Nature connection across the curriculum: Resources for post-secondary educators

NATURE CONNECTION ACROSS THE CURRICULUM: RESOURCES FOR POST-SECONDARY EDUCATORS

STEFFANIE SCOTT AND JENNY FU

Waterloo

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INTRODUCTION

Welcome to our introductory guide on nature connection for academic instructors, designed to inspire and support educators in integrating approaches to reconnecting with land and place into their teaching practices. This eBook is not just a resource but a journey—a collaborative effort rooted in a deep desire to further understand the profound benefits of learning with the living world while recognizing the colonial contexts our institutions operation within.

"You can't know who you are until you know where you are" – Wendell Berry

In today's educational landscape, it is crucial to recognize and address the historical and ongoing impacts of colonization. By embracing principles and approaches of nature-based learning, we can foster a more inclusive, respectful, and holistic approach to education. This guide underscores the dual purpose of acknowledging the cultural histories of learning on land and the potential harms in our work, while also highlighting the extensive benefits of incorporating these practices. Young people uniquely experience the mental and emotional dimensions of climate change and evidence increasingly illustrates that young people are particularly vulnerable to climate distress and anxiety (Galway & Field, 2023). Research that we explore has shown that

incorporating nature connection enhances student engagement, promotes environmental responsibility, and nurtures a sense of community and belonging. Connection to the living world is crucial to physical, mental, social, and spiritual wellness for all people.

The conception of this eBook was driven by a shared vision and input from a number of collaborators over the past two years: byron murray, Dani Hagel, Nikola Barsoum, Jennifer Chesnut, and Ben Muller. The contributors come from a variety of cultural backgrounds including multi-generation settler Canadian, Indigenous, and first-generation immigrant Canadian. Through collaboration, extensive research, and a series of insightful interviews, we gathered and synthesized information to extract examples of and insights on inspirational practices. The goal of this eBook is to provide an educational, practical, and evidence-based resource for use in post-secondary courses. In an educational era that is heavily embedded in technological development, we hope to refresh both student and educator perspectives by focusing some of our learning outdoors. By delving into these practices, you will find actionable strategies and reflections that can help you integrate nature connection into your curriculum. This guide is designed to be a flexible and adaptable tool, suitable for a variety of educational settings. Amongst those involved in the development of this book alone, nature connection was applied in social work, urban planning, sustainability education, filmmaking, and occupational therapy. As you navigate through this eBook, we hope you find it to be a valuable companion in your teaching journey. Whether you are just beginning to explore the concept of nature connection or are looking to deepen your existing practice, this guide aims to support you in creating meaningful, transformative educational experiences that reconnect learners with the living world and their place within it.

As you explore our resources and materials, please do so in an approach that best meets your interests and needs! The first half of our book primarily focuses on conceptual backgrounds and descriptions of the topics related to nature connection education, while the second half highlights experiences of educators practicing nature connection, activity guides, and practical steps to applying nature connection into your curriculum in post-secondary contexts.

1.

A VISION OF RELATIONAL LEARNING IN A POST-SECONDARY CONTEXT

Our vision is to provide university students with transformative experiences that prioritize reconnecting with land and place through nature-based learning pedagogies. Our approach focuses on guiding students toward developing a respectful and meaningful connection with the living world.

This vision is rooted in relationships that acknowledge the deep interconnectedness of the living world with all facets of life. It embodies a 'kin-centric' worldview of the environment, emphasizing the importance of recognizing the living world as an integral member of our broader ecological family. Our commitment to respectful nature-based learning pedagogies and Indigenous ways of knowing also recognizes the historical harms inflicted upon Indigenous peoples through colonization. We are aware of the enduring impact of colonization on Indigenous communities, their cultures, and their sacred relationship with the living world. A fundamental aspect of our vision is to hold space for iterative and intentional learning that gestures towards addressing historical injustices. Embracing this vision, we aim to not only enhance the academic journey of students but also cultivate a profound sense of responsibility and respect for life and earth.

In our research (interviews and literature review), we identified five key themes in nature-focused education practices:

- fostering relationship building,
- empowering student agency,
- promoting critical reflection,
- cultivating cultural responsiveness, and
- centering Indigenous perspectives.

To integrate these themes into student learning, we as educators must support opportunities for reconnecting with land and ecology, navigating colonial histories and structures, empowering

students as agents of change, fostering intersectional and interdisciplinary approaches, and advocating for institutional change.

2.

RESEARCH APPROACH

Literature on place-based education was reviewed, highlighting the benefits of nature relationality, key examples of practices, new opportunities for research, and gaps in current approaches to sustainability work. The review focuses on themes that point toward ways to enhance students' relationships with the outdoors through nature connection in post-secondary education experiences.

Much of what scholars have learned and can learn about place-based education comes from lived experiences and Indigenous Traditional Knowledge which is not consistently documented in Western academic formats. To discount the intrinsic value and importance of unpublished knowledge would be discrediting the very principles of place-based education. The authors recognize this substantial gap and recognize that the review itself is limited to sources that have fit into the institutional structure of Western academics.

Addressing Colonial Legacies

Place-based education practices are continuously progressing in how they draw attention to settler colonial histories of and Indigenous claims to land. Educators thus may struggle with how to facilitate connection to place without reinforcing another form of settler colonialism (McCoy et al., 2017). The authors recognize that concerns have been raised over appropriation of Indigenous knowledge. Part of the motivation for creating this resource for educators was to explore how to better navigate these concerns, and to share the value in exploring different epistemologies. Although some educators may dismiss the importance of acknowledging settler colonialism, place-based education must practice both social and ecological justice in an education system that perpetuates a lack of acknowledgment of the history and realities of Indigenous peoples (Scully, 2012)—of genocide and ecocide. One of the significant continuing practices of colonialism in the Western world is the perception that the living earth (aka "nature") is separate from people, instead of recognizing how relationality and connection to place is deeply connected to who we are as humans (Scully, 2012). Approaches to place-based education and land-based education in post-secondary institutions, on stolen land where displacement has occurred, require foregrounding the Traditional Knowledge and histories of a specific place.

For non-Indigenous educators, being exposed to Indigenous knowledge systems includes seeing and understanding the world in a holistic way as ancestors did (Goodchild, 2021). Learning about these values must be brought back to sustainability education, starting with educators who value and understand Indigenous Traditional Knowledge as something meaningful for themselves (Calderon et al., 2021). Learning

from and about Indigenous approaches to knowing regenerates the critical understanding that people are dependent upon the natural world and ecological relationships.

Forming a relationship with an Indigenous knowledge-keeper requires respect, openness, and humility, as well as an understanding of the cultural, historical, and spiritual significance of their knowledge. Furthermore, the value of the relationship is not just in the knowledge itself, but in the keeper – acknowledging the specific person the knowledge is coming from, and their unique existence is crucial to building a reciprocal and meaningful relationship. The guidelines below can support an approach to thoughtful relationship building:

1. Do Your Homework

- Research: Learn about the history, culture, and traditions of the specific Indigenous community you are engaging with. This shows respect and a willingness to understand the broader context in which the knowledge-keeper operates.
- Self-Reflection: Understand your own intentions and motivations. Why do you want to form this relationship? Are your reasons aligned with respect for the knowledge and people involved, or is it for personal or professional gain?

2. Approach with Respect and Humility

- Acknowledge Their Authority: Knowledge-keepers are often spiritual and cultural leaders within their communities. Show respect by acknowledging their role and the significance of their teachings.
- Ask for Permission: Before using any learnings, seek permission from the knowledge-keeper or their community. Indigenous communities often have protocols for sharing knowledge, and it is essential to respect these.
- Avoid Assumptions: Do not assume you are entitled to their knowledge or that it will be shared with you. Some teachings may be sacred, private, or meant only for certain people.

3. Be Prepared for a Relationship, Not a Transaction

- Build Trust Over Time: Relationships with Indigenous knowledge-keepers are built on trust, reciprocity, and ongoing communication. Do not expect to receive teachings immediately—be patient and allow the relationship to evolve naturally.
- Give Without Expecting: Show genuine interest in the knowledge-keeper's community and

offer to help in ways that align with their needs. Be prepared to contribute before expecting something in return.
- Cultural Sensitivity: Be aware of the cultural protocols around gift-giving, introductions, and communication styles. Consult with community members or elders to understand these protocols.

4. Understand the Ethics of Knowledge Sharing

- Respect Boundaries: Some knowledge may not be shared with outsiders or is reserved for particular purposes. Respect the decision if the knowledge-keeper is not comfortable sharing certain teachings.
- Seek Proper Attribution: If knowledge is shared with you, ask the knowledge-keeper how they would like to be acknowledged when sharing it with others. Be cautious about using or interpreting the knowledge out of context.
- Intellectual and Cultural Property: Understand that Indigenous knowledge is often considered communal rather than individual property, and this has legal and ethical implications.

5. Commit to Long-Term Engagement

- Reciprocal Learning: Be open to sharing your own skills, experiences, or resources in a way that benefits the knowledge-keeper or their community. Reciprocity is a core value in many Indigenous cultures.
- Support Indigenous Sovereignty: Advocate for Indigenous rights and sovereignty when possible. Being an ally means supporting the community's struggles, not just learning from them.

Gahman and Legault (2019) propose a decolonial place-based education approach where course content is situated in relation to Indigenous places as much as possible and is done so by listening and engaging with Indigenous community members. They emphasize that "learning is not simply the compiling and recitation of 'thing-like bits of information' (Nadasdy 2003), but rather that knowledge is a verb, not simply a noun." As educators pursue nature connection, they must be conscious of positioning themselves as promoters of education, rather than experts on the experiences and/or perspectives of Indigenous people.

