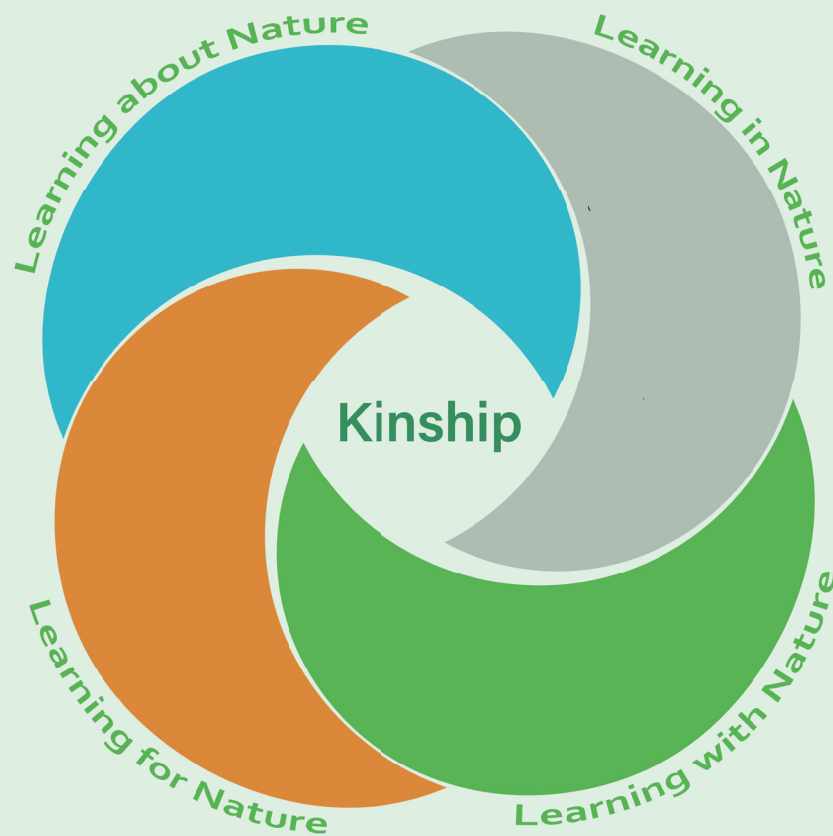


Children's Environmental Kinship Guide

A holistic approach to teaching and learning *about, in, with, and for* the whole of the natural world



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Kinship is based on the understanding that everything in the natural world is interrelated and that humans are a part of this as cohabiters.

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Introduction

If we are to effectively inspire the next generation to care for the environment and practice sustainability, we must first provide the opportunity to form a relationship with the natural world that is deeper and more connected than simple appreciation for nature. We use the term kinship to represent relationships within the world, which includes us as human beings and our connection to the land. While every person may not develop this profound understanding of kinship, it is our responsibility as educators and stewards of the Earth to create a learning environment where every child has the chance to do so. This is a time when it has never been more relevant and necessary.

We offer this work to open up a conversation between multiple perspectives about the natural world, including the respect and deep understanding of the First Nations Peoples. Gregory Cajete shares these words to start us off on this journey, “In (western) education we have the three R’s. What’s drummed into us is reading, writing, and arithmetic. But I say there are four R’s, which are relationship, responsibility, respect, and resonance” (The Green Interview, 2009). We acknowledge that the mere creation of division is challenging, but we seek to stand with one foot in the pressures of western education assessment systems and the desire to step forward into a more inclusive practice that embraces the observable and the unobservable experiences of being with the natural world. As a group of researchers and practitioners we do not write from an Indigenous perspective but have reached out, listened and included those thoughts from others who are.

After 18 months of study and collaboration, we, the members of the Environmental Kinship International (EKI), are proposing that the central tenet of nature-based learning must be kinship. To understand why we have aligned our pedagogy around the concept of kinship and how we might create a bridge from the division of learning to a more holistic approach that celebrates deeper relationships, we have created

a guide and a summary graphic. In order to journey from where we are to where we wish to be we often need tools and support to help us. EKI passionately hopes that these new tools can be used to enhance and create new curriculum and learning models, shape documentation of the learning that is taking place, and inspire you to embed new ideas and recontextualise nature-based education.

Kinship is rooted in a deep kind of knowing that includes, but goes beyond, cognitive understanding. Humans, like other living things, are social beings. We live in relationship to others, not just with other humans, but with the entire natural world. Our evolutionary roots are in nature. This rootedness is an essential part of our physical reality, but it’s also part of our emotional, psychological, and spiritual reality. We are ecological beings. Kinship recognises this reality as being significant for all human beings.

While the terms *teaching* and *learning* are often defined in relation to the acquisition of knowledge, they also refer to the development of understanding. Generating or gathering facts about the world around us is one way to know the world. Another way is to develop a relationship with it. To *know* in this sense is to *be aware of* or to *be familiar with*. This type of knowing includes the realization that humans and the rest of the natural world coexist in relationship with each other. We are one with nature.

Learning is about *coming to know* or *coming to realize*. Learning involves developing or gaining understanding. Kinship isn’t about adding another layer of knowledge to a collection of facts. Kinship is about understanding and appreciating a reality about the natural world of which we are a part. Kinship is about relationship. Maria Montessori said it well: “Here is an essential principle of education: to teach details is to bring confusion; to establish the relationship between things is to bring knowledge” (Montessori, 1973).

