# Dynamic Horizons:
## A Research and Conceptual Summary of Outdoor Education

by Chloe Humphreys
with the support of the Council of Outdoor Educators of Ontario

**A COEO Publication**
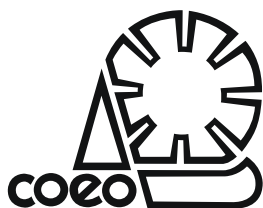
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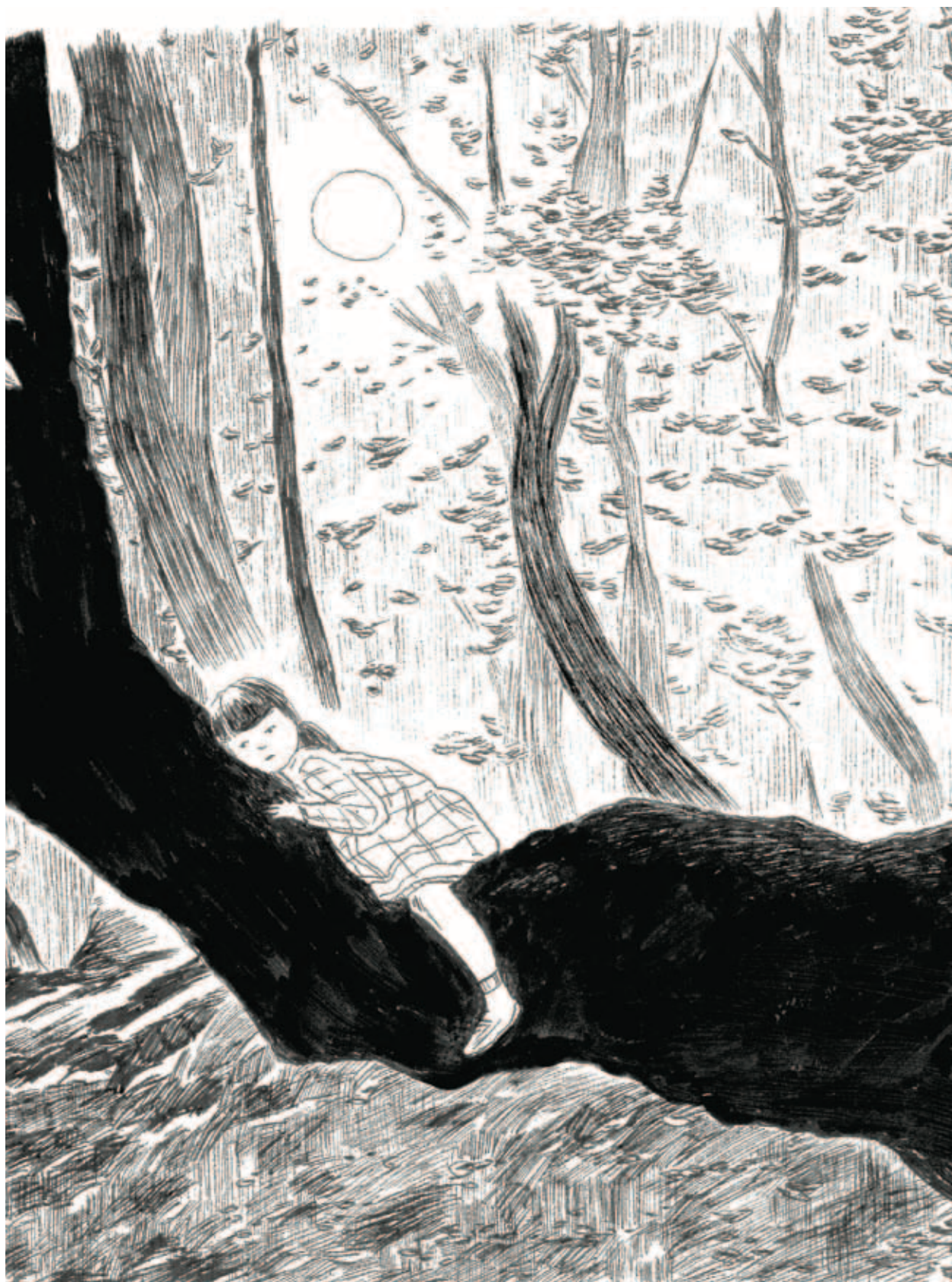
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Front cover artwork: Helena Juhasz
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# *Dynamic Horizons:*
## A Research and Conceptual Summary of Outdoor Education



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# INTRODUCTION

The Council of Outdoor Educators of Ontario (COEO) is proud to provide *Dynamic Horizons: A Research and Conceptual Summary of Outdoor Education*. This document has many grand objectives. Firstly, we hope to offer a follow up to the well received 2007 Research Summary compiled and edited by Andrea Foster and Grant Linney. This 2007 document was meant to support Outdoor Educators in promoting, defining and clarifying the role of Outdoor Education largely within the Ontario school system. It was and still is a grand success. Ten years later, times are different, the research arguably shows these differences and the audience of Outdoor Education can be widened as practitioners and academics alike are just as likely to go by professional labels such as nature or adventure therapists, place-based educators, forest school educators, ecological literacy educators and so on.

It follows then that a second objective, when speaking to this wider audience with an expanded mandate, is to present a wide range of research still under the four pillars central to COEO's understanding of Outdoor Education[1] :

- **Education for Curriculum**: The experiential nature of outdoor education relates curricula to real life situations and the complexities of our natural surroundings. In so doing, it provides a unique means of developing critical thinking skills and stimulating desirable attributes such as innovation and imagination. Outdoor education also broadens and deepens the knowledge base of all subject areas, and it can do so in integrated ways.

- **Education for Environment**: Outdoor education directly exposes participants to our natural environment in ways that engender personal connections, knowledge, skills and a lifelong environmental ethic. Outdoor education powers the realization that this ethic is applicable to the very life support systems of this planet, be they found in urban, rural or remote settings.

- **Education for Character**: The contexts, experiences and interactions of outdoor education provide opportunities for both personal and interpersonal growth. This includes the development of individual traits such as confidence, empathy, and a sense of responsibility, as well as the development of group skills such as effective communication and working together towards a common goal.

- **Education for Well-Being**: Outdoor education promotes the lifelong physical, emotional and spiritual wellbeing of participants. It provides safe skill development in outdoor activities that are personally fulfilling and environmentally sustainable. This includes pursuits such as hiking, camping, orienteering, cross-country skiing, snowshoeing, birding, art, photography, nature interpretation, tai-chi, and solo experiences.

We, the 2018 Research Summary Editing Committee (RSEC), hope the 2007 and 2018 documents can work together. The former serving primarily as an outcomes-based research report while the later broadens the attention to address emergent themes within a larger audience of Outdoor Education. These themes are housed under the umbrella of a whole-student approach to education, where knowledge, morals, and well-being are important and inherent in Outdoor and Experiential Education (OEE).