Sensitivity to context in which educators teach can be employed to distinguish different types of curricula: neocolonial, decolonized, and deconstructed (McGregor & Park, 2019). Facilitating neocolonial curriculum often ignores context in favour of outdated and biased text, decolonized curriculum prioritizes context (the local culture, circumstances, and commitments) over text, and deconstructed curriculum combines text and context, prioritizing texts that can be applied to multiple contexts. Addressing colonial legacies in nature connection education will look unique in the context of each educator, their students, and their environment.

Reconnecting with Nature

Understanding Nature Connection

The focus on studying human relationships with the natural world has become increasingly important with the growing severity of the environmental crisis, where humanity's disconnection from nature has been proposed as a root cause of unsustainability (Ives et al., 2018). Part of this disconnect is attributed to the abstraction of knowledge in western scientific study, where lived experiences of connection with nature have been construed into a written description that we consider a higher form of knowledge, yet has lost the tangible feeling and purpose of the practice in the first place (Goodchild, 2021). There are multiple approaches to reconnecting with place and the living world, all of which involve being open to different ways of knowing to create a practice that builds an authentic relationship with nature.

Curricula can be based on life-centered values, not interfering but working with dynamics in nature, and cultivating relationships based on values of care and respect that focus on the intrinsic beauty, diversity, and value of natural systems (Armon, 2015). Ives et al. (2018) propose five dimensions through which we

experience and engage in nature connection: (1) material, where we interact with tangible aspects of nature such working with plants, feeling a water body, or eating freshly foraged fruits; (2) experiential, in which a defining moment or lived experience in nature prompts us to pursue further connection; (3) cognitive, in how we ask questions about nature and further our learning; (4) emotional, where we identify nature's influence on our feelings; and (5) philosophical connections, related to how nature inspires extensive thought. When we re-imagine sustainability work by welcoming new perceptions and relationships to ecology, we become more in tune with the natural world (Morris, 2002).

Reconnecting people with nature in learning is key to addressing environmental challenges; without having the knowledge, skills, and resilience that nature connection offers, facing the complex interplay between environmental and socio-political factors becomes increasingly difficult and dissociative. Reconnecting people with nature includes intentional, meaningful, and tangible actions to create effective relationships that address sustainability issues (Ives et al., 2018). By engaging with the living world and the climate, educators can foster critical and imaginative capacities in their students that "are grounded in the historic depth and interdisciplinary breadth of these places so that the issues of our time become more real in the sense of being connected to who we are in our intimate relations with family, friends, community, nation, and planet" (Leduc, 2016, p. 174).

Language Related to Nature Connection

Nature connection as a science, a movement, and a practice can encompass numerous related concepts. This eBook takes a more broad and general approach to defining nature connection as the diverse ways in which people have meaningful experiences with the living world that have positive impacts on their wellbeing and the environment. Definitions related to nature connection can cover mental, physical, emotional, and spiritual engagement and activities can take place in any setting. We have listed a few key definitions below that fall in the realm of nature connection; while they cannot necessarily be used interchangeably, there are key converging themes focused on learning from nature.

Land-Based Education and Traditional Indigenous Approaches

> Land-based learning uses an Indigenized and environmentally focused approach to education by first recognizing the deep, physical, mental, and spiritual connection to the living world that is a part of Indigenous cultures. – Cherpako, 2019
>
> Land-based learning centers Indigeneity, honoring Indigenous relationships with the living world and recognizing the living world as a sentient being with spiritual, emotional, intellectual, and physical aspects. It emphasizes Indigenous ways of knowing, being, and thinking, countering the erasure of Indigenous histories perpetuated by place-based education. – Bowra et al., 2021
>
> Land education puts Indigenous epistemological and ontological accounts of land at the center, including Indigenous understandings of land, Indigenous language in relation to land, and Indigenous critiques of settler

> colonialism. It attends to constructions and storying of land and repatriation by Indigenous peoples, documenting and advancing Indigenous agency and land rights. – Tuck et al., 2014

Connection to the living world is crucial to physical, mental, social, and spiritual wellness for all people. As Indigenous communities are disproportionately experiencing the effects of climate change and continue to be faced with colonial disruption to their connection with land, Indigenous-led land-based education is being used to "re-engage Indigenous youth in their own education, build community connectedness, and revitalize Indigenous languages and practices" (Cherpako, 2019). Culturally relevant methods of teaching are used by Indigenous educators, including Elders and knowledge-keepers, to ensure authenticity and opportunity for relational teachings (Cherpako, 2019). By valuing and incorporating these connections, educators can contribute to more inclusive, respectful, and effective educational practices that benefit all students.

Place-Based Education

> Immer[sing] students in local heritage, cultures, landscapes, opportunities, and experiences, using these as a foundation for the study of subjects across a curriculum. – (Centre for Place-based education at Antioch University) Ark et al., 2020

> A situated, context-rich, transdisciplinary teaching and learning modality distinguished by its unequivocal relationship to place, which is any locality that people have imbued with meanings and personal attachments through actual or vicarious experiences. – Semken et al., 2017

> A system of white settler supremacy, through capitalistic structuring of society and the economization of everything, works to alienate people from a healthy relationship with the natural world and local places. Healthy, sustainable, and reciprocal relationships to the social geography we are emplaced in have been bastardized, corrupted, and perverted by the same systems that let capital, competition, and private property define life. If we desire to foster socially just ecological education than there must be awareness of the politics of place and the politics of self that challenge that future. Place-based education carries the capacity to center epistemology within a process of pushing settler society away from ecological damage and racial and gender supremacy and toward the cultivation of a healthy reciprocal relationship with the natural world. – Seawright, 2014

Distinguishing Between Land- and Place-Based Education

Authors such as Bowra et al. (2021) differentiate land-based learning and place-based learning as being rooted in different pedagogies. Place-based education, they note, tends to focus on teaching about and within the local community, connecting people with the outdoors, and is prevalent in disciplines like physical education, natural sciences, and engineering. However, it does not connect the place with Indigenous history, knowledge, or stories, nor does it acknowledge that all places are Indigenous lands. Instead, it moves Western education curricula outdoors without incorporating spiritual or emotional connections to the surroundings. This distinction highlights the risk of traditional Indigenous knowledge being co-opted by Western systems for capitalistic gain, which undermines and exploits Indigenous knowledge and practices.

This is not to say that place-based education is anyway separable from Indigenous ways – the conceptual link

between being and place is an Indigenous principle and is maintained within Indigenous cultural philosophy (Johnson, 2012). However, because each learning program is unique, and some may not focus on Indigenous knowledge at all, it is important to make the distinction that land-based learning focuses on Indigenous-led education (Cherpako, 2019).

Nature Connection

> Nature connectedness is the extent to which individuals include nature as part of their identity. – Schultz, 2002

Louv (2008) delivers impactful work on the divide between children and the outdoors, and directly related the lack of nature (nature-deficit) in technologically bound generations to disturbing childhood trends including rises in poor health, attention disorders, and depression. Louv's book indicates that direct exposure to nature is essential for healthy childhood development and for the physical and emotional health of children and adults. Louv also comments on how the way children understand and experience nature has changed radically over the past few decades. Where youth are now more aware of global threats to the environment, they have limited physical contact and their intimacy with nature is fading. Nature connection aims to foster and build this intimacy through creating unique experiences and relationships between humans and the natural world.

Schultz (2002) describes three components that make up nature connectedness:

- The cognitive component is the core of nature connectedness and refers to how integrated one feels with nature.
- The affective component is an individual's sense of care for nature.
- The behavioral component is an individual's commitment to protect the natural environment.

An Darach Forest Therapy (2023) describes several concepts related to nature connection:

- Nature connection can be viewed as an individual's sense of their relationship with the natural world that goes beyond mere contact or exposure to nature and involves a sense of meaningful involvement in something larger than oneself. Contemporary urbanization and increased use of technology have reached a point where many people now feel separate from nature.
- Nature connection can be viewed in terms of engaging with nature through our senses and

immersing ourselves in our natural surroundings.

- Nature connection can also be seen as the mental, physical and emotional benefits that can be felt as a consequence of spending time in nature.

> Nature connectedness is a psychological construct that describes an individual's relationship with nature, encompassing how we think about nature, our emotional relationship with it, and the extent to which we see ourselves as part of nature. This construct can be measured using psychometric scales, and research suggests it can be enhanced through well-designed interventions that encourage engagement with nature. – Richardson et al., 2020

Wild Pedagogies

> Wild pedagogies are about rethinking our relationships within the world and represent a desire to let go of an overabundant sense of control, to invite the places we visit to become an integral part of our work, and to respond to provocations in spontaneous, and at times unforeseen, ways. – Morse et al., 2018

Wild pedagogies are an educational approach that emphasizes learning through direct engagement with the natural world. (Morse et al., 2018). This pedagogy moves beyond traditional, classroom-based education, encouraging experiential, hands-on learning in outdoor environments. Nature connection through wild pedagogies addresses not only educational development but also emotional and relational well-being. Educators who understand and implement wild pedagogies can create learning experiences that nurture the whole student.

The emergence of wild pedagogies began in Canada and since 2014, has been supported by a growing group of educators from across the world (Jickling et al., 2023). The foundation and purpose for wild pedagogies is

that our modernist relationship to the natural world must urgently change in the face of the environmental crisis, and education is a fundamental aspect of this change (Jickling et al., 2023). Wild pedagogies form a convergence about wildness, education, and the realities of responding to modern challenges (Morse et al., 2018).

The intensity of sustainability changes we are currently facing call for an overhaul of the dominant pedagogies and restrictive learning styles that define higher education, so educators and students are better equipped to manage "accelerating change, increasing complexity, contested knowledge claims and inevitable uncertainty" (Lotz-Sisitka et al., 2015). Wild pedagogies as a term encompasses many practices that educators are already undertaking including teaching outside of mainstream classroom environments, involving social justice issues, connection with community through education projects, introducing cross-cultural experiences, and focusing on context in a given place. The commonality that these approaches share is the desire to challenge otherwise incomplete, uninspiring, and disconnected educational structures.