The intricate dance of interactions between all aspects of the natural world, from our ancestral origins to the future, make up what Enrique Salmon refers to as “kincentric ecology”. He asserts that this relationship is deeply understood by Indigenous communities around the world. Our origins, human and non-human, are inseparable. We bear a responsibility to make choices that maintain environmental health because we are all connected. We are of the environment. (Salmon, 2000)

An Indigenous sense of place is a web of “dependent interrelationships with everything,” and it includes “human responsibilities to care for these relationships, to maintain balance within the universe so we can survive, and to participate in the sacred processes of Creation.” (Anderson, Comay & Chiorotto, 2017). Kinship transcends mere place-based learning. It is learning that the person and the place are one, part of a single symbiotic and reciprocal system where all parts are equal, important and respected. Cajete said, “In terms of indigeonous thought, human beings and plants and animals and place are all one entity and are an expression of the same life force... In most indigenous epistemologies, you have a recognition that human beings are a part of the natural world and are intimately intertwined with all of its processes” (The Green Interview, 2009).

EKI’s guide is designed to help educators and administrators take a deep look at their curriculum and practices. How can we make sure that the curriculum and practices are designed to promote a love of the natural world that then extends into a life-long positive relationship and commitment to guardianship? The intention throughout the guide is a pedagogy of partnership, so our examples focus on the learning which facilitates a holistic approach to learning **About, In, With, and For** nature. From there, there are 14 Engagement Styles: **Inquiry, Study, Initiative, Accessibility, Exploration, Engagement, Agency, Relationship, Participation, Connection, Spirituality, Guardianship, Responsibility, and Sustainability.**

None of these engagement styles happens in isolation. In fact, our graphic indicates an interconnectedness of engagement styles by utilizing a symbolic woven knot. All of the threads are connected and equally important as they weave in and out of kinship. For example, an **engagement** of recurrent time spent in nature may spark observations on leaf color

changes, which, in turn, instigates an **inquiry** in the changing of seasons. That inquiry may involve a **spiritual** moment spent in wonder at the sight of snow covering their natural space and captured in photographs. That moment of awe could turn into a feeling of **responsibility** for that space. There is no particular order of engagement as it happens organically and often feeds into other engagement styles.

In our guide, engagement styles are broken down into three parts: Concepts, Observables, and Examples. We will adhere to the following format throughout.

Learning Mode

Engagement Style

Concept

● Observables

Examples

Not only does this structure provide a basis for a framework, but it also is meant to serve as a way to document the learning that is taking place. The Observables could be printed out in a format that encourages documentation or they could be utilized as a learning set in a digital documentation platform such as Storypark.

Our hope is that the guide can be used anywhere in the world with all children. As the group created it, we noticed that even though we were looking at it through an early childhood lens, the guide has the potential to benefit learners of any age in rural, suburban, or urban areas. We encourage educators to listen to their individual students and utilize an emergent curriculum that allows for deep exploration and engagement with kinship at the center of the learning.

In order to get the most benefit from the guide, we thought it important to look closely at each Learning Mode.

Learning *About* Nature:

Defined as the study of the natural world

Inquiry

The biophilia hypothesis suggests that humans possess an innate tendency to seek connections with nature (Wilson, 1984). Children and adults alike find themselves inherently curious about the natural world. Wonder, observation, and inquiry with the natural world are implicitly tied to future development of appreciation, empathy, and guardianship for our environment (Wells, Kristi & Lekies, 2006).

Inclination of a child's fascination for nature is demonstrated by their observations and questions. Through innocent and yet purposeful curiosity, a child may wonder aloud why a seed burrows into their woolen mittens, why leaves change color, why pigeons prefer to eat from the ground rather than a bird feeder, or why the water near their home seems to recede and disappear during the day. The immediate results of these inquiries at the micro level is that the child gains appreciation for a plant's life cycle, animal adaptations, the seasons, or the tides. But as these simple understandings are collected and filed in their minds, natural phenomena are connected and the child's experience is broadened. These are not isolated events — nor are humans isolated from them. Through knowledge gained from inquiry, a child starts to see and appreciate their macro role in the wider world.

Developing fascination for ecology

- **Questioning what is noticed in the environment**

Examples: Wondering aloud about why burrs stick to clothing, asking why the riverbed is dry, pondering what a frog might be trying to communicate with its calls, expressing curiosity for a snowflake, asking about the clouds out the window

- **Observing differences and similarities in nature**

Examples: Exploring differences in the texture on the bark of trees, pointing out variations of color on the same type of flower, noticing different

sizes of tracks in the dirt, noting a change in wind direction and velocity, observing similar shapes of seeds, noting the correlations between plant life cycle and animal life cycle, exploring the differences in seasons

Study

Allotting space to follow up on natural curiosity through interacting with others, organizing information, investigating, and researching, allows a child to deepen their understanding of the world. As educators, it is our responsibility to make note of the burgeoning interests and curiosities of our students so that we can provide appropriate experiences and tools to extend that learning. As co-learners and facilitators, we set the stage to encourage experimentation and growth. By providing access to topic interest books, guides, scientific tools, puppets, natural items, art, music, etc., children can discover or construct their own knowledge (Wilson, 2012).