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[1] As found on COEO's website: www.coeo.org

Thirdly, Dynamic Horizons presents research and conceptualizations primarily generated over the last ten years. We have chosen to emphasize the results of the research and conceptualization, rather than elaborating on the methodologies used to reach those conclusions. We believe it is a matter of focus and emphasis. It will be easy to follow up with any particular research report to explore details beyond basic results. This document includes quantitative, qualitative and critical social theory research and also expands to include more conceptual works as valid and useful viewpoints to consider. Our intention is to offer both research results and conceptual work to advance an understanding of current directions in the practice and study of Outdoor Education. In short, we hope to reflect the current climate.

Perhaps obvious but worth noting, this document derives from reading and compiling research literature. It is not a commentary derived from observing specific or general programs and trends in the field of practice. There can be a disconnect in this regard between research and practice but ideally, and often, this isn't the case. The RSEC has worked diligently to include Ontario-specific research that examines best practice in OEE, while also allowing the document to fully reflect the themes present in the research compiled by the lead author. While the RSEC edited and wrote the introduction and conclusion, the primary investigator and author is Chloe Humphreys. We are pleased to acknowledge her massive undertaking and commitment throughout this long process of compiling, revising and editing. It has been both a pleasure and highly insightful working with her as she has driven our intentions in wise directions not always obvious to the RSEC. She is the author of this document. Suffice it to say, there has been a healthy maturation process for all involved with Chloe at the helm.

What follows are pertinent items you will note in *Dynamic Horizons*:

• We acknowledge and attempt to emphasize Indigenous scholars and scholarship. This is in keeping with the emerging attention to Indigenous perspectives in the Canadian Research (over the last 10 years), COEO's revised constitution to include Indigenous voices and the current socio-cultural climate of Settler/Indigenous Reconciliation;

• Research represents material post 2007, but not exclusively post 2007;

• Research reflects a conscious intention to showcase Canadian scholarship with a secondary goal to provide international research, thus multiple descriptors of OEE are present

• We have not shied away from critiques prominent in the research: colonization, cultural responsiveness and citizenship; program design, technology, risk tolerance and transference; gender and feminism; anthropocentrism and human/nature relationships. We acknowledge that "cultures evolve" with an advancing ecological imperative to challenge notions of status quo;

• Certain authors/researchers have crossed over into two or more of our central pillars. Wilson, Nisbet, Blenkinsop and colleagues, and Chawla stand out it this regard. This in part speaks to the fluidity of the four organizing pillars;

And finally, the RSEC is extremely grateful to all of the individuals who have contributed to this document. We acknowledge the incredible initiative of Grant Linney in both having presented the ideas of the 2007 and 2018 documents to the COEO Board of Directors. In both of these works, Grant has made

valuable and substantial contributions. The RSEC thank the COEO Board of Directors for their support of this project from the outset. We would also like to thank Chrismar, for their expertise with the production and printing of this document. Our deep gratitude goes to all of the researchers whose work is referenced within this document, including those involved in our initial request for research article suggestions (*see Appendix A*). And finally, we are grateful to you the reader, who, imagined as a floating collective, were always at the forefront of our thinking which made our work on *Dynamic Horizons* exciting to engage in.

Sincerely,

**The Research Summary Editing Committee**
Emma Brandy, Deb Diebel, Bob Henderson, James Innes, Grant Linney and Mark Whitcombe

## About the Author

Chloe Humphreys lives in B.C. and recently finished a postdoc in philosophy of education and environment. She teaches part time at a nature preschool and is also a mother of two young boys. She spends most days outside exploring nature with her children.

## About the Artist

Helena Juhasz lives in Vancouver with her husband and daughter where they love cycling and skiing in the surrounding mountains and exploring beautiful beaches. She is a children's book illustrator and author who regularly finds inspiration for her work in the forests around her and has exhibited her work in Vancouver and Seattle. Helena has made many contributions to *Pathways: The Ontario Journal of Outdoor Education* for over a decade and has contributed art to the book *Nature First: Outdoor Life the Friluftsliv Way* and the *Society of Childrens Book Writers & Illustrators* journal called *The Bulletin*. She has also worked as a mural artist. Check out her work at *helenjuhaszillustration.com*
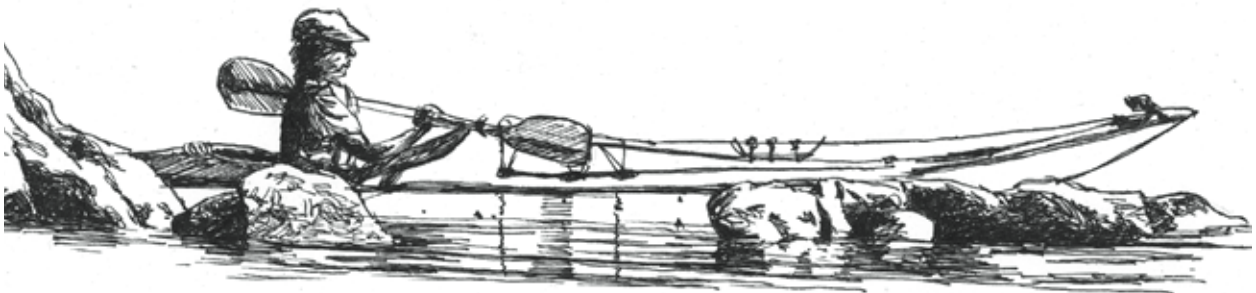
# CURRICULUM

*Many teachers, parents and students [and researchers][2] are responding to the perceived incompleteness of an educational project built more than a century ago. They are also responding to the challenges regarding global interconnection and environmental degradation by actively seeking thoughtful alternatives to the mainstream formal education system. It is to this demand that we believe the field of outdoor and experiential education can respond effectively in important ways, providing it understands what it has to offer. (Blenkinsop et al., 2016a)*

While there seems to be no clear consensus of what the term 'curriculum' specifically entails (Wiles, 2008; Kelly, 2009), research on this concept has provided numerous definitions. Kelly (2009) describes curriculum as the "totality of the experiences the pupil has as a result of the provision made" (p. 13), and Wiles (2008) adds that writers in this field have considered curriculum as a "set of school experiences" (p. 2). Further, research has suggested that curriculum be divided into four categories: the explicit, the implicit and the hidden, the excluded, and the extra-curricular (Kelly, 2009; Dewey, 1902).

According to the Glossary of Education Reform (GER)[3], an online database developed for the purpose of helping people understand concepts in education reform, the formal or explicit curriculum consists of the courses, lessons, and learning activities students participate in, as well as the knowledge and skills educators intentionally teach to students. More narrowly defined, explicit curriculum refers "to a planned sequence of instruction, a set of learning goals articulated across grades that outline the intended … content and process goals at particular points in time throughout the K–12 school program" (Reys et al., 2003, p. 75).

Gerald Lieberman's book *Education and the Environment: Creating Standards-Based Programs in Schools and Districts*, provides an example of the positive results that environmental education programs have had on explicit curriculum goals. In this book, Lieberman (2013) found data over several studies supporting the claim that students in schools and classrooms with environment-based educational programs performed at higher levels than their peers in traditional classrooms on standardized measures of academic achievement. His research indicates that this performance gap existed in English, Math, Social Sciences, Critical Thinking and many other classes (2013, pp. 211-220). Further links between intellectual achievements and environmental and outdoor education are explored in the Character section of this document. Given the breadth of discussion with these four categories of curriculum research, the main focus of this chapter will be the implicit (hidden) curriculum.

