Environmental Education in Healthy Active Living Education Courses: A Justice-Oriented Resource for Ontario Secondary Educators

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Abstract

The purpose of this portfolio is to develop a resource that supports Ontario Healthy Active Living Education (HALE) teachers in integrating environmental education (EE) through a justice-oriented lens. While curriculum documents may highlight the importance of EE, they often offer limited guidance on how to meaningfully apply it within Health and Physical Education (HPE) contexts. This resource aims to bridge that gap by connecting environmental issues to health, wellbeing, and social justice.

There are three tasks in this portfolio. The first task is a literature review that examines how EE is defined and connected to human health, while situating it within broader social justice frameworks. It analyzes Ontario curriculum and policy documents to assess how EE is positioned within the HPE curriculum, establishing the foundation for the subsequent components of this portfolio. The second task is a digital resource in the form of a website that is designed to support HALE educators by curating relevant articles and resources. The site also features annotated summaries that outline a foundational article's key argument and its relevance to EE, along with considerations for classroom application, to bridge the gap between theory and practice. The final task is a short reflection on the portfolio process and the portfolio's effort to challenge dominant ideologies and engage with diverse ways of knowing within HPE and EE.

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Table of Contents

Chapter One: Introduction

From a young age, nature has always been a space that offers me movement, personal growth, and mental well-being. I was fortunate to have grown up in Muskoka, Ontario, an area renowned for its scenery–it offers freshwater lakes that seem to sparkle, stunning natural landscapes, and endless trails that only continue to highlight the beauty of its nature. I grew up assuming my relationship with nature was the same as every other child's, in which hours upon hours were spent outdoors in every season. I was constantly scouring my backyard's ravine, my favourite games involved being up in the trees, and I used every nearby trail as a shortcut to wherever I wanted to be in that moment. As there was always green space at my fingertips, I had assumed it was a given, that it is a universally accessible and neutral space whose purpose was for human use. And, as untrue as all of that may have been, and despite educators' crucial role in shaping how children understand and engage with these spaces, nobody had told me otherwise.

My early understanding of access to green space and nature was no accident but, rather, reflective of broader societal narratives that have been derived from an educational system grounded in prejudice (Sensoy & DiAngelo, 2017) that highlights only dominant, or to be more precise, colonial and anthropocentric perspectives (Sover & Walsh, 2022). By marginalizing communities that value a reciprocal relationship among all living things, the educational system reproduces "disruptions in knowledge constructions" (Sover & Walsh, 2022, p. 15) that result in the normalization of Land use for solely human benefit. Recognizing this issue may inspire educators to advocate for more equitable and just environmental education (EE) in their classrooms.

In my own experience as a secondary school student, my Healthy Active Living Education (HALE) courses offered many lessons *in* the outdoors; every sport possible, on any

day possible, we were out on the field or, on the rare occasion, in the forest surrounding the school. Yet, despite frequent use of the outdoors, lessons about the Land itself remained largely unexplored, reinforcing my inaccurate beliefs. This absence is extremely telling–while being encouraged by the Ontario Health and Physical Education (HPE) curriculum to engage in the outdoors, it never invited us to question the socially and politically charged factors that shape the space, such as whose Land we were on, the unequal access to green spaces, climate change as a health issue, and our collective and personal environmental responsibility. In this way, the environment was simultaneously present and lacking within HALE, an example of the "null curriculum," a concept developed by Eisner (2002) to describe the omission of material despite its relevance and significance.

There are many explicit goals within the HPE curriculum, both generally and within the HALE courses specifically; for each area of the curriculum, also known as a strand, there are overall expectations and specific expectations that represent the mandated curriculum (Ontario Ministry of Education (OME), 2015). HALE courses in particular emphasize active living, movement competence, and, most relevant to this paper, healthy living, that addresses topics like: (a) healthy eating; (b) personal safety and injury prevention; (c) substance use, addictions, and related behaviours; and (d) human development and sexual health (OME, 2015). EE may be touched upon most commonly, yet superficially, within the topic of healthy eating as there are a few specific goals that address environmental and social factors regarding food and beverage choices; other mentions of EE tend to be related to appreciation of the natural environment and the personal mental benefits of the outdoors (OME, 2015). I am not arguing that these considerations are unimportant, but that they are simply not enough when considering the unintended lessons they convey or that they simply neglect.

As noted above, Eisner's (2002) idea of the null curriculum is helpful here, as is his concern with the "implicit" or "hidden" curriculum that result from the unofficial and often unintentional lessons students learn without being purposely taught them. For instance, by almost exclusively considering environmental and social factors as concepts related to food and beverage choices, students may be led to believe that these are the only factors relevant to healthy living. Or, as illustrated by my own earlier perception, my frequent ease of access to green spaces can lead to inaccurate and close-minded assumptions about unequal access and the history of the Land in relation to settler colonialism, both of which could have been problematized in my formal education. And there are numerous other examples of a problematic hidden and null curriculum in relation to environmental justice, which I explore in the portfolio.

The primary purpose of this portfolio was to develop an accessible and practical resource that supports Grade 9-12 Ontario HPE educators in making intentional and explicit connections to critical approaches to EE, specifically highlighting environmental justice and collective responsibility, as they work to fulfill mandated curriculum expectations. In this portfolio, I seek to challenge the narrow, individualistic, and apolitical approaches to health, physical activity, and engagement with the environment that dominate HALE courses. By making these connections explicit, HALE can be repositioned as a site for equitable and transformative learning and as courses that effectively prepare students with the knowledge, awareness, and sense of collective responsibility needed to safely, respectfully, and meaningfully engage with the environment.

Description of Tasks

This portfolio is composed of three interconnected tasks that collectively worked to support the development of an environmental justice-oriented digital resource accessible to Grade 9-12 Ontario HPE educators. The tasks were designed to move from theory to practical application with the ultimate goal of positioning HALE as a site for equitable and transformative learning.

The first task is a literature review that explores how EE is defined and conceptualized, and how it can be connected to human health. I further examine literature that situates EE within broader social justice frameworks, including discussing concepts such as environmental justice and environmental racism, in order to highlight the unequal distribution of environmental harms and benefits. Additionally, the review considers Ontario-specific policy and curriculum documents to better understand how EE is positioned specifically within the provincial education system. I pay particular attention to the extent to which the Ontario HPE curriculum acknowledges the concepts of equity, inclusion, and environmental responsibility, and note the gaps between stated intentions and actual support available for teachers. I conclude the literature review by addressing how the integration of EE into the HPE curriculum and HALE courses require attention to teacher perceptions, matters of feasibility, and the need for accessible resources. This literature review is the foundation for the other two tasks.

The second task is a digital resource, specifically a website, that created a space for me to share relevant concepts, articles, resources, and materials that I think may be useful to HALE educators. The website includes annotated summaries of a few key scholarly articles and other materials, highlighting the source's main arguments, purpose, and relevance to HALE courses. Each annotation includes my assessment of its relevance to critical EE and ideas for how it might

be applied in classroom practice. In addition to the annotations, the website also lists teaching resources, such as lesson plans, videos, and podcasts. I sought to emphasize clarity and usability on the website, aiming to bridge the gap between knowledge attainment and classroom practice while using educator-friendly language to make the website a practical tool for teachers.

The final task is a short reflection on both the process and product of this portfolio. I consider how well the resources I found challenge dominant ideologies within HPE and EE and how well they centre multiple ways of knowing and meaningfully engage with social and environmental justice issues. I also reflect on the potential effectiveness of the website in translating theory into practice and assess its overall usefulness for education.

Together, these three tasks help me move from scholarly engagement to the creation of a practical resource that is theoretically informed and contextually relevant. This portfolio positions HALE as a meaningful space for justice-oriented EE that additionally supports educators in navigating the complexities of integrating EE within mandated curriculum.

Positionality

To better understand my perspectives and biases in relation to EE and HPE, it is essential I consider my positionality. As mentioned previously, I spent my first 18 years of life in Muskoka, Ontario, which is located on the traditional territory of the Anishnaabeg First Nations (Trillium Lakelands District School Board, n.d.). For the coldest ten months of the year, Muskoka is a primarily white, English-speaking, small municipality, a context in which I fit easily as a white, English-speaking settler. Winter culture includes snowmobiling as a mode of transportation, playing or watching local hockey, and snow tubing down main street. In the summer, we become the cliché ‘cottage country’ when a more diverse and multicultural, but highly wealthy, population of visitors arrive. The experiences of permanent residents and

cottagers differ substantially, highlighting the region's ongoing wealth inequality, which continues to shape the region. Currently, and for nearly six years, I have resided in the (more) diverse city of Peterborough, Ontario that is located on the traditional territory of Mississauga (Michi Saagiig) Anishinaabe First Nations (Kawartha Pine Ridge District School Board, n.d.). The culture in Peterborough differs significantly from my hometown: the population does not noticeably grow in size for a season, the methods of transportation are cars and buses, and there are far fewer beaches, none of which are recommended to *actually* swim at. It is these shifts in my sense of place that have prompted me to reflect more critically on how environment, culture, and access can shape lived experiences.

I wholeheartedly believe it is vital to provide an education that both represents and respects the diverse identities and experiences of all people who make up our society and our world. This belief is grounded in my increasing awareness of social stratification, where our differences in power, such as those related to race, socioeconomic status, gender, and ability, shape both lived experiences and opportunities (Macdonald, 2015; Rogova et al., 2016; Yassin et al., 2024). Despite these inequalities being a visible everyday reality, accepting this stratification has been normalized as 'just the way it is,' perhaps especially by those who do not see themselves as involved in or affected by it. But, there is no neutral stance to be had. These systems of inequity exist and are upheld by our societal structures, including education, leaving us all implicated in them (Clemitshaw, 2013; Lamsal, 2024; Panthi, 2023). This acceptance of ignorance, and thereby the fostering of stratification and oppression, is often a result of relying solely on ourselves and our close circles as an accurate source of information about the lived experiences of all (Fricker, 2008; Paciscopi, 2024). As our lives are subjective and reflect our relative power and privilege (Pohlhaus, 2002), our personal reality is not one to be generalized or

taken at face value–a limitation that necessitates recognition in order to move past reinforcing fragmented understandings of the world.

I see hope in formal education for broadening our horizons even though I recognize that what is taught in the classroom, both directly and indirectly, has the potential to both reinforce and disrupt our prejudices (Eisner, 2002). As an educator, I see differences in experiences and worldviews as worthy of celebration and I want to honour the mosaic of our lived realities. I feel fortunate to live in a country that at least claims to celebrate diversity and embraces social justice, even if the reality does not always match the rhetoric–a gap made clear to me through both personal experiences and critical reflection. As white, English-speaking, able-bodied individual, I hold forms of social power that mean I do not face systemic barriers related to my race, mother tongue, or physical ability. At the same time, as a young adult woman who grew up lower class and who has been diagnosed with mental illnesses, I have experienced injustices related to these aspects of my identity, including in educational contexts. By holding both privilege and experiences of marginalization, I have been able to more critically understand ways in which inequity operates within education, which has reinforced to me my responsibilities as an educator.

I commonly hear public school educators note that there are no ‘curriculum police’ and while that gives us tremendous freedom, it does not mean that we can just teach whatever aligns best with our (often limited) personal worldview. As educators, we must recognize the power we hold in shaping our students’ worldviews, carrying the responsibility to ensure that all students’ experiences and identities are recognized and valued. If we only focus on the experiences of some students and erase or marginalize others, we risk limiting the education of all.

Thankfully, as a society, we are constantly shifting and there are ever-expanding resources available to support social justice and inclusion, including in education. I see this area of my own learning to be one that is ongoing, with this portfolio as part of my journey of both learning and unlearning. Ultimately, I want to be a teacher who can move from understanding to action–someone who not only recognizes the value of their students but also works to create an environment where they feel seen, heard, and capable of reaching their full potential.

Chapter Two: Literature Review

To earn an Ontario Secondary School Diploma, the Ontario Ministry of Education (OME) (2024) requires high school students to earn a single credit in HPE. To meet this requirement many students take a HALE course offered in each of Grades 9 through 12 (OME, 2015). The Ontario curriculum document for HPE states that HALE courses offer many opportunities to accomplish the goals outlined in *Acting Today, Shaping Tomorrow: A Policy Framework for Environmental Education in Ontario Schools* (Ontario Ministry of Education, 2009) that advocates for integrating EE throughout the curriculum. Despite the curriculum's stated goals and opportunities for EE, meaningful integration remains limited due to a lack of concrete guidance and support, including resources both within and outside the curriculum.