Interacting with others to make sense of the natural world

- **Discussing observations of the world around them**

Examples: Discussing differences in color or texture of rocks, exchanging observations about what natural objects sink or float in a puddle, reminiscing how their favorite tree has changed throughout the different seasons

- **Play-acting natural phenomena**

Examples: Acting out the water cycle together, personifying members of a bird family while acting out different roles of the bird life cycle, simulating a plant life cycle in dramatic play, manipulating nature-themed puppets or replicas of animals to mimic local ecosystem

- **Collaborating with others to explore nature**

Examples: Building a shelter or raft together,

creating a 3D map with friends, smashing berries together while baking and noticing the different colors produced, building and tending a fire, erecting a rock tower, collecting shells

Organizing information regarding the natural world

- **Identifying things in nature**

Examples: Identifying types of clouds, recognizing different types of local flora and fauna, labeling insects, noting the weather or season, identifying stages of a life cycle

- **Comparing, contrasting, sorting, or classifying natural items**

Examples: Classifying shells; using the sense of touch to compare mammal pelts; differentiating leaves; comparing tracks; contrasting beak shapes; comparing water properties; sorting rocks by color, size, or shape

- **Charting things found in nature**

Examples: Charting leaf shapes or color, graphing birds that visit the bird feeder, charting food chains, noting living creatures observed in local habitat, charting weather

Investigating and researching nature

- **Utilizing diversified resources to learn and think about nature**

Examples: Reading books with natural themes, looking at photos of nature, working through nature-themed puzzles, exploring nature through art, reading nature poetry, listening to nature-themed music, speaking with community elders or knowledge-keepers about connection to place, looking up nature facts on the internet, comparing a map of the school/early learning service to a local neighborhood map

- **Utilizing scientific tools to study the natural world**

Examples: Utilizing binoculars to look at birds, exploring flowers with magnifiers, using scales to weigh natural items, measuring natural items with standard and non-standard measurement tools, utilizing tweezers to sort seeds, using glass jars to compare water samples, employing small spray bottles to mist spider webs for better



Photo by Megan Gesler

visibility, using paint brushes to apply water to stones to highlight colors

- **Identifying steps in or employing a specific method or process to study a natural phenomenon**

Examples: Utilizing parts of the scientific method to study nature by observing, questioning, hypothesizing, researching, experimenting, analyzing, concluding, and/or communicating results

Initiative

Empowering children to become active stakeholders in their own personal learning journey is critical to fostering capable and confident lifelong learners. Stoked curiosity becomes a natural motivator that steers child-directed curriculum. Independently gathering materials, such as collecting natural items, requesting tools, or seeking out books to investigate

emergent inquiry, and reflecting on observations demonstrate an environment conducive to personal responsibility. In becoming an active participant in their own education, the child gains a better understanding of their relationship with the world around them and their ability to influence it. This achieves more than just empowerment, but a true kinship with nature.

Becoming active stakeholders in learning about nature

● Planning own natural studies

Examples: Asking for a bird guide, requesting tools for dissecting a mushroom, seeking a map to plan the day's hike, making plans to build a bee box, asking for a camera or tablet to document something they found in nature and plan to revisit in the future, deciding where and what to plant for pollinators or humans

● Gathering information based upon organic natural interests

Examples: Seeking out books on fossils if interested in fossils, asking to speak to a beekeeper if interested in bees, keeping digital photos to chart the spiders found around the school if interested in spiders, collecting various leaf shapes if interested in leaves

● Reflecting upon observations

Examples: Bridging information from a past learning experience with insect homes to a new experience with mammal homes, connecting weather pattern observations to weather effects on local ecology, analyzing observations of local flora and fauna and their uses in the community, linking fall migration to spring migration observations, bridging investigations of local waterways to how they are utilized by the community, connecting natural observations in student journal or portfolio



Photo by Megan Gessler

Learning *In* Nature:

Defined as the affordances provided in nature

Accessibility

Children require frequent access to nature. Being in nature provides immense benefits for children throughout the developmental domains (Powers & Ren, 2018). This should include uninterrupted time throughout the year so they can experience the natural changes of the environment and how it impacts all of nature. Regular access to nature allows children to explore their environment, engage in self-determined play, engage in real work and sensory-based activities, and take physical and emotional risks. Adults foster these activities and experiential learning opportunities through providing extended time outdoors and supporting the interests of children.

Experiencing predictability and access in and to nature

- **Enjoying uninterrupted extended time in the natural world**
Examples: Observing and describing the same tree during summer, winter, and spring; open-ended activity time in a familiar natural space without academic/teacher expectations or planning
- **Engaging in activities specific to time and place**
Examples: Observing the change of seasons impact on the plants, sky, and water

Exploration

Learning in nature is provided by offering space and time to children to experience the world around them. According to Chawla & Derr (2012), "Existing research suggests that if societies seek to achieve a sustainable world where people will not only act to protect the biosphere today but future generations will also value this goal and work for its achievement, then children need to be provided with regular access to nature". When children have time in nature to explore, they gain courage in navigating their surroundings as well as motor control and the ability to move their bodies. They engage in creative play with natural materials.

Exhibiting body control and physical resilience within a natural environment

- **Gaining self-confidence and body control whilst exploring and working in physically challenging outdoor space**
Examples: Carrying and pouring water, pushing wheelbarrows, building with large tree parts
- **Communicating an understanding of the world through body movements**
Examples: Harvesting, sorting, and counting seed pods; climbing on or rolling tree stumps; using movement to create stories

Playing creatively and imaginatively with open-ended natural materials

- **Seeing and using natural materials as props in imaginative play**
Examples: Combining petals and bark to make "uncommon stew", calling a pumpkin a "choo choo" and riding it like a train engine
- **Using the flexible outside space to meet their specific play needs**
Examples: Using a tree stump as a seat for a child who has physical limitations, building a "ice cream shop" out of fabric and wooden posts

Engagement

In nature, children are afforded opportunities to explore, engage, and be challenged in ways that are unique and differ from indoor experiences. Children have opportunities outdoors to engage in real work in their environment and can make a difference through collective action to the spaces around them. These affordances of nature provide an opportunity for children that deepens their connection and understanding to the world around them. While playing in nature, children also have opportunities to engage in sensory-based learning that connects them to the outdoors.

