

Ecological Identity, Empathy, and Experiential Learning: A Young Child's Explorations of a Nearby River

Chloe Humphreys & Sean Blenkinsop

Simon Fraser University, Burnaby, British Columbia, Canada

Abstract

This article uses an unconventional format to explore the role of parent and nature and the development of a young child's ecological identity. It follows journal entries from a mother observing her young son, Julian, as he explores, interacts with, and learns from the Stawamus River on the west coast of British Columbia. By creating questions, discussing and analysing these written observations, we explore the role of parenting and nature and the implications this might have for environmental education. Some of the ideas explored in this article include early ecological identity, empathy, relational existence, experiential learning, and affordances in the natural world. We further suggest that nature and parent working together might become key educators for a child.

This article is built around a series of journal entries recorded over the course of 12 months, of the lead author's eldest child's life. It is a slow careful gathering of observations which, when taken together, perhaps model how learning happens in another-than-human context. These ongoing recordings have allowed us to engage in a series of discussions for early childhood environmental educators. It is important for the reader to remember that we layer these observations over the course of the article. As such, we focus on particular moments of each observation in order to assist the reader to follow our thinking and theorising throughout.

There are many avenues one could take, based on these observations. We focused on the development of a young child's ecological identity and three central themes that contribute to this development: (1) the relationship between child and nature in terms of affordances and experiential learning; (2) how the ongoing immersion in 'natural places' can support a child's moral development in terms of empathy; and (3) the role of place, its myriad of beings, and parents in a child's understanding of relational existence.

A recent article published in the *Australian Journal of Environmental Education* provides a current definition of ecological identity: 'it encompasses individuals' knowledge of, reverence for, and actions towards the environment' (Broom, 2017, p. 34). Further, Broom (2017) writes that 'individuals with an ecological consciousness connect their personal identities to nature, demonstrate care of nature, and value sustainability' (p. 35). Ecological identity, Broom tells us, 'develops through childhood experiences in

Address for correspondence: Sean Blenkinsop, Faculty of Education, Simon Fraser University, 8888 University Drive Burnaby, BC, Canada V5A 1S6. Email: sblenkin@sfu.ca

nature, among other factors, including proximity to nature and parental views towards nature (Rice & Torquati, 2012)' (p. 35). In this article, we add research contributing to the understanding of an ecological identity.

We use the terms *natural space* or *nature* as a general term, but the location that this young child explores is specific: the Stawamus River flows down from the Stawamus Lake, which receives its water from the Mamquam glacier hanging above it. The specific spot Julian and his mother return to is a small, sand beach by this river. This particular area is situated within the Stawamus Chief Provincial Park and is, therefore, protected from development or extensive human modification. When we use the terms *natural setting* or *natural place* or *nature* in general, we mean a place with limited impact from human manipulation. In this specific spot, Julian and his mother encounter 'nature-on-its-own-terms' (Sitka-Sage, Kopnina, Blenkinsop, & Piersol, 2017, p. 25) with all the affordances and possible dangers residing therein. By 'natural place' we do not mean a neutral or 'pure wild' space. We recognise that this place was inhabited by Stawamus Indigenous people and has deep spiritual and political history and significance. This place is also inhabited by countless other-than-human beings. Lastly, we recognise that by generalising the multiplicities of beings in a particular place within the term 'nature', this can 'other' it and thereby reinforce the Western distinction between self and world (Beery & Wolf-Watz, 2014).

The role of the caretaker or parent with children in nature, within this article, rests on the work of Rachel Carson (1998), Ruth Wilson (1993, 2012), Louise Chawla (2007, 2015), and Ann Pelo (2013). In her article 'Benefits of Nature Contact for Children', Chawla (2015) writes: 'Up to this point, research is largely silent regarding the influence of nature contact on family systems.... Future research should address how nature affects children and their caretakers together, and how each side may mediate the nature experience of the other' (p. 446). With Chawla's research in mind, this article attempts to understand how a parent mediates nature experiences for her child.

Further in her article, Chawla posits, in line with Nussbaum (2011), 10 central capabilities for a flourishing life with ways that 'access to nature enables children to realize each capability' (p. 434). This paper circles around one of these capabilities: 'being able to live with concern for and in relation to animals, plants and the world of nature' (p. 435).

The concept of affordance is also developed in this article. It hinges on the previous work of Gibson (1979), in which affordance is defined as what the physical environment offers in terms of making possible different actions and behaviours. We explore Heft's (2001) and Kytta's (2004) further modifications of this idea, and we also make our own adaptations to suit the rich and varied experiences observed. Lastly, this paper explores three variations of experiential learning: learning by doing, embodied learning, and critical theory (Roberts, 2008). We adjust Roberts' (2008) variations of experiential learning to suit the learning of a very young child.

