

2018

Think, Feel, Act

Empowering Children in the Middle Years



Pedagogies for Times of Climate Change: Closing the Gap Between Nature and Culture

Veronica Pacini-Ketchabaw, PhD, and Randa Khattar, PhD

[We have to] challenge the nature-culture divide that underpins traditional western separations of human and environmental sphere and issues. (Affrica Taylor, 2017, p. 4)

We are human only in contact, and conviviality, with what is not human. (David Abram, 1996, p. ix)

Today, more than ever before, we need to think critically and with care about what it means to invite children and adults to connect to their immediate environment. What is it we want and hope for ourselves, for children, and for families when we intentionally create opportunities for children to make connections within the world around them? What might connecting with the world mean for children as we witness climate change and other ecological challenges? (see Government of Ontario, 2012–2017)

This research brief invites educators¹ working with children to critically reflect on what it might mean to create “opportunities to explore, care for, and interact with [what is referred to as] the natural world” (Ontario Ministry of Education, 2014, p. 21). Such a critical-inquiry orientation reflects the values and principles outlined in both *How Does Learning Happen? Ontario’s Pedagogy for the Early Years* (Ontario Ministry of Education, 2014) and *The Kindergarten Program* (Ontario Ministry of Education, 2016), including their commitment to a capable and competent view of children, educators, and families.

Drawing on current research, this brief presents new ways of thinking about and engaging with an entangled human/nonhuman existence in the world.

Changing How We Think About Children’s Connections with Their Environment

Researchers writing in the field of environmental education tell us that 21st-century ecological challenges require a fundamental shift in how we think about children’s relationships with the world and the kinds of questions we might ask as educators (Capra & Luisi, 2014; Greenwood, 2013; Taylor, 2013). They tell us we need to start from a place of curiosity and attentiveness to create ecologically caring relationships. We also need to critically examine the language we use with children to describe our relationships with our immediate environments. In other words, we need to consider new ways to understand our interconnected and interdependent relationships in the world.

It’s imperative that we think about children’s connections with their immediate environments, because children are inheriting a precarious world in which they must learn to live well. The United Nations and the Canadian and Ontario governments recognize that we face profound ecological challenges that demand urgent action (Government of Canada, 2013; Government of Ontario, 2012–2017; Intergovernmental Panel on Climate Change, 2014). Earth scientists attribute interconnected ecological challenges such as climate change, mass species extinctions, ocean acidification, and dangerous levels of waste emissions to **predominantly human causes** (Carson, 1962; Crutzen, 2002; Steffen, Crutzen, & McNeill, 2007). The recognition that these fundamental changes in earth systems are primarily human induced carries ethical implications, including that children are affected in different ways because of where and how they live.

1. The term “educator” has been used throughout this brief to refer to all who work with children and families in middle years programs (e.g., centre- and home-based child care, before- and after-school programs).

For example, some children live near polluted rivers, while other children are sheltered from ecological precariousness.

Thinking Critically About the Separation of Nature and Culture

Environmental education researchers insist that the cause of many of our ecological problems has been the belief that humans are more important than, and separate from, nature. For instance, we often erroneously think that we can modify, “improve,” or exploit nature without any consequence (Greenwood, 2013; Taylor, 2013). Alternatively, we might think that we can somehow “save” nature, as if it were possible to separate ourselves from the natural world in which we live (Taylor, 2017). These researchers therefore invite educators to question the idea that humans and the environment are two separate entities, or that nature and culture are totally distinct. Provocatively, they urge educators to focus their attention on the **connections** between humans and nonhumans (e.g., animals, plants, weather). They challenge educators to think about nature and culture as inseparable or, as Taylor (2013) calls it, as “**nature-culture**” (Taylor, 2013). Put another way, there is a **gap** in how we think about ourselves and nature that we need to pay attention to, and close.

Not all peoples view humans as separate from nature (Lupinacci, 2013). For instance, many Indigenous knowledges carefully attend to how worlds are created through relationships among animals, plants, humans, lands, oceans, and all natural systems (Battiste, 2014; Ritchie, 2013). We can reflect on these knowledges as a way to recognize and understand gaps in Western knowledges about nature. The decision to notice and pay attention is a pedagogical act that can work to reduce the divide between humans and nonhumans, nature and culture.

Fostering Children’s Connections with the World Around Them

Rather than teaching children to “protect” the earth, we need to recognize that children are already deeply connected with it. We could begin, for example, by noticing how children, regardless of where they live, already have relationships with animals, plants, landforms, places, rivers, weather, and one another (see Common Worlds Research Collective, 2015).