Engaging with the many offerings nature provides

- **Responding to the play affordances available in nature.**

Examples: Using snow as the play food for their animals, building a fort with sticks, jumping into a leaf pile, drawing letters in the sand

Engaging in real work

- **Engaging in real work in the fresh air, giving a sense of community, through genuine contribution and ownership to a joint effort**

Examples: Deadheading flowers in a pollinator garden, gathering leaves for younger children and dropping them off in their outdoor area, shoveling snow off the walkway

Engaging in sensory-based learning

- **Venturing outdoors to see, feel, smell, and listen to nature, and developing awareness of their internal senses and a spiritual sense**

Examples: Watching in awe as a spider spins a web and drawing what they see, napping outdoors as the wind blows across their face, tasting fresh herbs from the garden

Agency

When children have agency in the environment, they develop a sense of control over their own play and growth. In nature, children are agents of their own learning, capable of deep levels of engagement, exploration, and interaction. They have opportunities to discover and acknowledge the strengths and challenges of themselves and others. They also have opportunities to discover their own comfort with physical, intellectual, social, and emotional risk.

Developing a locus of control and cultivating a growth mindset for learning in nature

- **Acknowledging challenges and successes in the work of themselves and others in outdoor environments**

Examples: Verbalizing pride in the effort extended in creating a shelter, acknowledging that their idea for a water dam didn't work as planned and changing their approach, encouraging or supporting classmates who are working on a particular outdoor project

Evaluating one's own capacity for risk-taking

- **Participating in play outdoors that involves taking physical, intellectual, social, and emotional risks**
- **Pushing their personal boundaries and learning about their strengths and limits in the outdoors**

Examples: Persevering to dig a deep hole using real tools, climbing trees with increasing complexity, playing outdoors in extreme weather or darkness



Photo by Megan Gessler

Learning *With* Nature:

Defined as forming kinship with the natural world

Relationship

When we consider the word relationship it is often in relation to the idea of humans-to-human contact. Yet there are many people who describe the vital role animals play in our lives as sentient beings, that they have a profound sensitivity to illness, emotion, and mood. Taking a step back allows us time and perspective to consider the relationships we have to the more-than-human world. The plants, animals, and the Earth itself is in relation to us and we to it.

Developing a relationship of empathy and compassion with the natural world is vital if humans are to move beyond objectifying the natural world in a way that means we view it as disconnected to ourselves. The way we demonstrate this care and empathy is through our caring routines and rituals not only through our day but also through the years. In these moments of care and stillness, there appears to be a sense of something else, a sense of connection that they describe as having a benefit not only to themselves, but also to the rest of the natural world itself.

Developing a relationship of empathy and compassion with the natural world

- Initiating caring routines and rituals

Examples: Refilling a bird feeder, watering plants

- Demonstrating a reciprocal relationship with natural elements such as leaves, creatures, and rocks

Examples: Talking about the mutual benefits for both humans and the Earth, talking in an appreciative manner, lifting a bumblebee to give it some sugar water, moving a fern to walk by

Experiencing a sense of joyful connection to the natural world

- Showing connection to the observable and non-observable world around them

Examples: Self-initiating simple moments of sitting and being in nature; voicing admiration for the changing of seasons, the beauty of a flower, or the fresh air; voicing a desire to be with nature.

Participation

Observing human participation as a continual process rather than something that happens at a set point allows us to be aware of deeper slower relationships and patterns of engagement that respond to shifts in the environment. Some may be seasonal but others link to natural more subtle cycles. Within that awareness of relationship, humans hold a range of world views or ontologies that perceive their role as



Photo by Megan Gessler

superior to nature and those that view themselves as integral with it — in other words *ego*-logical or *eco*-logical.

When we develop an awareness of the way that humans are participants in a larger ecosystem that is the Earth, we can embrace the idea that we live with the Earth, not we live on the Earth. These small words make a difference to the world view that we hold, which in turn affects the small actions we take every day.

The natural world views us as just another organism in its ecosystem and gives us increasing awareness and experience of the feedback loops. When we seek to push our boundaries, whether they are physical, intellectual, spiritual or emotional, we need to feel and embrace the process of trial and error, of failure and success to be aware of our humanness. Our view to learn with the natural world has been affected by the western perception of scientific study of the natural world. It is, however, only one of many approaches around the world to participate in learning with the natural world. Acknowledging and respecting that there are many ways of knowing will support our empathetic awareness of unobservable phenomena that are as valid as the observable.

Appreciating the connection between everything on Earth through daily participation

- **Observing how everything in nature is connected and does not operate/function in isolation through slowing down to notice**
Examples: Hearing the bird calls and starting to be aware of what they convey
- **Engaging with the concepts around connection and interdependence**
Examples: Noticing spirality in fir cones, a shell, and a flower; talking about the impact of the removal of a stone

Developing an awareness of the way that humans are participants in a larger ecosystem that is the Earth

- **Engaging in expansive conversation and immersion in nature**
Examples: Using the word “we” in conversation

rather than “I” or othering nature as “it”, participating in daily experiences outside

Participating in the potential of the natural world in all aspects of their day

- **Experiencing the outdoors as a location, resource, and provocation for inquiry**

Examples: Wanting to be outside for the majority of the day, eagerly exploring nature’s gifts, being fascinated by a single object such as a snail shell and following a line of inquiry in depth

Increasing awareness and experience of the feedback loops offered through participating in the natural world

- **Embracing the process of trial and error, failure and success**

Examples: Problem-solving to cross a shallow stream; persevering when the weather is hot, cold, or wet; repeating tasks such as putting up a den when it falls down

Demonstrating an understanding that scientific study is only one of the many approaches to learning with nature.