"The Earth is what we all have in common" is a phrase frequently used to highlight that, in spite of any differences among we who inhabit this planet, including more-than-human life, we hold a shared responsibility of caring for it. That said, this responsibility is uneven: humans alone are both the primary drivers of environmental harm and the ones who must address it, despite our species existing for only 1% of Earth's timeline (Damor, 2024; Kim et al., 2024; Li et al., 2023; Smithsonian Magazine, 2016; Sillitoe, 2021; Yang et al., 2022). Our activities have significantly altered the planet to such an extent that we are now said to be living in a geological time coined the 'Anthropocene' to signify the distinct human influence on the geosphere and biosphere, a profound realization of our negative impacts on the Earth (Carruthers, 2019; Rebotier, 2021; Sillitoe, 2021). It thus remains undeniable that a key solution to the problems humans have created for the natural environment and all who inhabit it is environmental action and care by humans themselves (Damor, 2024).

Environmental action is ultimately guided and fuelled by relevant education, a key common understanding acknowledged by the intergovernmental organization, the United Nations Educational, Scientific, and Cultural Organization, commonly known as UNESCO (UNESCO, 2020, 2024a, 2024b, n.d.-a, n.d.-b). For EE to effectively motivate action, it often needs to be perceived as personally relevant to learners. Scholars such as Adlong and Dietsch (2015) suggest that this connection can be strengthened by framing environmental issues as health issues; yet, regardless of the strong links between environmental conditions and health outcomes, this connection is often underexplored in EE practice. By integrating health perspectives into EE, particularly through collaboration between educators and health professionals, a greater sense of both personal responsibility and collective action can be fostered (Adlong & Dietsch, 2015). This is especially relevant in the context of HPE and HALE courses, where clear connections can be made between environmental conditions and human wellbeing. Despite the potential of such approaches, global implementation remains irregular. UNESCO (2024b) considers the integration of EE to have been, so far, a "general failure… of national education systems" (p. 18), observing how nearly half of the world's national curriculums analyzed fail to mention issues such as climate change (UNESCO, 2021).

Given that provinces control education in Canada, the Ontario Ministry of Education is responsible for determining and creating curriculum in Ontario, and thus holds responsibility for shaping how and whether EE is meaningfully integrated into students' learning experiences. Our curriculum serves as a powerful tool in determining what knowledge is valued, normalized, or excluded. Subjects such as HPE that specifically address human health, movement, and well-being are uniquely positioned to bridge concepts between the environment and human life, yet as I will demonstrate, are not yet sufficiently rising to this challenge. If teachers are unable to

rely on their curriculum, it is essential to provide additional resources they can use to address this important issue.

Approaches to EE

Before I discuss EE in Ontario, and specifically in terms of the HPE curriculum, I will describe EE more generally. The concepts of "environment" and "education" are continuously evolving; thus, the definition of EE is too. In the English-speaking world, EE was first defined in 1969 by William Stapp as a process of producing citizens who possess the knowledge, concern, and ability to solve problems associated with the environment (Fang et al., 2023). Of course, EE existed long before 1969, even if it wasn't labelled as such, including in the practices of Indigenous peoples (Maina-Okori et al., 2018; Simpson, 2014; Twance, 2019).

Scholars have redefined EE numerous times, and its meaning varies depending on the context. Nevertheless, the underlying idea remains the same: EE promotes sustainable actions to ensure future generations are supported throughout life (Fang et al., 2023; Karlsson & Backman, 2023; United Nations, 2020). Although EE shares common goals across contexts, there is no singular approach to its implementation (Sauvé, 2005). One approach to EE focuses on the development of "environmental literacy" (Fang et al., 2023; Hungerford et al., 1980; United Nations Environment Programme, 1977). Environmental literacy moves beyond traditional notions of literacy–the ability to read and write–to include ideas like developing environmental sensitivity and knowledge for skills, attitudes, values, and personal investment in, and active responsibility for the environment, which some scholars have organized into three domains of environmental literacy: cognition (knowledge), affect (attitude), and behaviour (skills) (Fang et al., 2023; Roth, 1992). While many EE scholars have focused on what has come to be known as K-A-B (knowledge-attitude-behaviour) research, and continue to do so, that approach has long

been critiqued for being overly simplistic in implying a linear relationship, such as assuming experiential learning in nature automatically leads to knowledge, which then leads to pro-environment values, and then ultimately to pro-environmental action (Kollmuss & Agyeman, 2002; Russell, 1999). More critical EE scholars have insisted on "minding the gap" between knowledge and action (Kollmuss & Agyeman, 2002), including attending to the role of context and social injustice. Indeed, there is now a long history of EE examining the ways in which environmental learning intersects with various social justice issues (Maina-Okori et al., 2018). Maina-Okori et al. (2018), in particular, argue that an intersectional approach is key to EE, as social identities, including race, class, gender, body size, and ability, can all shape how an individual experiences environmental issues. Without this in mind, EE risks reinforcing dominant ideologies and overlooking how forms of oppression are interconnected and reproduced through our social systems (Maina-Okori et al., 2018).

Among these intersectional approaches, environmental justice is one that is of particular relevance. One such tradition builds on scholarly and activist concern with environmental racism and environmental justice. Environmental racism is a form of systemic racism grounded in the recognition that Black, Indigenous, and People of Colour disproportionately bear much of the strain of environmental problems (Beltrán et al., 2016). Environmental justice is a response to this problem and is a movement that works to promote inclusion and equity in environmental decision-making to ensure that past environmental inequities faced by marginalized communities are addressed and that the costs and benefits of future environmentally sensitive initiatives are shared by everyone (Government of Canada, 2024a). An Ontario example of an environmental injustice occurred in 1962 when an Ontario chloralkali plant “discharged 10,000 kg of mercury (Hg) into the extensive English-Wabigoon water system” (Beltrán et al., 2016, p. 141), directly

impacting the Asubpeeschoseewagong Netum Anishinabek (Grassy Narrows First Nation) (Philibert et al., 2020). This contaminated the community's primary food source and cultural staple–fish–with such high concentrations of mercury that it led to serious illness and premature mortality in the community (Philibert et al., 2020). As of 2020, even with the decrease in mercury concentrations, the area still has the highest concentration in the province (Philibert et al., 2020). Another example is the long-term water advisories in effect in Indigenous communities across Canada. In Ontario alone, as of December 2025, there are 27 active long-term drinking water advisories in Indigenous communities, with some Ontario advisories being issued as far back as 2001 (Government of Canada, 2024b). Despite Indigenous people making up less than 5% of Canada's population (Statistics Canada, 2021), in Ontario they are disproportionately faced with over 20% of current drinking water advisories (Water Today, 2025), and notably face significantly more frequent and longer advisories than other communities (Galway 2016). These examples demonstrate how racism is not a historical issue but one that continues to evolve alongside our social systems (Salmon, 2022; Williams et al., 2022).

Environmental injustices are not only evident in community contexts but also within educational spaces. Sampson (2012) highlights how environmental health risks in schools, such as poor air quality, mold, noise pollution, and unsafe infrastructure, are tied to environmental justice as they disproportionately affect students in low-income and marginalized communities. As these conditions can negatively impact overall health and academic outcomes, they only continue to reinforce inequity, making it evident that environmental justice is not just something to learn about but something that directly shapes students' lives (Sampson, 2012).

Sensoy and DiAngelo (2017) emphasize that social justice requires examining how social stratification embeds itself structurally in social systems–including education–across various social groups such as race, class, gender, sexuality, and ability, and then actively challenging such unjust systems. A critical social justice lens is essential in Canada as illustrated by the two examples I mentioned above as well as numerous other instances of systemic environmental inequalities disproportionately impacting Black, Indigenous, and other racialized communities in Canada (Canadian Human Rights Commission, 2023; Venkataraman et al., 2022; Waldron, 2020). Other examples include exposure to environmental hazards–typically due to marginalized people's proximity to waste disposal sites, industrial operations, and other sources of pollution–that are linked to a range of adverse physical, emotional, psychological, and spiritual health outcomes (Venkataraman et al., 2022; Waldron, 2020). These health impacts are further exacerbated by other social determinants of health, such as low income, housing instability, limited formal education, or lack of access to health care, that reinforce a cycle of inequity (Venkataraman et al., 2022).

In a talk hosted by the Canadian Human Rights Commission (2023) that included academics, activists, and people with lived experiences of environmental racism, it was emphasized that environmental racism is sustained through our legal and political systems, including through the exclusion of marginalized communities from decision-making processes that directly impact their lives and Lands. When knowledge grounded in settler colonialism and the experiences of the privileged is prioritized over Indigenous knowledges and the lived experiences of those who have direct experience with environmental racism, the environment can be framed merely as a source for personal and economic gain rather than an entity with

which we are in relation and have a responsibility to care for (Canadian Human Rights Commission, 2023).

Sover and Walsh (2022) thus argue that EE and climate change education "must be education for justice" (p. 1) by highlighting inequities and explicitly addressing power and colonialism rather than framing the environment as neutral. This is an example of what Sauvé (2005) characterizes as the socially critical current of EE. Influenced by critical theory, this approach examines the social dynamics that shape environmental issues, including the explicit and implicit values, intentions, perspectives, and arguments underlying them (Sauvé, 2005). Edwards (2013) and Tsoubaris and Georgopoulos (2013) assessed how socially critical EE has been implemented in practice. The latter found that schools had neglected to address local environmental problems regardless of students' concerns about them and they noticed that teachers tended to emphasize activities over action, which only seemed "to reproduce disempowerment" (p. 153). Nonetheless, Tsoubaris and Georgopoulos (2013) highlight the potential for creating safe spaces for more critical discussions of issues affecting students' lives, including power dynamics in play, rather than performative activities.

Making connections to students' lives and to their local environment has long been a common theme in EE, particularly in critical place-based approaches (Greenwood, 2008; Häggström & Schmidt, 2020; Roze des Ordons et al., 2025). For instance, Bigelow (2014) argues that a desire for advocacy can begin in our own backyards, noting that the "great outdoors" are not as far away as some believe. He suggests that teachers must convey to students that the spaces outside the confines of a school building are equally, if not more, worthy settings for learning about oneself, one's local place and cultures, and the Earth. Moreover, Bigelow (2014) asserts that EE is only worthwhile if it also addresses broader intersecting issues, such as

injustices towards various social groups. This is particularly important as dominant environmental narratives have been critiqued for positioning nature as separate from human life, often erasing the histories and ongoing realities of the Indigenous Peoples who occupy that Land (Korteweg & Oakley, 2014; Simpson, 2014). Conversely, the perspectives we continue to silence often emphasize relationality, positioning Land as a living entity with which humans have a reciprocal relationship (Maina-Okori et al., 2018; Twance, 2019; UNESCO Canadian Commission, 2021). Bringing such perspectives into EE actively challenges colonial assumptions (Oakley & Korteweg, 2014), supporting more holistic and justice-oriented approaches to learning, ultimately making it worthwhile by Bigelow's (2014) standard.

Bigelow's (2014) position aligns well with the socially critical variant of EE identified by Sauvé (2005) and one that is growing in popularity as the connections between social and environmental justice become increasingly clear, and have led to the emergence of variations of EE like climate justice education (Grewal & Berger, 2025; Trott et al., 2023; Vamvalis, 2023). Additionally, Indigenous approaches to EE, including Land education, have been growing in popularity, also making these connections evident (Maina-Okori et al., 2018; Simpson, 2014; Twance, 2019; UNESCO Canadian Commission, 2021). Ultimately, I agree with Bigelow (2014) that EE is incomplete without the acknowledgement of broader social issues that attend to both the local and global contexts. I discuss this in the next section as I describe the theoretical framework that underpins my portfolio.

Theoretical Framework

First, I concur with Ryoo and McClaren (2010) that the curriculum is not neutral but a facilitator of dominant ideology. Education scholars influenced by critical theory seek to challenge ideologies that reproduce inequities, offering guidance for addressing injustices and

moving toward justice (Govender, 2020; Maddock, 1999). In the words of Govender (2020), “Critical theory does not only restrict itself to the analysis of what is but also explores what could and should be” (p. 208).

I find Eisner’s (2002) theory of different types of curricula–the explicit, implicit, and null curriculum–particularly helpful in understanding how inequities persist in formal education, including in the teaching of HPE. Eisner defines the explicit curriculum as the official learning expectations and outcomes that teachers are directed to meet. The implicit curriculum refers to the messages sent to students through pedagogical choices, offhand remarks, and how classrooms and schools are organized; for example, if students never go outside for learning, they are given a powerful lesson that 'real' learning only happens indoors (Bigelow, 2014; Orr, 2011; Steen, 2003). In the context of HPE specifically, the implicit curriculum may also reinforce dominant values such as competition, individualism, and performance, overshadowing the importance of understanding health and the environment through a relational, cooperative, and justice-oriented way. The null curriculum refers to all the content and issues that are ignored, which can leave students with the impression that these are not important enough to spend time learning about. Numerous Canadian EE scholars have conducted studies examining the explicit, implicit, and null curriculum in relation to various environmental issues (e.g., Chambers, 2008; Gélineau et al., 2024; Lowan-Trudeau, 2022).