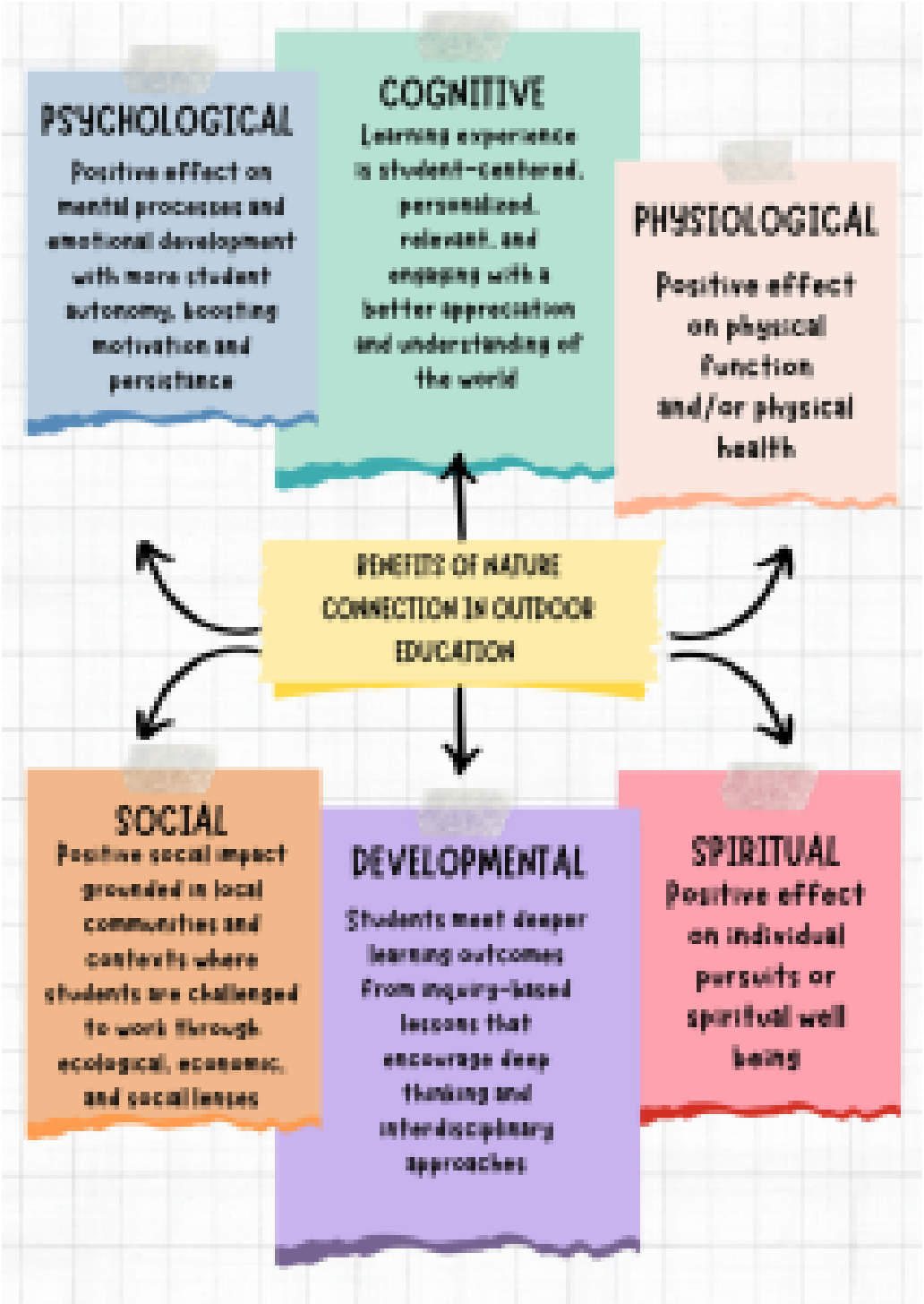
A challenge that wild pedagogies face, and one that may even stop educators from pursuing a place-based education approach in the first place, is how transformative experiences fit (or do not fit) into prescribed teaching goals in formal topics (Jickling et al., 2023). In post-secondary environments, learning must often serve the purpose of an education process that is measurable, where educators struggle with faculties for control over subject matter. When demands from educational institutions become less rigid, opportunities for immersing students in non-conventional learning environments to broaden their learning will be significantly more attainable.

The wild aspect of wild pedagogies by no means implies unstructured chaos or 'pointless' activities (though what counts as having a 'point' and to what value can be contested), but more so loosening restrictions on student experience, encouraging nature-led discovery, acting in solidarity with marginalized perspectives, and challenging unsustainable principles in existing academic culture.

3.

BENEFITS OF NATURE CONNECTION

The benefits of nature connection can be considered to occur on a spectrum that takes time from individual to institutional levels where they do not operate in isolation but interact with and are influenced by one another. The diagram below summarizes key overall benefits to be experienced through nature connection that have been identified through research, interview themes, and direct practice, while the table below delves into more specific and individual factors.


PSYCHOLOGICAL
Positive effect on mental processes and emotional development with more student autonomy, boosting motivation and persistence
COGNITIVE
Learning experience is student-centered, personalized, relevant, and engaging with a better appreciation and understanding of the world
PHYSIOLOGICAL
Positive effect on physical function and/or physical health
BENEFITS OF NATURE CONNECTION IN OUTDOOR EDUCATION
SOCIAL
Positive social impact grounded in local communities and contexts where students are challenged to work through ecological, economic, and social issues
DEVELOPMENTAL
Students meet deeper learning outcomes From inquiry-based lessons that encourage deep thinking and interdisciplinary approaches
SPIRITUAL
Positive effect on individual pursuits or spiritual well being

In-Depth Benefits of Nature Connection

Benefits and Examples of Nature Connection

Benefit	Examples
Psychological well-being	• Increased self-esteem • Improved mood • Reduced anger/frustration • Psychological well-being • Reduced anxiety • Improved behaviour
Cognitive	• Attentional restoration • Reduced mental fatigue • Improved academic performance • Education/learning opportunities • Improved ability to perform tasks • Improved cognitive function in children • Improved productivity
Physiological	• Stress reduction • Reduced blood pressure • Reduced cortisol levels • Reduced headaches • Reduced mortality rates from circulatory disease • Faster healing • Addiction recovery • Perceived health/well-being • Reduced cardiovascular, respiratory disease, and long-term illness • Reduced occurrence of illness
Social	• Facilitated social interaction • Enables social empowerment • Reduced crime rates • Reduced violence • Social cohesion • Social support
Spiritual	• Increased inspiration • Increased spiritual well-being

Tangible	• First-hand knowledge of nature species • Food supply (foraging, gardening)

Source: Adapted from Keniger et al. (2013).

4.

TRANSITIONING CURRICULUM: EXAMPLES

Complementing the literature review, we carried out a set of nine interviews with educators to explore educators' experiences and perspectives on nature connection. This approach allows for an in-depth understanding of personal and contextual factors influencing nature connection in post-secondary education settings. Purposive sampling was used to select participants who are adult educators from a variety of settings, mostly in post-secondary institutions. Efforts were made to include educators from diverse cultural backgrounds to capture a range of experiences with and perspectives on nature connection. Participant identities have been anonymized and alphabetically labeled with no specific order.

Educators who engaged students in nature connection based programs shared numerous benefits and positive impacts of their activities. Participant B shared that being in nature had students changing their perspectives on what we take for granted in the natural world. Participant F shared that through a creative medium focused on centering nature as a topic, students became more articulate about lessons they took away. Furthermore, participant G highlighted that many students identified outdoor time as some of their best

experiences because they felt more connected, reset, and calm. From an academic perspective, some educators expressed that by immersing students in real positions to understand climate change issues, they were able to build more tangible relationships with their community and look toward solving issues in a meaningful way.

The following sections highlight key themes from our interviews in connection to nature-based education.

Theme One: Fostering Relationship-Building

In our interviews with educators who integrate nature connection in their teaching, one key priority that we heard consistently was having students build relationships with the living world around them. The majority of educators mentioned wanting students to understand that all living beings are part of a system that creates community, and that the natural world is a place they can form personal relationships with. One interviewee also highlighted that building relationships creates awareness and different ways of understanding how humans interact with the natural world.

> "Relationships need to be fed in order to help others nurture relationships." – Participant B
>
> "Recognizing all these complex relationships in nature helps us recognize all the complex relationships between humans and the geopolitics of humans." – Participant D

Interview participants also emphasized the importance of building authentic relationships with Indigenous communities and Elders to co-create learning experiences. When educators were able to connect with leaders in the community and build relationships to co-create and co-teach core values of place-based education and land-based education, the value of experiences was significantly enriched.

> "I really focus on relationships here because it's not just people providing a service, right? You really have to sit down, get to know the people that will be delivering the living world-based learning and understand the benefits for you as an instructor, but also what are the benefits for them? Is this going to actually do something for them, for their growth as an organization or what they want to do with land-based learning, or is it going to take away from them? So really figuring that out and getting to know each other is important. It's so much more than just hiring somebody to come and do something for your class." – Participant E

Interview responses reflected a strong focus on reconnecting with nature in educational settings. Participants emphasized the significance of the living world as a source of knowledge and learning and actively encourage students to engage with the environment through activities grounded in recognizing and appreciating the natural elements.

> "I acknowledge the fact that not everyone will be happy with some of the work that I'm doing. But it's also really, really important for people who are settlers to reconnect to this idea of land in order to understand better the importance and the role Indigenous people have in stewarding the living world and have had stewarding the living world." – Participant C
>
> "There needs to be a relationship, spend time out there and feel where you're being pulled or who wants to

connect with you in the plant world, in the tree world. I think when we teach these things, the energy that we carry forward in this is serious." – Participant F

"I think if a person wants to connect with Indigenous people, there are ways to do it. But there are so many nuances too because I think it really also depends on if a person wants to reach out, who's in their community, how does their community think? If their community and they are thinking in a way that continues to block Indigenous presence, then it's going to be more difficult. But if they're thinking in a way that starts to open that up, there's always ways to connect with anyone, whether they're Indigenous or not." – Participant F

Theme Two: Empowering Student Agency

Another key focus of participant responses was on providing opportunities for students to take ownership of their learning, develop practical skills, and create actionable plans for decolonizing their practice. Student agency was highlighted as a crucial aspect of place-based education as it focuses on student-led engagement which creates a more meaningful long-term connection with course material.