- **Engaging in cognitive, creative, social, emotional, and physical responses to the natural world**

Examples: Responding to phenomena in nature in a variety of ways, such as words, drawing, song, and dance

- **Being with and part of, and developing one’s senses to make meaning of what our environment is communicating, what we are feeling in response to nature, and our relationship with our natural world**

Examples: Being with nature and noticing how it makes us feel

Connection

We use the phrase “children need to connect to nature,” but in reality they already are an integral part of it and so we need to question what that invitation means. Is it a question around the type and expanse of nature? The duration of time? The frequency of visits?

We would suggest that it relates to connection with an holistic way of experiencing the world, that we need to spend time in nature to pause, acknowledge and appreciate its complexity, that sharing a planet brings us together as a species. Exploring a sense of place asks us to consider the land we see as home and the land on which we walk today. Finding foundations and links rather than fixing ourselves increases our attachment to the planet, as we know we can drift, move and engage and still be in touch with it. Developing environmental awareness that leads to an ecological identity has been a driver for outdoor play for many years and yet we still continue to make decisions that are ego-centric. The rampant commercialism evident in our homes and lives has overtaken the simplicity of watching changes in light or feeling changes in temperature.

Exploring the holistic nature of experiences such as cause and effect

- Repeating regular experiences outside throughout the year

Examples: Noticing the relationship between different temperatures and plant life, noticing a frozen puddle on a cold day, feeling when the snow or rain may come

Appreciating and respecting a range of First Nation/Indigenous approaches to being with nature

- Pausing, acknowledging, and being appreciative

Examples: Pausing as they enter a wilder space to be mindful and to say thank you, being aware of those who have come before and those with us now and those who will come after, knowing place-based First Nation/Indigenous names for places, recognising the traditional use of plants and other parts of the environment in Indigenous cultures when appropriate, and making sure to enter certain spaces with reverence and respect based on Indigenous practices

Developing a sense of place

- Acknowledging who they are and how they connect to the land through finding common threads and connections between culture, climate, and community

Examples: Playing in an inclusive manner, accepting diverse stories and opinions, showing awareness of others playing outside in different climates through imagery and conversation with adults

- Connecting with local Indigenous groups

Examples: Take time to listen to stories from Indigenous peoples

Developing environmental awareness that leads to an ecological identity

- Building observation skills by noting changes in the environment or responses/adaptations of changes

Examples: Noticing changes in light, precipitation, temperature, and growth

Photo by Megan Gessler



Spirituality

Many people have spoken of the emotional, unobservable feeling when they walk along a beach or sit in a forest. Surprisingly the word “spirituality” is often avoided in western contexts, as it has been long associated with religion. This is not about religion. It is about an awareness of yourself as being part of something bigger. It has been separated in the guide to reflect that it is an area of research that is still relatively unexplored and yet it could be one of the key aspects to human flourishing.

To become aware of an emotional or spiritual relationship with the natural world takes time. It requires us to be open to the possibility and conversation about both the observable and non-observable aspects of the natural world. When we engage in experiences that reveal an awareness of interdependence and balance it demonstrates that we have a growing awareness of the systems and relationships present in nature that feed our soul, lift our hearts, and offer stability in times of challenge.

Exhibiting awareness of self as being part of something bigger

- Engaging in dialog and conversation about being part of nature

Examples: Engaging in moments of silence that lead to philosophical conversations about their connections to the wider environment around them, giving thanks to the realm we enter and for the natural materials around us, asking for safe passage for us and the inhabitants

Becoming aware of an emotional, spiritual relationship with the natural world

- Demonstrating calm acceptance and conversation about both the observable and non-observable aspects of the natural world

Examples: Acting with reverence and care, using the word “love” in conversation, including place of origin when introducing self to strangers, realizing that everything in our natural world has a “life” and a purpose in our system

Engaging in experiences that reveal an awareness of interdependence and balance

- Demonstrating a growing awareness of the systems and relationships present in nature

Examples: Talking about the relationship between insects, flowers, etc.; being aware of the way trees help others in a forest.



Photo by Megan Gessler

Learning *For* Nature:

Defined as recognising the role of reciprocity in humans' connection with the rest of nature

Guardianship

The term “guardianship” positions humans not as owners of the natural world but as its carers and protectors. From infancy, children understand the concept of care. As they develop empathy and spend time in natural environments they come to love, we can foster their sense of protection of these places. Stories told by older people about changes to the atmosphere, forests, land, and water can add to children's sense of wonder or concern about nature, depending on its state of health. Learning from indigenous elders looking back to traditional understandings can provide a vision for the future where humans treasure the planet as a source of sustenance for the wellbeing of families and of children who are yet to be born (Ritchie, 2011).

Children “being for nature” is a later phase in the human-nature connection (Guisti, 2018). They become motivated and passionate about making contributions to actively protect nature in their communities. Working in and for natural environments entails children thinking beyond the immediate time-frame and beyond their immediate place. Guardianship involves understanding the interconnectedness of all things on planet Earth.

