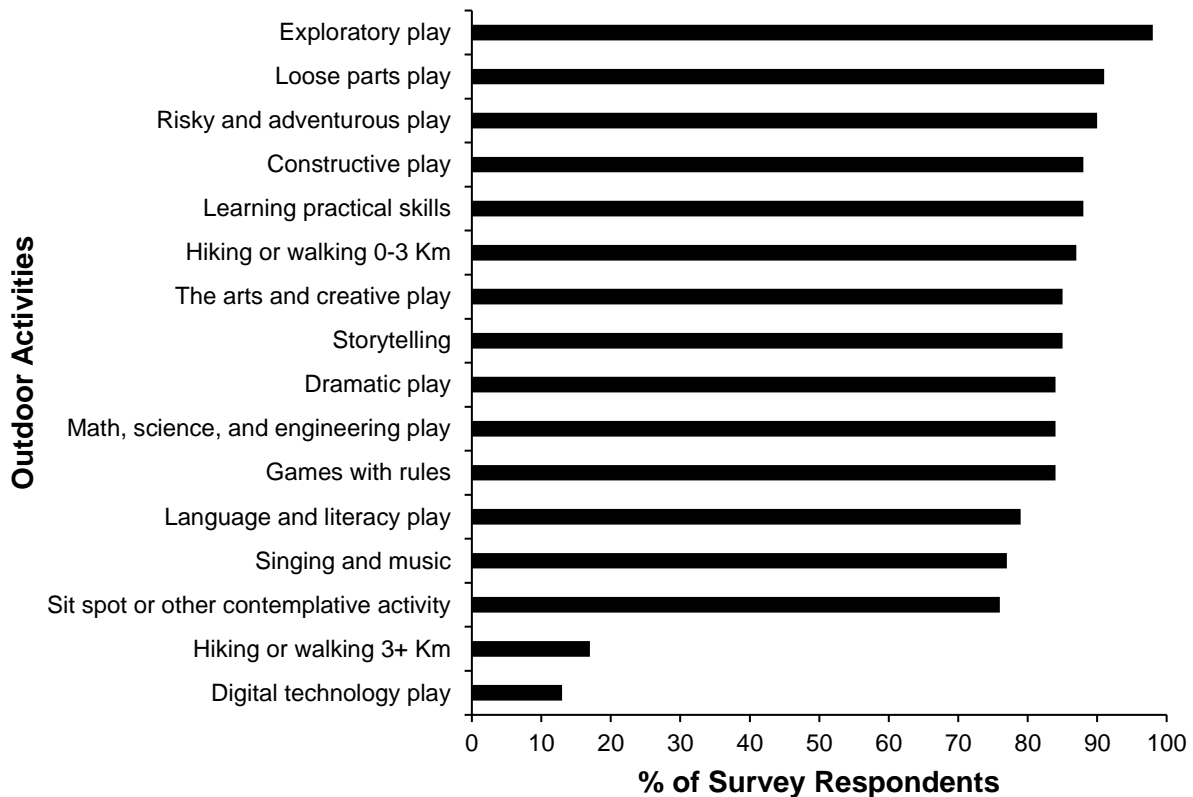

Figure 1. *Occurrence of Activities Conducted at Nature-based Early Learning Programs*

Cultural Diversity

Embedded in the 2030 UN agenda is a strong emphasis on the importance of cultural diversity. Item 36 of the agenda reads:

> We pledge to foster inter-cultural understanding, tolerance, mutual respect and an ethic of global citizenship and shared responsibility. We acknowledge the natural and cultural diversity of the world and recognize that all cultures and civilizations can contribute to, and are crucial enablers of, sustainable development. (United Nations, n.d., #36)

Canada is a culturally diverse country, with immigrants representing over 20% of the population, the highest among G8 nations (Evans, 2013). Statistics Canada (2017a) projects that immigration will continue to increase and may represent "between 24.5% and 30.0% of Canada's population in 2036" (para. 5). Statistics Canada (2017b) also notes that the Aboriginal population has grown by 42.5% since 2006 and will continue to grow at a faster rate than the non-Aboriginal population in Canada. Canada, however, is not immune to racism and discrimination. An Ipsos opinion poll conducted in 2020 demonstrated that nearly three in 10 Canadians report being the victim of racism, an increase from 2019 (Bricker, 2020). Additionally, The Canadian Human Rights Commissions (2020) stated that "it is time for all Canadians to acknowledge that anti-Black racism is pervasive in Canada. In fact, the belief that there is little to no racism in Canada is in itself a barrier to addressing it" (para. 1).

In the United States, the "back to nature" movement has largely been driven by a white, middle-class ideal (Dickinson, 2013). Finney (2014) critiques the absence of African American voices from mainstream environmental narratives, noting that racism has systematically limited black participation in outdoor recreational activities and in matters of environmental concern throughout history. This is exemplified in the recent NAAEE (2017) survey reporting that children of African American and latino/hispanic backgrounds were underrepresented in nature-based programs in the USA. In Canada, MacEachren (2018) also noted the schism between aspects of nature-based education and Indigenous educational approaches. Indeed, several Canadian scholars have called for greater inclusion of Indigenous perspectives and decolonizing approaches within nature-based early learning (e.g., MacEachren, 2018; Nxumalo, 2019; Pacini-Ketchabaw, 2013, Pacini-Ketchabaw, & Taylor, 2015).

In order to examine cultural diversity within nature-based early learning programs, we asked survey participants to report an approximate number of children/families/participants that could be identified with certain ethnic groups based on the Government of Canada's list of ethnicities (Statistics Canada, 2013). For each ethnic origin listed, participants had the choice to select one of the following options: "none", "0-10", "10-20", "20-30", "30-40", "over 50", and "not sure". These numbers were based on the enrolment in their nature-based programs between September 2018 and August 2019. Although results showed a diversity of ethnic groups represented, there was a discrepancy when it comes to their numbers (see Table 1).