According to the GER, the implicit (or hidden) curriculum consists of the unspoken academic, social, and cultural messages that are communicated to students while they are in school;  it refers to the unwritten, unofficial, and often unintended lessons, values, and perspectives that students learn in school. An implicit curriculum can be further defined as something generated within the minds of individual teachers, and therefore not able to be replicated by others (Burton, 1998).

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[2] The author and editors have decided to make this inclusion.

[3] Glossary of Educational Reform can be found at http://edglossary.org

Additionally, the hidden curriculum is described as the things that students learn "because of the way in which the work of the school is planned and organized but which are not in themselves overtly included in the planning or even in the consciousness of those responsible for the school arrangements" (Kelly, 2009, p. 13). It is important to note that the term 'hidden curriculum' is not necessarily negative. The GER suggest that a hidden curriculum can reinforce the lessons of the formal curriculum, or it can contradict the formal curriculum, revealing hypocrisies or inconsistencies between a school's stated mission, values and convictions, and what students actually experience and learn while they are in school. In OEE, there are many ways in which the hidden curriculum reinforces the intended lessons of the formal curriculum.

In his book *Earth in Mind: On Education, Environment and the Human Prospect*, David Orr (2004) noted that all education is environmental education by what it includes or excludes and that the way we learn is as important as the content. While written almost three decades ago, Orr's sentiments are perhaps even more imperative for today's educational climate. OEE is well poised in this era of mass ecological disaster in that its curriculum is both outside and experiential; in other words, OEE curriculum focuses not just on what is taught but in the way it is taught. Nicol (2014) writes "unlike most other forms of education, outdoor education is ideally placed to deal with the problems brought about by 'nature deficit disorder' because quite simply the experiences are already nature-based" (p. 457)[4]. In addition, Higgins (2009) believes that "to make experiential education relevant to the needs of modern society, a focus on education about and action on the big issues of the days (e.g., global climate change) is an imperative that outdoor educators are well equipped to address" (p. 44)[5].

Roberts (2008) suggests that around the middle of the 20th century, experience became central to the educational process along with the importance of the outdoors as a meaningful resource for learning. There has been a recent swell of OEE programs (Waite, 2013)[6] and now OEE is variously described as outdoor education, experiential education, environmental education and more recently, place-based education (Roberts 2008). For the purpose of this section on curriculum these different names will be used interchangeably.

Some of the literature emphasizes the problems associated with the narrow definition of experiential education as 'learning by doing' and highlights the need for a more in-depth definition within the field (Higgins, 2009; Roberts, 2008; Roberts, 2012; Blenkinsop, 2016b).  In an attempt to strengthen our understanding of experience in education beyond the simplified definition of 'learning by doing', this section provides a brief summary of the current themes and definitions of experiential education. This section adapts Roberts (2008) variations of experience, to suit the rich and varied research on OEE, and identifies four new variations of experiential learning:

• Learning by Doing and Lived Experience
• Interactive Experience , Continuity, and Respect

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[4] Nature Deficit Disorder is an expression timely coined by journalist/researcher Richard Louv in 2006 in his seminal book *Last Child in the Woods*.

[5] See Puk and Stibbards (2010) and Puk and Makin (2006) for a critique on Ontario teachers' preparedness in teaching ecological concepts in the outdoors .

[6] Waite is referring to a swell of OEE programs internationally with particular attention to UK based programs.  Research suggests that implementation of OEE in the current Ontario public education context can be challenging (see Tan and Pedretti, 2010).

- Decolonization and Place-Based Education
- Technology and Experience-Based Learning

What follows is a consolidated description of the key elements of each variation of experience.

## *LEARNING BY DOING AND LIVED EXPERIENCE*

While some research critiques 'learning by doing' to be a simple understanding of experiential education (Roberts, 2008; Roberts, 2012; Blenkinsop et al. 2016b), it is important to not discard the concept entirely. Early childhood environmental educator Ruth Wilson explains that learning by doing is a fundamental part of experience-based learning and an essential part of the curriculum for early childhood educators:

> *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)*

Wilson affirms the value of learning through exploration for a young child and not through naming and explaining. She writes that "most early childhood educators realize such a desire [about nature] is fostered by opportunities to explore and discover, not [by] being taught facts about nature" (1993, p. 4). Wilson further warns us of 'the dangers of an intellectual approach' for young children. Drawing from Elkind, she tells us that preschool educators have long recognized the problems of an 'academic approach' even to the point of labeling such an approach as 'miseducative' (Wilson, 1993).

That idea 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, 2012; Pelo, 2013; Wilson, 1993). Rachel Carson, marine biologist, conservationist, and author, believes that the emotions and the impressions of the senses are the 'fertile soil' that later produce wisdom (1998). Through immersion and 'embodied experiential learning' a child can develop an understanding that they exist in relation to the natural world and the environment is not a separate entity from them (Carson, 1998; Wilson, 2012). 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 begin to develop a sense of wholeness and connectedness with all living things" (1993, p. 10).

Dovetailing the concept of learning by doing is the concept of lived-experience. The philosophy of lived experience developed as a response to the traditional Western scientific view that characterizes the world in terms of oppositions: mind and body, object and subject, reason and emotion, humans and nature, us and them, (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) understand that knowledge and our existence are dependent upon sensory experiences (Husserl, 1958; Abram, 1996). This idea is articulated in David Abram's (1996) book The Spell of the Sensuous. He writes that "our bodies have formed themselves in delicate reciprocity

with the manifold textures, sounds, and shapes of an animate earth" (Abram, 1996, p.22).

A common critique in the current literature about OEE is that programs can omit the environment from the experience in favour of personal development goals through adventurous activities (Wattchow and Brown, 2011; Nicol, 2014; Mikaels & Asfeldt, 2016; Lowan, 2009, Grimwood, 2016; Cosgriff et al., 2009 and more). Further, Cosgriff et al. (2009) argue that "outdoor programs have historically been built around masculine competition where goal-oriented heroic quests against nature are the norm" (p. 19). Understanding the world in terms of 'lived-experience' is an important way of approaching this critique. As an alternative to understanding the world as separate from the self, or self vs. nature, many experiential theorists and environmental educators, like the phenomenologists above, understand that our bodies, our senses, and our existence are primarily connected and dependent upon the outside world (Plumwood, 2002). Higgins (2009) writes that, "without plants…we would not have air to breathe…our relationship with the atmosphere is intimate and yet the fundamental purpose of photosynthesis is taken for granted" (p. 55). In other words, the culturally and educationally imposed separation of humans and nature contributes to a general ignorance about the importance of the natural world for human existence. Takano et al. (2009) keep these ideas current when they write, "education, especially school education, usually reinforces mainstream culture and values (Bourdieu and Passeron 1970/1994) and is considered partly responsible for maintaining the dominant worldviews and causing and maintaining 'unsustainable living' (Orr, 2004; Sterling 2001b)" (p. 344).