"By inviting students to think about these kinds of topics and think about them critically, we're empowering them to go on and be able to address these issues in the future. And I think that's really important because we need to build that capacity for students to be able to engage in these difficult conversations and to be able to think critically about these issues." – Participant I

A common goal among numerous educators was to have students feel more comfortable approaching more complex issues in nature-based learning. Participant A explained how they try to show vulnerability and honesty to help students feel more confident in themselves.

Interview responses presented student empowerment as a key opportunity for addressing some of the challenges facing place-based education spaces. Encouraging students to critically reflect on their roles and responsibilities in addressing colonial legacies and environmental challenges can drive change at community and organizational levels. Equipping students with the tools and knowledge to advocate for social and environmental justice in their communities will broaden experiences, mindsets, and attitudes toward the potentials of place-based education.

Theme Three: Promoting Critical Reflection

Our interviews with educators had a major focus on encouraging students to critically analyze historical and contemporary issues, particularly regarding colonialism and its effects on our disciplinary knowledge, fields of study, and ways of knowing. Having curriculum that centers around Indigenous values provides students

a pathway to thinking about how certain values relate to the context they are working in, and how colonial structures may be violating them.

> "[Each] module is centered around one of those [Indigenous] values. Then, the student actually has to think about those values in relation to how colonialism violates them. How are they going to try to lift them up in their own life, in their own work? How do they connect? It's about critically reflecting on the ways that we're complicit in perpetuating systems of oppression and working to change that." – Participant H
>
> "I can actually remember the moment when I read a description of a Western white supremacist worldview. And I saw myself and I would like to say that from that moment, I turned my attention to and tried to think critically about both the education and experience and privilege that I'd been steeped in." – Participant D

From the interview participants who are actively involved in the place-based education space, integrating multiple disciplines and perspectives to provide holistic understandings of complex issues is a core practice that they uphold to create holistic experiences for their students. Acknowledging the interconnectedness of social, environmental, and cultural factors allows them to learn from the place respectfully and appropriately they are in.

> "Environmental issues do not care about our creations, about how we separate things." – Participant H

Participant B and C express a desire for students to take away an understanding of seeing the living world and all the living beings that are part of the connected systems in their communities by shifting their awareness toward the natural world.

> "Having access to this beautiful, natural environment, I was introduced to the work of some folks locally there who had dedicated themselves to relationship building [with plants and animals]. This was different to outdoor education, as I had understood it. We weren't just taking kids outdoors and teaching them the names of the plants and the animals." – Participant D

Theme Four: Cultivating Cultural Responsiveness

A core theme identified by interview participants is the need to encourage students to engage with their own cultural heritage and learn about the cultural context of the communities they serve. By understanding the histories and realities of the communities in which place-based education and land-based education take place, educators and students alike create more respectful and inclusive education collaborations.

> "One of the central pieces [to place-based education] is trying to help students understand their own positionality in the world—so, understanding their own cultural background, their own history, the privileges, and power dynamics that are at play within their own lives, but then also understanding the communities that they're serving. [This implies] understanding the cultural context of those communities, the historical context, the systemic and structural factors that are impacting those communities, and how all of that intersects with their own identities and their own positions within the world." – Participant I

"It's about understanding the histories and the realities of the communities in which we work. And it's not about just understanding the realities from a surface level, but really digging deep and understanding what the root causes are of some of the issues that communities are facing." – Participant E

"And that's been a journey for me as well – understanding your own culture and history and then understanding where other people are coming from. So, I think it's a mix of understanding who you are and then understanding the system that you're working in." – Participant D

"You don't have to be exactly the same as someone else to walk the same path on this earth, but a certain recognition of where we all come from is important." – Participant C

Theme Five: Centering Indigenous Knowledge and Perspectives

Through the course of the participant interviews, a core theme of incorporating Indigenous knowledge systems, perspectives, and voices into curriculum was identified. Interviewees emphasized the importance of recognizing and understanding land and history from Indigenous perspectives.

Indigenous knowledge and ways of knowing were identified as foundational parts of the work that that educators were undertaking in place-based education and land-based education. Participants asserted that to truly be strong in this field of education, we must be grounded in who we are as people and recognize that many of the teachings center around Indigenous values and ways of knowing.

"I see Indigenous knowledge and ways of knowing as being foundational to who we are as human beings. It's about going back to the roots and saying, okay, we need to actually recognize that there are different ways of knowing and different ways of being. And so by doing that, we can move beyond this kind of Western-centric way of seeing the world and start to understand that there are other ways of seeing the world that can be equally valuable." – Participant I

"The values of a Two Row wampum [are] truth, peace, friendship, respect. The Anishinaabe teacher who helped co-create the course [...] talks about it as kindness, honesty, sharing and strength. When you don't have those things, you don't have strength. And so, [each] module is centered around one of those values. Then, the student actually has to think about those values in relation to how colonialism violates them." – Participant H

From the interviewees' perspectives, a key element of place-based education and land-based education is critically examining colonial legacies and their impact on social structures and relationships. Participants believe that educators and students need to challenge dominant narratives and perspectives by foregrounding Indigenous experiences. They also emphasized that making mistakes when navigating decolonial work and admitting them helps students feel more comfortable in their learning journey.

> "Students are generally scared about cultural appropriation and about doing something that isn't respectful. So, the [sharing of an element of Indigenous culture] group project assignment is really important so that they're learning how to teach Indigenous culture respectfully." – Participant A

Educators are working on how to more deliberately and explicitly engage in navigating decolonial work with their students by thinking critically about their own education, experience, and privilege.

> "I spent some time with an Indigenous elder and asked about how best I could work with being a white male settler, how best I could work with the living world. And she said, build your fire and they will come." – Participant C

Another crucial element of navigating colonial structures in the process of nature connection education is finding ways to incorporate accountability while building decolonial perspectives in a way that students can relate to and understand in the context of different Indigenous peoples.

5.

ACTIVITIES ABOUT REFLECTING ON THE LIVING WORLD

Corresponding Themes

1. Fostering Relationship Building
2. Empowering Student Agency
3. Promoting Critical Reflection
4. Cultivating Cultural Responsiveness
5. Centering Indigenous Knowledge and Perspectives

In-Person Facilitation (For use during in-class time led by educators)

General Topics

- Invite an Indigenous knowledge-keeper to speak about a topic (Theme 5)
- Community garden visits (Theme 4)
- Learning bird calls, wildlife tracking, plant identification (Theme 2)
- Tactile workshops (e.g., basket weaving, foraging, spoon carving) (Theme 5)
- Locally relevant hunting and fishing histories/lessons (Theme 3)
- Field trips:
    - Centered around wild food and medicine (Theme 5)
    - To local natural areas (Theme 1)

    - To culturally and historically significant lands (Theme 5)
- Field trip reflections (Theme 3)
- Sensing place (Theme 1)
- Gratitude practice (Theme 1)
- Circle sharing (Theme 1)
- Crowdsourcing' observations

    - After exploring an outdoor space. use circle sharing to have everyone in the group mention something they observed (about a particular tree, plant, animal, etc.) that everyone likely saw. Alternatively, the prompt could be to name something you are curious about in relation to that same reference being. Both approaches are great for including everyone's contributions without centering discussion on topics that would suit certain knowledge backgrounds more

Openers and Closers

Open class in a circle, inviting everyone to name something they noticed in nature recently. This makes them more curious and develops their awareness in anticipation of the next circle!
As a practice of gratitude, open class in circle presenting examples of the four elements (earth, air, water, and fire), perhaps placed as a centerpiece of the circle on a piece of cloth. For 'earth', bring in examples of things growing at this time of year. By the end of the term, students develop more seasonal awareness based on how the shown elements change over time.

Close circle where students share something that stood out to them from learning together, and/or a question they are leaving with (to potentially research later).

Activities

Pre-Course Student Knowledge and Experience Survey (Theme 1,2)

Prep Time: > 1 Hour
Activity Time: ~15 Minutes

Goal: To gauge student context on experiences, education, and understanding related to

nature connection and land-based topics – this activity focuses on building relationships with students by engaging with their interests authentically and creating a space where they can advocate for their own learning

Description:

- Design and deliver a pre-knowledge survey to your course students at the start of a term or program.
- Acknowledge the vulnerability and sensitivity related to some of these topics and preface some of the content in the survey.
- Give students the option of anonymous responses and skipping questions.
- Have both quick multiple-choice questions and a few longer responses.
- Design questions based around the overall goal of your course and/or teaching unit.
- Sample questions:
    - Have you ever heard of the concept 'nature connection'? (Y/N)
    - Have you learned about or practiced nature-based learning in other courses? (Y/N)
    - How do you feel in nature? (Calm, Indifferent, Stimulated, Unsure, Discomfort, Other)
    - What ideas do you associate with 'land'?
    - Have you learned about Indigenous land-based education?
    - How often do you try to intentionally spend time outdoors? (3+ times a week, 1-2 times a week, never)

Debrief: Share appropriate snapshots from the survey with the class as a guiding tool for the goals and growth of your time together. For example, if most of the class responds as seeking outdoor time 1-2 times a week, build space in the class to share that time together. A class may also identify key themes they would like to focus on, such as Indigenous rights, climate change impacts, or personal reflection.