Table 1

Prevalence of Different Ethnic Backgrounds as Reported by Nature-based Programs Educators

Ethnic group	% of survey respondents that reported serving this ethnic group	# of survey respondents that reported serving at least 50 participants of this ethnic group
White	98	39
South Asian (e.g., East Indian, Pakistani, Sri Lankan, etc.)	72	2
Chinese	74	3
Black	67	1
Filipino	44	1
Latin American	59	0
Arab	50	1
Southeast Asian (e.g., Cambodian, Laotian, Thai, etc.)	42	0
West Asian (e.g., Iranian, Afghan, etc.)	47	1
Korean	41	0
Japanese	44	0

Note: Indigenous ethnicities were not included in the list of options given the limitation that stemmed from the university ethic review process requiring the removal of any question pertaining to Indigenous populations.

For instance, almost all survey participants (98%) reported that their programs included white children/families/participants and that this number was much lower for other ethnicities. For instance, 74% of participants communicated that they had individuals from Chinese background in their programs while only 42% respondents reported having individuals from South Asian backgrounds. Few ethnicities were reported in the highest category. Conversely, a total of 39 respondents reported that "over 50" white children/participants attended their programs during the 2018-2019 year. Also, it was notable that only three participants reported that their programs did not include any white children. These three programs can be described as follows: one program in each of New Brunswick and Ontario reported exclusively catering to Indigenous participants and the third program, located in Quebec, was serving Filipino and Latin American participants. Moreover, although participants were not explicitly

asked to share the number of Indigenous children participating in their programs (a limitation of this study), 32 respondents noted Indigenous participants in the "other" category of the question.

Since many respondents 'skipped' this question or selected "not sure" or commented that they did not keep track of the cultural background of participants, a fulsome understanding of diversity in outdoor programs is currently lacking. Ascertaining a better understanding of cultural representation within programs is important as well as garnering insights into ways of insuring greater representation by addressing any barriers that exist is needed. Interestingly, programs themselves have also noted this gap in receiving requests from a diverse clientele. One survey participant from Quebec wrote:

> Je souhaite dans un avenir proche que mes services attirent une clientèle plus variée. En 3 ans je n'ai reçu aucune demande de la part de famille de minorité ethnique. C'est un triste constat.
> [I hope my services will attract diverse clients in the near future. In three years, I have not had any demand from families of ethnic minorities. This is sad.]

Clearly, ensuring cultural diversity within early childhood programs, including outdoor nature-based programs, proves to be crucial as Canadian population is becoming increasingly diverse.

Inclusivity

Ensuring inclusivity and equality is also a priority of the 2030 Agenda (United Nations, n.d.). More specifically, SDG 10 focuses on reducing inequalities and SDG 16 on building inclusive institutions at all levels. In this section, we concentrate on one particular aspect of inclusivity that connects with our survey of outdoor nature-based early learning: accessibility of programs for children with special needs or attendees who require additional support. The USA-based NAAEE (2017) survey on nature preschools reported having "less than 5% of students that received special education or were dual language learners" (p. 4) compared to 13% of the American education system receiving special education services. Thus, we were curious to explore how Canadian programs would fare with ensuring inclusivity. Survey participants were asked about the percentage of children in their programs who had received special education/services in the last 12 months, the results are summarized in Table 2.

Table 2
Educational Support for Children Enrolled in Nature-based Programs

% of children receiving special education/special needs	% of survey respondents
0	26
Less than 5	41
5 – 10	17
10 – 20	7
20 – 30	5
30 – 40	2
40 – 50	1
Over 50	2

Note: The survey question specified that special education/special needs included children who may have behavioural, communicational, intellectual, physical, or multiple exceptionalities and require supports to fully participate in outdoor and nature-based learning experiences). Numbers were based on the previous 12 months.

Although 17% of the participants did indicate that approximately 5 to 10% of the children attending outdoor programs had received some sort of special educational support for their needs, one might suggest that children with special needs appear to either not be attending the outdoor programs or not receiving the educational support they need. Most often participants reported that none or less than 5% of attendees were provided special education/needs services (26% and 41%, respectively). Participants were not asked to elaborate on this question; thus, we cannot present explanations for these results. However, one survey participant volunteered the following

comment in the final survey question: "I unfortunately cannot take any children with IEPs (individual learning plans) because I am the only adult due to program limitations".

In Canada, it is difficult to obtain national data on special educational services due to the provincially held responsibility for the provision of education, and the more robust data that is reported typically begins with elementary school age children. Further, younger children are often misdiagnosed or go undiagnosed for many years given some of the inherent challenges of diagnosing really young children (Singh et al., 2010). The most recent national reporting on Canadian children with disabilities was conducted in 2006 through the Participation and Activity Limitation Survey (Statistics Canada, 2008). Data showed that 1.7% children aged 0-4 years and 4.2% of children aged 5-9 years were reported as having one or more disabilities (Statistics Canada, 2008). No national statistics have been captured since 2006. This lack of recent reporting is a major issue that has been recently highlighted by a group of Canadian researchers (Shikako-Thomas, 2020). According to recent provincial data for Ontario, an average of 17% of elementary-aged children received special education support within publicly funded schools in 2018 (People for Education, 2018). There is also a steady rise in this percentage since in 2000 only 9% of children received special education support (People for Education, 2018).