The idea that mainstream education maintains a dualistic split between nature and self thus, fostering a disregard for the environment, is espoused by several philosophers of education: Beery and Wolf-Watz, 2014; Bai, 2009; Hung, 2008, Bonnett, 2003, Kurth-Schai, 1992, Clarke, 2014 and more. Recent research has explored the concept of 'embodiment' and 'becoming' within outdoor education in circumventing this nature/self split.   For example, Humberstone (2011) highlights the sentient nature of embodiment in physical sports in the natural world. She explores the ways that "body and sense feed into the emotions through physical activity in the natural environment and the notion of oneness with nature" (2011, p.495). The idea of embodiment has been further developed within the concept of 'becoming' (Clarke & McPhie, 2014; Mikaels & Asfeldt, 2016). For example, Mikaels & Asfeldt (2016) describe the experiences of one of their students on a month-long journey course, in which a student experienced "a sense of unity between the body, canoe and river" (2016, p. 7). They postulate that the "paddle and the canoe work as an extension of the body creating a link between the human body and the water" (Mikaels & Asfeldt, 2016, p. 7). Drawing from Deleuze (1990), they suggest that there is a 'becoming with' the river and the river 'becoming-with' the student. This idea is more thoroughly explained in the 'Environment' section (see page 29).

## *INTERACTIVE EXPERIENCE, CONTINUITY, AND RESPECT*

In addition to lived experience, Roberts (2008) asserts that interaction, continuity and respect are important components of experiential learning. While learning by doing and learning through the senses are vital elements of development for young children, beyond the early learning years research has found that experiences must be more than immediately enjoyable in order to promote future learning (Nicol, 2014; Blenkinsop et al., 2016; Jonas, 2011; Rubens, 1997; Dewey, 1963; Higgins, 2009). In his article "Entering the fray: The role of education in providing nature-based experiences that matter" Nicol (2014) tells us that outdoor education must consist of more than "high thrills where there is little opportunity for students taking responsibility for their own learning" (p. 455). Albeit enjoyable, he argues

that these experiences may become 'stand-alone' or 'isolated' from learning contexts. In addition, Jonas (2011) informs educators that, on the one hand, the curriculum must be of interest to the students while on the other hand, he warns of 'sugar coating', which "may make the curriculum pleasurable to the students in that they will have temporary enjoyment, but it will not produce lasting interest, and therefore no learning" (p.119). This is further supported by Rubens (1997) and Higgins (2009) when they distinguish between 'narrow adventure' and 'broad adventure experiences' : "Narrow adventure experiences are short-duration activities that focus on high thrills (zip wires, ropes courses, abseils/rappels) but require little effort from students who take little responsibility for their actions" (Higgins, 2009, p. 52) . On the other hand 'broad adventure experiences' require "students to take responsibility for their actions later in life" (Higgins, 2009, p. 52). These broader experiences include journeys by canoe or on foot and encourage a "willingness for students to take responsibility for their actions" (Higgins, 2009, p.52).

Further, John Dewey, influential philosopher, psychologist, and educational reformer stated that "the belief that all genuine education comes about through experience does not mean that all experiences are genuinely or equally educative" (1963, p.25). For an experience to be educational, Dewey (1963) believed that certain parameters had to be met; the most important is that the experience has continuity and interaction (Nicol, 2014). Continuity is the idea that the experience comes from and leads to other experiences, propelling the person to learn more. Interaction is when the experience meets the internal needs or goals of a person (Nicol, 2014). Learning is likely to occur if the nature and character of experiences are continuous—there is a purpose, and a revisiting of the experience afterwards (Nicol, 2014). Further, Blenkinsop et al., (2016b) claim that for an outdoor program to be continuous and interactive, the educators must connect the lessons to the learner's present realities and make obvious the relevancy of the topic to the learner's future, or else risk it being little more than a 'one-off experience'. In support of this, Nicol (2014) writes, "this helps to discriminate between experiences that are isolated and whimsical from those with direction and purpose" (p.455). Dewey, according to Nicol (2014), believes that experiences should arouse curiosity, and that the desire to learn more produces further desires. Nicol writes, "the experience becomes a 'moving force' shaped by previous experiences and shapes the choice and nature of future experiences. Through sustained interest, therefore, the learner becomes more responsible for their own learning … " (2014, p.456).

Further, Dewey's idea that learning does not happen merely for learning's sake but that knowledge has moral consequences that demand social action (Dewey, 1963; Roberts, 2008) has important implications for outdoor education because learning with and from the outside world also entails having an environmental ethic. An environmental ethic in experiential learning includes the concepts of responsibility (Higgins, 2009) and respect (Lowan, 2009). Responsibility involves "raising the awareness of the consequences of our actions" and is "pertinent to the big issues of the modern world such as sustainability" (Higgins, 2009, p.52). Experiential education, especially in the outdoors, provides a way to evoke attentiveness towards the environment (Higgins, 2009). This is further summarized in Higgins' (2009) conclusion, in which he writes:

> My own priorities ensure that a central focus of these Real and relevant issues is global environmental sustainability, and my approach is to encourage students to develop Relationships with place, people, and planet, and to help them develop confidence and drive to take Responsibility for their actions. (p. 57)

While Higgins (2009) emphasizes responsibility for the environment, Greg Lowan, a Metis scholar and educator, emphasizes respect. In particular, Lowan (2009) differentiates between the Western concept of stewardship and the Indigenous concept of respect for land. The Western concept of environmental stewardship positions humans as custodians who are separate from the natural world (Merchant, 2004). In contrast, "most Indigenous cultures' epistemologies situate humans as part of the natural world" (Lowan, 2009, p 49). This is articulated by Pepper and White (1996), who write:

> First Nations people who continue to rely on traditional values and institutions look at the world and see themselves as a part of it—see themselves in a caring and supportive relationship to all human beings. They feel the earth is the source of life and give reverence to the earth and to the wonders of life coming from Mother Earth. They give spiritual regard and respect to the animals, the plants, the land, and to the universe. They feel related to everything and everything is a part of them—all things are connected. They see beauty everywhere. They respect themselves and others. (p. 5)

Respect is a fundamental part of the curriculum at the environmental, place-based, Indigenous Russian Mission School in Alaska, where a core part of their curriculum is subsistence activities (like hunting, fishing and berry picking). The Yup'ik students in Alaska traditionally believe that hunted animals would be born again if their souls were treated with respect. Takano et al. write "animals and fish are believed to give themselves voluntarily to humans who are aware of the rules of the proper relationship between humans and animals and humans and humans" (2009, p. 348). They further write that "this principle calls for humans to take responsibility for caring for the environment and all the elements of nature, including fire, rivers and rocks … The land that cares for humans must be cared for in return" (2009, p. 349). The notion of respect is linked to sustainability in the Yup'ik worldviews and is cultivated at this place-based school.