Given the limited presence of EE in Ontario HPE and HALE curricula, the null curriculum is particularly important for my work. Eisner (2002) argues that the null curriculum "has important effects on the kinds of options one is able to consider, the alternatives that one can examine, and the perspectives from which one can view a situation or problems" (p. 97). He further makes the critical point that, “What students cannot consider, what they don’t know,

processes they are unable to use, have consequences for the kinds of lives they lead" (p. 103). That leads me to ask what kind of life our HPE curriculum is preparing our students for? What knowledge have teachers been encouraged to neglect through exclusions in the curriculum, a lack of resources, or a lack of support? By not making explicit connections to critical EE, the HPE curriculum detaches health from the physical and social environment. It leaves students without knowledge of one of the key determinants of their health, positioning them as individually responsible for health outcomes that are structurally produced and ultimately negatively affecting their capacity to live long, healthy lives (World Health Organization, 2024).

In a study conducted in Sweden, Karlsson and Backman (2023) found that less than a quarter of HPE teachers incorporated EE into their teaching. Even for the quarter who did include EE, it was found that EE concepts were not taught each week and that EE was never deliberately planned, but was randomly included. Karlsson and Backman (2023) found these results unsurprising because it was evident there was a lack of support for integrating EE. For example, in a later paper, they noted that one teacher in their study stated that they think that EE should "be written more explicitly [into the PE curriculum], perhaps concretise how humans and sports or cultural sport activities impact the environment" (Backman et al., 2026, p. 5). Similar findings have been reported in other contexts as well, such as when teachers have recognized the importance of EE but felt uncertain about how to meaningfully integrate it into their practice (Baena-Morales et al., 2024; Merma-Molina et al., 2023). The most common barriers have been reported to be a lack of pre-service and in-service training, limited time, unclear curricular expectations, and an already crowded curriculum (Baena-Morales et al., 2024; Merma-Molina et al., 2023). These various studies resonate with my own experiences. As a teacher, I know that educators rely on their curriculum, particularly the overall and specific expectations we are

expected to cover. The absence of particular curriculum expectations thus makes it very challenging for teachers. Further, even if some connections are made to EE in the explicit curriculum, teachers still require support in meeting those expectations, particularly if they wish to take a less common approach like integrating EE and social justice education.

By taking a critical approach and applying the concept of the explicit, hidden, and null curriculum in my portfolio, I aim to comprehensively understand and address connections between key topics such as environmental issues, health, equity, and collective responsibility that are often left merely implied or, more commonly, omitted altogether. The Ontario Ministry of Education (2024) acknowledges that "Ontario's education system, at all levels, must respect diversity, promote inclusive education, and work towards identifying and eliminating barriers to equal treatment in education" (para. 2). I hope that the development of a resource that integrates EE and HPE, specifically in HALE courses, and that acknowledges systematically marginalized groups will contribute to inclusivity and respect for diversity. I do not want to be complicit in nor further perpetuate environmentally-related social injustices. Rather, I seek to pursue equity, challenge dominant ideologies, and advocate for systemic change that dismantles environmental and social injustices. As Angela Davis famously said, "In a racist society, it is not enough to not be non-racist, we must be anti-racist" (Arts University Bournemouth, n.d., para. 1). In the next section, I apply these ideas as I discuss EE in Ontario in general, and then specifically in HPE and HALE courses.

EE in Ontario

In the spring of 2024, the Government of Canada (2024c) published a discussion paper highlighting the need for environmental literacy. The paper noted the importance of environmentally responsible actions and deemed EE crucial in developing the knowledge, skills,

and values needed for such action, aligning with the three domains I mentioned earlier (Fang et al., 2023). The Government of Canada (2024c) characterized children and youth as the main stakeholders in a healthy environment given their eventual inheritance of environmental problems, but noted how young people do not feel hopeful for their future (Government of Canada, 2024c), citing the work of Lakehead researchers who found more than half of young Canadians feel afraid, sad, anxious, and powerless about environmental issues, with 40% reporting that these issues negatively affect their daily lives (Galway & Field, 2023). This aligns with the growing research on eco-emotions, highlighting the various emotional responses that students can experience when engaging with environmental crises (Pihkala, 2020). Rather than ignoring the emotions that arise, EE must provide opportunities for students to process them, develop resilience, and engage in both individual and collective action (Pihkala, 2020).

Encouragingly, 67% of Canadians (including parents, students, teachers, and the general public) believe schools should prioritize EE rather than young people having to rely on social media for answers (Galway & Field, 2023; Government of Canada, 2024c).This is not the first time that there have been calls for the federal government to do more when it comes to EE (e.g., Russell et al, 2000) and the Government of Canada released a policy paper over 20 years ago following advocacy by environmental educators (Government of Canada, 2002). Even with these federal initiatives, the reality is that in Canada education is a provincial or territorial responsibility. Historically the commitment to, and implementation of, EE has varied greatly across the provinces and territories (Hart, 1990; Nazir et al., 2011; Russell et al., 2000), and still does (Hargis et al, 2024).

In the past, EE in Ontario mostly resulted from the efforts of personally committed teachers who chose to weave it into their practice, which meant when such teachers moved to

another school or retired, any EE initiative they developed often withered (Russell et al., 2000). In 2007, the Working Group on Environmental Education submitted recommendations to the Ontario Ministry of Education to address this problem, including calling for a province-wide EE policy. Their desire was to "prepare students with the knowledge, skills, perspectives, and practices they need to be environmentally responsible citizens" (Working Group on Environmental Education, 2007, p. 4). They argued that the explicit curriculum had neglected to address the need for EE, and what little EE did occur was "fragmented and inconsistent" (p. 7). Further, the Working Group on Environmental Education (2007) pointed to the successful implementation of EE in other provinces and other countries. Ultimately, they made numerous recommendations regarding the Ontario curriculum, including:

1. Increase the cross-curricular focus of environmental education by embedding environmental expectations and topics across all subjects, disciplines, and grades;
2. Map the scope and sequence of environmental expectations and topics across the curriculum, and incorporate review and revision of this map within the larger curriculum review process;
3. Incorporate in the front matter…information stressing the urgency of environmental education, defining strategies for implementation in each subject area, and providing examples of excellent environmental activities;
4. Through the curriculum review process, ensure that the elementary and secondary curriculum is written to include an environmental perspective…; and
5. Identify interdisciplinary links for environmental education at the secondary level so that schools can offer integrated programs of courses with an environmental theme. (pp. 14-15)

In response, in 2009 the Ontario Ministry of Education released an EE policy framework for Ontario Schools, acknowledging that "the future of environmental solutions ultimately rests with students" (p. 7). Within this document, the OME (2009) outlined numerous strategies to support EE, such as working to integrate EE across all grades and subjects, supporting its implementation through relevant resources and training, and including opportunities for students to take meaningful environmental action within and outside the classroom. This policy document is now almost 17 years old and has not been updated. It is still up for debate how effectively the Ontario Ministry of Education has acted on their words, including how well EE has been integrated into the HPE curriculum and supported teachers responsible for the integration of EE in HALE courses.

EE in Ontario's HPE Curriculum and HALE Courses

The Ontario Ministry of Education (2015) lists various goals for courses in the HPE curriculum, including: that students develop resilience, self-awareness, and positive relationships through adaptive skills, communication, and critical thinking; that students gain knowledge and skills to support their long-term health through physical activity; and that students understand the factors contributing to healthy development and how healthy living can benefit themselves, others, and the world around them. The HALE courses, in particular, note that healthy active living encompasses building personal, interpersonal, critical and creative thinking skills, movement competence, and physical and health literacy (Ontario Ministry of Education, 2015).

The HPE curriculum outlines "some considerations for program planning in health and physical education" that include EE and equity and inclusive education (OME, 2015, p. 54), claiming that HALE courses have integrated EE by:

> Teaching students to appreciate and respect the environment… Appreciating the value of fresh air and outdoor spaces, understanding the environmental benefits of healthy practices such as active transportation and the environmental implications of various food choices, being aware of the impact of using trails, and understanding the health risks associated with environmental factors such as sun exposure and air pollution. (p. 70)

The HPE curriculum then directs teachers to a separate document, *The Ontario Curriculum, Grades 9 to 12: Environmental Education, Scope and Sequence of Expectations* (Ontario Ministry of Education, 2017), for assistance in creating lessons that integrate EE. While the EE *Scope and Sequence* document provides a few clear examples and prompts that indicate EE in the HPE curriculum is possible, it simply is not sufficient. I am concerned that the HPE curriculum refers teachers to another document rather than providing them with more HPE-focused examples. Despite claims to have integrated various aspects of EE into the curriculum, I question this because the extent appears to be minimal and I know from my own professional experience that it has not provided effective support for HPE teachers to integrate EE into their practice.

I have similar concerns about the integration of equity and inclusive education. The HPE curriculum indicates its focus is on "respecting diversity, promoting inclusive education, and identifying and eliminating discriminatory biases, systemic barriers, and power dynamics that limit the ability of students to learn, grow, and contribute to society" (p. 72), and it cites anti-discrimination education to be an integral strategy in HPE (OME, 2015). The curriculum further claims to support teachers in meeting equity, anti-discrimination, and inclusion expectations, particularly in the health units of courses, but it places the onus on teachers to figure out how to do that. The explicit curriculum states that teachers: should provide

opportunities for students to learn about diversity and diverse perspectives; should ensure activities are appealing to all genders; must provide accommodations depending on students' faith; and must find ways to involve all students (OME, 2015). While the curriculum references equity and inclusion, they are presented broadly, with limited concrete guidance for implementation within HPE and HALE-specific contexts. As with EE, teachers need resources that better support them in meeting these expectations.

Possibilities for Integrating EE into HALE Courses

Research into the integration of EE into HPE is extremely limited thus far (Dingle & Mallen, 2020; Karlsson & Backman, 2023). The concern that EE is underdeveloped has been reflected in research, such as Taylor et al. (2019), who found that HPE teachers connected health to diet and exercise, with little to no mention of environmental factors. Similarly, Olive and Enright (2021) found that, even with sustainability being recognized as a curricular priority, it is inconsistently integrated throughout the curriculum and lacks clear guidance for implementation. Ultimately, studies show that EE in HPE is possible, but teachers feel they lack support in doing so (Backman et al., 2026; Karlsson & Backman, 2023; Madrillion et al., 2024). There are a few ideas circulating that I think would be helpful to share with teachers, which I have highlighted on my website.

One example relates to the World Health Organization recommendation that people get an hour a day of moderate to vigorous physical activity, a number that a whopping 81% of high-school-aged students around the world do not meet (Guthold et al., 2020; Mandrillion et al., 2026). Although some may argue that integrating EE into HPE courses might worsen this number, Mandrillion et al. (2026) found the contrary; after integrating environmental content into a physical education course, they found it did not decrease the physical activity levels of the

students but rather significantly increased them. However, Mandrillion et al. (2026) found that student engagement was dependent on how activities were structured and on students' prior knowledge and interests, underscoring the importance of intentional lesson design.

HALE courses have the potential to foster environmental learning by integrating EE in various topics. For instance, environmental issues such as climate change pose health threats globally, for current and future generations of living beings (Pan American Health Organization, n.d.). Researchers have found that environmental risks, directly and indirectly, affect human health through natural and socio-economic systems, contributing to 13% of deaths in the Americas and 21.2% globally (Gibson, 2017; Pan American Health Organization, n.d.). By considering both the harmful and beneficial environmental impacts on health in HALE courses, students could better understand the relationship between health, physical activity, the environment, and social inequities as well as what they could do to help maintain a healthy environment.

Further, HALE courses could be essential to shaping lifelong attitudes toward health, physical activity, and the environment. Researchers widely support the idea that adult attitudes and values tend to emerge from childhood experiences (Mandrillion et al., 2026; Chawla, 2007; Keniger et al., 2013). This is one of the reasons why UNESCO (2021) recommends integrating EE into school curricula in a cross-curricular fashion. HALE courses can help foster positive attitudes toward the environment through environmental learning in ways that also meet other curricular goals related to HPE (Mandrillion et al., 2026).