Observation #1: Winter — Stawamus River; Julian is 1½ Years, and Sidney is a Fetus (24 Weeks Pregnant)

We went to the Stawamus River, past the beaver dam. On the trail to the river, a beaver has built a large dam blocking the stream, and the trail winds past this dam. We stop and look for the beaver as we pass the dam. We see a forest wren land on a branch, but no beaver. When we arrive at the river, we see it is running fast. We notice that next to the river a puddle has formed beneath a large cedar tree. The puddle formed when the river was flooding during the last rain storm.

We come here often, and Julian usually charges straight to the river. I stop him and explain that the river is cold and dangerous. But he repeatedly does it anyway. When Julian spots the new puddle that formed beneath the tree, he walks right into it. He is dressed in his snowsuit and gumboots. He slips on the soft sand beneath, sinking all the way up to his neck in the puddle. Keeping his head above water by pressing against the earth with his arms, he starts shrieking 'wet, wet, wet'. I grab him by his snowsuit and pull him out, just as the cold water starts to permeate his suit. I strip off his clothes and wrap him in a wool blanket. I feed him a hot hardboiled egg that I had in my pocket. I then redress him in a warm, extra-down suit that we brought with us.

After he is dressed and warm, and has eaten his egg, he says 'Done'. He charges back to the van. It seems now, although I have no way of knowing for sure, whether it was because of this incident that Julian understands that the river is wet and cold and he should be careful around it.

Of note, although this was not an intentional lesson per se, I was aware of the possibility of this lesson from the river occurring, given that Julian repeatedly wanted to go into the water. I come prepared to these river visits with extra dry clothes and a hot snack. Further of note, the temperature was particularly warm for February. There was a warm wind from the south and a break in the rain.

We draw the reader's attention to two types of experiential learning occurring in this observation. The first type of learning and likely easiest to recognise as experiential education is 'learning by doing'. One can see through Julian's shriek that he has been taught by the world some clear lessons about wet and comfort, along with more subtle encounters with moving waters and sinking sands. Early childhood environmental educator Ruth Wilson reinforces the importance of learning by doing for young children. She writes:

The natural world for children is not just a scene or backdrop — it's something to be interacted with. Young children want to do more than look. They want to touch, dig, poke, shake, pound, pour, smell, taste, and 'muck around'. They want to explore and experiment. They want to be busy doing something and it is through such busyness that they learn about the natural world and about themselves. (Wilson, 2012, p. 13)

The lessons of the river experience might be taught, likely more slowly, through a parent naming, explaining, and constantly reaffirming the unexperienced danger, but in this case were taught quickly and thoroughly such that Julian himself confirmed the 'doneness' of the lesson. Wilson affirms the value of learning through exploring for a young child and not through naming and explaining. She writes: 'as most early childhood educators realize such a desire [about nature] is fostered by opportunities to explore and discover, not being taught facts about nature' (1993, p. 4). Wilson further warns us of 'the dangers of an intellectual approach' (1993, p. 4). Drawing from Elkind (1988) she tells us that preschool educators have long recognised the danger of an 'academic approach' even to the point of labelling such an approach as 'miseducative' (Wilson, 1993).

The problems associated with naming are not limited to the way a child learns about and understands themselves in relation to the environment. They also extends to how we understand the more-than-human world as existing in relation *to* rather than as static entities outside of time and space. In fact, it has been argued (Clarke & Mephie, 2014; Ingold, 2011) that the very act of naming suggests that animals can be considered outside of relation and independent of their environment. Alastair Reid eloquently describes this idea when he writes: 'say the soft bird's name, but do not be surprised to see it fall headlong, struck skyless, into its pigeonhole — *Columba palumbus* and you

have it dead wedged, neat, unwinged in your head' (1978, p. 3, as cited in Ingold, 2011). Clarke and Mcphie (2014) further tell us that the giving of 'noun names' to places in the Western tradition can be considered a form of 'entrapment' to a static worldview. While Clarke and Mcphie, drawing from Deleuze and Guattari, argue for using verbs instead of nouns to denote a relational existence, this perhaps could also be 'miseducative' when dealing with small children learning a language. Instead, through the act of engaging with the natural world and not by naming, a child can begin to see this relational existence. The river responds and changes to Julian's presence and Julian reacts and learns from the river. In this interaction there is a type of 'becoming' borne out of this learning by doing that Julian participates in.

Dovetailing with 'learning by doing', a second type of experiential learning is exemplified here, one that Roberts (2008) identifies as 'embodied learning' that draws, in part, from the theory of phenomenology. The concept of 'lived experience' or 'embodied experience' was developed as a response to the traditional Western view that characterises the world in terms of oppositions: mind and matter, object and subject, reason and emotion, humans and nature (Haraway, 1991), and so on. Instead of viewing the world as separate from the self, or knowledge as separate from experience, the phenomenologists (or those who embrace a philosophy of lived experience) see the world as intimately interconnected with the self through experience (Husserl, 1958) and through the senses (Abram, 1996). That young children learn through their senses has been richly documented (Piaget, 1952), along with research indicating that the emphasis in early childhood environmental education should be on sensory experiences (Carson, 1998; Honig, 2015; Kupetz & Twiest, 2000; Pelo, 2013; Wilson, 1993, 2012).