## *PLACE-BASED EDUCATION AND DECOLONIZATION*

A large portion of the recent literature focuses on social justice issues within OEE. In particular, the research questions the assumed neutrality within experiential learning. In other words, it highlights the idea that nature is not an empty wild space but experiences in nature are always political, social, and historical. Two themes are discussed that pertain specifically to Canadian educators: place-based education and decolonization. Place-based education (PBE) is commonly understood as one or more of the following:

• a series of visits to one locality;
• a diverse, participant-directed, experiential approach to understanding the place – through ecology, cultural history, geology, geography, place-names, story, interactions with local community, work projects and more…;
•  an action research approach, where students direct and shape their own learning, contributing to the place in various immediate or long-term ways. (see Waite, 2013, p. 415 and Harrison, 2010, p. 7)

A core tenet of PBE is that it "prepares students for lifelong learning in the world better than decontextualized education" (Waite, 2013, p. 415). Sobel (2004) writes "emphasizing hands-on, real-world

learning experiences … increases academic achievement, helps students develop stronger ties to their community, enhances students' appreciation for the natural world, and creates a heightened commitment to serving as active, contributing citizens" (p. 7). An important feature of PBE is that it connects children to their local places and communities, a connection that studies have found essential for many children's success in schooling (Nixon & Comber, 2009).

More recently, PBE research has notably expanded the concept to include the importance of the socio/cultural/historical/political aspects to place, and emphasize decolonization as a core tenet (Scully, 2012; Greenwood, 2009). Colonialism refers to the process by which "European rule was expanded globally over many hundreds of years" and denotes the practice of "political, economic, social, and cultural oppression of one people over another" (Scully, 2012, p. 151). Kulchyski (2005) writes that, "colonial power can be identified with any process that 'totalizes', working to reshape Indigenous peoples and their Lands so that they will come to embody and reflect the colonized" (p. 17). Scully (2012) refers to Battiste's (1998, 2000, 2005) problematization of "the many sites of Euronormative colonialism that remain explicit and hidden in the Canadian education system" (p. 151-152) and echoes Battiste's call for educators' and the curriculum's "acknowledgement of relation to place as an important site for cross cultural understanding" (Scully 2012, p. 151; see Battiste et al, 2005, p. 8). Further, Scully writes:

> One of the legacies and continuing practices of colonialism in Canada is the continuing perception that the land is separate from people instead of 'emphasizing the relationality and connectivity that comes from living together in a place for a long time' (Donald, 2009, p.6). (2012, p.152)

Greenwood (2009), formerly Gruenewald—a leading thinker within PBE - suggests that "place consciousness provides a frame of reference from which one can identify, and potentially resist, the colonizing practices of schooling" (2009, p. 271). Further Greenwood believes that the terms 'multiculturalism', 'diversity', and 'culturally-responsive' teaching become abstract, if not meaningless, if they are not contextualized—in other words, if they are not rooted in place. For Greenwood, the concept of place, when informed by social justice, can incorporate the notion of culture and cultural difference in the lived experience of people in their diverse and unique environments. Places are not wild empty spaces separate from people, but people are shaped by places and people shape places. This concept has important implications for outdoor education's curriculum : recognizing that people and cultures are place-makers means developing curricular connections with diverse places that allow students to learn from them (Greenwood, 2009). Spending time in places, studying and becoming acquainted with places, using the outdoors as a 'text' of cultural history, becomes an important pathway in undoing social injustice within the curriculum because, as Greenwood (2009) tells us, culture is rooted in place.

Greenwood (2009) explains that "teaching 'diversity' to predominantly White teachers and teacher education students is a delicate challenge that is often met with resistance, especially by some White students who frequently believe that racism and prejudice are ancient history" (p.272). Therefore, he argues for a 'critical pedagogy of place' that has two fundamental goals for education: decolonization and reinhabitation. Decolonization seeks to undo the damages done by multiple forms of oppression and recognize ways of thinking "that injure and exploit other people and places"; reinhabitation asks us to learn how to live well together in a place without doing damage to others, human and non-human and "identifying, affirming, conserving, and creating those forms of cultural knowledge that nurture and protect people and ecosystems" (Gruenewald, 2003, p.9). Greenwood (2009) tells us that, for teach-

ers, this translates into a set of questions they can ask themselves and their students: What is happening here?; What has happened here?; What should happen here?

In her article "The whiteness of green: Racialization and environmental education", McLean (2013) writes, "as educators seek to build integrated social and ecological justice programs, it is essential to frame curricula…" by focusing on "the impact of white-settler colonialism on Indigenous Peoples and their territories in order to create an anti-colonial pedagogy of the environment" (2013, p. 361). Decolonization is becoming a core tenet of PBE, particularly within Canada where the erasure of First Nations, Metis and Inuit peoples (FNMI) from the curriculum, including the lack of acknowledgement of FNMI land where outdoor programs take place, is a part of the hidden curriculum (Root, 2010; McLean, 2013). McLean (2013) suggests that many outdoor education programs are "problematically inviting students to 'reconnect with the land' without incorporating an analysis of the violent history that led to white-settlers' illegitimate occupation of Indigenous territories" (p.355). McLean (2013) further suggests that "this research will contend that whiteness as innocence is a national discourse reified by environmental programs" (p. 355). To incorporate these stories of trauma into OEE practice would be to address the idea that areas of wilderness are not simply empty spaces void of human history. Through PBE, educators can come to understand and address the problems of colonization by incorporating historical and contemporary traumas suffered by FNMI in those particular places.

In her article, "This land is our land? This land is your land: The decolonizing journeys of white outdoor environmental educators", Root (2010) suggests that white outdoor educators should begin a decolonization process, which involves undoing biases, undoing ignorance, or lack of knowledge, recognizing privilege, and in turn increasing knowledge of Indigenous cultures. Root (2010) proposes that spending time on the land with Aboriginal[7] people and acknowledging that the land on which we live, travel, and teach is Aboriginal traditional territory, serve as experiences that could decolonize the mindset of outdoor educators. The hope is that participants working with these educators begin to appreciate an Aboriginal world view and understand their interconnectedness to the rest of nature, their dependence on the Earth for life sustenance, and the link between their impact on the natural world and on Aboriginal cultures (Root, 2010). Examples of this can include visiting Aboriginal communities where students can come to learn about the complexity of Aboriginal land issues. Decolonizing experiences can also be achieved when students are introduced to Aboriginal land justice issues in their local communities (Root, 2010).

In terms of Indigenous education programs, Lowan (2009), in his article, "Exploring place from an Aboriginal perspective: Considerations for outdoor and environmental education" writes, "educational scholars of decolonization (e.g., Battiste 1998, 2005; Simpson, 2002) emphasize that Indigenous education programs must be designed from an Indigenous perspective" (p.49). Further, he adds that instead of "seeking personal and group challenges in a forbidding wilderness, perhaps the overall goal of a course could be to deepen students' connection to their ancestral land while imparting traditional skills and knowledge" (Lowan, 2009, p.50). Lowan suggests that "re-evaluating curriculum design from an Aboriginal perspective would help Outward Bound Giwaykiwin's program to further support decolonization and cultural revitalization efforts" (2009, p.50). In addition, many scholars (e.g. Simpson 2002; Battiste, 1998, 2005; Graveline, 1998) emphasize the value of including Elders in Indigenous education programs. Lowan (2009) and Simpson (2002) believe that Elders provide support for students and for

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[7] The treatment and use of the terms Indigenous and Aboriginal and FNMI are consistent with the cited authors use and treatment of these terms.

instructors. They describe how important it is that Elders are regularly included in program offerings, and that this continuity of presence encourages the Elders to teach in a more relaxed and traditional way (Lowan, 2009).