Educational environmentalist Affrica Taylor urges us to “fundamentally rethink our place in the world” (2017, p. 2). Taylor (2013) proposes that we attend to our everyday small encounters with others (including animals, plants, and places). She highlights our need to recognize how the world affects us—even as we affect it.

Rather than focusing on creating “perfect” natural worlds with children, educators can provide opportunities to engage with the actual and imperfect worlds that children inherit and co-inhabit with other human and nonhuman entities. Closing the gap between nature and culture can be considered in relation to the four foundations outlined in *How Does Learning Happen? Ontario’s Pedagogy for the Early Years* (Ontario Ministry of Education, 2014):

- **Belonging.** For example, when children go for a walk through their neighbourhood and connect with non-living entities, such as clay in a local riverbed, they can learn to value the relationships they share with the land.
- **Well-being.** When children closely attend to the well-being of other living things, such as a snail that crosses their path, they are learning to care for others and themselves.
- **Engagement.** When children explore and engage with the real world around them, they learn that it is good to participate and try things out, and to experiment with novel understandings and relationships.
- **Expression (and communication).** When children notice, interact with, and attend to their living environments, they develop capacities for new ways of communicating and vocalizing their theories and hypotheses about how to live responsibly in a precarious world.

Nurturing a More-than-Human Orientation

We experience the world through regular routines and habits, which are sometimes characterized by a sense of disconnection, or isolation, from an animate, breathing world. Interrupting these habitual patterns—for example, by lifting the gaze from digital devices or stepping outside to become (re)acquainted with our living environments—presents an educational alternative that acknowledges that the world is not composed only of humans.

This **ecological, more-than-human orientation** (Abram, 1996; Haraway, 2016) signals a shift from a humancentric perspective to one of active engagement, reciprocity, and care for a living, responsive, breathing world. This shift in orientation has the capacity, in the process of changing the ways we interact, to restructure how we see ourselves, our relationships with one another, and our place in the world (Common Worlds Research Collective, 2015).

Starting from a Place of Noticing with Children

In the move toward fostering children's connections with the world, educators might start from a place of noticing with children. We need to cultivate our own curiosity and sense of wonder as we engage children in their curiosity and explorations. We can start by asking questions, by examining closely, by noticing, and by giving the world a chance to affect us as much as we affect it.



We might notice connections with our immediate environments in multiple ways:

- walking through a forest or a park, or along a neighbourhood pathway
- paying attention to who else and what else inhabits our immediate environments
- listening to others (humans and nonhumans)
- becoming curious about our immediate surroundings
- taking time to attend to our connections with the world
- experiencing the environment with all of our senses

Making “Entering into Spaces of Noticing” a Habit

It takes time to nurture a habit of entering into a space where we pay attention to our own curiosities and wonderings. Learning how to slow down and linger with an experience takes practice. As outlined in *How Does Learning Happen? Ontario's Pedagogy for the Early Years* (Ontario Ministry of Education, 2014) and *The Kindergarten Program* (Ontario Ministry of Education, 2016), we can enter into spaces of noticing through **pedagogical documentation** that encourages educators to be co-learners alongside children and their families (Ontario Ministry of Education, 2014). Pedagogical methods such as documentation of children's experiences help educators refine their habits of noticing and paying attention to the strategies children use to make meaning (Wien, 2013).

Educators may invite children to:

- slow down and pay attention to how nature and culture are inseparable (e.g., birds often build nests in the nooks of neon signs; raccoons and squirrels share our meals via composting bins; humans plant the forests where these animals live)

- closely examine something familiar, such as:
 - how leaves move when they fall from a tree
 - the migration of ducks or geese in a nearby park
 - how squirrels build their nests
 - the movements of crows as they forage for food
 - how forests reverberate with sounds
- document their observations through drawings, photography, written notes, and videography
- revisit their documentation and observe the events anew (educators could invite the children to think about how they might communicate with the crows or attempt to build nests that mimic the squirrels’)
- share their documentation, learning, and thinking through a public exhibit.

Paying attention is part of the act of **reconnaissance**, which, as Rinaldi (2006) states, is “an attempt to re-visit and re-understand what has taken place by highlighting previously constructed relations, developing and challenging them, and consequently, producing new ones” (p. 131). When given the opportunity, children recognize and embrace the sensibility of reconnaissance as well.

Entering into a Space of Noticing Through Vermicomposting

After listening to children’s repeated conversations about the earthworms encountered on the sidewalk as the children walk to and from school, educators purchase a compost bin and 225 grams of red wiggler worms from the local compost education centre.