Source: Interview Participant B

Comfort Zone, Panic Zone (Theme 1,3)

Prep Time: < 5 Minutes
Activity Time: ~10 Minutes

Goal: Open a conversation about how people are very different about what impacts their comfort level – vulnerability and honesty in this activity help deepen relationships and help students focus on their own experiences while reflecting on the perspectives of others

Description:

- Acquire 2 ropes – draw a circle on the floor or ground with the smaller rope in the middle and then a bigger circle outside of that.
- The inside circle is the comfort zone. The space between the inside circle and the outside circle is the learning zone. Outside of the large circle is the panic zone.
- To explain the concepts, use an example such as bungee jumping:

  > "If I said we're going bungee jumping, where would you be on the three zones? If you feel comfortable with bungee jumping, then jump right into the middle. If you're not sure about jumping but would be interested to learn about what would happen, you would be in the next ring. If it makes you panic, you would be outside the large circle, in the panic zone. You may have a low level of panic close to the rope or you can be panicking far away from the circle."

- Have students stand and list a few different activities, from things that generally do not seem scary (e.g., eating breakfast in the morning) up to more divisive activities (e.g., playing video games, going to school, going shopping), and finally broad 'scary' activities (e.g., cliff jumping, deep water diving).
- Then move to exploring nature-based learning examples:
  - Doing 'Sit Spots'
  - Helping in a community garden
  - Learning wildlife tracking (tracks and other signs of animals)
  - Identifying nature sounds
  - Plant identification
  - Circle singing
  - Sharing a lesson you have learned from nature
  - Engaging with social and political aspects related to nature spaces (foraging regulations, conservation area practices, land development consultations)

Debrief: Discuss how experiences with nature-based learning can have different comfort levels, and how to incorporate different comfort levels into work with each other and the community.

Source: Interview Participant A

Community Engagement Plans (Planning and/or Recreation and Leisure Program Oriented) (Theme 2,3,4)

Prep Time: > 1 Hour (to gather resources on local community examples/initiatives)
Activity Time: ~ 3 Hours

Goal: Increase student awareness of local community needs and foster meaningful connections to local nature – this activity prompts students to use interdisciplinary skills to develop a tangible application of their learning that values local and cultural contexts

Description:

- Have students (either individually or in groups) write out community engagement plans that they submit as part of a hypothetical part of a community nature connection design project.
- Students are then tasked with envisioning a design plan that could be implemented in their own community to support nature connection opportunities for residents.
- Present benefits of nature connection (as identified in this eBook or from your own experience) to students for context on how it can serve their community.
- Encourage students to research current gaps in community nature connection and design a space that would bridge some of those gaps.
- Present current community initiatives to students as inspiration.
- If possible, partner with a local conversation organization to learn about needs students could fill. Only pursue this path if there is reasonable capacity for uptake and sharing of proposal work.
- Potential design elements of their community space could include:
    - Areas for sit spots
    - Observation platforms
    - Circle firepit

- Community gardens
- Weekly speakers on nature topics
- Plant identification board
- Educational QR code scavenger hunt throughout the space.

Debrief: Have students share/present their community engagement plan. What nature connection gaps did they identify? Why did they choose to include specific design elements? How would this area benefit the community? How can we take action on parts of the plan in real life?

Source: Interview Participant B

Rhythm Keeper (Theme 1,5)

Prep Time: > 5 Minutes
Activity Time: ~ 10 Minutes

Goal: Connect the group through rhythmic collaboration and support students in feeling present in the moment and grounded in the outdoor space – this activity encourages students to communicate, relate, and act with awareness toward their peers without verbal conversations, allowing them to strengthen their collaborative relationships

Description:

- Have students form a circle in an outdoor space, preferably with some privacy or minimal disturbance.
- Start a simple body percussion rhythm yourself (e.g., clapping your hands, slapping your chest, snapping your fingers, stomping your feet).
- After four rounds of your chosen rhythm, have the person beside you add a new rhythm on top of yours.
- After four rounds again, have the next person carry on and so forth until the entire circle is part of the rhythm.
- When the rhythm returns to you, change to a new rhythm and have the group continue to change the song as well.

- Vocalizations, body percussion, and passing on your turn are all welcome.

Debrief: Have students describe how the activity made them feel. Did they struggle to build harmony with the group? Did the rhythm feel calming? What tone did the group rhythm take on; fast and excited, slow and calm, strong and loud, gentle and quiet? Did they feel connected to their peers more? What kind of relationship building was needed to keep the rhythm?

Source: Interview Participant G

Ancestor Potluck/Picnic (Theme 1,4)

Prep Time: > 30 Minutes (In class, food preparation time varies)
Activity Time: ~ 1 Hour

Goal: Have students share food that is part of their ancestry, culture, or heritage to connect with each other and learn about the origins of different traditions – sharing food often helps bring people together and forms closer bonds based on cultural pride and appreciation

Description:

- Ideally choose a day and place where you can host an outdoor picnic.
- With a few weeks' notice, ask students to choose and prepare or bring in a dish to share with the class that they feel connected to. The dish can relate to a traditional food of their ancestors, something that has been popularized by their heritage, or that was part of their culture growing up.
- Take note of any allergies or dietary restrictions.
- On the day of the picnic, have students share why they brought in the dish that they did.
- Reflect on where food comes from in the natural, historical, ancestral, and industrial world, how it is grown, harvested, cooked, and the inputs food takes (human, nonhuman, natural, technological).

Debrief: Make connections between food and where it comes from in the natural world, how different people from different places in the world have chosen to highlight certain ingredients, and

how important access to cultural foods is for nature connection. The ability to access nature and access cultural foods through traditional methods (hunting, gathering, foraging) is a direct way in which many people connect to land. Without access, depth of connection and self-identity in nature can be greatly affected.

Source: byron murray, outdoor educator instructor & To Know the Land podcaster

Connection with Trees and Plants (Theme 1,5)

Prep Time: < 5 Minutes
Activity Time: ~30 Minutes – variable, repeatable; longer amounts of time may enable deeper connection while experiences may also occur in short periods.

Goal: To practice and experience mindful connection and communication with trees and plants, to understand their perspectives and the possibilities of interspecies communication through open, sensory, intuitive engagement and experience

Description:

- Spend time with a single tree in a park, forest, backyard, city street – anywhere.
- Approach the tree with an open heart and mind.
- Verbally in a quiet voice or nonverbally in your mind's voice, intentionally ask the tree for permission to connect with it.
    - There will be a feeling of peace, warmth, openness and/or welcome if the tree agrees to connect. If the tree does not want to connect, there will be a sense of feeling blocked and/or closed. Respect if the tree does not want to connect and simply move to ask another tree.
- Physical proximity to the tree before, during and/or after this initial connection can vary.
- After the tree grants permission, introduce yourself and let the tree know you would like to speak with it; ask if that is alright with the tree. From here, let the asking of questions, deep listening, and receiving of answers flow. Curiosity about the tree's life is a good starting point, inquiring about how it is feeling inside and out, if it has any needs, about its

relationship to its surroundings and human/nonhuman community members.

- Communications from the tree can be received in a range of sensory, internal ways, singly or in combination: as visuals in the mind's eye, as sound, as taste, as physical sensation in the body, as a sense of knowing, as language heard and/or seen as text in the mind's eye. The tree imprints its messaging through the unique intuitive and knowledge fields of the human it is connecting with. A message received that is surprising is often a sign that it is coming from the tree.
- Practicing discernment, respect, ethics, and care during these engagements is important. Keep a clear mind, do not project messaging onto the tree or make up information. Meditation, mindfulness and awareness of the different states of our mental and physical being assists in discerning that messages from the tree are coming from the tree and not ourselves.
- After spending time with the tree, take a moment to thank the tree for your time and engagement together. Offer it a little water, a strand of hair, a hug, and/or a kiss. Gestures of reciprocity intentionally acknowledge relationships and disrupt Western approaches that do not consider or give back to eco-nonhumans. Reciprocity recognizes the interrelations of all beings on Earth.

Debrief: Take a few minutes to reflect, write down and/or draw what was experienced. Gather as a group to share experiences and discuss what it means to connect and communicate with eco-nonhumans, personally and as a society. What are the implications of interspecies communication with trees and other eco-nonhumans who can share their knowledge and perspectives with humans?

There are challenges with English and its pronouns that refer with assumption to eco-nonhumans as gendered and/or objects. This could be a good point for discussion.

Intuitive Interspecies Communication (IIC) is available to everyone, an ability that some people innately have and others develop with practice. Common in many Indigenous ways of engaging with ecological nonhumans, interspecies communication has largely been suppressed by Western colonial education and ideology. Interspecies communication is based in respectful awareness that all eco-nonhumans are alive, self-aware, perceptive beings living and engaging with/in communities. While this activity focuses on connection with trees, similar practices can be engaged for plants, indoors and outdoors. Repetition of IIC practices enhance experiences, abilities and knowledge. This basic description of approaches offers a starting point, to be engaged as a group and/or individually. IIC is an emerging academic field of study involving plants, animals and other ecological nonhumans, reflecting growing public (Western) engagement with IIC. There are ever-increasing resources on IIC: articles, books, films, podcasts, talks, etc.