An example of positive effects that a place-based outdoor school has had on Indigenous students is the Russian Mission School in rural Alaska. The school provides repeated prolonged and extensive outdoor experiences throughout the school year. A report based on findings from the years 2002-2007 found that this place-based school has "resulted in raising pupils academic skills and confidence and seems to be bridging a distrust between the school and the community" (Takano et al., 2009, p. 343). Further the principal indicated that "objectives in academic achievement, local subsistence skills, pride in the school and personal growth had been met to a considerable degree" (Takano et al., 2009, p.359). The principle also felt that the students' connection to the land was improving "as they felt part of the land: they understood its importance and need to care for it" (Takano et al, 2009, p.359).

Connection to the land is of central importance to the decolonization project within PBE. According to Root (2010), Graveline (1998), Settee (2000), and Simpson (2002), colonization not only exploits Indigenous peoples but also the land on which Indigenous peoples sustain themselves and have sustained themselves for thousands of years. In this way, social justice critiques of colonization of Indigenous peoples are intimately connected with the land. Consequently, educators and the curriculum cannot begin the decolonization process without considering the injustice inflicted on the land, upon which our existence depends (Root, 2010; Graveline, 1998). Indigenous scholars such as Battiste and Donald (2009) believe that local, place-based education is the "best way to learn about and from Indigenous peoples and places in the interests of social and ecological justice" (as cited in Scully, 2012, p.156).

Although there is much more to explore regarding decolonization in education, we will conclude this section, and wish to note that the concept of decolonization and land is further explored in the Environment section of this document.

## *TECHNOLOGY AND EXPERIENTIAL LEARNING*

With the rapid advancement of technology, there has been an increase in research concerning the use of technology within OEE. The research concerning technology and curriculum is both rich and varied; however, given the scope of this document the discussion will be kept brief. A considerable amount of research has identified benefits to the use of technology with learning outcomes[8]. A recent study of two fifth grade classes at an elementary school that investigated technological support for experiential learning, found that "mobile technologies are effective in improving knowledge creation during experiential learning" (Lai et al., 2007, p. 326). In particular, this study found that mobile technologies "afford real-time information whenever and wherever learners need it" (Lai et al., 2007, p. 326). Further, the research suggests that "mobile technologies 'afford' rapid access for note taking", including digital photos and audio/visual recording (Lai et al., 2007, p. 328). Beyond knowledge creation, however, the study indicated that mobile technologies were not helpful in sustaining students' interests in the subject matter. The authors of the study warn that students should "not substitute mobile technologies for sensory experience thereby neglecting the authentic nature of experiential learning"  (Lai et al., 2007, p. 335). Finding similar conclusions to Lai et al. (2007), Kurti et al. (2007) claim that even though children are interested in using mobile technologies in learning activities, "children paid more attention

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[8] See Hsi, 2003; Sharples et al., 2005; Lai et al., 2007; Kurti et al., 2007; Land & Zimmerman, 2015

to real–life situations rather than computer-generated content and characters" (p. 390). The authors of this study also advise that "mobile technologies should not be regarded as stand-alone activities, as they should be a part of well-developed educational flow that is also combined with traditional ways of teaching and learning" (Kurti et al., 2007, p. 390).

The results of Land and Zimmerman's (2015) study found that pedagogy using mobile devices to support science education can enhance children's learning experience in the outdoors. Past studies also support the claim that mobile technologies enhance learning achievements (Hsi, 2003; Sharples, 2005). While studies indicate that learning achievements are enhanced with the use of mobile technologies, the effect technologies have on children's connection to other humans and non-humans must still be considered. A study in California focused on the nonverbal emotional cues of fifty children in sixth grade who spent five days camping without screens. The psychologists of this study assessed the campers before and after the trip. They found that "in five days of being limited to in-person interaction without access to any screen-based or media device for communication, preteens improved on measures of nonverbal emotion understanding, significantly more than a control group." (Uhls, 2014, p. 391). This information leads educators to further contemplate the effects mobile technology has on a student's ability to care or empathize with the human and non-human world.

The effect that technology has on our relationship with the natural world is studied largely within the field of environmental philosophy. In Martin Heidegger's book *The Question Concerning Technology* (1977), he distinguishes between modern technology and the technology of ancient Greece. While Heidegger's analysis of technology is beyond the scope of this summary, he does draw our attention to different types of technology and how they affect our relationship to the natural world. For example, technology can frame the natural world as an 'instrument' to be used by humans. This instrumental view disregards that beings in nature have intrinsic value, agency, or purpose, and are something on 'their own terms' (Sitka-Sage et al., 2017). While Heidegger's book was written well before the advancement of mobile technology and social media, it has led outdoor educators to question whether modern technology encourages people to become involved in outdoor activities or works toward the separation of humans from the rest of nature (Cuthbertson et al., 2004).

Paralleling Heidegger (1977), Cuthbertson et al. (2004) distinguish between 'traditional' and 'modern' technology in outdoor education and argue that the differences between these two affect the experience of participants. They suggest that a key component within traditional technology is that it has an element of wildness (Horwood, 1991).  Horwood writes:

> The primitive quality of wildness also provides for simplicity in everyday acts and materials. Bannock baked on a stick is wilder than when baked in a reflector oven. Labrador tea is much wilder than instant coffee. This is not to oppose technology, but rather to choose, always, those techniques which are simplest and most direct. (as cited in Cuthbertson et al., 2004, p. 135)

 Additionally, Cuthbertson et al. believe that the simplicity of traditional technology:

> … by its very nature and design necessitates an engagement with the land. The collection, manipulation and use of natural materials (e.g., for crafting,

*consumption and cooking with fire) fosters the use of multiple senses and can increase a student's knowledge of a local bio-region. (2004, p.138) Modern technology, on the other hand, "often aids practitioners in reaching newer accomplishments that might not otherwise be realized without that technology" (Cuthbertson et al., 2004, p. 135) and seeks to increase efficiency, control, and ease for its users.*

Further, Ursula Franklin, research physicist, educator, and author of *The Real World of Technology*, highlights the idea that technology is not a set of neutral tools; rather, technology has different social and political effects. Like Cuthbertson et al., (2004) above, Franklin (2004) distinguishes between holistic technology, in which the user maintains control and the technology employed helps to further the task, and prescriptive technology, which replaces people, their work, and/or their experience. Such distinctions are applicable to OEE in the current climate of pervasive mobile technologies. Holistic technology assists the learner by enhancing  students' sense experience and autonomy in learning. Prescriptive technology, on the other hand, replaces sense and lived experience with technological experience. In a similar line of thought, Louv (2016) advises parents and teachers to make a distinction between when children and youth are 'creating' with these devices and when they are being 'consumed' by these devices.

