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Re-Connecting Children and Youth with Nature for a Healthy Planet

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A Nova Scotia elementary school secured a modest grant to build an "outdoor classroom" in a small stream gulley just below the playground. Once it was completed, the principal called me to see if I would be able to provide the teachers with an in-service to help them develop expertise on how they might best use the space with the children. I agreed and went down to scout out the setting before starting to plan the session. I was aghast as I surveyed a beautiful natural opening with a small creek winding its way through the gulley below it. The outdoor classroom consisted of about twenty large square rocks in rows, places for the kids to sit in the new "facility." In fact, the in-service never happened as it was scheduled for a warm day in the middle of black fly season and the principal did not think it would be a good time to introduce the teachers to the setting. He was likely right. I refused his offer to do the in-service inside or on the playground!

In short, outdoor learning is a problematic term simply connoting that something is happening in a place without a roof and four walls. We rarely use the opposite term—indoor learning. The key to meaningful, engaging and empowering learning in, about and for nature depends on the educational philosophy and concepts guiding the programming, as well as the activities, the leadership and the learners. My mission and passion across forty years of program design, research and teaching in the outdoors has been to consider how best to re-connect children and youth with nature so as to develop healthy, environmental citizens who appreciate and work to protect natural places and address problems such as climate change, biodiversity loss, Reconciliation, and injustice. Twenty rocks in rows does not produce good education in nature in my view, and there is no mission more important than doing this well given the state of the planet. Of course, effective nature-based education is but one significant

piece of the much larger mission to develop more sustainable, just lifestyles and reduce broader environmental impacts at a systems level. Following the progression listed below, this chapter describes the rationale (why), content (what) and process (how) for achieving this educational mission based on current research and practice in Canada. It advocates for an experiential and place-based approach, grounded in experiences in nature and the community, and draws heavily on an earth education framework (Van Matre, 1990) and place-based learning (Sobel, 2008).

WHY re-connect with nature?
• Healthy People • Healthy Relationships • Healthy Planet
WHAT needs to be learned?
• Feelings and Attachment • Understanding • Action Skills
HOW do we go about re-connecting?
• Place-Based Experiences • Solitude Experiences • Story-Based Experiences

WHY re-connect children and youth with nature?

Healthy People. The COVID pandemic and resulting lockdowns, which kept people inside, drove home the point that psychological and educational researchers have documented over many years. People of all ages need to spend time in nature as a source of psychological strength, health and well-being. Fromm (1964), a prominent psychological theorist, and Wilson (1984, 2002), a widely-recognized and distinguished biologist, separately proposed the biophylia hypothesis: humans innately need strong relationships with nature (Barbiero & Berto, 2021). Wilson (2002) defined it as "our innate tendency to focus upon life and life-like forms and, in some instances, to affiliate with them emotionally" (p. 134). Louv (2008, 2016) proposed the concepts of "nature deficit disorder," and "Vitamin N for Nature," pulling together an enormous breadth of research documenting that frequent exposure to nature is essential for a child's mental, psychological and physical development, whether it be mental acuity, creativity, or wellness.

Nature deprivation has been linked to depression, anxiety, obesity and attention-deficit disorders. Louv's work inspired the establishment of the Child and Nature Network, an international network that provides resources and up to date compilations of research for the field. More than eighty percent of children in Canada do not meet the recommended guidelines for adequate sleep, screen time and physical activity (Nature Canada, 2018). This research is not simply about the importance of outdoor activity of any sort, rather that there is intrinsic value in children and youth interacting with other life forms as a means to facilitate healthy psychological development.

Healthy Relationships. The Halifax Adventure Earth Centre has been providing nature experiences for children and youth for over forty years and has been one focus of my work on reconnecting children and youth with nature. I am always curious as to why their youth leadership group is so strong and its members are so committed to it. Engaging teens in community programming is not always easy. I frequently ask the young people why they keep coming, and their typical answer is that "this place," by which they mean the social space, is "different." They say it lacks the competitive and put-down aspects of many school and peer settings: "everyone is nice to you here regardless of who you are or what you look like." On further questioning, a key foundation of this youth culture is their weekend time at camp and in nature on a regular monthly basis. It offers time away from social media and peer pressures in a space where nature exploration and team and group development go hand in hand. These anecdotes are substantiated by research findings, whether it be the value of forest schools in developing social skills (Obrien & Murray, 2007), or the value of green spaces in promoting pro-social and cooperative play in children (Putra et. Al, 2020). Natural settings provide rich sensory experiences with other forms of life, isolated from everyday pressures, which children and youth can enjoy and share with their peers.