Despite our inability to situate our survey data on nature-based early learning within a wider Canadian context, we suggest that children requiring specials needs may not be proportionally included. Given that many of the educational supports provided in Canada may be granted to children through the school system, we drew upon data from an additional survey item that asked participants to select the type of nature-based program (e.g., public or private education from K to grade 6). We found that, out of the survey respondents that reported providing special needs support to at least 5% of children, almost half (47%) worked within the public school system. However, an overwhelming majority of survey participants in this study were not part of a public school system (74%), thus, fewer special education services were presumably being offered in these outdoor nature-based programs. A further examination of the inclusivity policies and available resources for nature-based programs, especially those operating as informal or private programs, would contribute to assessing the potential for outdoor nature-based programs to help Canada meet the inclusivity goals set forth in the SDGs.

Teaching for sustainability

One of the questions included in the survey asked educators about the topics that they introduced, discussed, or explored with children as a part of their outdoor nature-based programs. The participants had the choice to select more than one option from a list of five main topics. Participants could also select "none of the above". Figure 2 depicts the results of this survey question.

As Figure 2 highlights, conservation and stewardship was most often noted by educators as a focused topic within outdoor nature-based programs while climate change and environmental issues was the least frequently reported, although this still represented around one third of participants. Notably, the topic of sustainability was self-reported as being introduced by 80% of the respondents. It would be tempting to conclude that most children in nature-based early learning programs are meaningfully exploring these topics, however, our survey only depicts *self-reported* responses. Limited by the study's design, we are unable to assess to what extent these educators are addressing these topics, their level of comfort in teaching complex sustainability topics, or how they are doing so, especially with very young children.
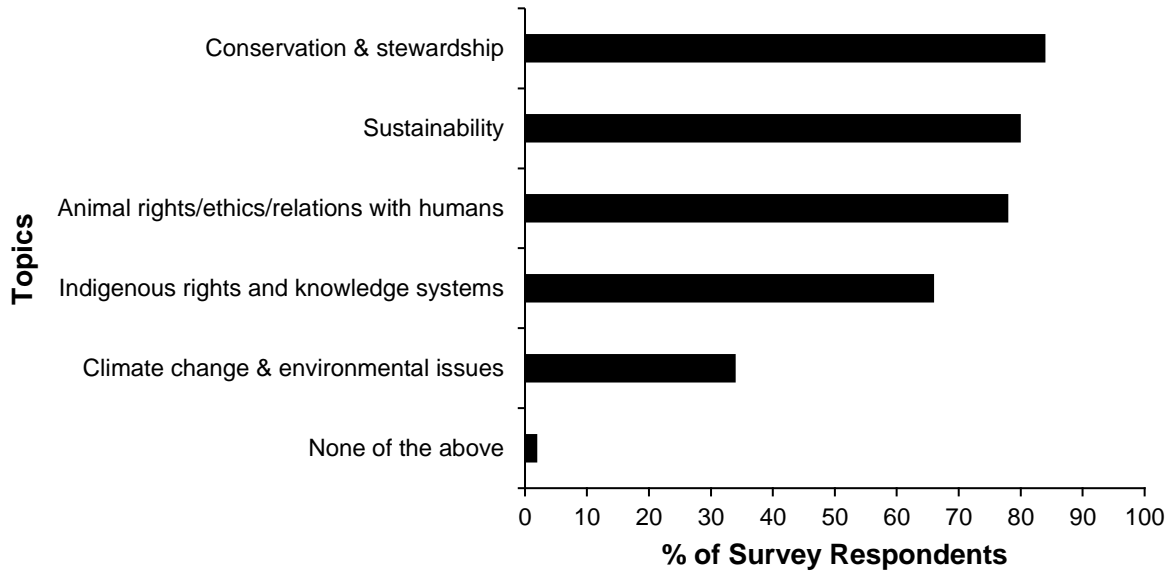
Figure 2. *Topics discussed within nature-based early learning programs*

Note. The list of possible responses included further description in the survey for some items, as follows: conservation and stewardship (e.g., the responsible use, including conservation of natural resources), climate change and environmental issues (e.g., the devastating impact of global warming, such as the more frequent extreme weather events and the sea level rise), sustainability (i.e., respect and care for the community of life, ecological integrity, social and economic justice, democracy, nonviolence and peace, relying on renewable energy), animal rights/ethics/relations with humans, Indigenous rights and knowledge systems, and none of the above.

In order to shed further light on ESD within outdoor nature-based programs, we examined the SDGs themselves. UNESCO has published an online educator resource (https://en.unesco.org/themes/education/sdgs/material) which includes guidelines for each SDG at different educational levels including early childhood. We juxtaposed these guidelines with the main themes found through analyzing the survey question on the perceived benefits of nature-based early learning that were reported by the educators. This survey question asked participants to list two or three of the main benefits they had observed in children who were involved in their outdoor nature-based programs. Open-ended responses were coded inductively then collapsed into themes. Mainly, outdoor and nature programs were suggested to help promote the children's (1) social and collaborative skills, (2) risk taking/management skills, (3) understanding of and empathy/respect to their natural surroundings, (4) connection to the place, (5) mental health and emotional wellbeing, (6) autonomy and independence, (6) creativity, imagination, and curiosity, (7) physical skills, and (8) self-confidence and self-esteem.

In order to determine whether these themes aligned with the SDGs, we conducted a three-way analysis (i.e., UNESCO early childhood guidelines, SDGs, and survey themes). Table 3 highlights the results of this analysis with five of the SDG goals associated with the outdoor nature-based benefits perceived by the study participants. As a result, we propose that educators in general, especially early years educators, can capitalize on outdoor nature-based programs to address the expectations of several SDGs.