Exhibiting a sense of care and protection for places

- **Honoring nature and preserving the history and stories of this place**

Examples: Expressing concern for Mother Earth when paths are paved in parklands/forests, asking grandparents or elders to tell old stories associated with natural landmarks

- **Protecting the balance of nature**

Examples: Collecting rubbish caught in storm water drains near the sea or lakes so rubbish doesn't wash down into them, minimizing waste of water during droughts

- **Enacting Indigenous protocols and ways of being connected to nature and place**

Examples: Acknowledging Aboriginal ‘Country’ in Australia, and Atua Māori in New Zealand; having a combination of passion and working hard for the benefit of nature; acknowledging the Indigenous guardians of the area that have a time immemorial connection to the land, water, air, and environmental systems; giving thanks to the forest or river as you enter, hearing its story, as they have had long-standing watch over our human condition and on our Earth as it has evolved over time

Making extra efforts to care for nature

- **Driving a long-term focus in some projects**

Examples: Returning compost and worm ‘wee’ back to the garden to grow vegetables for the center, reminding their caregiver to take a super-market cloth bag and refuse single-use plastic bags to minimize use of plastic waste that causes wildlife casualties, inviting parents or extended family to share their expertise vis-a-vis herb or vegetable gardening

- **Showing through actions an ability to think beyond the center/school**

Examples: Turning used newspapers into fire bricks for fires and offering them to others to heat their homes, doing a rubbish/trash bin audit to recycle more and lessen trash; nurturing native tree seedlings to be planted in the forest

Responsibility

Children of all ages, marching in their thousands, in cities around the world in 2020 demonstrates their leadership in caring for Earth Mother. Globally and locally, children are demonstrating environmental activism. The marchers sought responsible policy change. In early learning settings, children also are demonstrating responsible actions for nature

through, for example, making compost for the garden to grow food. They are becoming agents to benefit nature encountered in their daily lives.

It is a short step to advocating for environmental action beyond their center or school — to their families and engaging members of the public, for example, for dropping litter that passes through drainage systems and flows to rivers and lakes.

Becoming or acting as change makers for the health of nature

- **Thoughtfully using natural materials for the further benefit of nature**

Examples: Using collected rainwater for watering the vegetable garden, taking home worm farm 'wee' from the center to change parents' use of bought products in home gardens

- **Planning and conducting projects that investigate environmental issues in their community**

Examples: Planning and going on regular rubbish 'clean the streets' excursions

Advocating for environmental action

- **Having the courage to speak out for the benefit of nature**

Examples: Engaging people for not recycling correctly or for using single-use plastic bottles; asking other children to not pull leaves off trees and flowers off plants; writing letters or making videos to send to local government/politicians to highlight local nature issues; instigating public signs for the protection of indigenous flora and fauna in parkland; taking part in local advocacy activities; telling stories of leaders that have taken a stand and how they did it, what happened, and how it made a difference

- **Educating their wider family and local community about sustainable practices**

Examples: Re-enacting what they have learned about recycling and worm farming at the center in their home, including the whole family on forest excursions

Sustainability

Children, with the support of adults, can extend the reach of their responsible actions for the natural world by learning about and modeling sustainability practices, such as recycling and saving rainwater for sandpit play.

Involving children in decision making, and in thinking through the effects of new purchases versus repurposing or, say, the impact of consuming more plastic products on land, oceans, and the species that inhabit them, can disrupt habits that harm our planet to be replaced by habits that benefit natural environments.

Modeling sustainability practices

- **Understanding the importance of sustainable practices**

Examples: Explaining why the food in their lunch box is not wrapped in plastic, or why there is a limit to the amount of water for water play, or why the local stream needs only clean water

- **Recycling, reducing consumption, reusing**

Examples: Reusing unused sides/parts of paintings, drawings; having an awareness of the impact of personal use of resources, i.e., turning off lights, conserving water by using collected rainwater for sandpit play or for watering the garden

Being involved in sustainable decision making

- **Making decisions with educators and working out solutions together**

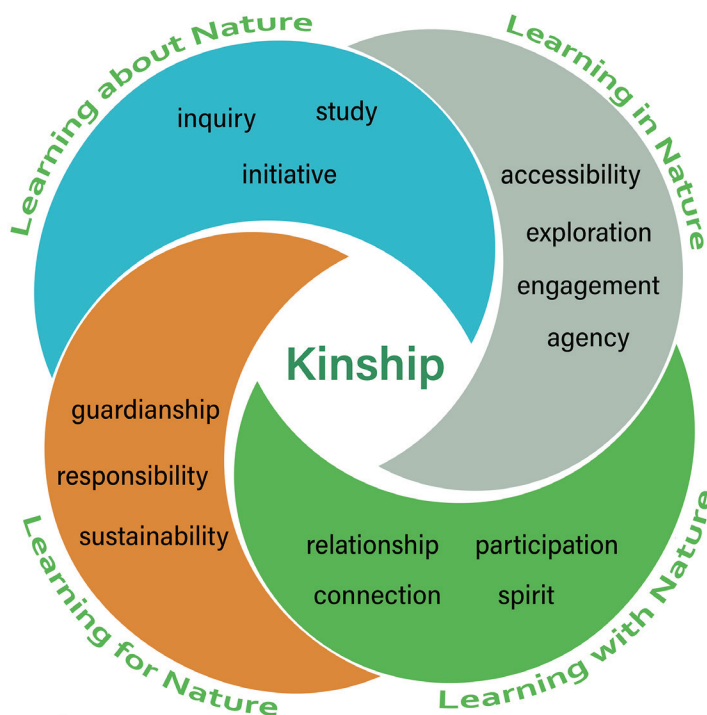
Examples: Deciding with educators about the need (or not) of new purchases and acquisitions, deciding which vegetable seedlings will be best to grow for making soup for lunch in winter

Conclusion

Children are coming to know or coming to realize as they learn about, in, with, and for nature. Lyanda Lynn Haupt (2021) reflected upon this type of deep understanding, “When we walk mindfully in the natural world—attuned to the voices of the birds, the alternate unfurling and dormancy of plant life through the seasons, the tracks of the coyotes who wander from the green space to our urban backyard—a great deal of truth about the interrelationship between humans, plants, animals, and the land is directly revealed to us. This attunement is our most authentic, most innate way of learning and knowing”.