Healthy Planet. I frequently begin environmental education workshops and classes for voluntarily participating youth and adults by asking how many people spent a lot of time in nature as a child. Inevitably almost every hand in the group goes up. We immediately recognize that this is a key distinguishing feature between those present and those who are not among a particular cohort. This substantiates the research findings gathered over decades: adults and youth who have had significant positive experiences in nature as children are more likely to report taking action for the environment and being positive environmental citizens (Chawla, 2020).

Simultaneously, this time in nature can build a sense of well-being and constructive hope, including the willingness to act in the face of environmental loss and degradation that can overwhelm others and lead to despair. There seem to be several ingredients to building this environmental commitment and hope: lots of time to explore and play in nature (both alone and with peers), significant role models (parents, teachers, etc.) who supported and encouraged connection to nature, and opportunities to take action on nature's behalf. It is not coincidental that as children and youth have increasingly been brought up in cities with limited access to natural settings, spending more time inside and on screens, that the biodiversity and heath of ecosystems has been increasingly damaged by human impacts. Nature connection and nature protection actions look different in differing cultural contexts, but the basic need for connection is fundamental across all situations.

In short, re-connecting children and youth with nature is essential to growing healthy people, developing healthy relationships and taking action to protect and restore a healthy planet. Increasingly, our families, schools and communities are finding it difficult to achieve this mission. However, there is increased awareness of these problems with a wide spectrum of people and organizations working to take action. What needs to be done?

WHAT needs to be learned?

Feelings and Attachment. It is essential to develop feelings and attachment to other creatures and natural spaces. Kids are naturally fascinated by almost any creature they come upon, be it an insect crossing a sidewalk or a frog in a pond. They simply need opportunities. It is not coincidental that infants are often happiest outside where there are soft shapes, movements and sounds (the wind in the trees), rather than the harsh surfaces and noise of indoor environments where they spend most of their time. They love to be outside. Yet mainstream messaging is often: "be careful," "don't get dirty" and "stay where I can see you." "Let's go for a walk in the stroller" has replaced "let's go for a walk in the woods."

Traditionally in North America, Indigenous cultures and lifestyles were deeply rooted in experiences in natural settings, and it is not surprising that to this day, many of these cultures, despite efforts to eradicate them across centuries, have transmitted a stronger set of environmental values and nature connection across generations than mainstream settler cultures. The essential ingredient to developing feelings for nature is positive time in nature, regardless of one's cultural identity. For example, *Being Caribou* (Heuer, 2006), is the gripping story of a wildlife biologist and his partner who followed a caribou herd for five months across the Arctic. Through the process of being immersed with them in nature, they transitioned from seeing caribou as interesting creatures in a scientific sense to thinking and feeling like caribou. Attachment to nature is not restricted to Indigenous cultures, other peoples can regain these attachments if they spend positive time experiencing nature. Carson (1956) eloquently made this point by saying,

> *...if a child is to keep alive [an] inborn sense of wonder… he [she] needs the companionship of at least one adult who can share it, rediscovering with him [or her] the joy, excitement and mystery of the world we live in (p. 42).*

Some have argued for a knowledge-based approach to introducing the natural world to children: "if you learn about it, you will come to care about it." However, this rational, information-based approach to caring and action has not been substantiated by research (Kollmuss, & Agyeman, 2002). Rather, the pathway to environmental connection and protection for human beings, according to Van Matre (1990), is if people come to experience and develop care for the natural world, then they will then want to learn more about it. Next, they may then take action to protect it. The first priority is to grow a love of the Earth, a kinship with all living things, a reverence for communities, and a joy of being in touch with nature.

Understanding. Feeling and care is a prerequisite for human societies to address the increasingly damaging environmental impacts of current lifestyles and to change the negative trajectories of the biodiversity and climate crises. But positive change requires a basic understanding of how ecological systems function and how humans depend on and interact with them. For example, there will never be more materials than there are now on this planet, the air, water and soil cycles simply move them around. Breathe in, you are breathing in air molecules that passed through many a dinosaur. Yet individuals and communities in the mainstream fail to actualize this understanding in their lifestyles and infrastructure.

A number of years ago, a nearby town came up with the idea of removing dry cleaning pollutants that appeared in the drinking water by aerating the water and bubbling the gases into the air. Where do the toxins go next? How does that help? It is essential that everyone understands the big picture ecological concepts such as the role of materials moving through the air, water and soil cycles, the path energy takes from the sun through food chains, how species interact within ecological communities and the way these communities and systems naturally change over time (Van Matre,1990). These basic understandings enable people to take reasoned and responsible action.