Table 3
Aligning the UNESCO SDG ECE Guidelines with the Outdoor Nature-Based Benefits Perceived by Educators in Canada

SDG	Guidelines for educators for addressing each SDG goal at the ECE level (taken from UNESCO, n.d.b.)	Thematic Perceived benefits of outdoor nature-based programs
3 – Good Health and Well-being	Within a context of fun, play, movement and active recreation, learners at this level begin to develop socio-emotional literacy, learning to manage feelings, to build relationships and to understand others' emotions.	Mental health and emotional wellbeing e.g., less stressed, happier, calmer, resilient, and self-regulated. Physical skills including gross, and fine motor skills and stamina Social & collaborative skills encompassing fewer conflicts among children, group work, cooperation, and improved communication with each other.
4 – Quality Education	At this stage, stimulating learning spaces and environments contribute to unleash the learners' potential in creative representation, through drawing, painting, role play or modelling activities. They learn to initiate social relations while making plans and taking decisions, solving problems encountered in play activities, expressing feelings and being sensitive to others	Autonomy and independence (mainly driven by the child-led underpinning principle) Creativity, imagination, & curiosity (mainly driven by the child-led and play-based underpinning principles) Social & collaborative skills encompassing fewer conflicts among children, group work, cooperation, and improved communication with each other.
10 – Reduced Inequalities	At this stage, children learn how to interact and communicate positively with others. Games and role play can be used to introduce the notions of inequality, fairness and sharing, e.g., through the equal or unequal distribution of coins or sweets, thereby increasing the learners' sense of generosity and sharing	Social & collaborative skills encompassing fewer conflicts among children, group work, cooperation, and improved communication with each other.
11 – Sustainable Cities and Communities	By means of field trips and gardening activities, children at this stage learn about natural cycles and systems. They are able to participate in eco-projects under adult supervision, thereby awakening their creativity and problem-solving abilities. At the same time, in a natural way, they learn to show empathy towards other people and their surrounding environment	Understanding of and empathy/respect to their natural surroundings Connection to the place Social & collaborative skills encompassing fewer conflicts among children, group work, cooperation, and improved communication with each other.

| 17 – Partnerships for the Goals | By means of physical activity and diverse play among peers with different abilities, the meaning of partnership is introduced. They sing together, go on walks in partnerships, and play in small groups, thus developing positive social and emotional behaviours. | Mental health and emotional wellbeing, e.g., less stressed, happier, calmer, resilient, and self-regulated.
Physical skills including their gross/fine motor skills and stamina
Social & collaborative skills encompassing fewer conflicts among children, group work, cooperation, and improved communication with each other. |

Key ESD competencies

UNESCO's (2017) publication, *Learning for Sustainable Development: Learning Objectives*, presents a list of cross-cutting "key competencies for sustainability" (p. 10), arguably competencies that develop in the early years and help prepare children to engage in sustainability learning throughout their lifetime. Table 4 lists these competencies and their corresponding description.

Table 4
ESD Competency Definitions

ESD Competency	Definition (Taken from UNESCO, 2017, p.10)
Systems Thinking Competency	The abilities to recognize and understand relationships; to analyse complex systems; to think of how systems are embedded within different domains and different scales; and to deal with uncertainty.
Anticipatory Competency	The abilities to understand and evaluate multiple futures – possible, probable and desirable; to create one's own visions for the future; to apply the precautionary principle; to assess the consequences of actions; and to deal with risks and changes.
Normative Competency	The abilities to understand and reflect on the norms and values that underlie one's actions; and to negotiate sustainability values, principles, goals, and targets, in a context of conflicts of interests and trade-offs, uncertain knowledge and contradictions.
Strategic Competency	The abilities to collectively develop and implement innovative actions that further sustainability at the local level and further afield.
Collaboration Competency	The abilities to learn from others; to understand and respect the needs, perspectives and actions of others (empathy); to understand, relate to and be sensitive to others (empathic leadership); to deal with conflicts in a group; and to facilitate collaborative and participatory problem solving.
Critical Thinking Competency	The ability to question norms, practices and opinions; to reflect on own one's values, perceptions and actions; and to take a position in the sustainability discourse.
Self-awareness Competency	The ability to reflect on one's own role in the local community and (global) society; to continually evaluate and further motivate one's actions; and to deal with one's feelings and desires.
Integrated Problem-solving Competency	The overarching ability to apply different problem-solving frameworks to complex sustainability problems and develop viable, inclusive and

> equitable solution options that promote sustainable development, integrating the above-mentioned competencies.

We drew upon these ESD competencies to conduct a deductive thematic analysis of the open-ended question on the perceived benefits of nature-based programs. This question was addressed by 163 participants. Each response was coded based on the congruence with the definition of the ESD competencies. For instance, one participant perceived the following benefits of outdoor nature-based programs on the children: "Learning risk-taking and risk-assessment [sic]; Working together as a team; Investigating and observing", this response was coded as both anticipatory and collaboration competencies based on the ESD definitions.

In terms of findings, the data analysis revealed that several of the ESD key competencies were promoted within the benefits of nature-based early learning programs narrated by the educators in the Canadian context. Specifically, the competencies of self-awareness, anticipatory, collaboration, systems thinking, and integrated problem-solving were noted in the participants' responses. However, the competencies of strategic thinking, critical thinking, and normative competence were not noted in any of the participants' responses.

Self-awareness competency was the most frequently coded ESD competency. Perhaps this is not surprising given the young ages of many of the children attending outdoor programs (i.e., 77% of the programs catered to ages 3-5 years; Harwood et al., 2020) and the focus on holistic development in early childhood education. Often participants noted a benefit of increased self-regulation in children attending outdoor nature-based programs. Fostering an understanding by learning about the local environment and a heightened alertness or mindfulness of oneself were also frequently noted. One example is shown by the following participant response, which was coded as self-awareness competency:

> *A heightened sense of self-esteem, self-confidence, and self-efficacy. Children who were shy or felt incompetent have changed to become more outgoing, outspoken, and are able to move their bodies in ways they didn't think possible. Children who are higher energy and are potentially hyperactive have shown increased calm, focus, or groundedness. Children who are aggressive and have an abundance of energy have found a more natural equilibrium and are able to channel energy in productive ways, with a decrease in outbursts and an increase in self-control over time.*