Here, Julian learns not just through the sensation of wet or cold, but he has invoked other senses as well — a sense of balance, a sense of place as potentially dangerous, a sense of personal decision making. Carson (1998) believes that the 'emotions and the impressions of the senses are the "fertile soil" that later produce wisdom' (p. 56). This type of experiential learning (lived-experience) is 'fertile soil' for developing an ecological consciousness. Through immersion and 'embodied experiential learning' Julian can perhaps develop an understanding that he exists in relation to the natural world and the environment is not a separate entity. Wilson (1993) also speaks about this idea of young children's connectedness to nature. She tells us: 'through varied experiences with the natural world, they [young children] begin to develop a sense of wholeness and connectedness with all living things' (p. 10).

While the research on 'learning by doing' and 'learning through the senses' within young children has been documented by an impressive body of research, studies connecting experiential outdoor learning and moral virtues, such as empathy, are relatively thin. One reason for this lack of research is perhaps due to the difficulty of proving that an outdoor experience (or any *individual* experience) leads to the development of empathy.

In 2003, Brookes wrote two influential articles in the *Journal of Adventure Education and Outdoor Learning* critiquing claims that there is clear development of 'personal traits such as honesty, trust, loyalty, compassion, or care for nature in outdoor education' (2003a, p. 51). He argues that no research has proven that these traits 'can be developed in an individual in an outdoor experience' and that these traits will persist in that individual's 'everyday life' (2003a, p. 51). He asserts that only some situations have strong effects on behaviour and that 'situations may shape current behaviour but it does not determine future behaviour' (2003a, p. 60).

Given Brookes' critiques of 'unsubstantiated rhetoric' surrounding personal traits, he offers three ways to move forward when researching the effects outdoor experiences have on the development of moral virtues: (1) more attention should be paid to the social

and cultural construction involved in the development of these traits; (2) ‘... collapse ... the notion that *single episodes* of experience can change personal traits (“big bang” theories of OAE)’ in order to open ‘the way for more careful consideration of programs that construct on-going relationships between individuals, particular groups, and particular places in the outdoors’ (2003a, p. 60); and (3) instead of dispositionalist accounts of behaviour, focus on how outdoor experiences construct meaning and shape knowledge.

While Brookes’ critique was centred on neo-Hahnian outdoor adventure education, it is applicable to a young child’s outdoor education. We believe there must be ‘ongoing relationships’ between the individual (Julian) and the specific outdoor environment for the development of empathy and for an ecological identity to form. And that there are geographical, social, political, cultural, and personal factors influencing that development; and further, we believe the natural world helps to shape Julian’s knowledge while constructing meaning for him. In addition to Brookes (2003b), Blenkinsop et al. (2016a) also push beyond single episodes of outdoor experiences when they suggest that, ‘for outdoor based programs to be experiential, their educator must also be mindful of the “principle of continuity” in which the learning occurs in relation to past learning and future endeavors it is not a detached moment without context and outside of time’ (p. 111). As a one-off experience, cold and discomfort might be the limit of the learning that happens for Julian. But this is not a single experience — this is the start of an experiential learning cycle with ongoing immersion as the learner builds towards more complex knowledge. Through familiarity and repeated visits, Julian develops an awareness in which he notices changes in the river, such as the development of a new (and therefore must-be-explored) river puddle. And further, he has enough familiarity in this place for the confidence, independence, and ability to know the way and walk the distance back to the vehicle.

Regarding the social, cultural, and personal aspects involved in the development of an ecological identity, we highlight the notion of ‘affordances’. Gibson (1979/1986) coined this concept:

The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill. The verb to afford is found in the dictionary, the noun affordance is not. I have made it up. I mean by it something that refers to both the environment and the animal in a way that no existing term does. It implies the complementarity of the animal and the environment. (p. 127)

The concept of affordances has been further defined as the ‘physical opportunities and danger which the organism perceives while acting in a specific setting’ (Gibson, 1979/1986; Gibson & Pick, 2000; Heft, 2001; Kytta, 2004; as cited by Hussein, 2012, p. 347). It ‘comprises features of both the environment and of the individual, it is located at the interface between the setting and the person’ (Gibson, 1979/1986, p. 129). Kytta (2004) adds to it by distinguishing between actualised affordances and potential affordances. She writes: ‘the set of potential affordances of the environment is infinite. In contrast, actualized affordances ... are that subset of the former that the individual perceives, utilizes, or shapes’ (Kytta, 2004, p. 181). Kytta (2004) constructs a schema that shows how *social and cultural factors* affect the actualisation of affordances. She divides affordances into three types. The ‘field of promoted action’ are the actions that are socially approved and thereby encouraged. In contrast to this is the ‘field of constrained action’, in which the actualisation of the affordance, or the ability to use or play in the environment, is constrained due to social constraints and/or to the unfriendly nature of the environment. The third is the ‘field of free action’ in which the child is free to explore. Kytta (2004) tells us that the field of promoted action and the field of free action can overlap; in other words, what a child decides to do overlaps with what a