In addition to curricular interventions, a whole-school approach is also suggested (GEM Report, 2016). This includes 'greening' school grounds, which Bell and Dyment (2008) describe as encompassing a range of initiatives, such as gardening and tree planting, that aim to introduce

natural elements back into the school environment. Physically, they can promote increased activity and improved nutrition, while socially they can foster inclusion, cooperation, and stronger relationships among students and the community (Bell & Dynment, 2008). Mentally and emotionally speaking, they can reduce stress levels, increase engagement, and improve academic outcomes (Bell & Dynment, 2008). Taken together, these possibilities demonstrate that the environment and health, physical activity, and social justice need not be seen as mutually exclusive, but as intimately connected.

For HALE teachers to integrate these ideas well, however, means they need to be adequately supported. They need accessible resources grounded in socially critical EE that address–primarily but not exclusively–local environmental problems. Examples include health disparities linked to specific environmental factors and public health responses, environmental justice concerns, and food and water sustainability. Because such issues vary by geographic location, the curriculum may only offer general ideas for making use of the local context, which may also leave teachers feeling unsupported. That too points to the need for resources specific to teachers' contexts, something I sought to provide for Ontario teachers on my website.

Conclusion

EE is not only essential for addressing our modern ecological crisis but is deeply intertwined with human health, social justice, and educational equity. The condition of our environment, positive or negative, will ultimately shape the physical, emotional, and intellectual development of all members of our communities, often in unequal ways. Ontario’s education system continues to position the environment as a distance concern, rather than an integrated element of health and social justice education. Yet justice-oriented approaches to EE can foster environmental learning and a sense of collective responsibility, and I would argue when it is

integrated into HPE, it can be particularly powerful. To accomplish this, teachers need curricular clarity, concrete guidance, and accessible resources that translate policy into practical classroom realities, including a resource such as this proposed portfolio that explicitly bridges health, the environment, and social justice within the context of HALE courses. I thus seek to offer a theoretically grounded, educator-friendly, justice-oriented digital resource that will support Ontario secondary HPE teachers in integrating EE in relevant, meaningful, engaging, and critical ways. In doing so, I wish to challenge dominant, individualistic, and apolitical ideas around health and the environment, and reposition HALE as a potential site of transformative EE learning. The question is no longer whether HALE can support a justice-oriented EE, but whether we are willing to take the steps necessary to make that happen. Otherwise, what remains within the null curriculum today will limit what our students can imagine and enjoy tomorrow.

Chapter Three: The Resource

The website, which I have dubbed The Green Gym, represents my attempt to translate some of the ideas explored in the literature review into a practical, accessible resource for educators. It was designed to bridge theory and practice by offering clear connections between environmental education, health, and social justice within a HALE context. While grounded in research, the website's goal is to provide flexible, usable entry points for all teachers, demonstrating how these ideas can be meaningfully integrated into everyday teaching rather than treated as something additional or separate from an HPE context. The images below illustrate the website's content, and the website itself can be accessed at: https://mphilli37.wixsite.com/the-green-gym.

Page One–Homepage:

TEACHING WITH THE EARTH IN MIND.

The Green Gym

Overview

This resource is designed specifically for Ontario secondary school Healthy Active Living Education (HALE) teachers seeking practical ways to integrate environmental education (EE) through a justice-oriented lens. It may also be useful for other educators or communicators interested in weaving environment, health, and social justice into health and physical education in non-formal learning spaces.

For Ontario teachers, you may have found that curriculum documents may highlight the importance of EE, but often offer limited guidance on how to meaningfully apply it in Health and Physical Education (HPE) courses like HALE. This resource aims to bridge that gap by connecting environmental issues to health, wellbeing, and social justice, highlighting how environmental conditions and inequities shape lived experiences. While it may not answer all your questions, I hope the ideas and resources shared will leave you feeling better supported in your practice.

Who Am I?

My name is Madison Phillips. I am a white, English-speaking settler who grew up in Muskoka, Ontario, on the traditional territory of the Anishnaabeg. I now live in Peterborough on the territory of the Michi Saagiig Anishinaabe. I hold privilege as a white, able-bodied individual, while also having some experience of marginalization on the basis of other social factors such as my gender and socioeconomic background.

I have a Bachelor of Science (BSc) in Biology and Psychology and a Bachelor of Education (BEd) with Science and Health and Physical Education as my teachables. This website is part of the work I have done for my Master of Education (MEd) in Education for Change, where I specialized in both Social Justice Education and Environmental and Sustainability Education. My MEd experiences encouraged me to think more critically about my role as a teacher leading me to question some of the dominant ways health and the environment have been framed and observe whose perspectives are most often included and whose are excluded in our education system. This website reflects my ongoing learning and reflects my desire to contribute to a more meaningful, inclusive, and justice-oriented education!

Page Two–Key Concepts:

Key Concepts

There are a few key concepts that shape this resource. These concepts help frame how EE can be meaningfully connected to health, physical activity, and social justice in HALE. You don't have to be an expert in any of these areas, but these are offered as a foundation to support your thinking and practice as you explore the rest of the site.

Environmental Education (EE)

Simply put, EE encompasses all learning that develops knowledge, skills, values, and actions related to "helping create the conditions by which all humans, all life, and the land can flourish" (Faculty of Education, 2021, p. 2). Its focus is thus broader than how it is sometimes perceived as being narrowly concerned only with conservation or environmental sustainability. One purpose is to support learners in understanding their relationships with the natural world and how to respond meaningfully to environmental issues that are interconnected with social ones (Fang et al., 2023; Karlsson & Backman, 2023; United Nations, 2020).

Environment & Health

Environmental conditions have been directly connected to human health, including physical, mental, and social wellbeing, and are widely recognized as key determinants of health (Gibson, 2017; Pan American Health Organization, n.d.; Sampson, 2012; World Health Organization, 2024). However, the impacts are not experienced equally, as environmental hazards are often more commonly found in marginalized communities (Venkataraman et al., 2022; Waldron, 2020). These disproportionate impacts are felt in school settings, too, with some schools having more challenges associated with air quality, infrastructure, and accessibility, all of which shape student health and learning outcomes (Sampson, 2012).

Environmental Justice

The Government of Canada (2024) describes environmental justice as a movement that promotes inclusion and equity in environmental decision-making to ensure that the inequities faced by marginalized communities are addressed and that all Canadians share both the benefits and costs of environment-related decisions. A related idea is the concept of environmental racism that identifies how Black, Indigenous, and People of Colour disproportionately bear much of the strain of environmental problems (Beltrán et al., 2016).

Key Concepts Continued:

Critical Environmental Education	In this context, 'critical' does not imply criticizing something. Rather, it is an idea derived from critical theory that examines assumptions and power relations, in this case in relation to the environment (DePoy & Gitlin, 2016). Teachers working from a critical perspective could help students identify whose perspectives are included or excluded in environmental decision-making and explore how environmental issues are connected to social issues as well as broader systems of inequality and injustice.
Critical Place-Based Approaches	A critical place-based approach focuses on how students develop understanding and their own sense of identity through their relationships with their local community and natural environment (Häggström & Schmidt, 2020). It invites students to consider how different social and cultural experiences shape their places and are not experienced the same way by everyone.
Indigenous Perspectives & Relational Understanding	Despite the long-standing and deeply rooted relationships Indigenous Peoples have with the Land and all living beings, Indigenous perspectives have long been excluded from dominant EE (Maina-Okori et al., 2018; Oakley & Korteweg, 2014). Many Indigenous knowledge systems view the environment as part of a living, relational system in which Land, people, and other life are interconnected and interdependent (Oakley & Korteweg, 2014; Simpson, 2014; UNESCO Canadian Commission, 2021). In the context of HPE, Indigenous perspectives can broaden understanding of health and wellbeing by demonstrating how these are connected not only to our individual choices but also to our relationships with the Land, each other, and the more-than-human world.

Page Three–Scholarly Foundations:

Scholarly Foundations

In this section, I have brought together research that supports the ideas mentioned throughout this resource. I have briefly summarized each article for you and then connected it to HALE, with an explanation of why it matters to you and your students. This section demonstrates how EE, health, and social justice are already linked in the literature, and how these ideas can be brought into the classroom.

Common Acronyms:
EE: Environmental Education
HALE: Healthy Active Living Education
HPE: Health and Physical Education
PE: Physical Education

Strategies & Applications

⋆ Adlong & Dietsch (2015)

Summary: Adlong and Dietsch argue that environmental issues often feel distant to students. Reframing them as health issues (e.g., air quality, food systems, access to green space) can make learning feel more relevant and engaging.

Article Takeaway: Students engage with environmental issues more when they are connected to their own health.

Relevance: Health is already the focus of HALE and this creates an entry point for EE as something embedded in existing expectations rather than as something "extra."

Critical Lens: Framing environmental issues through health could open space to move beyond individual behaviour and consider the broader questions of access, inequality, and environmental conditions.

Teacher Takeaway: You don't always need to add content–sometimes it's just about reframing what we already teach! This may look like:

- Including environmental factors when discussing topics like physical activity (e.g., access to safe walking paths, air quality).
- Helping students notice how their surroundings have shaped their health experiences
- Encouraging students to consider how health and environment might be shaped across different communities.

⋆ Bell & Dyment (2008)

Summary: Bell and Dyment define school "greening" as a range of initiatives, such as gardening and tree planting, that aim to introduce natural elements back into the school environment. They explore how greening supports student health, learning, and wellbeing by promoting physical activity, social connection, and emotional regulation while simultaneously creating opportunities for EE.

Article Takeaway: School environments themselves are teaching tools that support both health and environmental learning.

Relevance: HALE values physical activity, mental wellbeing, and a sense of community. By greening our school spaces, we naturally support all three and create opportunities for EE without the need for entirely new units or having to leave the school.

Critical Lens: Students from lower-income and marginalized communities often have less access to safe and well-maintained green spaces. Greening school grounds can help address this gap by creating more equitable access to nature within a school setting. That said, it also raises questions regarding funding and who benefits from these initiatives versus whose environments are neglected.

Teacher Takeaway: The environment students learn in matters! Using the environment more intentionally may look like:

- Using outdoor spaces for regular instruction.
- Incorporating simple student-led greening initiatives (e.g., bucket gardens, composting programs, tree planting).
- Encouraging students to consider who has access to safe and healthy green spaces and who may not.

⋆ Fröberg & Lundvall (2021)

Summary: Fröberg and Lundvall consider how PE can contribute to the United Nations' Sustainable Development Goals. They note that PE often emphasizes performance and physical outcomes, but argue that it has the potential to address broader social and environmental issues too.

Article Takeaway: PE can support sustainability goals if it moves beyond a narrow athletic performance-based framework.

Relevance: HALE's curriculum already includes goals related to both personal and relational responsibility, making it well-positioned to meaningfully integrate sustainability.

Critical Lens: The traditional PE structure can, at times, marginalize certain students and reinforce dominant norms regarding athletic ability and competition. As teachers, we need to think about which experiences and perspectives are valued in the course and question whether we might be unintentionally discouraging or even excluding some students.

Teacher Takeaway: Small shifts in how we teach PE may open space for more inclusive and meaningful learning. This may look like:

- Incorporating more cooperative and reflective activities (e.g., peer coaching).
- Encouraging students to consider their role in the community and our social systems.
- Connecting physical activity to broader social and environmental themes.

⋆ O'Brien (2013)

Summary: O'Brien defines sustainable happiness as "happiness that contributes to individual, community and/or global wellbeing without exploiting other people, the environment, or future generations" (p. 228). The article highlights how everyday choices can enhance both our individual and collective wellbeing.

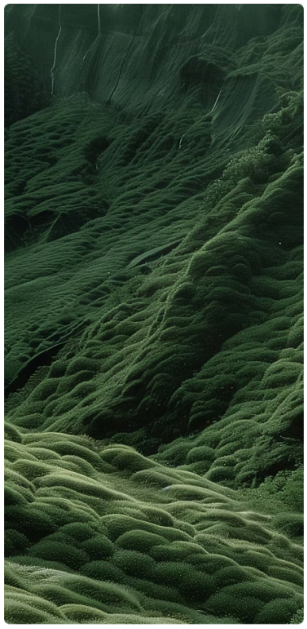
Article Takeaway: Wellbeing and sustainability are interconnected. Mindful choices can benefit both ourselves and the planet.

Relevance: HALE emphasizes wellbeing, making this a natural way to integrate EE without shifting away from curriculum goals.

Critical Lens: Dominant messaging has framed wellbeing as something achieved through material consumption or individual success, often reinforcing overconsumption and neglecting the social and environmental conditions that factor into our wellbeing. Sustainable happiness offers an alternative that is grounded in research evidence that "stuff" doesn't make us happy for any length of time; being connected to our social and environmental communities having a sense of meaning and matters much more to our wellbeing.