The children welcome the challenge of learning to take care of the worms to ensure they will survive. They shred newspaper for bedding, collect dry leaves, and keep the bin moist. They learn what to feed the worms—fruit and vegetables but not meat or oily food; coffee grounds and egg shells but no dairy—and how much to feed them—no more than two 750-gram containers full of food scraps per week.

The most labour-intensive part of vermicomposting takes place in the classroom once a month: harvesting the worm castings to use as fertilizer in the garden. The children dump the contents of the vermicomposting bin onto a big tarp on a table in the classroom, or outside when the weather is not too cold, and some of them work for hours carefully separating the castings into small piles.

(continued)

Children care, in very practical ways, for the worms in the bin, and the worms respond to the children's care. The children have learned a lot about vermicomposting, for example:

- If the bin is too wet, the classroom will be smelly.
- If there is not enough air in the bin or too much citrus is added to it, the worms may get sick or leave.
- If the worms do not have enough food or the bin is too cold or too hot, the worms die.
- If the food is not buried or the bin is overloaded, fruit flies will join the worms.
- When harvesting takes place, the worms release a bad smell as a self-defence mechanism to keep predators away.
- It's easier to harvest outdoors than indoors because the worms will move deeper into the bin to escape the warm sun.

In this inquiry, educators are not interested in teaching children to become environmental stewards. Rather, educators are interested in how the children are noticing ways the worms respond, and how the children are learning to care for the worms on the basis of their response, rather than simply following the guidelines of vermicomposting.

Inviting Children and Families to Notice

When educators slow down to pay attention to a particular encounter, they create opportunities to invite children, and their families, to do so as well. Regularly inviting families to share their experiences and questions about their surroundings—questions asked on a weekend hike or bike ride, for example—contributes to making the classroom a place to nurture connection and curiosity, and to see the environment as a third teacher (see Callaghan, 2013). Inviting families to do so supports their sense of belonging, expression, well-being, and engagement within the program (Ontario Ministry of Education, 2014, 2016).

Asking Pedagogical Questions

Pedagogical questions start from a critical-inquiry orientation. When educators move away from an orientation of “teaching” children or giving instructions about the world around them and instead listen attentively to children, they

create conditions for children to wonder. Educators might begin an inquiry by asking questions about the relationships that children encounter in their everyday lives and their environments. Pedagogical documentation can deepen the inquiry and encourage children to document their own learning (see Wien, 2013).

Creating inquiries in collaboration with children requires that educators become genuinely interested in exploring their own environments and investigating their own questions, such as these:

- How might we constructively, creatively, and practically engage with growing concerns about human-induced climate change, species extinctions, waste challenges, and so on?
- How might we work with children to transform understandings about our place in the world and how we think about and conduct our ecological relationships?
- How might we develop nature-culture pedagogies?
- How might we support children to create life-sustaining and enhancing ecological relationships?

Asking Pedagogical Questions About Children’s Everyday Relationships with the Environment

An inquiry on, for example, children’s relationship to the weather in this time of climate change might ask questions like these:

- What kinds of weather conditions and events do children encounter in their immediate environment? How are these conditions changing?
- How does weather shape and reshape children’s environments?
- How are the children’s everyday lives affected by the weather?
- How do children understand the effects of weather on the animals and plants that surround them?
- What might children learn from observing weather and its various effects over time?
- What kinds of ethics might emerge through understanding how changing weather patterns affect the lives of humans and other species?

More information about how educators are working with children to challenge the nature-culture divide is available on the Walking with Wildlife in Wild Weather Times blog at <https://walkingwildlifewildweather.com/>. Educators are encouraged to think about what they might do with children to create opportunities for them to notice and attend to their immediate environment.

Responding pedagogically to the environmental challenges that 21st-century children face means engaging in practices that attend to the many more-than-human relationships that children already have with others in their immediate environments. **The key to closing the gap between nature and culture** is to think and act alongside children and others, recognizing that all of us live in a more-than-human world.