Anticipatory competency was also found frequently among the responses. Dealing with and anticipating changes and potential risks commonly occurs within outdoor programs in Canada, notably due to seasonal changes that children experience and the risky play opportunities that are promoted in some approaches (Boileau & Dabaja, 2020; Knight, 2011). Thus, several participants described the benefits of their programs as including risk-taking and risk assessment, as well as learning to deal with uncertain weather. The two following comments are examples of responses that were coded as anticipatory competency:

> *They learn more about who they are. Students learn to deal with the weather, something they can't change. This changes how they look at other issues they experience in the future. They learn that they can make changes in their life to change their future.*

> *After a few sessions, parents are more relaxed about letting their children play and take risks. Children also learn to be more comfortable in the outdoor environment and take more risks and recognize their limits.*

Next, collaboration competency was noted in many of the responses. Again, this is not surprising given that social skills have been found to be an outcome of nature-based early childhood education in previous studies (e.g., Boileau & Dabaja, 2020; Coates & Pimlott-Wilson, 2019; Harris, 2015). Here, survey participants described children experiencing fewer conflicts, cooperating, and developing empathy – instances that fit the description of the collaboration competency. One participant, for example, listed "Empathy, self-regulation, sense of wonder" as the

main benefits observed, while another wrote: "Children get along better. Physical skills, gross and fine motor, are greatly enhanced. Imaginative play is far superior, with less adult interaction."

Systems thinking was found among many of the survey responses. Educators have observed that children develop an awareness of local ecology, and a better appreciation for the intricacies of relationships around them, both human and non-human. One participant noted, among other benefits, that children: "Develop a deep connection to nature and the 'place' we visit over time, becoming stewards of the natural world." Another response mentioned different types of relationships: "Developing responsibility and relationships - with others, educators and self". A third wrote that children gain an "Enhanced appreciation for the outside world" and a "greater understanding of our interconnected relationship with the "wild."

Finally, integrated problem-solving was found to be present in the responses, although less frequently. This code was mainly assigned to responses discussing children's everyday problem-solving abilities. This participant presented many different benefits of their program, including problem-solving:

> *I could list so many benefits of Nature based play and learning. 1. Is the sense of freedom that the children experience when they're outside. They're surrounded by fresh air, sky and everything that nature has to offer- therefore there are no limits to their exploration. 2. Being outside decreases child related depression, anxiety and other health related issues, like obesity & asthma just to name a few. 3. Being outside allows the children the opportunity to use their critical thinking skills when it comes to problem solving, science, geology and even math and literacy (e.g., how can we build a ladder to get up in the tree- how many sticks will it take, how high can we make it). b) Discovering bugs, birds, and other wildlife - for example we have several dear and a groundhog living in the woods, we also have lots of tadpoles & frogs in the shallow brook below. All of these are REAL life - not just in a book or on a screen. we also have a fire pit for campfires and family gatherings in the winter and all year long.*

As previously mentioned, the remaining ESD competency skills were not found within the responses to this survey question. Taking into consideration that survey participants were not specifically asked to report on the ESD competencies, and that some competencies require advanced cognitive skills that children may not have acquire yet, such as reflecting on the "norms and values that underlie one's actions" (UNESCO, 2017, p.10) for normative competency, this seems unsurprising. Our analysis does suggest that outdoor nature-based early learning programs are a potential avenue for helping children develop some of the competencies they need and will need in the future to navigate increasingly complex sustainability issues. Perhaps with specific ESD competency focused questions in future research, more explicit alignments would be evident.

Discussion

In examining various aspects of sustainability and the sustainable development goals within outdoor nature-based early learning education in Canada, several elements merit further discussion. First, outdoor nature-based early learning programs offer alignment with Canadian ambitions related to SDG 3, which include: "Canada adopts healthy behaviours" and "Canadians have healthy and satisfying lives" according to the draft Canadian Indicator Framework (Government of Canada, 2019, p. 40). Along with minimal use of technology and other sedentary type activities, the survey respondents emphasized greater use of more vigorous type activities (e.g., hiking, risky and adventurous type of play). Outdoor nature-based programs have been found to afford certain types of play that uniquely contribute to more vigorous physical activity (Harwood et al., 2017). Clearly, negating the often-sedentary effects of more typical early childhood programs (Kuzik, et al., 2015; Vanderloo et al., 2013; Vanderloo et al., 2015) with expanded and more inclusive outdoor nature-based programs will be an important contribution to SDG 3.

Although not specifically addressed in an SDG, cultural diversity is embedded in the main principles. SDG 10 and 16 also focus on inequalities and inclusivity. Thus, we examined the cultural composition of children attending nature-based programs and accessibility with regards to children with special needs. The preliminary examination of the cultural composition of children attending nature-based programs in this study did indicate that participation in

programs is skewed in favor of white individuals. Among the 34.5 million Canadian population in 2016, South Asians accounted for 5.6% of the total population (i.e., the highest percentage), whereas Black, Arab, and West Asian accounted for 3.5%, 1.5%, 0.8% of the population respectively. In addition, Aboriginal people represented 4.3% of Canada's overall population in 2011 (Statistics Canada, 2016).

Despite this diversity within the general population, outdoor nature-based programs in Canada appear predominantly white-centric (i.e., only 3 programs exclusively served a non-white population while 98% of programs included white attendees). Moreover, in this study several educators also responded that they did not keep track of cultural composition of participants, thus it is impossible to provide a fulsome account of cultural diversity or to compare the cultural composition of programs to the general Canadian population. Yet, the barriers for participation in the outdoors for marginalized groups are well documented and inequities exist (Winter et al., 2020). Moreover, the specific pedagogy of some programs, such as forest schools are based on a Eurocentric child-centered and play-based approach and may appeal to families that seek programs that match their cultural and family values. As Ärlemalm-Hagsér and Elliott (2020) noted, a Western perspective of childhood, early childhood education and care (ECEC), and nature can be problematic. They further suggest that important questions need to be asked, notably "what kind of ECEC is provided, and for whom", noting that "ECEC can be a vital actor in educating for social justice, social responsibility and social inclusion – against racism, prejudice and oppression" (Ärlemalm-Hagsér & Elliott, 2020, p. 8).