Teacher Takeaway: Wellbeing can be collective and environmental! This may look like:

- Encouraging students to reflect on what it means to be happy or feel well, beyond consumption.
- Exploring how our daily habits can impact both wellbeing and the environment.
- Discussing how access shapes people's ability to make choices that support their wellbeing.



⋆ Mandrillon et al. (2024)

Summary: Mandrillon et al. explore how integrating environmental content into PE impacts student engagement and activity levels. Ultimately, they found that environmental-based lessons can maintain or even increase physical activity levels, though engagement remains dependent on lesson design and student interest.

Article Takeaway: EE doesn't take away from physical activity but can enhance it when done intentionally.

Relevance: The article demonstrates that EE can be integrated into HALE without reducing physical activity levels. Additionally, it highlights that EE isn't automatically engaging, serving as a reminder that it's important to consider how a lesson is structured and if students are supported in engaging with the environmental content.

Critical Lens: If engagement depends on prior interest, interests, and lesson design, environmental learning opportunities may unintentionally favour students who already feel connected to environmental concepts, leaving others less engaged.

Teacher Takeaway: It is important to be intentional with our environmental integration in HALE. This may look like:

- Building background knowledge so all students can engage, not just those with a previous interest.
- Designing activities where EE is embedded into movement rather than only treated as separate.
- Offering various entry points so students with different experiences can participate more meaningfully.

Scholarly Foundations Continued:

Social Justice & Environmental Justice

⋆ Engle et al. (2024)

Summary: Engle et al. critique EE for frequently centring dominant perspectives. In contrast, they propose compassionate pedagogies that prioritize empathy, inclusion, and emotional awareness.

Article Takeaway: EE should consider both factual knowledge and students' emotional experiences.

Relevance: HALE already engages with concepts related to emotional wellbeing, making it a strong space to integrate discussions of emotions such as stress or anxiety about climate change and environmental problems as well as hope, love, and care for the environment.

Critical Lens: EE that disregards the emotional dimension and actual lived experiences can feel disconnected and exclusionary of students whose realities differ from dominant narratives.

Teacher Takeaway: It can be important to make space for both emotional and intellectual engagement with environmental content. This may look like:

- Encouraging discussion around eco-emotions.
- Offering activities that connect students' wellbeing, identity, and environment.
- Allowing opportunities for students to reflect on their feelings regarding environmental topics.

⋆ Maina-Okori et al. (2018)

Summary: Maina-Okori et al. critically examine how intersectionality shapes environmental and sustainability education, specifically focusing on how gender intersects with other social identities such as race, class, sexuality, body size, and ability.

Article Takeaway: Environmental issues *are* social issues. Who is impacted and how can depend on social identity and power.

Relevance: HALE contexts often assume that students experience health in the environment similarly, but in reality, access to physical activity, nutrition, and safe outdoor spaces is shaped by our intersecting identities.

Critical Lens: Without considering intersectionality, we may run the risk of framing environmental issues as universal experiences. This neglects how systemic inequities have shaped who is most impacted by environmental harm, ultimately reinforcing dominant assumptions about 'healthy' living.

Teacher Takeaway: Students may need guidance to understand how the environment, identity, and health are connected. This may look like:

- Comparing access to green spaces across the local community.
- Exploring how environmental issues impact different populations in different ways.
- Asking who has the most access to 'health' and why?

⋆ Sampson (2012)

Summary: Sampson's article considers how environmental health risks in schools, such as poor air quality, mold, noise pollution, and unsafe infrastructure, are tied to environmental justice. They found that students in low-income and marginalized communities have been disproportionately affected by environmental risks in their schools, and that this is no coincidence because it reflects broader structural issues like inequitable school funding and community resources.

Article Takeaway: Environmental conditions in schools directly and unequally impact student health and learning outcomes.

Relevance: Positions health as something beyond personal everyday choices to everyday environments. Critical Lens: Environmental inequality is often embedded into school systems through uneven funding and infrastructure, meaning our 'equal' education is not actually experienced equally.

Teacher Takeaway: It is important to encourage students to see their school environment as part of environmental justice. This may look like:

- Having students assess and reflect on their school environment.
- Connecting school conditions to health outcomes (e.g., focus, stress, and physical activity).
- Asking what makes a healthy school environment.

⋆ Sensoy & DiAngelo (2017)

Summary: Sensoy and DiAngelo explain how inequality is produced and sustained through our current social systems, acknowledging that social identities, such as race, class, gender, and ability, are socially constructed and operate in ways that privilege some while marginalizing others. Additionally, they challenge many common assumptions that mask inequities and ultimately reproduce rather than address them.

Article Takeaway: Social justice education requires an understanding that inequality is not an individual issue but a systemic one.

Relevance: HALE classrooms aren't neutral spaces but often reflect and reinforce narrow social norms regarding bodies, health, and ability.

Critical Lens: Without a critical lens, HALE risks reproducing dominant norms about bodies and health, marginalizing students such as those in larger bodies or who live with disabilities.

Teacher Takeaway: This accessibly written book provides a strong foundation for social justice education. It was one of my favourite books that I read during my MEd! In the HALE context, it serves as a reminder to help students question their assumptions about health and ability. This may look like:

- Discussing how different bodies experience physical activity differently (e.g., access, abilities, culture, gender norms).
- Questioning fitness and body image 'ideals,' where they come from (e.g., family, friends, culture, media, influencers), and who these ideas benefit (e.g., making us feel badly about ourselves so we buy products and services).
- Recognizing that all bodies can enjoy movement and physical activity in one way or another.

Scholarly Foundations Continued:

Indigenous Perspectives & Land-Based Education

★ Simpson (2014)

Summary: Simpson emphasizes that meaningful learning is best obtained through relationships with the Land, community, and spirit, rather than through the formal education systems we engage with. Through storytelling and Nishnaabeg ways of knowing, she shows how learning happens through curiosity, observation, and interaction with the world around us.

Article Takeaway: Learning happens on the Land and through our relationships with Land, not just through merely discussing it.

Relevance: The article reframes Land as an active teacher, expanding beyond the idea of simply 'being outside' to building relationships.

Critical Lens: Simpson calls for the return of Indigenous knowledge systems through recentring Land as pedagogy for the sake of Indigenous cultural survival and as a means to further resist ongoing colonialism.

Teacher Takeaway: We can shift outdoor learning from being only about doing an activity in a natural area to also focusing on helping students build a relationship with nature. This may look like:

- Beginning and/or ending outdoor lessons with observations and reflections.
- Asking students to consider what they notice, feel, and have learned from a place over time.
- Encouraging consistent engagement over time in outdoor spaces so that students come to know their plant and animal neighbours.

★ Tuck et al. (2014)

Summary: Tuck et al. examine how place-based and EE practices can still reproduce colonial ways of thinking, despite good intentions. They argue that many approaches still treat Land as a neutral backdrop, rather than acknowledging the ongoing histories of colonization, Indigenous sovereignty, and the power of the Land itself to teach.

Article Takeaway: While place-based education and EE aren't inherently decolonizing, as educators we need to question our assumptions and what messages we might have internalized that we now pass on to our own students.

Relevance: In HALE, we often consider the mental and physical benefits of being outdoors. That will always have its place but it's important that students consider whose Land they're on and how that Land is framed by Indigenous and non-Indigenous communities.

Critical Lens: No Land is an empty, apolitical space. The tendency to believe that it is can unintentionally erase Indigenous presence and reinforce colonial narratives.

Teacher Takeaway: Critical reflection on Land, history, and settler-colonial relationships is a critical part of outdoor learning. This may look like:

- Not just acknowledging Indigenous Land, but discussing what that means.
- Shifting from the mindset of simply learning outside to learning with and from the Land.
- Integrating discussions of history, power, and responsibility into outdoor learning.

★ UNESCO Canadian Commission (2021)

Summary: This resource explains Indigenous Land-based education, where Land is viewed as a living relative with whom we have a reciprocal relationship and responsibility, rather than a resource to be used.

Article Takeaway: Land is a teacher itself, and learning is meant to be relational, not extractive.

Relevance: HALE often positions outdoor spaces as a backdrop for physical activity, but this perspective reframes Land as an active part of the learning process.

Critical Lens: Many people believe that all EE is inherently good, but what we most often see reflects colonial assumptions that separate humans from the Land and treat the Land as a resource. This erases Indigenous relationships to the Land, reinforcing narratives of ownership and neutrality.

Teacher Takeaway: The idea is to shift from using outdoor spaces as a backdrop to engaging students in building a reciprocal relationship with the Land. This may look like:

- Place-based reflections.
- Connecting movement outdoors with relationship and responsibility.
- Acknowledging Indigenous Land and its histories.

Page Four–Resources:

Teaching Resources

This section pulls together practical, classroom-ready resources that connect directly to HALE. It includes resource banks where you can find relevant lesson plans and activities, school programs and initiatives, various media resources, and organizations that serve to support teaching about health, physical activity, the environment, and social justice in a connected and meaningful way. By providing these resources, I hope to bridge the gap between theory and practice. The goal is not to add additional content to your plate but to offer you flexible ideas that can be woven into what you're already teaching!

- If you're looking for ready-to-use lessons, head to Canada and Ontario-Specific Resource Banks.
- If you want ideas that can be used school-wide, check Programs & School-Based Initiatives.
- For lesson hooks, discussion, or for your own learning, check out Supporting Podcasts and Supporting Channels.

Canada & Ontario-Specific Resource Banks

Tap the images below to visit their website!

01 Canadian Wildlife Federation:

"The Canadian Wildlife Federation's educational resources are designed to help parents and educators teach students of all ages about wildlife and habitat conservation and inspire them to take personal action."

02 Climate Atlas of Canada:

"Educator resources, lesson plans and course materials looking at the connections between climate change and the world around us."

03 Environment & Climate Change Canada:

"Explore our dedicated pages on pollution and biodiversity! Each resource is tailored for specific age levels, using age-appropriate vocabulary and examples. Perfect for helping students answer big questions and deepen their understanding of these important topics."

04 Green Learning:

"GreenLearning creates free education programs about energy, climate change and green economy that engage and empower students to create positive change for our evolving world. Our programs include both hands-on and critical thinking activities to equip educators with the educational tools they need to help students understand complex environmental issues."

05 Resources for Rethinking (R4R):

"Resources for Rethinking is your online database for quality sustainability teaching resources! All of our resources are reviewed by teachers for teachers, matched to your curriculum, and available for free or low cost."

Resources Continued:

Programs & School-Based Initiatives

Tap the images below to visit their website!

01 Canadian Wildlife Federation Education Programs:

"CWF's national education programs help people across Canada (and beyond) to step outside, get familiar with wildlife and engage in the natural world. They inspire a conservation ethic and offer training that connects people with wildlife and nature through experiential learning."

02 EcoSchools Canada:

"EcoSchools Canada offers a certification program for elementary through secondary schools, nurturing environmental learning and climate action. Our innovative, bilingual program is free for publicly funded schools and provides guidance to help educators build sustainable practices. It supports schools in tracking, incentivizing, and celebrating environmental actions that reduce energy use and waste, raise awareness, and integrate environmental learning into the curriculum."

03 Narural Curiosity:

"Created in collaboration with Indigenous educators and partners, the Natural Curiosity Program addresses a critical link between environmental and Indigenous education, supporting all educators to authentically respond to the calls to action by the Truth and Reconciliation Commission of Canada.

04 Take Me Outside:

"At Take Me Outside, we work hand-in-hand with educators, school leaders, and organizations to make outdoor learning a meaningful part of every day. Through seasonal initiatives, programs, resources, and a growing community of passionate educators, we're breaking down barriers to help embed outdoor and environmental education into teaching practices across Canada."

Supporting Podcasts

Tap the images below to listen!

01 Climate.edu:

"Climate.edu explores the intersection of climate change and higher education through in-depth conversations with faculty, students, college administrators, and other educational and nonprofit leaders who are taking action to address the most urgent crisis of our time: the climate crisis."

02 Indigenous Climate Action Pod:

"For many Indigenous Peoples, access to internet is often limited and resources such as videos and websites can be difficult to access, and books can be difficult to obtain due to costs. Our hope is that this podcast will offer a more accessible form of media for many people."

03 Teaching in a Climate Crisis:

"How can teachers best address the climate crisis? Why is this important, what do we need to know, and how should we 'be'? Also, who's leading the way here in Canada, and what can we learn from looking abroad? Two new teachers from OISE's Master of Teaching program, recent grad Yana Lee and second-year student Jackson Fowlow, have conversations with key players and minds to answer these questions."

04 The Environment in Canada Podcast:

"The Environment in Canada Podcast, by Sierra Club Canada, covers topics like climate change and climate action, environmental justice, biodiversity, nature, outdoor education and exploration."