References

- Abram, D. (1996). *The spell of the sensuous: Perception and language in a more-than-human world*. New York: Vintage Books.
- Battiste, M. (2014). *Reframing the human: Making new sense of nonsense of Eurocentric discourses surrounding Aboriginal peoples*. Keynote address, Learning How to Inherit in Colonized and Ecologically Challenged Lifeworlds, University of Victoria, BC, September 26–28.
- Callaghan, K. (2013). The environment is a teacher. In Ontario Ministry of Education (Eds.), *Think, feel, act: Lessons from research about young children* (pp. 11–15). Retrieved from <http://www.edu.gov.on.ca/childcare/ResearchBriefs.pdf>.
- Capra, F., & Luisi, P.L. (2014). *The systems view of life: A unifying vision*. Cambridge, UK: Cambridge University Press.
- Carson, R. (1962). *Silent spring*. Boston: Houghton Mifflin.
- Common Worlds Research Collective. (2015). Inquiries. Retrieved from <http://commonworlds.net/research/>.
- Crutzen, P.J. (2002). Geology of mankind. *Nature*, 415, 23.
- Government of Canada. (2013). Canada's action on climate change. Retrieved from <https://www.canada.ca/en/services/environment/weather/climatechange/climate-action.html>.
- Government of Ontario. (2012–2017). Climate change. Retrieved from <https://www.ontario.ca/page/climate-change-action-plan>.
- Greenwood, D.A. (2013). A critical theory of place-conscious education. In R.B. Stevenson, M. Brody, J. Dillon, A.E.J. Wals (Eds.), *International Handbook of Research on Environmental Education* (pp. 93–100). London: Routledge.
- Haraway, D. (2016). *Staying with the trouble: Making kin in the Chthulucene*. Durham, NC: Duke University Press.

Intergovernmental Panel on Climate Change. (2014). *Climate change 2014 synthesis report*. Contribution of Working Groups I, II, and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (R.K. Pachauri & L.A. Meyer, Eds.). Geneva, Switzerland, Author. Retrieved from <http://www.ipcc.ch/report/ar5/syr/>.

Lupinacci, J. (2013). Eco-ethical environmental education: Critically and ethically examining our perceptions of being human. In A. Kulnieks, D.R. Longboat, & K. Young (Eds.), *Contemporary studies in environmental and indigenous pedagogies: A curricula of stories and place* (pp. 185–200). Rotterdam: Sense.

Ontario. Ministry of Education. (2014). *How does learning happen? Ontario's pedagogy for the early years*. Retrieved from <http://www.edu.gov.on.ca/childcare/HowLearningHappens.pdf>.

Ontario. Ministry of Education. (2016). *The kindergarten program*. Retrieved from <https://files.ontario.ca/books/kindergarten-program-en.pdf>.

Rinaldi, C. (2006). *In dialogue with Reggio Emilia: Listening, researching and learning*. New York: Routledge.

Ritchie, J. (2013). Sustainability and relationality within early childhood care and education settings in Aotearoa New Zealand. *International Journal of Early Childhood*, 45, 307–326.

Steffen, W., Crutzen, P.J., & McNeill, J.R. (2007). The Anthropocene: Are humans now overwhelming the great forces of nature? *Ambio*, 36, 614–621.

Taylor, A. (2013). *Reconfiguring the natures of childhood*. London, UK: Routledge.

Taylor, A. (2017). Beyond stewardship: Common world pedagogies for the Anthropocene. *Environmental Education Research*, 23(10), 1448–1461. doi:10.1080/13504622.2017.1325452.

Walking with Wildlife in Wild Weather Times. (July 19, 2017). Retrieved from <https://walkingwildlifewildweather.com/>.

Wien, C.A. (2013). Making learning visible through pedagogical documentation. In Ontario Ministry of Education (Eds.), *Think, feel, act: Lessons from research about young children* (pp. 27–30). Retrieved from <http://www.edu.gov.on.ca/childcare/ResearchBriefs.pdf>.

Author Biographies

Veronica Pacini-Ketchabaw, PhD

Dr. Veronica Pacini-Ketchabaw is a professor of early childhood education in the Faculty of Education at Western University, Ontario. Prior to joining Western University, she was a professor at the School of Child and Youth Care at the University of Victoria, where she now serves as adjunct professor. Her current research within the Common Worlds Research Collective traces the common world relations of children with places, materials, and other species.

Randa Khattar, PhD

Dr. Randa Khattar is a postdoctoral research associate and adjunct assistant professor at Western University. Prior to this, she was an assistant professor at Charles Sturt University, where she continues to serve as an adjunct professor in the School of Teacher Education. Her program of research, anchored within an interdisciplinary constellation of post-foundational, complexity, and eco-feminist theories is located within the Common Worlds Research Collective, and problematizes living in more-than-human ways.

The Ontario Public Service endeavours to demonstrate leadership with respect to accessibility in Ontario. Our goal is to ensure that Ontario government services, products, and facilities are accessible to all our employees and to all members of the public we serve. This document, or the information that it contains, is available, on request, in alternative formats. Please forward all requests for alternative formats to ServiceOntario at 1-800-668-9938 (TTY: 1-800-268-7095).

ISBN 978-1-4868-2044-3 (PDF) © Queen's Printer for Ontario, 2018