In terms of inclusion of children with special education needs, our survey outcomes appear to echo the results found in the USA nature-based preschool survey (NAAEE, 2017). Although the lack of national reporting on children with disabilities and the special education needs meant we could not draw conclusions related to the accessibility of nature-based programs, we believe that our study's outcomes may align with Shikako-Thomas et al. (2020) who noted that, generally in the Canadian context, "participation of children with disabilities in leisure activities, including opportunities for free play, physical activities, play in public parks and playgrounds, outdoor play and structured play activities is restricted in comparison to that of other children" (p. 9). The inclusion of children from various cultural backgrounds and ethnicities, and diverse abilities needs to be further examined in the Canadian context.

It appears from our survey that topics such as conservation, sustainability, Indigenous rights and knowledges, climate change, and animal rights are being interwoven within outdoor nature-based early programs. However, we caution that this outcome was not verified with specific examples or observations. In an increasingly complex and uncertain world, humans need to develop certain skills and capacities to be able to responsibly navigate their world (UNESCO, 2017). Certain competencies "cannot be taught but have to be developed by the learners themselves. They are acquired during action, on the basis of experience and reflection" (UNESCO, 2017, p.10). Beyond educators noting that certain sustainability topics are included within outdoor nature-based programs, our thematic analysis revealed that several of the SDGs (notably, goals 3, 4, 10, 11, 17) are being addressed in the context of nature-based programs and that several of the ESD competencies are being promoted. Given that many nature-based programs emphasize the children's physical activity, problem-solving abilities, social interaction and generally follow children's interests, this is not surprising. Although we see the merits of outdoor nature-based programs in terms of children's health and development, we argue that these types of educational programs may underutilize an important opportunity for more guided learning of sustainability concepts such as local ecological issues, resource conservation, and social justice-equity issues.

We would also argue that educators need to further their knowledge about education for sustainable development (UNESCO, 2017) and specifically in early childhood education for sustainability, both at the pre-service and in-service levels (Elliot et el., 2020). In fact, Weldemarian and Wals (2020) advance that educators play a key role in shifting towards emergent and relational pedagogy. This poses a unique challenge, however, given the lack of Canadian policy and curriculum frameworks that include ESD, an obvious need and critical component in supporting this shift. In this sense, we find Canada mirrors the USA which has taken "baby steps" in moving from a traditional environmental education approach to an education for sustainability approach (Carr & Plevyak, 2020). Although our survey results hint that some Canadian educators are addressing sustainability concepts in nature-based programs, it is not clear how or which specific aspects of sustainability are being addressed. Thus, further examination would be beneficial in this regard.

Conclusion

In this article, we sought to examine the results of a national survey of outdoor nature-based early learning in Canada through the lens of the UN 2030 Agenda for Sustainable Development (United Nations, n.d.). Findings from the study suggest that outdoor nature-based programs can help address several SDGs and promote the development of the children's key competencies needed to engage with issues of sustainability. Whether through an explicit programmatic or pedagogical decision or not, we contend that outdoor nature-based programs are helping Canada address several of the SDGs. Yet, it remains unclear whether, and if so, to what extent these Canadian programs are challenging a 'nature by default' approach and anthropocentric worldview (Elliott & Young, 2016). Clearly, paradigmatic shifts away from reductionist teaching and learning approaches that focus solely 'in' and 'about' the environment are needed. Also, one can wonder whether educators and programs are adequately prepared to guide children in developing the necessary competencies, knowledge, and abilities to engage with issues and find solutions for social, economic and environmental sustainability in the Canadian context. Thus, further studies that examine how and to what extent outdoor nature-based programs can help equip future generations with a sustainable ethos are to be encouraged.

References

Ärlemalm-Hagsér, E., & Elliott, S. (2020). Analysis of historical and contemporary early childhood education theories in the Anthropocene. In S. Elliott, E. Ärlemalm-Hagsér, & J. M. Davis (Eds.), *Researching early childhood education for sustainability: Challenging assumptions and orthodoxies* (pp. -12). Routledge.

Boileau, E. Y. S., & Dabaja, Z. F. (2020). Forest School practice in Canada: A survey study. *Journal of Outdoor and Environmental Education*, *23*(3), 223-240. https://doi.org/10.1007/s42322-020-00057-4

Boyd, W. (2016). Playing cool: The sustainable cool cubby. *Australasian Journal of Early Childhood*, 41(3), 29-37.

Bricker, D. (2020). Majority (60%) See Racism as a Serious Problem in Canada Today, Up 13 Points Since Last Year. https://www.ipsos.com/en-ca/majority-60-see-racism-serious-problem-canada-today-13-points-last-year

Caiman, C., & Lundegård, I. (2014). Pre-school children's agency in learning for sustainable development. *Environmental Education Research*, *20*(4), 437-459. https://doi.org/10.1080/13504622.2013.812722

Canadian Human Rights Commission. (2020, June 2). *Statement - Anti-Black racism in Canada: time to face the truth.* https://www.chrc-ccdp.gc.ca/eng/content/statement-anti-black-racism-canada-time-face-truth

Evans, L. (2013, June 4). *Diversity in Canada: an overview.* Canadian Immigrant. https://canadianimmigrant.ca/guides/moving-to-canada/diversity-in-canada-an-overview

Carr, V., & Plevyak, L. (2020). Early childhood environmental education in the USA. In S. Elliott, E. Ärlemalm-Hagsér, & J. Davis (Eds.), *Researching early childhood education for sustainability: Challenging assumptions and orthodoxies* (pp. 94-107). Routledge.