05 What on Earth:

"The climate is changing. So are we. Explore a world of solutions with host Laura Lynch and our team of journalists. We find inspiration in unexpected places, scrutinize new technologies, hold powerful people accountable and join you on the journey to fix this mess."

Resources Continued:

Supporting Channels

Tap the images below to watch!

01 Enoch Animated:

"A collection of animated shorts retelling the stories of Enoch's Elders."

02 DW Planet A:

"We're destroying our environment at an alarming rate. But it doesn't need to be this way. Planet A explores the shift towards an eco-friendly world — and challenges our ideas about what dealing with climate change means. We look at the big and the small: What we can do and how the system needs to change."

03 Shelbizleee:

"This channel exists for one big reason: to convince you to trade consumerism for creativity and community. Because, let's be real — overconsumption is at the root of every environmental problem we face. Each week, I share sustainable living tips, personal experiments, and the occasional rant about how consumerism makes it really hard to care. My goal is to help you live in alignment with your values — without the guilt, gatekeeping, or perfectionism."

04 Our Changing Climate:

"Video essays on a burning planet."

05 Well for Culture:

"Well for Culture is an alliance of like-minded Indigenous people from many Nations and all directions. We strive to lead healthy lifestyles because we recognize the importance of being physically, mentally, emotionally and spiritually sound. We study and implement the health and wellness methods of our ancestors, meanwhile developing new approaches to contribute to this ancient and ongoing chain of knowledge. We are a continually evolving community, and we welcome all who wish to contribute."

Page Five–In Practice:

In Practice

This page is designed to meet you where you're at, offering examples of flexible ways to bring the environment into your teaching. Each section provides some practical ideas that connect health, physical activity, the environment, and social justice in ways that naturally fit within HALE. These aren't meant as steps to move through but rather different entry points depending on your comfort, time, and context!

Start Small

For quick, low-prep changes that build on what you're already teaching. Consider:

- Adding a single guiding question to an existing lesson.
  - How does the environment shape this health behaviour? How are you and the Land connected at this moment? How does this space support or limit people's ability to be active?
- Highlighting access and equity casually in conversation.
  - Who has a well-maintained park or accessible natural space nearby? Who doesn't? Why might that be?
- Expanding discussions with intentional, relevant prompts.
  - When discussing food, you could ask students where their food comes from and who can easily access fresh, affordable food near their homes. Or when discussing physical activity, you could ask them who has access to safe, outdoor spaces nearby.
- Using brief media hooks for engagement.
  - You could use a short podcast clip, video, or news article for a minds-on or closing reflective activity.
- Introducing comparisons of settler-colonial, Indigenous, and other cultural understandings of the environment. Especially in diverse classrooms, your students may themselves be able to bring different perspectives to the conversation based on their families' knowledge.
- Taking a moment to check your own assumptions about health, activity, and environment!
  - Common dominant ideas we want to question include:
    - Seeing health as a result of individual choices only.
    - Considering exercise as limited to structured sports or activity in a gym setting.
    - Viewing the natural environment as apolitical and equally accessible to all.

Build Connections

These may involve more planning, but still fit easily within existing units. Consider:

- Including warm-up or cool-down reflections that connect movement to place.
  - What do you notice about this space today? Who has easy access to spaces like this?
- Utilizing lulls in the lesson (such as water breaks) as opportunities for more casual discussions.
- Including case study lessons.
  - For example, you could have students examine air pollution and respiratory health, drinking water advisories in Ontario, or news stories about problems with different schools' air quality, mold, heating and cooling.
- Connecting strategy and teamwork to broader ideas like community wellbeing and shared responsibility.
- Exploring the idea of "sustainable happiness."
- Exploring how Indigenous knowledge systems understand health as relational.
- Using Land acknowledgements as a point for discussion rather than just a script.
- Facilitating more structured class discussions.
- Making cross-curricular connections apparent.
  - E.g., combining nutrition and sustainability. Or, mental health and nature exposure.
- Using outdoor versions of sports units where possible and reflecting on how the environment influences our movement, communication, and gameplay.

Go Deeper

These ideas may involve more sustained EE and facilitating inclusion of student perspectives. Consider:

- Exploring health inequities through environmental conditions.
  - How does air quality, water access, or infrastructure shape opportunities for physical activity and wellbeing?
- Creating action or advocacy projects.
  - Have students identify a relevant local issue that concerns them and facilitate them proposing solutions and engaging in action projects.
- Building community connections.
  - Invite in guest speakers, connect with local organizations, or partner with existing initiatives.
- Exploring health and wellbeing through Indigenous frameworks.
- Designing Land-based and place-based learning experiences grounded in Indigenous knowledge systems.
- Critically examining how colonial systems have shaped our understandings of health and physical activity.
- Designing units where the environment can act not just as a setting but as a teacher itself.

Page Six–References:

References

- Adlong, W., & Dietsch, E. (2015). Environmental education and the health professions: Framing climate change as a health issue. Environmental Education Research, 21(5), 687-709.
- Backman, E., Larneby, M., & Rudelius, R. (2026). (How) should environmental sustainability be a part of physical education? Analysing Swedish teachers' voices through a Bernsteinian perspective. Sport, Education and Society, 31(1), 114-126. https://doi.org/10.1080/13573322.2024.2378120
- Bell, A. C., & Dyment, J. E. (2008). Grounds for health: The intersection of green school grounds and health-promoting schools. Environmental Education Research, 14(1), 77-90.
- Beltrán, R., Hacker, A., & Begun, S. (2016). Environmental justice is a social justice issue: Incorporating environmental justice into social work practice curricula. Journal of Social Work Education, 52(4), 493-502. http://dx.doi.org/10.1080/10437797.2016.1215277
- DePoy, E., & Gitlin, L. N. (2016). Naturalistic designs. In Introduction to research (5th ed.). Elsevier.
- Engle, E. W., Larkins, M., Bratman, E., & Higgins, A. K. (2024). Centring diversity, equity, inclusion, and justice in environmental studies and sciences by practicing compassionate pedagogies. Research and Theory, 14, 469-483.
- Faculty of Education. (2021). Flourishing as a faculty. Faculty of Education, Lakehead University. https://www.lakeheadu.ca/sites/default/files/uploads/45/stratplan/Flourishing%20as%20a%20Faculty.pdf
- Fang, W. T., Hassan, A., & LePage, B. A. (2023). The living environmental education: Sound science toward a cleaner, safer, and healthier future. Springer Nature. https://doi.org/10.1007/978-981-19-4234-1
- Fröberg, A., & Lundvall, S. (2021). The distinct role of physical education in the context of Agenda 2030 and sustainable development goals: An explorative review and suggestions for future work. Sustainability, 13(21), 11900.
- Gibson, J. M. (2017). Environmental determinants of health. In T. Daaleman & M. Helton (Eds.), Chronic illness care: Principles and practice (pp. 451-467). Springer. https://doi.org/10.1007/978-3-319-71812-5_37
- Government of Canada. (2024). Environmental justice and environmental racism. Government of Canada. https://www.canada.ca/en/environment-climate-change/services/strategic-policy-branch/environmental-justice.html
- Häggström, M., & Schmidt, C. (2020). Enhancing children's literacy and ecological literacy through critical place-based pedagogy. Environmental Education Research, 26(12), 1729-1745. https://doi.org/10.1080/13504622.2020.1812537
- Karlsson, A. I., & Backman, E. (2023). Environmental sustainability in physical education: A study of physical education teachers' perceptions and attitudes towards environmental sustainability in physical education. In D. Svensson, E. Backman, S. Hedenborg, & S. Sörlin (Eds.), Sport, performance and sustainability (109-129). Routledge. https://doi.org/10.4324/9781003283324-10
- Korteweg, L. & Oakley, J. (2014). Eco-heroes out of place and relations: Decolonizing the narratives of Into the Wild and Grizzly Man through Land education. Environmental Education Research, 20(1), 131-143.
- Maina-Okori, N. M., Koushik, J. R., & Wilson, A. (2018). Reimagining intersectionality in environmental and sustainability education: A critical literature review. The Journal of Environmental Education, 49(4), 286-296. https://doi.org/10.1080/00958964.2017.1364215
- Mandrillon, K., Desplanques, F., & Gottsmann, L. (2026). Towards an integration of physical activity and environmental awareness: Analysis of students' activity in physical education. Physical Education and Sport Pedagogy, 31(2), 219-240. https://doi.org/10.1080/17408989.2024.2319059
- O'Brien, C. (2013). Happiness and sustainability together at last! Sustainable happiness. Canadian Journal of Education, 36(4), 228-228.
- Pan American Health Organization. (n.d.). Environmental determinants of health. https://www.paho.org/en/topics/environmental-determinants-health
- Sampson, N. (2012). Environmental justice at school: Understanding research, policy, and practice to improve our children's health. Journal of School Health, 82(5), 246-252.
- Sensoy, O., & DiAngelo, R. (2017). Is everyone really equal? An introduction to key concepts in social justice education (2nd ed.). Teachers College Press.
- Simpson, L. B. (2014). Land as pedagogy: Nishnaabeg intelligence and rebellious transformation. Decolonization: Indigeneity, Education & Society, 3(3). https://ikdll.nau.edu/id/eprint/54/
- Tuck, E., McKenzie, M., & McCoy, K. (2014). Land education: Indigenous, post-colonial, and decolonizing perspectives on place and environmental education research. Environmental Education Research, 20(1), 1–23. https://doi.org/10.1080/13504622.2013.877708
- Twance, M. (2019). Learning from land and water: Exploring mazinaabikiniganan as Indigenous epistemology. Environmental Education Research, 25(9), 1319-1333. https://doi.org/10.1080/13504622.2019.1630802
- United Nations. (2020). Education is key to addressing climate change. https://www.un.org/en/climatechange/climate-solutions/education-key-addressing-climate-change
- UNESCO Canadian Commission. (2021). Land as teacher: Understanding Indigenous land-based education. https://en.ccunesco.ca/idealab/indigenous-land-based-education
- Waldron, I. (2020). Environmental racism in Canada. Canadian Commission for UNESCO's Idea Lab.
- World Health Organization (WHO). (2024, October 4). Determinants of health. https://www.who.int/news-room/questions-and-answers/item/determinants-of-health

Chapter Four: Reflection

One of the reasons I first applied to the MEd program at Lakehead was that I had not felt like my academic journey was complete. It had nothing to do with ego or the opportunities it might grant me, but rather about that *pull*. There was this intuitive feeling that I had missed the 'big picture' in my post-secondary education thus far. I had moved through the motions that would earn me a degree: I blindly memorized, complied, and produced what was expected of me. Strangely, it felt selfish, and in hindsight, it was; my motivation had always been guided by the desire to meet social expectations. I had done what I (and those around me) had thought I *had* to do, and deciding to pursue the MEd was the first time I fought the expectations that surrounded me. I was 'supposed' to be done with school, starting my career, and meeting whatever other expectations I felt as a 'modern' 24-year-old. Some around me found it difficult to understand why I would continue on when I did not 'have' to. But I was feeling that pull even though I knew I did not have to act on it, which seemed to only make me want to do it more.

I believe part of that pull was the acknowledgement that something was *off* about my educational journey. Much of what I had been taught and rewarded for centred on content that felt disconnected from people, place, and actual lived experiences. I have been privileged to succeed within the system, but I was not meaningfully engaging with the world beyond it, and I felt the weight of that. What I had started to recognize was that I had been primed only to act as an unquestioning content facilitator, doing what I was told in the ways I was told to do it. And, ultimately, I wanted more for myself, my students, and this world.

The irony is that this program demonstrated to me that my learning will never feel complete because it (thankfully) never will be. The more I engaged with ideas around EE, social justice, and relational ways of knowing, the more I realized how much there still is to question,

unlearn, and understand. Now, rather than desiring a sense of mastery, which is what the goal of education had always felt like to me, I have shifted to understanding learning as ongoing. Like the people and our world, education and learning are meant to be living and responsive, not something fixed or detached.

Being in this program and learning from the professors and peers around me has been a privilege in multiple ways. I have had access to time, money, and support in a way that has allowed me to slow down and think more critically about education. This, ultimately, has been an opportunity that exists within broader systems of access and inequity, as many people are not given the same chance to pursue learning in the ways that I have. Acknowledging this has been a reminder of both the value of the experience and my responsibility within and beyond the program to do something with this learning.

This portfolio is representative of not only an in-depth research process, then, but also of unlearning. I have continuously had to question how I understand health, physical education, and the environment, and how these understandings have been shaped by dominant narratives. Throughout this process, I have been critically reflecting on what counts as ‘real’ knowledge within HPE and EE, and whose perspectives have been centred and excluded. This thereby led me to actively seek out knowledge that challenges individualistic and decontextualized approaches to HPE and instead highlights relational and justice-oriented understandings.