parent *and* culture allows. And the field of free action and the field of constrained action can overlap; this is when a child plays in unsociable ways. However, all three of these fields of actions never overlap, perhaps because it is believed that an action cannot be both promoted and constrained. In contrast to Kyтта's position, we wonder whether Julian's river experience might be an instance where all three overlap: He is in the field of free action — he is exploring freely — and the experience is also in the field of constrained action in the sense that he is behaving in a way counter to cultural norms, because of the prolonged outdoor immersion and a perception that the environment is unfriendly and of limited educational value (a cold river in the middle of winter), but he is *also* in the field of promoted action in the way that his mother has prepared for this experience to occur and has allowed it. And he is also in the field of promoted action in that the place itself is inviting, promoting, interacting and providing opportunities to do exactly that. Perhaps the reason for the three fields not overlapping in Kyтта's diagram is because of the limited roles the parent and natural world are being offered and the assumption that a parent acts only in culturally appropriate ways.

Kyttä (2004) seems to limit the parent's role to one that either constrains the child's action or gives him freedom to explore. While the child can act in unsociable ways, (where action is both free and constrained but not promoted) Kyttä has not left room for the parent to also act in unsociable ways. We would like to add this to the role of the parent. The importance of the modification is to show how by acting in a way that is not culturally appropriate, the natural world had a chance to make itself known to Julian in ways that are often severely limited in situations socially deemed 'unfriendly', or in climate-controlled, health and safety inspected, culturally appropriate indoor classrooms. The parent, by acting in unsociable ways, left some space for the other-than-human educator to 'jut' (Joldersma, 2018) into the scene.

Unfortunately, research has found that parents often prohibit child's outdoor play not only because of fear relating to safety issues, but because of not wanting to act in socially or culturally unacceptable ways. Carver, Timperio, and Crawford (2008) tell us that 'parents may fall victim to social traps, in their desire to be considered as responsible parents by conforming with the practices of other parents who, for example, drive their children to school and make sure they are accompanied by adults at all times' (p. 224). Conversely, research is needed to understand whether more 'wild' settings afford parents the freedom to act in socially and culturally unacceptable ways and how to support 'rebel' (Blenkinsop & Morse, 2017) parents to recognise the ways they are, often unconsciously, reinforcing an environmentally alienating way of being for their children.

In this observation, the parent had knowledge of safety issues and an understanding of the local climatic, floral realities of that particular winter locale that afforded the possibility. It was not an unmediated experience, nor was it an unsafe one. This becomes a kind of controlled risk that has a limited downside with obvious learning benefits, and the teacher employs some energy to determine how the lesson stays on the educative side of the ledger. To have the child so traumatised by the immersion that the encounter is mis-educative would be a failure in parallel with how being overly protective might exclude the other-than-human learning possibilities. The parent was also seeking, both in their own lives and in their active parenting, to step outside the perceived norms of an environmentally problematic culture. She was trying to rethink the norms, behaviours, and beliefs on offer for Julian.

In her article, Kyttä (2004) 'Examines the interrelationship between independent mobility and the actualization of affordances' (p. 179). In doing so, she defines a concept central to the observation above, the concept of 'mobility licenses': 'a license to move around independently in the environment. The degree of a mobility license refers to

the sets of rule defined by parents ...' (p. 180). In this instance, 'the rules' were relaxed in an effort to allow the environment to do some teaching. By not restricting the child's behaviour, the child was given the opportunity to learn a lesson from the river itself. Further, drawing from Kong's (2000) research, Kytta (2004) tells us that 'mobility restriction can also affect the development of emotional bonds between children and the natural environment ... and the development of children's sense of responsibility for the environment' (p. 180). Here we begin to see the start of scaffolding towards Julian's understanding and care for the environment.

While it is hard to know and too early to tell whether Julian's experiences in nature will lead to knowledge and care for the environment, the idea that playing in nature during the early years leads to an environmentally responsible adult is supported by a large body of research (Beery & Wolf-Watz, 2014; Broom, 2017; Chawla, 2007, 2015; Chawla & Derr, 2012; Nisbet, Zelenski, & Murphy, 2009; Wilson, 2012; and many more). Gurholt (2014) tells us that the autobiographies of prominent environmentalists often describe that they were deeply immersed in nature as young children. Similarly, Chawla (2015) informs us that in a review of more than 30 studies, the most common experiences associated with adult care for nature are childhood play in nature and adult figures who communicate nature's value (Chawla, 2015; Chawla & Derr, 2012). Additional research also suggests that to be effective, the development of an environmental ethic must start at the early childhood level, as this is the period of life when basic environmental attitudes and values are established. Lastly, studies have also revealed that keeping children's mobility restricted, limiting where and when they explore, keeps them from developing favorite places in the environment (Corbishley, 1995; Kytta, 2004).