While further research on mobile technology and connectedness to nature is needed, the results of a study by Crawford et al. (2017) of 747 children showed that a mobile application was just as effective at connecting children to nature as traditional ways of non-formal environmental education.  According to Crawford et al., "the mobile application offered additional benefits such as higher ratings of fun" and was found to "impart flora/fauna/ecological knowledge" (2017, p. 959). On the other hand, there is empirical evidence to "suggest that the increasing use of modern technology in outdoor recreation diminishes humans' emotional attachments to the natural environment" (Cuthbertson et al., 2004, p.138). A student who learns the use of simple technology and good technique will also develop a better understanding of the wilderness and real living skills (Cuthbertson et al., 2004, see also Conver and Conver (1995)). This engagement encourages "a sense of reciprocity with nature and can ultimately form a deep relationship with the land" (Cuthbertson et al., 2004, p. 139; see also MacEachern, 2000). Further, Cuthbertson et al., (2004) write, "If a technologically mediated nature is all we come to know, we risk eroding direct, meaningful engagement with nature, the very essence of natural experiences we so eagerly seek for our students" (p. 142).

Nonetheless, in discussions concerning technology, it is important not to romanticize an idealistic return to nature that is not mediated by technology; this would be misguided. Technology is a part of humans (Haraway, 1991)—eyeglasses, asthma inhalers and even antibiotics. And technology is a part of outdoor activities—backpacks, binoculars, and belay devices. Further, technology can aid children with diverse needs in accessing and being comfortable in the outdoors (Louv, 2016).

Cuthbertson et al., (2004) believe that it is necessary for outdoor educators to realize that the equipment they use whether it be "traditional, modern or a mixture of both each will convey unique underlying messages to participants and will have implications for student learning" (p. 142). Cuthbertson et al. (2004) further recommend that educators consciously reflect on the use of technology in conjunction with the program's goals.

In light of the above section concerning 'lived experience' and 'respect' Franklin (2004) and Heidegger's (1977) books generate further questions for outdoor experiential educators to reflect upon: Are students' sensual and lived experiences assisted or replaced by the use of technology? Or ultimately, given that the most critical issue for educators is educating the world's citizens about our relationship to Earth (Palmer, 1998; Takano et al., 2009), what effect does mobile technology have on children's sense of respect, responsibility, and care for the environment?

## GENDER AND FEMINISM

Gender and the role of women in outdoor education and leadership has been an increasing area of discussion over the past ten years. The current research reflects that even though women have been an integral part of the OEE profession for many decades, women remain dramatically underrepresented in terms of career, prestige, academic footprint, leadership roles, and appreciation of their distinctive contributions to the discipline (Gray, 2016). Tonia Gray, a prominent Australian researcher on this topic, suggests that the source of the problem is complicated: women in OEE do no often find explicit opposition or obvious prejudice, instead the obstacles are invisible and the hidden biases that prevent women's progress appear to be gender neutral. Gray cites the example that not a single woman is mentioned in Wikipedia in the OEE field. She argues that a blind spot within the field is evidenced in the public representation of leadership in OEE (Gray, 2016).

Gray (2016) argues that the OEE curriculum, in principle, is behind gendered equity but women need to demand that the principle be put into practice by calling out biases wherever they see them. This includes understanding how they may become complicit through a willingness to submit to the dominant male voice and working to understand what causes people to tire of feminism. Gray (2016) argues that women remain under-recognized and invisible within OEE and she challenges the long-held assumptions that OEE is an inclusive, democratic, and egalitarian curriculum.

Adding to this notion of invisibility of women within OEE, Grimwood (2016) argues that an ironic legacy resulting from gendering nature is that although women are seen as akin to nature, outdoor activities and pursuits have historically been masculinized. For example, using 'mother nature' or referring to the environmental degradation in terms of violent sexual acts are ways that we perpetuate this notion of nature as female. Grimwood (2016) writes, "the historical development of nature-based pursuits has tended to promote a masculine persona with women's involvement trivialized or rendered invisible" (p.19).

While globally, opportunities for women to flourish in the OEE field are limited, there have been prominent female role models in the Ontario context. Mark Whitcombe, an experienced practitioner and administrator with the Toronto District School Board in Ontario observed that:

> Women were more than half of the staff of 100 that I served, including more than half of the ten site supervisors. Our Ontario history is replete with shining foundational beacons such as Dorothy Walter, Jean Wansborough, Blanche Snelle, Jan Stewart, Zabe MacEachern, Deb Diebel, Pam Miller — and so many more. This variance of Ontario comes from a number of sources, including the emphasis on elementary-focused day centre experiences across most boards that actually offer programs, in the

> *stronger environmental focus across the province, in the greater focus on*
> *social and personal learnings, and in the relative increased acknowledge-*
> *ment and weighting on the informal and the hidden aspects of experience.*
> *(M. Whitcombe, personal communication, February 18, 2018)*

At the time of writing this research summary, Gray and Mitten (2018) have a book in press titled "*The International Handbook of Women in Outdoor Learning*".  In Gray's words:

> *This book celebrates the richness of knowledge and practices of women*
> *practitioners in outdoor learning environments. Women scholars and*
> *practitioners from numerous fields, such as experiential outdoor education,*
> *adventure education, adventure therapy, and gender studies, explore the*
> *implications of their research and practice using poignant examples within*
> *their own disciplines. (T. Gray, personal communication, February 17, 2017 )*

It is clear that this area of research is receiving quite a lot of attention. This document hopes to push practitioners and researchers towards the Handbook mentioned above to gain a deeper understanding of the complexity of women in OEE.

To conclude this section on Curriculum, Blenkinsop et al. (2016a) ask, can outdoor education become the locus of cultural change, evolving from a culture that is anti-environmental and based on efficiency, control and capital to an "as-yet-undefined more ecological version?" (p. 146).  This requires a change in both curriculum and pedagogies. Nicol (2014) writes, "that unlike most school teachers most outdoor teachers, do not have a set curriculum and nor are their learners tested on what they have to learn" (p. 458). In this sense, Nicol (2014) believes that there are no 'major obstacles' prohibiting outdoor educators from engaging with this change, if they so choose. On the other hand, Blenkinsop (2014) believes that teachers need support and direction with these challenging new ideas.

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# ENVIRONMENT

*We no longer live in the Holocene … but in the Anthropocene. Chemical, physical and biological changes are dramatic and sometimes frankly alarming: atmospheric carbon dioxide concentrations are now at levels last seen more than two million years ago and rising fast; invasive species have been introduced to every continent and a sixth great mass extinction event may be with us in mere centuries; landscapes are transformed. Imagining a look back from some far future, it is hard to see how the twenty-first century could not be seen as a turning point in Earth history. (Zalasiewics, 2013, p. 9)*

## THE ANTHROPOCENE

The 'Anthropocene' is a relatively new concept that has gained recent traction in the sciences, education, and philosophy.  'Anthropocene' is defined as the current epoch beginning with human's significant impact and alteration to Earth's geology and ecosystems (Borenstein, 2014; Waters, 2015; Edwards, 2015). The name Anthropocene is a combination of anthropos meaning "human" and cene meaning "new" or "recent."