Coates, J. K., & Pimlott-Wilson, H. (2019). Learning while playing: Children's Forest School experiences in the UK. *British Educational Research Journal*, *45*(1), 21-40. https://doi.org/10.1002/berj.3491

Davis, J. & Elliott, S. (Eds.) (2014). *Research in early childhood education for sustainability: International perspectives and provocations.* Routledge.

Dickinson, E. (2013). The misdiagnosis: Rethinking "nature-deficit disorder". *Environmental Communication*, *7*(3), 315-335. https://doi.org/10.1080/17524032.2013.802704

Elliott, S. (2017). An Australian perspective: Seeking sustainability in early childhood outdoor play spaces. In T. Waller (Ed.), *The sage handbook of outdoor play and learning* (pp. 295-316). Sage.

Elliott, S., Ärlemalm-Hagsér, E., Ji, O., Wang, W., & Mackey, G. (2020). Synopsis: An update on countries previously represented in the first volume (Australia, Japan, South Korea, New Zealand, Norway, Sweden, United Kingdom, plus China). In S. Elliott, E. Ärlemalm-Hagsér, & J. M. Davis (Eds.), *Researching early childhood education for sustainability: Challenging assumptions and orthodoxies* (pp. 53-68). Routledge.

Elliott, S., & Davis, J. (2009). Exploring the resistance: An Australian perspective on educating for sustainability in early childhood. *International Journal of Early Childhood, 41*(2), 65–77.

Elliott, S., & Young, T. (2016). Nature by default in early childhood education for sustainability. *Australian Journal of Environmental Education*, 32(1), 57-64.

Employment and Social Development Canada (2020, May 20). Government of Canada announces funding to support organizations accelerating action on the 2030 Agenda for Sustainable Development in Canada. https://www.newswire.ca/news-releases/government-of-canada-announces-funding-to-support-organizations-accelerating-action-on-the-2030-agenda-for-sustainable-development-in-canada-869807177.html

Engdahl, I. (2015). Early childhood education for sustainability: The OMEP world project. *International Journal of Early Childhood*, *47*(3), 347-366. https://doi.org/10.1007/s13158-015-0149-6

Finney, C. (2014). *Black faces, white spaces: Reimagining the relationship of African Americans to the great outdoors*. The University of North Carolina Press.

Fjørtoft, I. (2004). Landscape as playscape: The effects of natural environments on children's play and motor development. Children, Youth and Environments, 14(2), 23-44.

Harris, F. (2015). The nature of learning at Forest School: Practitioners' Perspectives. *Education 3-13*, *45*(2), 272-291. https://doi.org/10.1080/03004279.2015.1078833

Harwood, D. (2019). The blue car in the forest: Exploring children's experiences of sustainability in a Canadian forest. *Nordic Studies in Science Education* (*NorDiNa)*, 15(3), 403-417.

Harwood, D., Boileau, E., Dabaja, Z., & Julien, K. (2020). Exploring the national scope of outdoor nature-based early learning programs in Canada: Findings from a large-scale survey study. *The International Journal of Holistic Early Learning and Development, 6.* https://ijheld.lakeheadu.ca/article/view/1761

Harwood, D., Reichheld, S., McElhone, S., & McKinlay, B. J. (2017). "I can climb the tree!" Exploring young children's play and physical activity in a forest school program. *The International Journal of Holistic Early Learning and Development, 4*, 45-62.

Holbrook, J. (2009). Meeting challenges to sustainable development through science and technology education. *Science Education International*, *20*(1), 44–59.

Knight, S. (2011). *Risk and adventure in early years outdoor play*. Sage.

Kuzik, N., Clark, D., Ogden, N., Harber, V., & Carson, V. (2015). Physical activity and sedentary behaviour of toddlers and preschoolers in child care centres in Alberta, Canada. *Journal of Public Health*, *106*(4), 178-183.

Gothenburg Environment Centre. (2010). *Taking Children seriously. How EU can invest in early childhood education for a sustainable future* (No. 4). Gothenburg, Sweden: EPSD - European Panel on Sustainable Development.

Government of Canada (2019). *TOWARDS Canada's 2030 agenda national strategy: Sustainable development goals*. Sustainable Development Goals Unit, Employment and Social Development Canada. https://www.canada.ca/content/dam/esdc-edsc/documents/programs/agenda-2030/7781_EmploymentSocialDevelopment_2030-ENv5.pdf

MacEachren, Z. (2018). First Nation pedagogical emphasis on imitation and making the stuff of life: Canadian lessons for indigenizing Forest Schools. *Journal of Outdoor and Environmental Education*, *21*(1), 89-102. https://doi.org/10.1007/s42322-017-0003-4

Mackey, G. (2012). To know, to decide, to act: the young child's right to participate in action for the environment. *Environmental Education Research*, *18*(4), 473–484.

Marchant, E., Todd, C., Cooksey, R., Dredge, S., Jones, H., Reynolds, D., Stratton, G., Dwyer, R., Lyons, R., & Brophy, S. (2019). Curriculum-based outdoor learning for children aged 9-11: A qualitative analysis of pupils' and teachers' views. *PLOS ONE*, *14*(5), 1-24. https://doi.org/10.1371/journal.pone.0212242

McCree, M., Cutting, R., & Sherwin, D. (2018). The hare and the tortoise go to Forest School: Taking the scenic route to academic attainment via emotional wellbeing outdoors. *Early Child Development and Care, 188*(7), 980-996.