Kytta (2004) writes that 'Extensive mobility licenses will probably correlate with an ample supply of affordances, whereas restricted mobility licenses will result in a small number of perceived affordances' (p. 183). In the above observation, the parent 'provided an extensive mobility license', one that allowed the child to experience the affordance of the river at that time, while at the same time mediated the experience so that the experience was not traumatic for the child but an opportunity to learn.

Lastly, the beaver and its dam are mentioned here, not only as part of the scene-setting, but because this is an important component of how Julian begins to construct meaning about the world. In their article 'A Surprising Discovery', Blenkinsop et al. (2016b) write, 'many outdoor educators focused on environmental learning are intimately familiar with the context and place in which she/he works and are therefore able to recognize and maximize the educational potential of a learning moment when they arise' (p. 352). There are myriad possibilities that are afforded by any natural setting, and it is our experience that effective outdoor educators respond to the immediate while also continually noting the possibilities that might blossom (metaphor carefully chosen) at a later date. Julian knows now that there is something interesting, important, and even mysterious perhaps, about beaver and beaver dam that can be built upon when the moment is ripe. The appearance of the beaver will have meaning for Julian when and/or if it appears, after so many visits looking for it, in addition to him having some understanding and knowledge of the beaver and its dam.

Observation #2: Late Spring — Stawamus River; Julian is 21 Months, and Sidney is 3 Weeks From Being Born

We went to the beach by the beaver dam again. We pass the beaver dam and stop to look for the beaver, still no beaver. We continue to the river. There is another family there, two older girls about 10 and 12, and their father. Julian greets the river on this hot day (and any warm day) by immediately taking off all of his clothes. He walks naked

towards the river. The river is running fast but he stays in the shallow part. He likes to dunk his head in the water by bending over and dipping the top of his head in the cold water. He calls this 'dunking' and it makes him giggle as his wet bangs form a widow peak over his forehead and drip into his eyes. The river is clear green.

He sees the girls on the other side of the river jumping off of a log that has jugged out over the river, about 2½ feet above the water. He pulls at my hand and starts to cross the river, but the rocks beneath his feet are too slippery, the river current is too strong and it is getting too deep for him, so with his arms raised towards me, he asks to be carried. I scoop him up and carry him across. On the other side of the river, he takes my hand and finds a trail in the woods, where he heads in his bare feet over sticks and rocks toward the log where the girls were jumping in.

I hold his hand while he walks out on the log, his bare feet clinging to the soft wood underneath.

He jumps into the deep little eddy pool that has formed on that side of the river, just like the girls were doing. I let him go over his head and then I pull him out and hug his cool little body up against me. He seems satisfied with one jump and I carry him back to the beach on the other side of the river to lie in the warm sand and warm up in the sun.

In this observation there is a noticeable difference in how Julian approaches the river and how he interacts with his parent when entering a changing, yet familiar setting. It is as if he seeks confirmation for the interpretations he makes with regard to safety. He asks for help in crossing, indicating that he understands that the swift cold river current is strong and he recognises potential consequences. Julian now understands this river water well enough that we see a clear transference of knowledge. This is also potentially the start of an orientation toward a larger transference of abilities with regard to safely assessing life situations (Sobel, 2003).

Julian seems to understand the changes that a river undergoes during the year. His knowledge slowly moves, scaffolds, and is complexified by the seasons. The knowledge he learned at 18 months that water is too cold for a 'dunk' is tempered and deepened by ongoing encounters and different seasons. Now knowledge is more complex: rivers are dynamic, changing depth, temperature, colour, and community constantly. He is starting to understand water in a more sophisticated way and possibly beginning to understand some of the nuance of knowledge itself. All this appears to bring out an agency related to learning for Julian along with a subtle teacher to interact with as his knowledge evolves.

This example is also an opportunity to further explore the concept of embodied experience. Julian, in his literal nakedness, is somatically immersed in a nuanced, complex, polysensory environment that potentially affords a much more embodied learning to occur. Cold water drips from his forehead and twigs push up into his bare feet. At this point we would like to move from this notion of embodied experience to considering it as a relational embodied experience. The slight adaptation rests on the change of the type of phenomenological learning occurring. While Husserl (1958) grandfathered the philosophy of phenomenology, he seemed to ignore the agency or active presence of the outside world in our perceptions and focused simply on the particular human individual having the experiences. And while this is tremendously useful it can ignore that the world beyond Julian's embodied experience has agency, is affording possibilities that Julian perceives, and has a complexity to it that is not simply summarised by an anthropocentric non-relational phenomenology. This type of co-relational experience is perhaps best described by Taylor and Pacini-Ketchabaw (2015) in their article 'Learning with children, ants, and worms in the Anthropocene: Toward a common world pedagogy of multispecies vulnerability'. They write:

We are interested in tapping into the relational and co-shaping learning that occurs when children and animals physically encounter each other in their common worlds. As we see it, the children are not the only orchestrators or actors in these interspecies worlds and encounters. Rather, the learning emerges from the relations taking place between all the actors — human and more-than-human alike. (p. 508)

In their article Taylor and Pacini-Ketchabaw (2015) articulate a profound shift within early childhood environmental education, a shift that decentres the child in the learning relationship and considers not just the learning possibilities of the child but of interspecies learning. They challenge the notion of human exceptionalism, in which children are the only ones with the capacity to exercise agency, to experience, to perceive, and even to learn.