Many of the works I included in my portfolio move beyond narrow understandings of health as an individual responsibility and instead position health as deeply connected to the environment, social structures, and inequitable access to resources. I intentionally sought out Indigenous knowledge that reframes learning as relational and interconnected with the Land and more-than-human life, ultimately disrupting settler-colonial assumptions embedded in many of

our current approaches to EE and HPE. By doing so, I have attempted to centre multiple ways of knowing, paying particular attention to Indigenous knowledge systems, critical social justice frameworks, and place-based perspectives. That said, I acknowledge that my understanding and engagement with these ways of knowing has been shaped by my own positionality, and I also know that I have more to learn and unlearn.

One of the most significant challenges I faced was trying to bridge the gap between theory and practice as I wanted the content of the website to feel genuine, not superficial. Not only was I considering how these complex ideas and concepts could realistically be translated into a HALE context, but I was attempting to ensure that my suggestions did not feel like too much additional work for busy teachers nor feel disconnected from students' lives and needs. That required much refinement as I went along, specifically in relation to language use, examples, and overall framing, to ensure I was creating something accessible and usable while also maintaining the integrity of the ideas themselves.

In terms of the resource itself, I believe it offers various strong entry points for educators at the beginning of their journey, looking to integrate EE more meaningfully into HPE contexts, as well as for those with more practice under their belt to deepen their existing understandings. I believe that by moving from key concepts to scholarly foundations, to resources, and to practical applications, my resource is structured to help educators translate theory into action. That said, I believe this translation came with some inherent simplification as a result of finding that balance between accessibility and depth.

While I have tried to create a resource that is practical and accessible, I must also acknowledge that it sits within larger systems that shape what is possible in classrooms, with teachers often being constrained by time, curriculum demands, and dominant expectations of

teaching and learning. While the resource cannot fix those bigger problems, I hope that it still guides educators into their own process of reflection, questioning, and evolving. That said, I also recognize that meaningful change in education does not, and cannot, rest solely on the backs of individual teachers. As I worked on my portfolio, structural questions about curriculum design, institutional priorities, and the kinds of knowledge valued in school settings kept rising to the surface. So, while I hope my resource is perceived as supportive, I further hope it is also seen as intentionally disruptive, and that discomfort is welcomed.

I am confident that I will take what I have learned throughout this degree with me long after I graduate. Not only has it changed how I think about education, but also how I will move through this world. I suspect that this journey will never feel finished or like something I can just forget about after the portfolio is officially submitted. Rather, it is something that will continue to influence me in my everyday life and how I show up as an educator. I am going to keep learning, keep unlearning, keep questioning, and keep growing, not because I am told to, but because I owe it to the people I teach, the communities I am part of, and the world I am helping shape.

References

Adlong, W., & Dietsch, E. (2015). Environmental education and the health professions: Framing climate change as a health issue. *Environmental Education Research, 21*(5), 687-709.

Arts University Bournemouth. (n.d.). *Equity, diversity and inclusion: Anti-racist Resources.* https://aub-uk.libguides.com/EDI/antiracist

Backman, E., Larneby, M., & Rudelius, R. (2026). (How) should environmental sustainability be a part of physical education? Analysing Swedish teachers' voices through a Bernsteinian perspective. *Sport, Education and Society*, *31*(1), 114-126. https://doi.org/10.1080/13573322.2024.2378120

Baena-Morales, S., Prieto-Ayuso, A., Merma-Molina, G., & González-Víllora, S. (2024). Exploring physical education teachers' perceptions of sustainable development goals and education for sustainable development. *Sport, Education and Society, 29*(2), 162-179.

Bell, A. C., & Dyment, J. E. (2008). Grounds for health: The intersection of green school grounds and health‐promoting schools. *Environmental Education Research*, 14(1), 77-90.

Beltrán, R., Hacker, A., & Begun, S. (2016). Environmental justice is a social justice issue: Incorporating environmental justice into social work practice curricula. *Journal of Social Work Education, 52*(4), 493-502. http://dx.doi.org/10.1080/10437797.2016.1215277

Bigelow, B. (2014). How my schooling taught me contempt for the Earth. In B. Bigelow & T. Swinehart (Eds.), *A people's curriculum for the Earth* (pp. 36-41). Rethinking Schools.

Canadian Human Rights Commission. (2023). *Fast talk on environmental racism in Canada*. https://www.chrc-ccdp.gc.ca/resources/publications/fast-talk-environmental-racism-canada

Carruthers, J. (2019). The Anthropocene. *South African Journal of Science, 115*(7/8).

https://doi.org/10.17159/sajs.2019/6428

Chambers, J. (2008). Human/nature discourse in environmental science education resources. *Canadian Journal of Environmental Education, 13*(1), 107-121. https://cjee.lakeheadu.ca/article/view/575

Chawla, L. (2007). Childhood experiences associated with care for the natural world: A theoretical framework for empirical results. *Children, Youth and Environments, 17*(4), 144–170. https://doi.org/10.1353/cye.2007.0010

Clemitshaw, G. (2013). Critical pedagogy as educational resistance: A post-structural reflection. *Power and Education, 5*(3), 268-279. https://doi.org/10.2304/power.2013.5.3.268

Damor, P. R. (2024). Anthropocene: Human activity impact on the climate and environment. *Journal of Climate Change, 10*(1), 43-45. https://doi.org/10.3233/JCC240006

DePoy, E., & Gitlin, L. N. (2016). Naturalistic designs. In *Introduction to research* (5th ed.). Elsevier.

Dingle, G., & Mallen, C. (2020). *Sport and environmental sustainability: Research and strategic management*. Routledge.

Edwards, J. (2013). Towards effective socially critical environmental education: Stories from primary classrooms. *Environmental Education Research, 19*(2), 258–259. https://doi.org/10.1080/13504622.2012.736477

Eisner, E. W. (2002). The three curricula that all schools teach. In *The educational imagination: On the design and evaluation of school programs* (3rd ed.) (pp. 87-107). Merrill Prentice Hall.

Engle, E. W., Larkins, M., Bratman, E., & Higgins, A. K. (2024). Centring diversity, equity,

inclusion, and justice in environmental studies and sciences by practicing compassionate pedagogies. *Research and Theory, 14*, 469-483.

Faculty of Education. (2021). *Flourishing as a faculty*. Faculty of Education, Lakehead University. https://www.lakeheadu.ca/sites/default/files/uploads/45/stratplan/Flourishing%20as%20a%20Faculty.pdf

Fang, W. T., Hassan, A., & LePage, B. A. (2023). *The living environmental education: Sound science toward a cleaner, safer, and healthier future.* Springer Nature. https://doi.org/10.1007/978-981-19-4234-1

Fricker, M. (2008). Forum: Miranda Fricker's epistemic injustice. Power and the ethics of knowing. *Theoria, 23*(1), 69-71. https://doi.org/10.1387/theoria.7

Fröberg, A., & Lundvall, S. (2021). The distinct role of physical education in the context of Agenda 2030 and sustainable development goals: An explorative review and suggestions for future work. *Sustainability, 13*(21), 11900.

Galway, L. P. (2016). Boiling over: A descriptive analysis of drinking water advisories in First Nations communities in Ontario, Canada. *International Journal of Environmental Research and Public Health, 13*(5), 505. https://doi.org/10.3390/ijerph13050505

Galway, L. P., & Field, E. (2023). Climate emotions and anxiety among young people in Canada: A national survey and call to action. *The Journal of Climate Change and Health, 9*, 100204. https://doi.org/10.1016/j.joclim.2023.100204

Gélineau, M., Russell, C., & Korteweg, L. (2024). "Invasive" species discourse in Ontario elementary and secondary curricula: A critical and decolonial analysis. *Canadian Journal of Environmental Education, 26*, 176-193. https://cjee.lakeheadu.ca/article/view/1842

GEM Report. (2016, November 15). *What is the 'whole school approach' to environmental education?* UNESCO. https://world-education-blog.org/2016/11/15/what-is-the-whole-school-approach-to-environmental-education/

Gibson, J. M. (2017). Environmental determinants of health. In T. Daaleman & M. Helton (Eds.), *Chronic illness care: Principles and practice* (pp. 451-467). Springer. https://doi.org/10.1007/978-3-319-71812-5_37

Govender, N. (2020). Alienation, reification and the banking model of education: Paulo Freire's critical theory of education. *Acta Academica, 52*(2), 204-222. https://doi.org/10.18820/24150479/aa52i2/11

Government of Canada. (2002). *A framework for environmental learning and sustainability in Canada*. National Library of Canada. https://canadacommons.ca/artifacts/29690107/a-framework-for-environmental-learning-and-sustainability-in-canada/30589953/

Government of Canada. (2024a). *Environmental justice and environmental racism*. Government of Canada. https://www.canada.ca/en/environment-climate-change/services/strategic-policy-branch/environmental-justice.html

Government of Canada. (2024b). *Ending long-term drinking water advisories.* Government of Canada. https://www.sac-isc.gc.ca/eng/1506514143353/1533317130660

Government of Canada. (2024c). *Toward a national framework for environmental learning: Discussion paper*. Government of Canada.

https://www.canada.ca/en/environment-climate-change/corporate/transparency/consultations/national-framework-environmental-learning/discussion-paper.html#toc4

Greenwood, D. A. (2008). A critical pedagogy of place: From gridlock to parallax. *Environmental Education Research, 14*(3), 336-348. https://doi.org/10.1080/13504620802190743

Grewal, R. K., & Berger, P. (2025). Nurturing identity, shaping communities, and forging new pathways: Racially minoritized youth climate justice activists' perspectives. *Canadian Journal of Education, 48*(1), 29-70. https://doi.org/10.53967/cje-rce.7153

Guthold, R., Stevens, G. A., Riley, L. M., Bull, F. C. (2020). Global trends in insufficient physical activity among adolescents: A pooled analysis of 298 population-based surveys with 1.6 million participants. *The Lancet Child and Adolescent Health, 4*(1), 23-35. https://doi.org/10.1016/S2352-4642(19)30323-2

Häggström, M., & Schmidt, C. (2020). Enhancing children's literacy and ecological literacy through critical place-based pedagogy. *Environmental Education Research, 26*(12), 1729-1745. https://doi.org/10.1080/13504622.2020.1812537

Hargis, K., McKenzie, M., & Chopin, N. (2024). The state of environmental and sustainability education in Canada: A review of past, current, and future directions. In M. Reickmann & R. T. Munoz (Eds.), *World review: Environmental and sustainability education in the context of the sustainable development goals* (pp. 245-268). Routledge.

Hungerford, H. R., Peyton, R. B., & Wilke, R. J. (1980). Goals for curriculum development in environmental education. *Journal of Environmental Education, 11*(3), 43–44. https://doi.org/10.1080/00958964.1980.9941381

Karlsson, A. I., & Backman, E. (2023). Environmental sustainability in physical education: A

study of physical education teachers' perceptions and attitudes towards environmental sustainability in physical education. In D. Svensson, E. Backman, S. Hedenborg, & S. Sörlin (Eds.), S*port, performance and sustainability* (109-129). Routledge. https://doi.org/10.4324/9781003283324-10

Kawartha Pine Ridge District School Board. (n.d.). *Indigenous education*. https://www.kprschools.ca/learning-and-programs/indigenous-education/

Keniger, L., Gaston, K., Irvine, K., & Fuller, R. (2013). What are the benefits of interacting with nature? *International Journal of Environmental Research and Public Health*, *10*(3), 913–935. https://doi.org/10.3390/ijerph10030913

Kim, D., Lee, H., Kim, K., Kim, S., Kim, J. H., Wook Ko, Y., Hawes, I., Oh, J., & Kim, J. (2024). Persistent organic pollutants in the Antarctic marine environment: The influence impacts of human activity, regulations, and climate change. *Environmental Pollution, 363*(125100). https://doi.org/10.1016/j.envpol.2024.125100

Kollmuss, A., & Agyeman, J. (2002). Mind the gap: Why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research, 8*(3), 239-260. https://doi.org/10.1080/13504620220145401

Korteweg, L. & Oakley, J. (2014). Eco-heroes out of place and relations: Decolonizing the narratives of Into the Wild and Grizzly Man through Land education. *Environmental Education Research, 20*(1), 131-143. https://doi.org/10.1080/13504622.2013.865117

Lamsal, H. L. (2024). Critical pedagogy in addressing social inequality and promoting social justice in education. *Advances, 5*(3). https://doi.org/10.11648/j.advances.20240503.12

Li, R., Liang, Z., Hou, L., Zhang, D., Wu, Q., Chen, J., & Gao, L. (2023). Revealing the impacts

of human activity on the aquatic environment of the Pearl River Estuary, South China, based on sedimentary nutrient records. *Journal of Cleaner Production, 385*(135749). https://doi.org/10.1016/j.jclepro.2022.135749

Lowan-Trudeau, G. (2022). Climate change curricula in Alberta, Canada: An intersectional framing analysis. *Northwest Journal of Teacher Education, 17*(3), 1-12. https://pdxscholar.library.pdx.edu/nwjte/vol17/iss3/10/

Macdonald, D. (2015). *The wealth advantage: Growing wealth gap between Canada's affluent and the middle class*. Canadian Centre For Policy Alternatives.