Source: Dr. Sarah Abbott, Associate Professor and Critical Plant Studies scholar based in the Department of Film, University of Regina. www.sarahabbott.ca

Virtual & Independent Assignments (To be assigned and completed independently, outside of class time)

General Topics

- Research land/nature-based topics and incorporate into a larger assignment (Theme 3)
  - Local conservation projects
  - Nature education initiatives accessible to the public
  - Community groups (hiking groups, natural area clean up organizations)
- Research treaty that covers the living world you are currently on (Theme 5)
  - Have students research the living world they are on and include the name of the treaty, signing parties, dates, and circumstances that led to the signing, territories covered
  - What lands are covered in this treaty?
  - What are the boundaries?
  - In what ways are the treaties being honored?
  - In what ways are they not?
- Creative assignments on nature topics (e.g., create an art piece, poem, film) (Theme 2)
- Modules to connect with local nature (find a water body, garden, tree and reflect in the natural space on observations, emotions, senses, and connections) (Theme 1)
- Choose a literary 'guide' (Theme 2)
  - Have students choose an author who focuses on topics that interest them in relation to nature connection (e.g., climate change, community activism, species studies)
  - From this author, have students choose a reading or passage and share how it relates to course topics
- Connect nature connection topics to disciplines outside of environmental studies (e.g., health, social work, architecture, engineering, creative arts etc.) (Theme 4)
- Forest Walks (Gesturing Towards Decolonial Futures Collective, 2023) (Theme 5) – this series of forest walk invitations includes 10 learning exercises based on excerpts from texts written by Indigenous authors that call for a decolonialization of our ways of thinking, feeling, relating, sensing, and imagining
  - Each walk consists of an introductory excerpt or text from an article by Indigenous authors, a step-

by-step invitation, and reflection questions
    - Deep Listening: Sensory Awareness Training & Finding A Peaceful Feeling (NatureMentor Brian Mertins. 2022)
- Follow exercises designed to enhance sensory awareness and promote a sense of peace through deep listening practices (Theme 3)
    - This practice involves mindfulness techniques, such as focusing on ambient sounds, guided relaxation, and meditative practice
    - Brian's YouTube channel has a lot of other tips for wildlife tracking and nature awareness that students could practice and reflect on
- Observation walks
    - Have students take a walk in an area accessible and familiar to them
    - Prompt them to notice something in the living world they had not noticed before and share their observation, or have them describe something they wondered about in relation to things they observed on their walk

Activities

Sit Spots and Nature Journaling (Theme 1,3,5)

Prep Time: < 5 Minutes
Activity Time: ~20 Minutes, twice a week for the term

Goal: Create a deep relationship with a specific natural place – this activity encourages relationship building with the natural world through finding a place to connect where one can observe and reflect on the existence of nature. For some, Sit Spots are more impactful and effective when one is fully immersed in the experience without journaling (they then collect thoughts and reflections later), and others find more awareness and connection during the experience when journaling in the moment. Both are options for the person practicing Sit Spots to explore!

Description:

- Assign a land journal or sketchbook to students once a week. The format can be as structured or informal as you would like (e.g., answering specific prompts each week, min/max observations)

    - Prompt: I notice...I wonder...It reminds me of...
    - Prompt: What did you notice? How did you feel?
    - Prompt: Poem about observation
    - Prompt: One drawing of the space
    - Prompt: Map* of area
    - Prompt: Tell a story of the area (fictional or real)

- At the start of the term, ask students to pick a place outside – the location can be any outdoor area that is easily accessible to them and where they feel safe. Their chosen place will be called their *sit spot*
- Have students visit the site once a week and record what they observe about different natural aspects including animals, plants, and fungi

Debrief: Offer feedback and engagement in relation to class goals. Potential discussion approaches include circle summaries of weekly observations with the class, instructor comments returned on submissions, and or small peer engagement groups. Have students share the changes they notice week to week, and how being in the space engages their nature connection.

Additional Sit Spot Resources:

- Prison Connections — to know the land
- The Original Mindfulness Exercise: Peripheral Vision And Sensory Memory

*Draw a map of the area of your sit spot (approximately 30m circumference around, with your sit spot as the central point). Map accuracy and scale do not matter, more important are:

- the directions and landmarks
- noting relationships between habitats and animals (where have you noticed rodent or bird or squirrel activity, for example?)
- linking places and trails together (these pathways or pinch points could shape movement patterns of human and other animals

    - Where are the trees in relation to the water? Where is this spot in relation to roads or trails? Where does the path (if there is one) get steep? Where does the squirrel spend time?

- Be sure to include a marker indicating where you sit, and a compass (north arrow)

Being a Tree (Theme 1)

Prep Time: < 5 Minutes
Activity Time: ~ 1 Hour

Goal: Practice being in empathic relationship with the non-human world – much of our western models for learning and being reflect a human-centric approach and by taking the time to practice "being" another being we can imagine, with more depth and embodied feeling, the experience of being a tree to develop more meaningful relationships with nature

Description:

- While watching a tree, let your body and inner attitude mimic what you are observing in the tree
- What qualities do you notice? How does it feel to be rooted? What is the substrate you are rooted into? Do your branches spread out, reach high, or droop down? What parts of the tree feel strong? Where do you feel brittle or weak? Let your body continue to mimic the tree
- Try this with a few different trees of the same species, and then try a few different species of trees

Debrief: Have students write down their experiences with this activity. Did they feel awkward? Was it fun? Did they do it with a friend? How do they think any nearby non-human animals were perceiving them?

Source: byron murray, outdoor educator instructor & To Know the Land podcaster

Focal Species (Theme 1,3)

Prep Time: 5-10 Minutes
Activity Time: 1 Hour, multiple times per term

Goal: Explore individuals in nature and their relationships with each other. By having students choose a focal species and post about their chosen species in a discussion forum, students may learn to see relationships in new and different ways. Students may also question and deepen existing relationships they have with species

Description:

- Identify a species in your sit spot area, somewhere local and relatively observable at your sit spot (it would be unproductive to pick a non-native Gray Wolf, or Western Hemlock if you are living in Southern Ontario) to write a detailed description of their natural history
    - Optional prompts:
        - Get to know 3 edible, 3 medicinal, & 3 poisonous plants in the area
        - What shifts within you as you build a relationship with these plants?
- Later in the term, pick and detail another species who is in relationship with your first focal species – find a new species which interacts with the first species you wrote up a journal entry on
- Write detailed notes on their behaviour/diet/habitat etc. along with range maps of their territories, plus some information on how the two species are in relationship

Debrief: Highlight any interesting findings and share these findings on the course forum. Did researching a species change your perspective (e.g., invasive species typically has a negative connotation, but did the relationship assessment change your perception?) How can understanding relationships such as these translate to other disciplines and areas of study?

Source: byron murray, outdoor educator instructor & To Know the Land podcaster

Self-Reflection Discussions (Theme 3)

Prep Time: 5-10 Minutes
Activity Time: < 1 Hour, weekly

Goal: Through discussion board prompts and/or as part of journal entries, create a space

where students reflect on their thoughts, feelings, and questions with intent to develop their personal growth and learning

Description:

- Prompts for discussions:
    - What injustices in the world make you want to scream, cry, or hide? (Breathe gently…)
    - What destruction or loss makes your body tense, ache, or go numb? (Notice your breath…)
    - How do your feelings hinder you? How do they help you? (Inhale and exhale gently…)
    - What grounds you? What nourishes and supports you? (Inhale a sense of aliveness…)
    - What do you long to protect in the world? What do you love? (Let this fill your heart…)
    - What do you long to give or contribute to the world? (Exhale a sense of possibility…)
    - What kind of world do you want to live in? What will you create? (Feel and be in this moment.)

Source: Ford (2020) – Embers of Hope

- How are you in community with the forests and plants around you?
- Can you recall a time of connection and intimacy with a 'wild' place?
- How do you support the plant world and how does the plant world support you?

Source: byron murray, outdoor education instructor & To Know the Land podcaster

- Explore difficult topics (climate emotions, eco-grief, political dynamics of climate change) and engage respectfully in class discussions
- Set discussion guidelines (pertaining to context sensitivity, respect, boundaries)

Debrief: Based on your discretion, have students engage with each other's responses to develop a dialogue of shared experiences with discussion prompts.

Seed Contemplation (Theme 3)

Prep Time: 5-10 Minutes
Activity Time: 30 Minutes, throughout a term

Goal: Have students explore their own attitudes to the environment from both affective, contemplative, and relational perspectives. In a modern world where the objectification of nature has led to a loss of empathy and sense of connection between humans and the environment, this activity prompts students to internally cultivate a relationship through cultivation and contemplation

Description:

- Part 1: Find a natural area with a place that marks a threshold (or entryway) – before stepping through, drop away whatever you are carrying in the moment (mentally and emotionally) and practice being present (listening, receiving, observing)Allow yourself to freely, slowly, and intentionally observe
    - Deepen your sense of wonder and gratitude
    - Journal this experience for part two of the activity
- Part 2: Acquire the seed of a food plant (borrow, buy, or share!)
    - Begin with a contemplative state of mind, similar to how you entered Part 1 of the activity
    - Hold the seed in your hand. Examine it closely—try to pay attention to what it looks like so closely that you could pick it out from a whole bowl full of other seeds. Notice any colors or patterns of the seed, notice its shape and the texture of its surface. Notice its weight, its temperature, and how it feels in the palm of your hand or between your fingers
    - Now, still holding the seed, close your eyes and think about other aspects of the seed—where did it come from, and how did it get to be in your hand, now? What cultural memories may this seed hold? What potential is in the seed?
    - Now let go of your more focused thoughts about the seed and just open your mind to the thoughts that come up. Perhaps the seed exercise evokes certain memories or emotions in you. Perhaps you feel resistant to this exercise and your mental chatter is very negative. Whatever it is, just notice the thoughts with non-judgmental interest
    - Now plant the seed, either outdoors somewhere accessible to you, or in a pot indoors. It is your job to nurture this seed throughout this semester. You are encouraged to make it the foundation of a regular contemplative practice of observing and feeling. It

can also be seen as a metaphor for your learning process over the coming weeks. Try to maintain your contemplative state of mind while you plant the seed. Reflect on the causes and conditions that must combine to make growth possible, including your action in planting and tending the seed

Debrief: Finish the exercise and, while it is fresh in your mind, jot down your reactions to this experience. Try not to censor it too much. These thoughts will form the basis of your reflection. In addition to your written reflection, you are welcome to share other modes of expression such as artwork, poetry, photography or videography. You are invited to think about your interaction with and attitudes towards your seed and towards your own process of growth, and any changes in either (if any) as a result of your studies in this class. How did this reflect the change of development of your ideas? What factors nurtured your learning? What challenged it or threatened to endanger it? What are the "fruits" of your learning? You could understand your seed as a non-human teacher. What, if anything, has your non-human teacher taught you?