We assert that this attunement is not the end of the relationship. As Octavia Butler (2000) shared in her work *Parable of the Sower*, “All that you touch you change. All that you change changes you. The only lasting truth is change...” This cyclical relationship reinforces why learning about, in, with, and for nature is a never-ending interwoven knot. In creating the Environmental Kinship Guide, we wanted to highlight this natural ecological interaction so that practitioners as well as administrators and policy makers could utilize a framework to assist in formulating questions, collecting observations, and better articulating the ways children develop a sense of kinship with the natural world. We also hope data from these observations will be used to create conversations and to further understand kinship across cultures and throughout the age span.

“Kinship, in some contexts, refers to a physical relationship, as in “a blood relationship” (Wilson, 2019). But kinship can also be experienced as an emotional relationship. And it is this deeper relationship of the heart that inspires a sense of responsibility for the natural world. When children are given a chance to love the Earth, even at a young age, they are much more likely to care for and preserve its natural beauty into the future. Kinship plants the seeds for future environmental stewards of our Earth.



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It is our fervent hope that all people can find healing, and a special closeness, and sense of home in nature, especially during and after the global pandemic. We also resolve to continue the international dialogue and reflection of practice for educators seeking to foster a deep and lasting kinship between children and nature. “Knowing that you love the Earth changes you, activates you to defend and protect and celebrate. But when you feel that the Earth loves you in return, that feeling transforms the relationship from a one-way street into a sacred bond” (Kimmerer, 2013).

References and Additional Readings

If you are unable to access a journal, please reach out to the author. All quoted references are asterisked.

*Anderson, D., Comay, J. & Chiorotto, L. (2017). *Natural Curiosity, 2nd Edition. A Resource for Educators considering Indigenous Perspectives in Children's Environmental Inquiry*. University of Toronto Press.

Barrable, A. (2019). Refocusing Environmental Education in the Early Years: A Brief Introduction to a Pedagogy for Connection. *Education Sciences*, 9, 61. DOI:10.3390/educsci9010061.

Basile, C., White, C. (2000). Respecting Living Things: Environmental Literacy for Young Children. *Early Childhood Education Journal*, 28: 57–61.

Beery, T., Chawla, L., Levin, P. (2020). Being and becoming in nature: Defining and measuring connection to nature in young children. *International Journal of Early Childhood Environmental Education*, 7(3): 3-22.

Bjorge, S.; Hannah, T.; Rekstad, P.; and Pauly, T. (2017). "The Behavioral Effects of Learning Outdoors" Masters of Arts in Education Action Research Paper, St Catherine University, St Paul, MN. Retrieved from sophia.stkate.edu/maed/232/

Boyd, D., (2019). Utilising place-based learning through local contexts to develop agents of change. *Early Childhood Education for Sustainability*. *Education* 3-13, 47(8), 983-997.

* Butler, O. E. (2000). *Parable of the Sower*. Four Walls Eight Seeds.

Chawla, L. (2007). Childhood experiences associated with care for the natural world: A theoretical framework for empirical results. *Children, Youth and Environments*, 17(4): 144-170.

*Chawla, L. & Derr, V. (2012). In S. D. Clayton (Ed.) *The Development of Conservation Behaviors in Childhood*

and Youth. *Oxford Handbook of Environmental and Conservation Psychology*. Oxford University Press.

Gambino, A., Davis, J., & Rowntree, N. (2009). Young Children Learning for the Environment: Researching a Forest Adventure. *Australian Journal of Environmental Education*, 25, 83-94.

Ginsburg, J. L. & Audley, S. (2020). "You don't wanna teach little kids about climate change": Beliefs and barriers to sustainability in early childhood. *International Journal of Early Childhood Environmental Education*, 7(3), p. 42.

Golden, A. (2010). Exploring the Forest: Wild Places in Childhood. In G. Perry, B. Henderson & D. R. Meier (Eds.). *Our Inquiry, Our Practice: Undertaking, Supporting, and Learning from Early Childhood Teacher Researchers*. National Association for the Education of Young Children.

*Guisti, M. (2018). Home for future Earth lovers. Foundations of nature-connecting habitats for children. Unpublished academic dissertation for PhD in Sustainability Science, Stockholm University, Sweden. Retrieved from urn.kb.se/resolve?urn=urn:se:su:diva-152767

*Haupt, L. L. (2021). *Rooted*, New York, New York: Hachette Book Group.

Henderson, B., Meier, D., & Perry, G. (2004). Voices of practitioners: Teacher research in early childhood education. *Young Children*. Washington, DC: NAEYC.

Hohmann, M. & Weikart, D.P. (1995). *Educating Young Children: Active Learning Practices for Preschool and Child Care Programs*. Ypsilanti, Michigan: High/Scope Press.

Kellert, S. R. (2002). Experiencing nature: Affective, cognitive, and evaluative development in children. In P. H. Kahn & S. R. Kellert (Eds.), *Children and nature: Psychological, sociocultural and evolutionary investigations*: 117–151. The MIT Press.