Maddock, T. (1999). The nature and limits of critical theory in education. *Educational Philosophy and Theory, 31*(1), 43-61. https://doi.org/10.1111/j.1469-5812.1999.tb00373.x

Maina-Okori, N. M., Koushik, J. R., & Wilson, A. (2018). Reimagining intersectionality in environmental and sustainability education: A critical literature review. *The Journal of Environmental Education, 49*(4), 286-296. https://doi.org/10.1080/00958964.2017.1364215

Mandrillon, K., Desplanques, F., & Gottsmann, L. (2026). Towards an integration of physical activity and environmental awareness: Analysis of students' activity in physical education. *Physical Education and Sport Pedagogy*, *31*(2), 219-240. https://doi.org/10.1080/17408989.2024.2319059

Merma-Molina, G., Urrea-Solano, M., González-Víllora, S., & Baena-Morales, S. (2023). Future physical education teachers' perceptions of sustainability. *Teaching and Teacher Education, 132*, 104254.

O'Brien, C. (2013). Happiness and sustainability together at last! Sustainable happiness. *Canadian Journal of Education, 36*(4), 228-228.

Olive, R., & Enright, E. (2021). Sustainability in the Australian health and physical education curriculum: An ecofeminist analysis. *Sport, Education and Society, 26*(4), 389-402. https://doi.org/10.1080/13573322.2021.1888709

Ontario Ministry of Education. (2009). *Acting today, shaping tomorrow: A policy framework for environmental education in Ontario schools.* Government of Ontario. https://www.edu.gov.on.ca/eng/teachers/enviroed/shapetomorrow.pdf

Ontario Ministry of Education. (2015). *The Ontario curriculum, grades 9 to 12: Health and physical education*. Government of Ontario. https://www.edu.gov.on.ca/eng/teachers/enviroed/shapetomorrow.pdf

Ontario Ministry of Education. (2017). *The Ontario curriculum grades 9 – 12: Environmental education scope and sequence of expectations*. Government of Ontario. https://www.edu.gov.on.ca/eng/curriculum/secondary/environmental_ed_9to12_eng.pdf

Ontario Ministry of Education. (2024). *Considerations for program planning*. Government of Ontario. https://www.dcp.edu.gov.on.ca/en/program-planning/considerations-for-program-planning/human-rights-equity-and-inclusive-education

Orr, D. W. (2011). What is education for? In *Hope is an imperative: The essential David Orr* (pp. 237-245). Island Press.

Paciscopi, N. (2024). Epistemic injustice and standpoint theory: A proposal for understanding epistemic harm. *Phenomenology and Mind, 27*, 70-82. https://doi.org/10.17454/pam-2707

Pan American Health Organization. (n.d.). *Environmental determinants of health*. https://www.paho.org/en/topics/environmental-determinants-health

Panthi, B. N. (2023). The critical in critical pedagogy: The interface between challenges and opportunities. *Journal of Tilottama, 1*, 24-35. https://doi.org/10.3126/jtilottama.v1i1.64513

Philibert, A., Fillion, M., & Mergler, D. (2020). Mercury exposure and premature mortality in the Grassy Narrows First Nation community: A retrospective longitudinal study. *The Lancet. Planetary Health, 4*(4), 141-148. https://doi.org/10.1016/S2542-5196(20)30057-7

Pihkala, P. (2020). Eco-anxiety and environmental education. *Sustainability, 12*(23), 10149. https://doi.org/10.3390/su122310149

Pohlhaus, G. (2002). Knowing communities: An investigation of Harding's standpoint epistemology. *Social Epistemology, 16*(3), 283–293. https://doi.org/10.1080/0269172022000025633

Rebotier, J. (2021). *Risks and the anthropocene: Alternative views on the environmental emergency*. John Wiley & Sons. https://doi.org/10.1002/9781119902768

Rogova, A., Pullman, A., Iglesias, C.B., & Bryce, R. (2016). *Inequality explained: The hidden gaps in Canada's Education system*. Open Canada. https://opencanada.org/inequality-explained-hidden-gaps-canadas-education-system/#:~:text=They%20face%20inequalities%20beyond%20just,ineligible%20for%20many%20postsecondary%20opportunities

Roth, C. E. (1992). *Environmental literacy: Its roots, evolution and directions in the 1990s.* ERIC. https://eric.ed.gov/?id=ED348235

Roze des Ordons, D. M., & Hill, C. (2025). Belonging to the living world: The potential benefits

of nature and place-based education for collective wellbeing and eco-social-cultural change. *Journal of Adventure Education and Outdoor Learning, 25*(1), 100-118. https://doi.org/10.1080/14729679.2024.2444913

Russell, C. (1999). Problematizing nature experience in environmental education: The interrelationship of experience and story. *Journal of Experiential Education, 22*(3), 123-128, 137. https://doi.org/10.1177/105382599902200304

Russell, C., Bell, A., & Fawcett, L. (2000). Navigating the waters of Canadian environmental education. In T. Goldstein & D. Selby (Eds.), *Weaving connections: Educating for peace, social and environmental justice* (pp. 196-217). Sumach Press.

Ryoo, J. J., & McLaren, P. (2010). Critical theory. In P. Peterson, E. Baker, & B. McGraw (Eds.), *International encyclopedia of education* (3rd Ed.) (pp. 348-353). Elsevier. https://doi.org/10.1016/B978-0-08-044894-7.01388-9

Salmon, U. (2022). “It's wicked hard to fight covert racism”: The case of microaggressions in science research organizations. *Gender, Work & Organization, 31*(3), 727-748. https://doi-org.ezproxy.lakeheadu.ca/10.1111/gwao.12934

Sauvé, L. (2005). Currents in environmental education: Mapping a complex and evolving pedagogical field. *Canadian Journal of Environmental Education, 10*, 11-37. https://cjee.lakeheadu.ca/article/view/175

Sensoy, O., & DiAngelo, R. (2017). *Is everyone really equal? An introduction to key concepts in social justice education* (2nd ed.). Teachers College Press.

Sillitoe, P. (2021). *Ethnographic contributions to the climate change debate*. Berghahn Books. https://library.oapen.org/handle/20.500.12657/54627

Simpson, L. B. (2014). Land as pedagogy: Nishnaabeg intelligence and rebellious

transformation. *Decolonization: Indigeneity, Education & Society, 3*(3). https://ikdll.nau.edu/id/eprint/54/

Smithsonian Magazine. (2016). *What is the anthropocene?* [Video]. Smithsonian Institute. https://www.smithsonianmag.com/videos/category/science/what-is-the-anthropocene/

Sover, K., & Walsh, E. M. (2022). Climate change education must be education for justice: Historical and conceptual foundations for centering equity in climate change education. In E. M. Walsh (Ed.), *Justice and equity in climate change education* (pp. 1–38). Routledge. https://doi.org/10.4324/9780429326011-1

Statistics Canada. (2021). *Census profile, 2021 census of population*. https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/index.cfm?Lang=E

Steen, S. (2003). Bastions of mechanism, castles built on sand: A critique of schooling from an ecological perspective. *Canadian Journal of Environmental Education, 8*, 191-203. https://cjee.lakeheadu.ca/article/view/246

Taylor, N., Wright, J., & O'Flynn, G. (2016). HPE teachers' negotiation of environmental health spaces: Discursive positions, embodiment and materialism. *The Australian Educational Researcher, 43*(3), 361-376. https://doi.org/10.1007/s13384-016-0205-8

Trillium Lakelands District School Board. (n.d.). *Indigenous education*. https://www.tldsb.ca/indigenous-education/tldsb-territory-acknowledgement/

Trott, C. D., Lam, S., Roncker, J., Gray, E. S., Courtney, R. H., & Even, T. L. (2023). Justice in climate change education: A systematic review. *Environmental Education Research, 29*(11), 1535-1572. https://doi.org/10.1080/13504622.2023.2181265

Tsoubaris, D., & Georgopoulos, A. (2013). Gauging the potential of socially critical

environmental education (EE): Examining local environmental problems through children's perspective. *Journal for Critical Education Policy Studies, 11*(4), 132–158. https://www.jceps.com/wp-content/uploads/PDFs/11-4-07.pdf

Tuck, E., McKenzie, M., & McCoy, K. (2014). Land education: Indigenous, post-colonial, and decolonizing perspectives on place and environmental education research. *Environmental Education Research, 20*(1), 1–23. https://doi.org/10.1080/13504622.2013.877708

Twance, M. (2019). Learning from land and water: Exploring mazinaabikiniganan as Indigenous epistemology. *Environmental Education Research, 25*(9), 1319-1333. https://doi.org/10.1080/13504622.2019.1630802

United Nations. (2020). *Education is key to addressing climate change.* https://www.un.org/en/climatechange/climate-solutions/education-key-addressing-climate-change

United Nations Educational, Scientific and Cultural Organization. (2020). *Sustainability*. https://www.unenvironment.org/about-un-environment/sustainability

United Nations Educational, Scientific and Cultural Organization. (2021). *Getting every school climate-ready: How countries are integrating climate change issues in education*. https://doi.org/10.54675/NBHC8523

United Nations Educational, Scientific and Cultural Organization. (2024a). *Green school quality standard: Greening every learning environment*. https://doi.org/10.54675/LOCX2930

United Nations Educational, Scientific and Cultural Organization. (2024b). *Greening curriculum guidance: Teaching and learning for climate action*. https://doi.org/10.54675/AOOZ1758

United Nations Educational, Scientific and Cultural Organization. (n.d.-a). *Climate change education*. https://www.unesco.org/en/climate-change/education

United Nations Educational, Scientific and Cultural Organization. (n.d.-b). *Education for sustainable development*. https://www.unesco.org/en/sustainable-development/education?hub=761

United Nations Environment Programme. (1977, October 14-26). *Environmental education* [Conference meeting report]. Intergovernmental Conference on Environmental Education, Tbilisi, USSR. https://unesdoc.unesco.org/ark:/48223/pf0000032763

UNESCO Canadian Commission. (2021). *Land as teacher: Understanding Indigenous land-based education*. https://en.ccunesco.ca/idealab/indigenous-land-based-education

Vamvalis, M. (2023). "We're fighting for our lives": Centering affective, collective and systemic approaches to climate justice education as a youth mental health imperative. *Research in Education, 117*(1), 88-112. https://doi.org/10.1177/00345237231160090

Venkataraman, M., Grzybowski, S., Sanderson, D., Fischer, J., & Cherian, A. (2022). Environmental racism in Canada. *Canadian Family Physician, 68*(8), 567-569. https://doi.org/10.46747/cfp.6808567

Waldron, I. (2020). *Environmental racism in Canada*. Canadian Commission for UNESCO's Idea Lab.

Water Today. (2025). *Advisory maps*. https://watertoday.ca/#adv1

Williams, M., Roy, A. K., MacIntyre, M., & Faber, S. (2022). The traumatizing impact of racism in Canadians of colour. *Current Trauma Reports, 8*, 17-34. https://doi.org/10.1007/s40719-022-00225-5

Working Group on Environmental Education. (2007). *Shaping our schools, shaping our future:*

Environmental education in Ontario schools. https://canadacommons.ca/artifacts/1184406/shaping-our-schools-shaping-our-future/1737530/

World Health Organization (WHO). (2024, October 4). Determinants of health. https://www.who.int/news-room/questions-and-answers/item/determinants-of-health

Yang, S., Wang, H., Tong, J., Bai, Y., Alatalo, J. M., Liu, G., Fang, Z., & Zhang, F. (2022). Impacts of environment and human activity on grid-scale land cropping suitability and optimization of planting structure, measured based on the MaxEnt model. *Science of the Total Environment, 836*(155356). https://doi.org/10.1016/j.scitotenv.2022.155356

Yassin, S., Petit, G., & Abraham, Y. (2024). *The troubling rise of income and wealth inequality in Canada.* Policy Options. https://policyoptions.irpp.org/2024/07/income-wealth-inequality/