Action Skills. Caring about the natural world and understanding what needs to be done to transform individual lifestyles or shift collective policies and practices is insufficient for individuals to take action. Taking action is in itself a set of competencies, be it having the confidence to assert one's lifestyle choices in response to negative peer pressure, effectively writing a letter to a politician, or standing up to speak at a public meeting. Much as one learns to swim or ride a bicycle by doing it, one learns to take action for the environment by practicing action-taking with others. This is part of developing action competence (Jensen & Schnack, 1997), which involves having the commitment and caring, sufficient knowledge and understanding, the vision to know what is needed, and the action experiences to develop the confidence and skills to act. This means providing young people with opportunities to practice action taking as a part of the educational process, not for the purpose of bringing about environmental change, though this can be a positive result, but for the purpose of developing their action skills. Wild radicalism is not necessary or appropriate to expect of children, rather their actions may be to reduce the environmental impacts of their lifestyles or to work together to advocate for a natural place or species they are strongly connected to and passionate about protecting.

In short, meaningful environmental education in the outdoors needs to be a holistic process focusing on the feelings (the heart), the understandings (the head), and the actions (the hands). This is not surprising given the extensive research and practice documenting the benefits of integrated and holistic learning in so many spheres (Anderson et al., 2017).

HOW do we go about re-connecting children and youth with nature?

Place-Based Experiences. Our personal identity is made up of a constellation of factors that gives us a sense of self. It is rooted in deeply held values and played out in our feelings, thoughts and actions. For example, one evening I was hosting a small group of adults for a discussion of how

we could purchase more sustainable food for our households. One man said he always went out of his way to buy organic apples because he had been brought up on an apple farm and deeply understood the difference between organic and conventionally-sprayed apples. Another woman said she always purchased free-range eggs as her family had chickens as a child and she knew the value of good, fresh eggs. Neither was as committed to purchasing other items sustainably. These are examples of how our early experiences and connections to childhood places help establish our deeper values and attachments. The key to developing a strong connection to nature is to provide lots of hands-on experience in nature, starting in early childhood. This is the raison d'être for the development and increasing popularity of forest schools where young children spend most all of their time exploring and playing in nature.

Sobel (2008), a noted educational theorist and philosopher, has extensively observed children's play and identifies seven characteristics of experiences in nature that are fundamental to the types of experiences children seek, regardless of culture. They are: adventure, fantasy and imagination, animal allies, maps and paths, special places, small worlds, and hunting and gathering. As Sobel (2008, p. 13) states, "one transcendent experience in nature is worth a thousand nature facts." The educator's mission is to provide experiences in natural areas for children and youth that embody these characteristics. For some children, the nearby natural area is a forest, but for others it may be a ditch, backyard or overgrown vacant lot where they can explore and experience other forms of life. The ecological quality of the setting is not the key, but rather the opportunity to experience semi-wild settings. The benefits of allowing children to play with "loose parts" are widely recognized in preschool settings, yet there are no better loose parts than pine cones on the forest floor, leaves in a pile or pebbles in a stream. The level of structure may vary with the children and the context, but there needs to be a clear sense of purpose to the activities, be it strengthening feelings (e.g., appreciating the beauty of the place), building ecological understandings (e.g., how a leaf makes sugar) or developing action competence (e.g., reflecting on experiences through art or prose). Maybe the goal for an experience is simply having so much fun that the kids want to return.

One outdoor, environmental program that embodies these sorts of characteristics is *Eco-Champions* a summer day camp run through the Halifax Adventure Earth Centre in Nova Scotia. Here is how it starts: groups of seven- to nine-year-old children sit on a circle of benches in a small, peaceful and protected forest hollow. Their attention is riveted on a moving human-like shape that shimmers in the distance through the trees. The storyteller begins...