Source: Adapted from Julie Compson (2017) "Cultivating the Contemplative Mind in Cyberspace: Field notes from pedagogical experiments in fully online classes." The Journal of Contemplative Inquiry, 4(1): 114-117.

Wild Food Exploration (Theme 1,4)

Prep Time: 5-10 Minutes
Activity Time: 20 Minutes, throughout a term

Goal: Have students connect with a wild food plant (native or introduced) in their neighborhood that they are not familiar with. Establishing the relationship between plants, food, and human sustenance encourages students to understand how intertwined we are with the natural world and prompts them to consider the cultural significance of certain foods

Description:

- Find some of this plant in your community or region – include a simple map or a few photos

and a description of the kind of conditions in which you have found this plant (e.g., nearby wet areas; sunny dry, sandy areas; common in vegetable gardens or lawns)

- Write up a short profile about the plant: its characteristics, how to identify it, and perhaps some common lookalikes, is it native or introduced?
- Include the Latin name of the plant to avoid confusion among common names – if it is a native plant, look up name(s) of the plant in local Indigenous languages
- Include a hand sketch of the plant, even if you feel you are not artistic (there is no judgement on image quality here!) – doing this encourages you to notice botanical details that you might otherwise miss
- What are some of its nutritional attributes? How can it be prepared and eaten?
- In a few sentences, what can you learn about the history of this plant being used as a food? What cultural significance may this food have? Have any of your relatives used this plant for food, to your knowledge?
- Cite your sources for all of the above info, even if you are using key informants, such as a family member or friend! E.g., Mueller, Sierra. May 16, 2022. Personal communication.
- If you are confident about identifying it and if it is an appropriate season for using the plant, consider harvesting some, and then preparing and eating it (only if you feel comfortable doing so; start with just a nibble and wait 5-10 minutes to be sure) – document the process of harvest and preparation
- Before you harvest, follow these guidelines

Debrief: Reflect on how doing this activity shifts your sense of the food system and the ecology around you. Do you feel intimidated? Intrigued? Empowered? Have students share these thoughts either in person as a follow up or on a discussion board. Prompt discussions on the relationship they developed with the food, cultural relevance, and any surprising knowledge they gained

Source: Steffanie Scott, University of Waterloo

6.

CONSIDERATIONS FOR EDUCATORS

As you explore nature connection in an educational setting, whether it be as a brand new pursuit or as part of your ongoing development, there will always be changing dynamics to consider. As context, approaches, and practices evolve, educators must be open to continuous learning while maintaining the intrinsic values and benefits of connecting with the natural world. Below are considerations for educators to undertake as they aim to share nature connection with their students and communities.

Consider Your Personal Journey

As an educator, reflect on your personal journey with nature. Developing authentic relationships with the natural world around you can enhance your ability to teach place-based education. Take time to connect deeply with your local environment and community, reflect on your own unique experiences with nature, and pursue relationships that nurture benefits of nature connection. This personal connection can serve as a foundation for inspiring your students and fostering a genuine appreciation for nature in them.

Maintain Connections, Share What You Know

Maintaining a connection with nature requires ongoing effort and intentionality. Share your experiences and knowledge with your students and encourage them to do the same. Create opportunities for students to explore their local environments, ask questions, and reflect on their interactions with nature. By fostering an environment of curiosity and sharing, you can help students build and sustain their own connections with the natural world. In nature connection, the goal as educators is not to have answers to every question but to create a dynamic where students and you yourself can be challenged to approach new learning and ways of knowing.

Foster Mentorship and Continual Learning Through Connection

Mentorship plays a vital role in place-based education. Seek out mentors who can guide you in deepening

your understanding of the environment, be a part of your community, and act as a mentor to your students. Emphasize the importance of continual learning and personal growth through connection with nature. Encourage students to seek knowledge from various sources, including community members, local experts, and Indigenous knowledge-keepers, to encourage long-term nature connection practices and benefits.

Respect Knowledge Shared, Both Uplifting and Challenging

Respect is fundamental when engaging with place-based education. When knowledge is shared with you, especially from lived experiences, it is essential to honor and respect that information. Acknowledge the sources of your knowledge, give credit where it is due, and approach all teachings with humility and gratitude. Teach your students the importance of respecting both the natural world and the cultural knowledge that enriches their learning experience.

Indigenous Traditional Ecological Knowledge – Inspiration, Not Appropriation

Indigenous Traditional Ecological Knowledge offers invaluable insights into building deep connections with the living world. Collaborate with Indigenous educators and communities to incorporate their knowledge authentically and ethically. Highlighting the importance of local cultural contexts emphasizes the importance of recognizing practices rooted in Indigenous approaches.

By considering these aspects, educators can begin to effectively integrate place-based

education into their teaching practices, creating meaningful and respectful connections between students and their local environments.

7.

NEXT STEPS

As you embark on the journey of integrating nature connection into your teaching practice, there are several key steps to continue planting seeds of growth and understanding in your students' minds. In this section, we propose some steps to further emphasize the importance of reconnecting with the living world while challenging colonial perspectives.

Continuing to Plant the Seeds

Embrace Connection to Life and Experience-Based Information Gathering:

Encourage students to observe and interact with the natural world, fostering a sense of animism where all elements of the environment are seen as alive and interconnected. Teach them to gather information through keen observation and by utilizing all their senses. Promote sensory engagement with the environment and encourage students to listen, feel, and observe deeply.

Engage with Knowledge-keepers:

Integrate the knowledge of knowledge-keepers—those who carry traditional Indigenous ecological knowledge—and emphasize learning from their experiences and teachings. Encourage authentic and respectful relationship building with Indigenous community members.

Build Relationships with the Other-than-humans:

Foster a sense of relationship-building with the other-than-human beings in the natural world—plants, animals, rocks, and water—encouraging students to see themselves as part of a larger ecological community.

Recognize the Land as the First Teacher:

Emphasize the Indigenous concept of the living world as the first teacher, encouraging students to learn directly from the environment and understand its lessons through immersive experiences. As you spend time outdoors with students, pay attention to things in nature that present themselves – such as a dead animal, a blossoming flower, or fresh mushrooms in an area – and focus your learning and discussion on what you can immediately observe. Ask questions that inspire each other to pay closer attention to the surroundings.

Challenge Colonial Perspectives:

Actively engage students in critical thinking about colonial perspectives and the impact of colonization on Indigenous lands and cultures. Encourage them to question and challenge these viewpoints by reflecting on historical names of places (i.e., what were cities/regions called before their colonial names), common names for animal and plant species (e.g., Queen Anne's lace, Cooper's hawk – what names did these species have before), and current geographical and political boundaries (i.e., how did Indigenous people define boundaries before colonial maps). Promoting new perspectives help students foster a more inclusive and respectful understanding of history and the environment.

Incorporate Wonder and Awe:

Instill a sense of wonder and awe in your teaching, helping students to appreciate the beauty and complexity of the natural world. Inspiring these feelings and emotions will look different between unique instructors and groups of students. The natural environment you can work with will emphasize special features within itself if we are careful enough to observe. Sharing what brings us amazement can inspire deeper connections and a lifelong commitment to environmental awareness.

Integrate Songs and Stories:

Use songs and stories to convey the wisdom of nature and its inhabitants. These cultural expressions can be powerful tools for teaching and can help students internalize the nature connection lessons in a memorable and meaningful way.

Doing Your Own Work to Reconnect

As an instructor, you are engaging in your own journey of reconnection with the living world. This personal work will enhance your ability to teach nature connection authentically and effectively. Challenge your own perspectives, seek out opportunities to learn from the living world and your community, build relationships with knowledge-keepers and other educators, and cultivate a practice of wonder and awe in your daily life.

Advocate for Institutional Change

An emerging topic throughout our interviews was the need for institutional support and policy

changes within educational institutions to embed decolonial pedagogy into the curriculum and create inclusive learning environments. The educators we spoke with had specific requirements of institutions to value the impacts of and opportunities for nature connection, recognizing that this will vary depending on the needs and context of each place.

Half the participants identified a need for commitment to knowledge building from institutions to support learning that focuses on widening perspectives in our relationships with ecology. They also expressed a need for permanent positions for Indigenous educators who are hired as knowledge holders that carry land-based teachings and who can support development of decolonial frameworks. Part of having Indigenous knowledge holders accessible to education programs includes important partnership development. Most participants also felt that in a broader sense, the way we think about education needs to be shifted to implement nature-based ways of teaching and learning more broadly. By extension, access to land, workplace wellness professional development, and course design autonomy were provided as examples of institutional change.

> "But I think the question is, how do we move the universities, or whatever institution we're in, to be able to be a bit more open? And so, I think that that's where the real challenge comes in. It's not about necessarily convincing people that this is important. It's about actually doing the work to make those changes within institutions." – Participant H

Learning More

To deepen your understanding and practice of nature connection, consider exploring the following resources:

Academic Research:

Stay informed about recent research in nature connection education and related fields. Scholarly articles and studies can provide valuable insights and evidence-based practices.

Resource/Reference Books:

Build a library of essential readings on nature connection, Indigenous knowledge, and ecological education. These books can serve as ongoing references and sources of inspiration.

Contemplative Writings:

Engage with contemplative writings that explore the spiritual and philosophical dimensions of connecting with the living world. These texts can offer profound reflections and guidance.

Classes and Workshops:

Participate in classes or workshops focused on nature education and related topics. These learning experiences can provide practical skills and deepen your understanding.

Find Mentors:

Seek out mentors who have expertise in nature education and related areas. Their guidance and support can be invaluable as you develop your teaching practice.

Mentor Others:

As you gain experience, consider mentoring other instructors and students. Sharing your knowledge and insights can help spread the impact of this important work and establish a greater community of educators.