Kiewra, C., Veselack, E. (2016) Playing with Nature: Supporting Preschoolers' Creativity in Natural Outdoor Classrooms. *The International Journal of Early Childhood Environmental Education*, 4(1), 70-95.

*Kimmerer, R. W. (2013). *Braiding Sweetgrass*. Milkweed Editions.

Kimmerer, R. W. (2014). Returning the gift. *Minding Nature*, 7(2), Spring.

MacDonald, K., & Breunig, M. (2018). Back to the Garden: Ontario kindergarteners learn and grow through schoolyard pedagogy. *Journal of Outdoor and Environmental Education*, 40(2): 15-38.

Meier, D. R. & Sisk-Hilton, S. (Eds.) (2013). *Nature education with young children: Integrating inquiry and practice*. Routledge.

*Montessori, M. (1973). *From Childhood to Adolescence; Including Erdkinder and The Function of the University*. New York: Schocken Books.

Paul-Burke, K., & Rameka, L. (2015). Kaitiakitanga-Active Guardianship, Responsibilities and Relationships with the World: Towards A bio-cultural future in early childhood education. In M. A. Peters (Ed.), *Encyclopedia of Educational Philosophy and Theory*: 1-6. Newbury Park, California: Sage Publishing.

Pelo, A. (2013). *The Goodness of Rain. Developing an Ecological Identity in Young Children*. Lincoln, Nebraska: Exchange Press.

*Powers, A. L. & Ren, Q. (2018). *Literature Review: Nature-Based Play and Learning*. Retrieved from <https://fwnidot.files.wordpress.com/2018/09/fwni-peer-2018-nature-play-literature-review.pdf>

*Ritchie, J. (2011). Ecological counter-narratives of interdependence wellbeing, *International Journal of Equity and Innovation in Early Childhood*, 9(1), 50-61.

Ritchie, J. (2010). Fostering Communities for Ecological Sustainability within Early Childhood Education, *Early Education*, 47, 0-14.

Rockefeller, S., & Elder, J. C. (Eds) (1992). *Spirit and Nature. Why the Environment Is a Religious Issue*. Boston, Massachusetts: Beacon Press.

*Salmón, E. (2000). Kincentric Ecology: Indigenous Perceptions of the Human-Nature Relationship. *Ecological Applications*, 10(5), 1327-1332. doi:10.2307/2641288

Sobel, D. (1996). *Beyond Ecophobia: Reclaiming the heart in nature education*. Great Barrington, Massachusetts: Orion Society.

The Green Interview. (2009). *Gregory Cajete: An Indigenous Ecology*. Retrieved from thegreeninterview.com/interview/cajete-gregory

Torquati, J., Schutte, A., & Kiat, J. (2017). Attentional demands of executive function tasks in indoor and outdoor settings: Behavioral and neuroelectrical evidence. *Children, Youth and Environments*, 27(2), 70-92.

Ulset, V., Vitaro, F., Brendgen, M., Bekkhus, M., & Borge, A. I. H. (2017). Time spent outdoors during preschool: Links with children's cognitive and behavioral development. *Journal of Environmental Psychology*, 52: 69–80.

Waller, T., Årlemalm-Hagsér, E., Hansen Sansester, E. B., Lee-Hammond, L., Lekies, K. & Wyver, S. (Eds.) (2017). *The Sage Handbook of Outdoor Play and Learning*. Newbury Park, California: Sage Publishing.

Warden, C. (2015). *Learning with Nature: Embedding Outdoor Practice*: Sage Publishing.

Warden, C. (2019). The Creation and Theorisation of a Nature Pedagogy: A Narrative Inquiry. PhD thesis. United Kingdom: Liverpool Hope University.

Warden, C., (2019) Nature Pedagogy: Education for Sustainability. *Childhood Education Journal*. 95(6).6-13, DOI: 10.1080/00094056.2019.1689050

*Wells, Nancy M., Kristi S., & Lekies, K. (2006). Nature and the Life Course: Pathways from Childhood Nature Experiences to Adult Environmentalism. *Children, Youth and Environments*, 16(1), 1-24.

Wilson, C. (2011). *Effective approaches to connect children with nature: Principles for effectively engaging children and young people with nature*. Wellington, New Zealand: Department of Conservation.

*Wilson, E. O. (1984) *Biophilia*. Cambridge, Massachusetts: Harvard University Press.

*Wilson, R. (2012). *Nature and Young Children*. Routledge.

*Wilson, R. (2019). What is Nature? *The International Journal of Early Childhood Environmental Education*, 7(1): 26-39.

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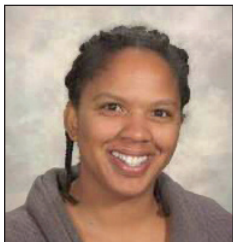
Dr. Anne Meade, Co-Founder, of Daisies Early Childhood Education & Care Centre in urban New Zealand. Anne continues to serve the organization as Pedagogical Leader. Anne's video on YouTube, "Imagine a classroom without walls" (Storypark, 2017) inspires more teachers to provide curricula in nature. Anne is a Senior Fulbright scholar (1999), a semi-retired academic researcher, and is frequently called upon to keynote events. Her 1979 doctorate (Te Herenga Waka-Victoria University of Wellington) was amongst the first in early childhood education in New Zealand. In addition, Anne has a Trained Teachers Certificate for primary school teaching and a post-graduate diploma for teaching in early childhood education (Massey University). Anne has led government working groups to

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