> *Long ago, long before this age, there were lots of shape shifters in the natural world. The people loved to hunt for and search out the shape shifters in all of their forms and appreciate the neat shapes in nature. But over many, many years, the people went out into nature less, and they began to forget that the shapes could move and change. Since most people forgot them and no one was playing with them, the shape shifters became sad and quiet and stopped moving. Today, almost all of the shape shifters have become stuck as one shape in nature, maybe as a rock, a branch or a small bush. That moving shape in the distance is likely Epash, one of the last shape shifters still moving here. She survives by playing hide and seek games with the children who still come out and appreciate this forest. But Epash needs a friend. That's why she is taking the bold step of contacting you, even though shape shifters are very shy. You see, Epash is an endangered species and needs your help to bring another shape shifter back to life.*

The children then head off on a treasure hunt to help bring another shape shifter back to life by generating good feelings through appreciating the shapes in the forest. Through the day they learn about and take on the roles of endangered creatures. To connect back to Sobel's themes,

the kids are off on a fantasy adventure and treasure hunt as part of a story, using maps to find special places and become animal allies.

A key to providing these meaningful experiences in nature is leadership. Leaders are not experts standing at the front "teaching", they are caring people sharing and doing with the children through a progression of experiences, stimulating their creativity and giving them space to explore and discover in nature. If the children are exploring the small world of a stump with a magnifying glass, the leader is right there exploring with them and remarking at their discoveries. Nature is the teacher and the leader is there to ensure that everyone is engaged.

How could one teach an ecological concept this way? In Eco-Champions the children learn the concept of habitat by coming upon a group of cute, stuffed animals sitting together in the forest, each with a tag around their neck that describes in simple words where they get their food, water, air and shelter. The kids adopt a creature in pairs and use the information to choose a suitable location nearby for their creature's home. The pairs then give the group a tour of their homes and explain why they are suitable. At the end of the activity, the leader helps them process their experiences and understand and label the ecological concepts of home, habitat and community. A carefully designed experience is holistic, and the feelings, understandings and action skills can be drawn out of it and applied to a subsequent set of experiences. The leader organizes and frames the experiences, but nature does the teaching.

Solitude Experiences. A second essential element of how to re-connect children and youth with nature is to provide meaningful solitude experiences. The Halifax Adventure Earth Centre runs a yearly summer environmental, residential camp program for ten- to twelve-year-old children that is high adventure and rooted in nature with lots of razmataz, dramatic characters, attention-getting special effects, props and surprises. Despite all of this, time and time again, the first thing the kids do when the parents arrive to pick them up is to ask them to come see their "magic spots," the personal spot in the forest where the child spent 20 minutes in solitude each day at camp. As much as time in nature with peers is incredibly valuable, time spent alone in relationship with different species is essential and irreplaceable for actualizing the benefits of nature, be it for preschoolers, children, youth, and adults.

The structure of solitude experiences varies with the age and context, but the importance of it does not. Young children may take a few steps away from a circle in the forest and hug a tree for a couple of minutes, and adolescents, with careful preparation, may spend twenty-four hours alone at a vision spot. There are a range of options in between these extremes depending on the age and context. It is too easy for educators with larger groups to diminish the value of solitude because the logistics may be challenging. Given that children and adults rarely experience solitude, they are often uncomfortable with it, meaning that it has to be introduced in a gradual, thoughtful and planned way. For children, introducing it in small groups with clear expectations, engaging stories and solid ground rules is a recipe for success. Once children get comfortable with the process, it is something they love to do. Being comfortable with solitude is a critical life skill to enable children and adults to reduce stress, find joy, and develop care in nature.

Story Based Experiences. Stories are the means through which human beings organize their experiences and a third key program element. We build relationships and chronicle our lives through sharing stories. Children are looking for experiences that are meaningful and engaging in terms of how they see the world. Stories draw them in and provide the characteristics that David Sobel (2008) cites as key to connecting children to their places. Story-based programming is engaging and valued by youth and adults as well, but typically they first want to understand the educator's objectives to insure they align with their own objectives. Once they are clear as to what they will learn, they love the engagement of taking on a role and becoming part of an ad-

venture, a quest, a puzzle or a problem-solving mission.

One example of a story-based program is *Mysterious Encounters Earth*, a Halifax Adventure Earth Centre program for grade five and six children who are invited to join a small detective agency and become detectives-in-training, while searching for the formula of all life, which is to be discovered through the class embarking on a day of adventure in a nearby park. They ultimately discover that if they *touch* the earth (develop feelings for nature), *know* the workings of the earth (understand basic ecological concepts—energy flow in this instance) and *care* for the earth (define specific action steps for a more sustainable lifestyle), then they will work toward healthy food, clean water, and fresh air for all. The leaders (volunteer high school and university students), are detectives working for the Ecoleese, which is led by "the Chief", and there are lots of surprises and plot turns along the way.