We think this idea is exemplified by Julian's 'greeting' to the river. The idea of greeting is not simply metaphorical — shortly after learning to say goodbye, Julian began to use it in saluting the ocean and other natural friends. He has also clearly taken to trees both in the physical way he hugs, approaches and talks to and about them, but also in the ways he compares his own height with that of a tree and honours their size in the comparison. He has actively sought trees' permission before pulling on their branches and has started conversations with chickens on his grandparents' farm. It is intriguing, in light of these interactions, to think about how being taught by the natural world changes the positionality of a child with respect to the other and potentially influences his identity development. How does Julian make sense of himself in a world where he is clearly not the biggest, tallest or obvious centre of the action? And further, how do the trees or chickens 'make sense' of Julian's interactions with them? It seems, through Julian's asking and comparing himself, that he leaves room for the trees and other beings to have agency and opinions in these interactions, and perhaps, as Taylor and Pacini-Ketchabaw (2015) suggest, to also learn. This becomes grounding for Julian to understand that he has a relational existence and that he is not the centre, and the environment is not simply a backdrop or playground (Baker, 2005; Mikaelis & Asfeldt, 2017). All these processes support the learner in developing careful observation and an awareness of others and their surroundings, and in moving toward empathy and developing an ecological identity.

Observation #3: Summer — Stawamus River; Julian is 2 Years, and Sidney is 8 Weeks

When it is getting close to dinner time, Julian spots some seagulls up in the sky flying in a flock towards the ocean.

'They are going home to roost,' he says, repeating what I have told him.

I take this opportunity from the seagulls to encourage Julian to go home.

'The seagulls are going home; it's time for everyone to go home,' I say.

'Why?' he asks.

I explain again and again as I pack up our stuff to head home.

As Julian's language develops and his understanding becomes more complex, another type of experiential learning slowly emerges, one that builds on embodied and sensory experience. This type of experiential learning we have slightly adapted from the critical theory variation drawn from Roberts (2008) in order for it to be applicable to Julian's age. For Roberts, experience becomes critical when we understand that the experience is not neutral; for adults and youth, this can mean that we begin to understand inequalities and power relations that operate in this experience. For Julian and

his mother, the experience of the seagulls flying overhead is not a neutral experience, in the sense that seagulls are not merely objects in the sky for Julian's amusement, but because the seagulls have agency, a sense of purpose, a home, feelings, and lives.

We see Julian's learning deepen as single experiences become ongoing encounters, and affordances move from solely physical possibilities — a log as something to jump from or seagull as something to name — to affording 'relational' learning opportunities — comparisons to the seagull's routines, caring for impositions placed on trees, and greeting the river as a friend. Like physical affordances, we think the potential for relational lessons from the environment may also be infinite. But for them to be actualised, it involves not just a mobility license and the right social affordances but time spent, the growing capacities and curiosity of the learner, and a responsive parent, one committed to ongoing encounters, preparations, and pushing back against social norms; in this case, by noting interest, by explaining when seagulls go home, by noting relatednesses, and by moving to act on the educational possibility when the moment is ripe.

In conjunction with the above, we see a burgeoning camaraderie with the seagulls. Julian in this example is comforted by the fact that he is not the only one who has to go home for dinner and bed. In this way, a relational existence begins to form with the seagulls, and Julian is coming to know seagulls in a different way. Wilson (1993) writes: 'it is through this other way of knowing that children come to better understand who they are in relation to the environment. They come to know that they are part of — not separate from — the natural world' (p. 7). An ecological identity emerges, as Julian begins to form a self and the boundaries are drawn around him and his identity; the boundaries are not just human boundaries (i.e., the social boundaries of his predominant cultural background) but extending to the more-than-human world as well. Wilson (1993) further tells us that 'the immediacy of the natural environment involves focusing awareness on the here and now and helps young children become more aware of their environment, which includes the self' (p. 4). This awareness helps Julian understand how he is interdependent with nature, and this may result in a 'greater respect for life and appreciation for other life forms and even other persons' (Miles, 1986–1987, p. 37).

Observation #4: Fall — Stawamus River; Julian is 27 Months, and Sidney is 5 Months

Yesterday we went to the Stawamus River, past the beaver dam. Julian rode his run bike down the trail past the beaver dam, stopping to pick up a large red maple leaf that had fallen to the ground. He asked me to hold it for him while he biked. Sidney was in the baby carrier on my front. The river was running a rusty orange colour from all the tannins in the leaves that had fallen and caught around the logs. Julian noted this. The river water is steeped in leaves like tea, I tell Julian.