8.

CONCLUSION

We hope that this eBook has guided you through either the start or part of your transformative process in integrating nature connection into your teaching practice. By embracing the profound benefits of nature connection (psychological, cognitive, physiological, social, developmental, and spiritual) that we have described, we aim to foster a more inclusive, respectful, and holistic approach to education.

The literature, resources, and examples we have shared are only the start of an ever-growing and evolving educational space. Outdoor adventure programs are gaining worldwide recognition as an effective approach to engaging people struggling with a variety of difficult life circumstances, in a participatory process of change (Pryor et al., 2005). By leaning into creating relationships with other passionate educators in your community, your journey with nature connection will be strengthened and shared with students in increasingly impactful ways.

As you move forward, continue to plant the seeds of growth and understanding in your students' minds. Embrace vulnerability, flexibility, and adaptability. We have designed this resource to support educators in their pursuit of exploring ways to incorporate connections to place and to nature in student learning. Through the background, testimonies, and examples provided, we hope to share impactful approaches to immersive outdoor experiences that inspire post-secondary learners who will champion connection with and respect for the living world, thereby contributing to a more regenerative relationship between humanity and the natural world. We encourage you to identify your own role within the spectrum of nature connection, examine benefits for your students, and explore new ways of articulating these benefits in programs that move toward an integrated approach to human, social and environmental health. By centering themes identified in this eBook and taking steps toward student empowerment through nature connection, you will not only enhance your teaching practice but also inspire your students to develop a profound and respectful relationship with the natural world.

In a complex world where we are often unsure of how to feel in the face of our hyper-modern, conflicted, individualized society, nature connection can help with healing. We hope that this eBook can be a companion in part of your journey, providing you with the tools and insights needed to create meaningful, transformative

educational experiences that reconnect learners with the living world and their place within it. Together, we can cultivate a more sustainable and interconnected future.

ADDITIONAL RESOURCES

Post-Secondary Nature Connection Examples

The following course examples demonstrate nature connection education in practice throughout varied contexts including urban environments, engineering disciplines, therapy, business, and art. Aspects of course structures, learning goals, and outcomes can serve as inspiration in your own educational approaches.

- Canadian Centre for Advanced Leadership in Business (CCAL), Haskayne School of Business, University of Calgary – *The Haskayne Leadership Expedition*
  The Haskayne Leadership Expedition is a unique field course designed to help students cultivate the practical skills and qualities they need to thrive as leaders in the modern business world. The course is highly experiential, and students have multiple extended opportunities to practice and receive feedback on their leadership skills in a dynamic and challenging environment.

- Leduc, T. B. (2016). *Renewing Awe in the Urban Experience: Historic Changes in Land-Based Education*. Canadian Journal of Environmental Education (CJEE), 21, 163–177.
  This paper looks at the historic emergence of land experience in environmental education and thinking as a means for examining its potential role in an urban academic setting.

- McGregor, R., & Park, M. S.-A. (2019). *Towards a deconstructed curriculum: Rethinking higher education in the Global North.* Teaching in Higher Education, 24(3), 332–345. https://doi.org/10.1080/13562517.2019.1566221
  The purpose of this article is to argue for the deconstruction rather than the decolonization of the neocolonial curriculum. Two case studies are used – Frantz Fanon and Çiğdem Kağitçibaşi – to demonstrate how the deconstruction of the Global North curriculum can be achieved, by the prioritization of theory and practice that are sensitive to context.

- Pryor, A., Carpenter, C., & Townsend, M. (2005). *Outdoor education and bush adventure therapy: A socio-ecological approach to health and wellbeing.* Journal of Outdoor and Environmental Education, 9(1), 3–13. https://doi.org/10.1007/BF03400807
  Whether in educational or therapeutic settings, the intentional use of contact with nature, small groups, and adventure provides a unique approach in the promotion of health and wellbeing for the general population, and for individuals with identified health vulnerabilities. This paper explicitly emphasizes human and social health, however, an integral assumption is that a healthy and sustainable environment is dependent on healthy human relationships with nature.

- Sunassee, A., Bokhoree, C., & Patrizio, A. (2021). *Students' Empathy for the Environment through Eco-Art Place-Based Education: A Review.* Ecologies, 2(2), Article 2. https://doi.org/10.3390/ecologies2020013
  This paper aims to analyze educational research papers published in environmental art education in order to find the factor with the greatest effect and illuminate how they can help to improve the measures implemented.

- Zacharias, K., Seniuk Cicek, J., Wallace, N., & Mercer, K. (2022). *Surveying Land-Based Learning for Engineering Education: Preliminary Steps.* Proceedings of the Canadian Engineering Education Association (CEEA). https://doi.org/10.24908/pceea.vi.15942
  This paper reports the findings of an initial literature and website search of land-based education initiatives in Canadian post-secondary institutions. This work represents the first stage of a larger project, which aims to gather information about existing land-based education within Canadian post-secondary institutions and develop land-based curriculum for engineering students.

The Value of Nature-Based Contemplative Pedagogy

The following materials focus on tangible and intangible benefits of nature-based teaching pedagogies, meant to serve as inspiration for the purpose of your work in this space.

- Albrecht, N. J. (2020). *Nature-based Mindfulness and the Development of the Ecological Self When Teaching in Higher Education*. In O. Ergas & J. K. Ritter (Eds.), Exploring Self Toward Expanding Teaching, Teacher Education and Practitioner Research (Vol. 34, pp. 157–177). Emerald Publishing Limited. https://doi.org/10.1108/S1479-368720200000034010
  In this chapter, Albrecht describes their experience of teaching and designing curriculum that integrates contemplative practices with sustainability education in the space of higher education.

- *Gender-Based Violence and Violence Against the Land* (Guelph-Wellington Women In Crisis, 2022)
  The 2Rivers Festival presents a podcast in partnership with Guelph-Wellington Women and Crisis and Protect the Tract that explores the relationship between colonization, gender-based violence, land violence and consent. Host Jensen Williams discusses the role of consent in movements to end gender-based violence and ensure land rights with Courtney Skye of Protect the Tract and Emma Callon and Horeen Hassan of the 2Rivers Festival.

- Moreira, J., Araújo, P., Pereira, M., & Melo, A. (2023). *Educating through (Re)connection: Contributions of contemplative sciences and meditative practices for a new mindset in education.* Seven Editora. https://sevenpublicacoes.com.br/index.php/editora/article/view/2360
  In this paper, using literature review and essayistic reasoning, influenced by future research methods, the authors envision a possibility of contemplative science and meditative practices at the core of this fundamental shift in education. They emphasize the need for a new perspective that ends the divisions between Nature and Humanity, reconnects us with Nature again, promoting a sustainable mindset at all levels of education, and using transdisciplinary and innovative approaches.

- Pedrick, B. (2023). *Sharing the Power of Nature-Based Contemplative Practices for Inner Peace and*

Collective Well-Being. Mind & Life Institute.
Pedrick highlights numerous real-world examples of how nature-based practices have contributed to community well-being and growth.

- Jackson-Saulters (2021). *Nature Meditations: Simple mindfulness practices inspired by the natural world.* Chronicle Books.
  Jackson-Saulters created this resource to engage people in the restorative powers of nature. Each card features a bite-size meditation or visualization practice, designed to help people connect to the therapeutic benefits of the natural world. By simply pulling a card, users can create a moment of calm and clarity in their day.

- Van Horn, G., Wall Kimmerer R., & Hausdoerffer J. (2021). *Kinship: Belonging in a World of Relations.* Center for Humans and Nature.
  This five volume series explores our deep interconnections with the living world. These five Kinship books—Planet, Place, Partners, Persons, Practice—offer essays, interviews, poetry, and stories of solidarity, highlighting the interdependence that exists between humans and nonhuman beings.

Examples of Land as Teacher

Use these materials to expand your own exploration of learning from the living world, and/or introduce content to students and invite them to reflect on shifts in perspective.

- Simpson, L. (2017). Land as Pedagogy. In As We Have Always Done (p. 145–173). University of Minnesota Press.
  Simpson explores how to build Indigenous resistance movements that refuse the destructive thinking of settler colonialism.

- Spring Creek Project. 2020, Feb 22. *Animal Interlude: Bald Eagle.* (video, 0:05:00)
  MOsley WOtta reads a passage about the Bald Eagle from Kathleen Dean Moore's book "Earth's Wild Music." WOtta is accompanied by Tom Foe on experimental guitar.The Animal Interludes series consist

of 20 tiny concerts, each an original composition of words and music in honor of a threatened or beloved animal. They are part of the series "Music to Save Earth's Songs," inspired by Kathleen Dean Moore's book "Earth's Wild Music: Celebrating and Defending the Songs of the Natural World" (Counterpoint Press 2021). About the contributors: Jason Graham created his stage name, MOsley WOtta (or "MOWO"), from the idea that every human is made mostly of water.

- Spring Creek Project. 2021, Jan 25. *Animal Interlude: Common Murre read by Robin Kimmerer.* (video, 0:04:50)
  In this Animal Interlude, Robin Wall Kimmerer reads a passage about the Common Murre from Kathleen Dean Moore's book "Earth's Wild Music." Kimmerer is accompanied by a string duet, with Erika Nagamoto on violin and Titus Young on cello.

- Barrett, M.J., Hinz, V., Wijngaarden, V. and Lovrod, M. (2021). *Speaking' with other animals through intuitive interspecies communication: towards cognitive and interspecies justice.* Hovorka, A.J., McCubbin, S. and van Patter, L. (Ed.s). A Research Agenda for Animal Geographies. Edward Elgar Publishing. Cheltenham, UK. pp.149-165. DOI: 10.4337/9781788979993.00018
  This chapter focuses on the experience of immediate two-way communication between humans and other animals that is independent of physical proximity. The authors describe intuitive interspecies communication (IIC) and review current research on multispecies methods and IIC literature.

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