The final gathering is an opportunity to help them define future experiences to work on this formula through which they can connect with and take action for nature. There are multitudes of opportunities for building stories into programs and giving children and youth roles in them, be it using books as a framework, defining adventures, treasure hunts, mysteries, etc. The storyline endeavour may also be to accomplish something real and meaningful for the environment—fundraise to protect a piece of land, establish a small business to provide a sustainably-related service. The point is to give participants roles through which their experiences play out rather than simply providing them with activities or knowledge that are only connected by the educator's goals or priority themes.

Two good sources for exploring the theory and concepts behind this approach include *Creating Worlds, Constructing Meaning: The Scottish Storyline Method* (Cresswell, 1997) and *Drama for earning: Dorothy Heathcote's Mantle of the Expert Approach to Education* (Heathcote & Bolton, 1995).

Place-based, solitude and story-based experiences are key to providing the platform for building child and youth connections with nature so as to enhance the feelings, understandings and action skills for nature. There is one other characteristic that holds it all together, some call it "magic" (Van Matre, 1990), others call it "transcendence" (Sobel, 2008), but it is that special moment and feeling that glues things together and cements the experiences in our memories. Nature itself is awe-inspiring, and these moments happen if one gets outside in the proper place or position, such as the snapping turtles hatching from a hole in the gravel, the fox sneaking along the edge of a field, or the firefly lighting up a summer night.

These events are happening all of the time in the natural world, but typically we miss them. It is up to the educator to provide opportunities for people to experience this magic, either alone or with others. For example, one afternoon when I was leading a small group of children at summer camp, they were sitting in their solitude spots just out of sight from each other. They were under a "veil of silence" and were expected to be absolutely quiet for the twenty minutes at their spot. During this time a deer came wandering through the area. All of the kids saw her, but no one moved or made a noise until after I picked them up from their spots and the veil of silence was lifted. The deer had inevitably noticed them, but was not startled or perturbed given the kid's complete silence and stillness. At the follow-up sharing circle, all of the kids exclaimed simultaneously, once they could speak, how cool it was that they had seen the deer. Each one thought they had been the only one to see her. It was an unforgettable and magical moment, but it would not have occurred had I not positioned them to be able to see it by carefully structuring their solitude experience. Being present to experience the magic in nature is transcendent, but it is so much more likely if an educator has facilitated the opportunity in one way or another—be it actively structuring the experience or enabling the kids to have unstructured time exploring for themselves.

Re-Connecting to Nature on the West Coast

Sea to Sky is a great example of an outdoor school in British Columbia that embodies the approach to environmental education described in this chapter. It has been running a wide range of programs for school classes for more than 30 years on the Sunshine Coast. Their grade 3-4 program, Webweavers, is a magical experience that involves students earning the blue orb by experiencing the sights, sounds, textures and tastes of wild places. They earn a green orb by learning about the wisdom that Nature offers: inter-connectivity, systems, and cycles. They earn a yellow orb by participating in a community building action project. Finally, after the program, they earn an orange orb by sharing what they have learned with their families and friends and a red orb by participating in a community project in their school. Their high school program, Connections, emphasizes the importance of slowing down, being present, and discovering the joy and inspiration of wild places. Solitude and carefully structured activities challenge students to engage with and find hopeful strategies to addressing environmental and social challenges.

Conclusion

Providing place-based, solitude and storied experiences in nature that develop feelings, understandings and action competence are antithetical to many current social and mainstream pressures, which push children and youth to online, stress-inducing and materialistic lifestyles. It is not coincidental that the concepts presented in this chapter are in line with Indigenous ways of knowing, which have survived and been strengthened across time despite mainstream attempts to silence them. Mi'kmaq elder Albert Marshall has coined the term *two eyed seeing*, which refers to:

> *learning to see from one eye with the strengths of Indigenous knowledges and ways of knowing, and from the other eye with the strengths of Western knowledges and ways of knowing… and learning to use both these eyes together, for the benefit of all (Hatcher et. al., 2009, p. 335).*

This sort of approach enables outdoor learning that supports the development of healthy people, healthy relationships and a healthy planet. One valuable Canadian resource that weaves many of the concepts in this chapter together for practice at far greater length, including the connections to indigenous perspectives, is the Natural Curiosity Resource Manual (Anderson et al., 2017). There are many other resources and opportunities that can be part of the journey of being a more effective outdoor and environmental educator in terms of teaching in, about and for nature. The rationale, content and process concepts presented in this chapter provide a map for further exploration and learning. There is no more important mission than working for a healthier planet.

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