In this observation, we witness Julian's growing independence, his ability to travel at a distance and not need constant and proximate supervision. Now this might be attributed to his increasing age, but it is also apparent that Julian has developed some superior observational skills. He is the first to notice the river and the fallen maple leaves. He is also usually the first to notice the moon, the first star, the orange sky and the sounds of an owl. It seems Julian is better at close observation of subtle change.

Carson (1998) helps us understand the role of the parent in Julian's observation skills; she speaks of a child's 'inborn sense of wonder' and tells us that if the child is to keep this magic alive he or she 'needs the companionship of at least one adult who can share it' (p. 45). The role of the parent in our current culture is essential for keeping this sense of wonder alive. Wilson (1993) tells us that 'in a society as we know it today, children do not automatically develop an awareness and appreciation of the natural

the world. There are, in fact many forces which tend to foster prejudice against nature rather than appreciation for it' (p. xi).

Later in Wilson's work (2012), she adds the concept of biophobia (or aversion to nature) and tells us that without frequent positive experiences with the natural environment, children are likely to develop fears, phobias and prejudices against nature. She writes: 'such attitudes and feelings can become major obstacles to later understandings of and respect for the natural world' (p. 87). In addition to children's biophobia, research has also identified parental fears as inhibitors to children's natural play (Bundy et al., 2011; Carver et al., 2008). Carver et al. (2008) suggest that parents restrict their children's outdoor play because of anxiety relating to road safety and 'stranger danger'. And we add to this, in places like the Stawamus River, parental fears can include cougar and bear attacks, along with swift-moving water. While these are safety concerns, the fear surrounding the possibility of them is most likely disproportionate to the actual risk.

While recent research suggests that the denaturing of children is due mostly to the vast amount of time spent indoors, owing to anxiety and fear surrounding outdoors, our suggestion is that we might also want to consider recognising: (1) the teaching role that the parent has in engaging the child's appreciation for the natural world, allowing his independence, and encouraging him to explore his own limits of safety; (2) the possibilities afforded, and the place and its denizens play in the development of an ecological identity; and (3) cultural norms related to learning, parenting, and the definition of the natural world that tend to undermine both (1) and (2).

Observation #5: Late October — Stawamus River

We walked closer to the river and squatted down by it. We spotted a salmon swimming up a narrow shallow tributary. She was so close we could see her rotting flesh and her hooked nose. We watched the salmon as it struggled up against the current splashing and flopping about and then resting for a minute or two when we could get closer to her. Julian seemed interested and a little scared by her. I explained that the salmon was swimming upstream to have babies (spawn) and then she will die.

'Why mama? Why will the salmon die?'

He seemed sad about it.

Days later, he keeps asking about the salmon and wants to go back to her.

In her article 'Is There a Place for Death Education in the Primary Curriculum?', Bowie (2000) tells us that our cultural avoidance of death seems at its greatest where children are concerned, even though research has firmly stated that children do understand death to varying degrees (Staudacher, 1987). Bowie (2000) writes: 'many adults do not feel it is an appropriate subject to discuss with them, either at home or in school. In a natural effort to protect or shield children from death, adults only succeed in heightening the fears and misconceptions which children can have' (p. 22). In contrast to how the interests and depths of thinking of young children are commonly understood, it appears that Julian is not only interested in a big idea like death, but that he also already seems to have some understanding thereof. The 'curriculum' of the natural world, which is an ongoing encounter with death and life, seems to necessitate that children as young as Julian are to be engaged with, and ready for, the concepts of death and dying.

Bowie (2000) further draws from Doyle's (1989) and Wells's (1988) research, noting that there are many benefits to be gleaned from addressing death as a natural part of life. She writes: 'Perhaps the most significant of these is in helping to allay children's fears about death' (p. 24). In addition, Holland (1997) believes the advantage in talking about death is that death can be incorporated into a diversity of topics, such as life cycles. Holland describes this as the proactive approach to help children 'reach a

greater understanding of death and loss [and] to achieve better coping mechanisms in preparation for their own inevitable losses later on in life' (1997, p. 45). This research on death maps onto a genuine interest of Julian's and tells us that there are clear ways the other-than-human teachers are able to position things in the context of cycles (e.g., salmon dying and spawning).

Within her 'dying and spawning', the salmon affords the opportunity of empathy and an ecological identity to emerge. Julian is developing an autochthonous empathy, an empathy that has developed between him and the salmon and that has been fostered by and developed in this place by the river. It arises as a result of immersion and interaction. This empathy for salmon does not appear to be the result of some abstract rule — the application of a golden one even — but one steeped in feeling. That differs substantively from a Kantian deontological ethical theory, a duty to the moral law. The conversation surrounding children's morality and the natural world is beginning to emerge in recent literature. Gurholt (2014) claims that identification with nature is seen to lead to empathy with all life forms, in ways that make moral rules and rational arguments redundant. She writes: 'consequently, identification is perceived to induce people to protect nature, not because they think they ought to but because they feel inclined to' (p. 234).