Murray, T. (2019). Creating powerful learning experiences with nature-based education. *ETFO Voice.* http://etfovoice.ca/feature/creating-powerful-learning-experiences-nature-based-education

North American Association for Environmental Education [NAAEE]. (2017). Nature preschools and forest kindergartens 2017 national survey. http://naturalstart.org/sites/default/files/staff/nature_preschools_national_survey_2017.pdf

Nxumalo, F. (2019). *Decolonizing place in early childhood education*. Routledge.

O'Brien, L., & Murray, R. (2007). Forest School and its impacts on young children: Case studies in Britain. *Urban Forestry & Urban Greening, 6*(4), 249–265.

Pacini-Ketchabaw, V. (2013). Frictions in forest pedagogies: Common worlds in settler colonial spaces. *Global Studies of Childhood, 3*(4), 355–365. https://doi.org/10.2304/gsch.2013.3.4.355

Pacini-Ketchabaw, V., & Taylor, A. (Eds.). (2015). *Unsettling the colonial places and spaces of early childhood education*. Routledge.

ParticipACTION. (2020). *The role of family in the physical activity, sedentary and sleep behaviours of children and youth. The 2020 ParticipACTION report card of physical activity for children and youth.* https://participaction.cdn.prismic.io/participaction/f6854240-ef7c-448c-ae5c-5634c41a0170_2020_Report_Card_Children_and_Youth_Full_Report.pdf

People for Education. (2018). *The new basics for public education.* People for Education annual report on Ontario's publicly funded schools 2018. https://peopleforeducation.ca/wp-content/uploads/2018/06/AnnualReport18_Web.pdf

Roe, J., & Aspinall, P. (2011). The restorative outcomes of forest school and conventional school in young people with good and poor behaviour. *Urban Forestry & Urban Greening, 10*(3), 205-212.

Shikako-Thomas, K., Gonzalez, M., Lai, J., Movahed, M., Mora Severino, S., Martens, R., Finlay, B., & Zwicker, J. (March, 2020). *Children with disabilities in Canada.* Alternative Report for the 5th/6th Review of Canada under the Convention on the Rights of the Child. Report submitted to the United Nations Committee on the Rights of the Child.

Singh, H., Thomas, E., Wilson, L., Kelly, A., Pietz, K., Elkeeb, D., & Singhal, G. (2010). Errors of diagnosis in pediatric practice: A multisite survey. *Pediatrics, 126*(1), 70-79. https://doi.org/10.1542/peds.2009-3218

Statistics Canada. (2008). *Participation and Activity Limitation Survey 2006: Families of Children with Disabilities in Canada.* https://www150.statcan.gc.ca/n1/pub/89-628-x/89-628-x2008009-eng.htm

Statistics Canada. (2013). *Visible Minority and Population Group Reference Guide: National Household Survey, 2011*. https://www12.statcan.gc.ca/nhs-enm/2011/ref/guides/99-010-x/99-010-x2011009-eng.pdf

Statistics Canada. (2016). *Canadian Demographics at a Glance: Second edition.* https://www150.statcan.gc.ca/n1/pub/91-003-x/91-003-x2014001-eng.pdf

Statistics Canada. (2017a). *Immigration and Diversity: Population Projections for Canada and its Regions, 2011 to 2036.* https://www150.statcan.gc.ca/n1/pub/91-551-x/91-551-x2017001-eng.htm

Statistics Canada. (2017b). *Aboriginal peoples in Canada: Key results from the 2016 Census.* https://www150.statcan.gc.ca/n1/daily-quotidien/171025/dq171025a-eng.htm

UNESCO (n.d.a). *What is education for sustainable development?* https://en.unesco.org/themes/education-sustainable-development/what-is-esd

UNESCO (n.d.b). *Sustainable development goals - Resources for educators*. https://en.unesco.org/themes/education/sdgs/material

UNESCO (2017). *Education for Sustainable Development Goals: Learning Objectives*. https://unesdoc.unesco.org/ark:/48223/pf0000247444

UNICEF (2014). *Children and climate change in Zimbabwe*. UNICEF and Institute of Environmental Studies.

UNICEF Canada. (2017). *UNICEF Report Card 14: Canadian Companion, Oh Canada! Our kids deserve better.* https://www.unicef.ca/sites/default/files/2017-06/RC14%20Canadian%20Companion_0.pdf

UNICEF Canada. (n.d.) *UNICEF Report Card 14: Child Well-being in a Sustainable World.* https://www.unicef.ca/en/unicef-report-card-14-child-well-being-sustainable-world

United Nations. (n.d.). *Transforming our world: the 2030 Agenda for Sustainable Development.* https://sdgs.un.org/2030agenda

Vanderloo, L. M., & Tucker, P. (2015). Weekly trends in preschoolers' physical activity and sedentary time in childcare. *International Journal of Environmental Research and Public Health*, *12*, 2454-2464. doi:10.3390/ijerph120302454

Vanderloo, L. M., Tucker, P., Johnson, A. M., & Holmes, J. D. (2013). Physical activity among preschoolers during indoor and outdoor childcare play periods. *Applied Physiology, Nutrition, and Metabolism, 38*(11), 1173-1175.

Winter, P. L., Crano, W. D., Basáñez, T., & Lamb, C. S. (2020). Equity in access to outdoor recreation—Informing a sustainable future. *Sustainability 12*(1). http://doi.org/10.3390/su12010124

Weldemariam, K., & Wals, A. (2020). From autonomous child to a child entangled within an agentic world: Implications for early childhood education for sustainability. In S. Elliott, E. Ärlemalm-Hagsér, & J. M. Davis (Eds.), *Researching early childhood education for sustainability: Challenging assumptions and orthodoxies* (pp. 13-24). Routledge.

Xing, L. (2020, August 27). Outdoor learning gains traction as schools get ready to open amid COVID-19. *CBC News.* https://www.cbc.ca/news/canada/toronto/outside-learning-forest-schools-covid-19-education-1.5701306

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