In addition, Chawla (2015) writes:

by including affiliation with other species as a Central Capability, Nussbaum introduced a rarely heard note to discussions on human well-being: that caring relations with nature are necessary not only because of the services that ecosystems provide but also because experiences of nature connection and concern for nature are part of a well-lived human life. (p. 445)

Further, Nussbaum (2011) tells us that 'natural areas are the only place where children can develop the ability to "live with concern and in relation to animals, plants, and the world of nature"' (p. 34). Along similar lines, Wilson (2012) defines empathy as 'the ability to identify with and understand the situation and feelings of others. The other can be another person, a group of people, other living things, as well as living systems, such as ecosystems' (p. 88). Past research has shown that children have a 'special affinity' and a 'primal seeing' that encourages their empathy toward nature (Pearce, 1992; Sebba, 1991). Wilson writes: 'These unique connections allow children to identify with and understand the struggles and needs experienced by other living things' (p. 88).

For Pelo, this kind of situated empathy is the cornerstone to developing an ecological identity. She writes: 'empathy sizes us in right proportion to others, not more-than, or better-than, or worthier-than, but connected by the shared capacity for joy and suffering' (2013, p. 147). Wilson (2012) also tells us that the early childhood years represent the first stages in the development of an ecological self or ecological identity. She writes:

While the ecological self is a part of who we are and a part of our identity that can expand and mature over time, it often remains unaddressed in discussions relating to child development. With growing concerns about the human / Earth relationship, this may be and should be changing. (Wilson, 2012, p. 87)

We can now begin to surmise that Julian's continuous engagement with the natural world through embodied play, questions, experiences, afforded opportunities, camaraderie, and the help of a parent willing to offer space and a somewhat non-conformist outlook has provided the fertile soil for this act of empathy and nascent ethic to emerge. The salmon is not an abstract object to Julian. He has been deeply immersed on a continual basis with the Stawamus River, given an extensive mobility license, engaged in the affordances offered, explored with his senses and his whole body, and guided by his

parent and nature. All of these factors, we think, helped to contribute to him developing a sense of empathy for this salmon in particular and an ecological identity in general.

The vast amount of time Julian spends outside in a more natural setting is fundamental to his developing ecological identity, but it is not the only contributor. Through the course of this paper and under the influence of these careful observations, we have considered and included the roles of an expanded concept of affordances, an encouraging culturally critical mediating parent, an active and engage-able natural world, an expanded freedom for the learner, and a rich experiential pedagogy. Lastly, as we have seen, learning takes time and the evidence is slow to arise. This is not a quick-fix educational project but maybe the return for all involved is worth it. And here, to end the article, is one last series of observations ...

Outside, Julian's play is permeated by the world: the changing river, the cold air, the vast large sky. His movements slow down, his concentration increases, and his speech becomes more articulate. Outside he senses the light and the temperature change from the time of day and time of year. As we approach winter solstice, each day gets darker earlier and the river forms ice, and Julian learns about the coming of winter. And then it slowly gets lighter. The sunlight starts to melt the winter's ice. The robins appear and he understands that soon he can go bare feet in the grass. Julian's senses are engaged and come alive in the outside world. The sounds are infinite and changing: we hear a group of Canada geese above and we copy their sounds. We listen to the creek as it pours over rocks, and we practise silence. We learn that it does not just make one sound but multiple sounds. Inside, Julian's sight is bordered by walls and illuminated by the fluorescent light. Outside, his sight travels across the lake and up to the expanse of the mountains and onto the moon, and way out into space to the stars and then back again to rest on the tiniest little snowflakes that lands on his mitt. There is a sense of depth and breadth to his world. Inside, he feels room temperature: the toys he touches, the carpet his feet are on, the air he breathes. Outside, he feels the warm sand on his feet and then the cool water circling his skin, dripping over his forehead, dying sunlight that changes the mountains gold to pink, as it sets behind them. In the winter, he feels the cold snow on his tongue and that feeling that is particular to walking on ice, a mixture of suspense, of unease, of balance, his toes alive in his boots, gripping with excitement for when or if the ice will break. He feels the time change, the temperature drop, he has a sense of direction, of space, of camaraderie, of belonging; he feels his spirit enlivened, his curiosity invoked. He has not yet seemed to grasp the concept of sharing toys, but he has seemed to develop a sense of care for the natural world and other species. I think he was concerned for that dying salmon and wanted to check on her. It is hard to articulate and it is very subjective, but his eyes are clear in the wild space of the Stawamus River.

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Author Biographies

Chloe Humphreys has a PhD in Philosophy of Education from Simon Fraser University. She lives in Squamish BC and is pursuing her postdoctoral studies in Philosophy of Education and Environment. She has recently become a mother of two boys, and spends most of her days with her children playing outside.

Sean Blenkinsop is a Professor of Education at Simon Fraser University. He can be reached at sblenkin@sfu.ca.