Edwards (2015) suggests that the term Anthropocene was coined in 2000 by the Nobel Prize winning atmospheric chemist, Paul Crutzen, and Eugene Stoermer, professor of biology at the University of Michigan. They used it to consider "that we are now living in a time when the global environment, at some level, is shaped by humankind rather than vice versa" (Edwards, 30 November 2015, para. 1).  The term brings awareness to the global impact of human activities and thus  'Anthropocene' serves as "a call to action for environmental sustainability and responsibility" (Edwards, 30 November 2015, para. 1).

Human destruction of biodiversity forms one of the primary attributes of the Anthropocene. According to recent scientific findings in the journal *Science Advances*, humankind is now entering a sixth mass extinction caused by human activities. Cellabos et al. (2015) write, "[our] estimates reveal an exceptionally rapid loss of biodiversity over the last few centuries, indicating that the sixth mass extinction is already underway" (p. 1). The authors further claim that although averting this dramatic loss of species is still possible, the "window of opportunity is rapidly closing" (Cellabos et al., 2015, p. 4).

## EDUCATING IN THE AGE OF THE ANTHROPOCENE

For educators, the question then becomes how to educate in this 'age of the Anthropocene'? (Affifi et al., 2017; Laird, 2017; Stratford, 2017; Taylor, & Pacini-Ketchabaw, 2015). A growing body of research within philosophy of education, outdoor education, environmental education, and experiential education is attempting to respond to this vital question; this highlights the need for educators to further ask what is required to achieve pro-environmental behaviours in children, youth and adults? In responding to this, research has revealed two key points for educators:

1) that crisis-level calls for action (e.g., polar ice caps are melting at alarming rates) can backfire, leading students to believe that their individual actions are in vain;

2) on the other hand, empowerment messages (e.g. positive changes in the environment are already happening) can 'foster free –riding', or benefiting from other people taking action without taking action themselves (Quimby & Angelique, 2011).

Past research has identified that knowledge alone is not the key to environmental behaviour change (Firth & Plant, 1996; Hsu, 2004). Further, research suggests that education that primarily provides students with understanding or knowledge of environmental issues can nurture feelings of hopelessness and futility (Nagel, 2005). In a recent study concerning students in Western Australia, only 1 % of students identified 'lack of knowledge' about the environment as a barrier to pro-environmental attitudes and behaviours (Prabawa-Sear & Baudains, 2011, p.226). Further, McKinley (2008) tells us that the 'increasingly pessimistic' outlook of the environmental movement is a result of the "harsh realities of the current ecological crisis, dire predictions and shock tactics"(p. 319), which only serves to alienate the people from the environment through 'pessimistic tactics'. Alongside McKinley, authors such as Kollmus and Ageyman (2002) and Meyer (2006) believe that a knowledge-action gap exists with respect to the environment, whereby even as environmental awareness increases, pro-environmental behaviours do not.

In light of these critiques a growing body of evidence has suggested that instead on focusing on the problems associated with the environmental crisis, education should focus on developing a relationship with specific outdoor places.  The following research identifies ways in which educators and researchers in the field of outdoor education encourage relationships between students and specific outdoor places.

Three themes emerged in the research concerning how to educate in the age of the Anthropocene and in turn foster care and pro-environmental behaviours in children, youth and adults:

1) the importance of place and place attachment, along with indigenous concepts of 'connecting to the land';
2) emphasizing a relationship between students and place that moves beyond a dualistic concept of self and nature;
3) an understanding of environmental learning that is non-anthropocentric (not human-centred) and does not frame the natural world as a backdrop, or something existing solely for humans.

It is important to note, as Beery and Wolf-Watz (2014) do, "that there is not one pathway from nature experience to environmental behaviour, but many paths of interplay between places of human affiliation and pro-environmental behaviour" (p. 204). Therefore, the following summary offers many pathways within outdoor education to foster pro-environmental behaviours.

Restall and Conrad (2015) define the broad concept of connectedness to nature (CNT) and its potential for pro-environmental behaviours as "understanding how people identify themselves with the natural environment and the relationships they form with nature" (p. 264). They found that there are multiple terms used for CNT that all support the general theme that some type of connection with nature promotes pro-environmental behaviours. Some of these different connections include names like 'nature relatedness' (Nisbet et al, 2009), 'love and care for nature' (Perkins, 2010), 'connectivity with nature' (Dutcher et al., 2007), and 'empathy with nature' (Tamm, 2013). Based on the literature review by Restall and Conrad, it is concluded that "CNT has the potential to effectively help meet conservation goals and

[that] better insight into people and their relationships with nature has the potential to enhance our ability to effectively meet conservation goals" (2015, p. 265).

Berry and Wolf-Watz (2014) work further to refine the concept of CNT. Their study, using data from a national survey based on outdoor recreation to explore behaviour outcomes from nature experience, showed that there is not a strong relationship between the measure of environmental connectedness and environmental behaviour. The reason for this, Berry and Wolf-Watz argue, is that the environmental connectedness perspective neglects the "human domain of perceptions, values, and representations" (2014, p. 198). In this perspective, they write, "the environment is portrayed as a geographically undefined agent, 'nature', with the inherent power to change human attitudes and behaviour"(2014, p. 204). The authors propose that the elusive concept of nature should be replaced with the 'relational concept of place' because a 'nature encounter' always takes place somewhere.  Lastly, they warn that to "assume pro-environmental behavioral [sic.] change is a necessary outcome of spending time in a particular place is to once again relapse into simplicity and reductionism" (2014, p. 204).

Halpenny (2010) further defines the concept of place as a "spatial location that is assigned meanings and values by society and individuals. Place can be tangible or intangible, and over time, its significance and meanings vary between individuals, groups, and cultures" (p. 409).  She suggests that through researching individuals' and groups' conceptualizations of place, especially a place perceived as under threat, predictions about their actions towards these places can be made. Halpenny (2010) studies "the specific effect of the relationship between place attachment and pro-environmental behaviour", defining place attachment as "an emotional, cognitive, and functional bond with a place" (p. 409). Halpenny (2010) offers that it is the 'positive attachment to a place' that may be the link to pro-environmental behaviours and protection of that place. She suggests that "as individuals build increased awareness, understandings, and attachments to nature-based contexts … their attachment to natural settings may convert to a commitment to the environment in general" (2010, p. 417).  Linking Restall and Conrad (2015) with Beery and Wolf-Watz's (2014) article above, Halpenny argues that "individuals may transfer the importance they assign to the place they love and value to the more abstract concept of the environment, increasing the possibility of their engagement in environmentally-responsible behaviours as a result" (2010, p. 417).

Further, researchers in the field of environmental education found that messages that build emotive ties to a setting or object have a greater chance of increasing environmentally-responsible behaviour and activism than knowledge-based messages on their own (Halpenny, 2006; Pooley & O'Connor, 2000). Lastly, Halpenny tells us that emotion assists with retrieval of environmental knowledge and also in "motivating individuals to work for an issue that is important to them" (2010, p. 417).

## *INDIGENOUS INFLUENCE ON 'PLACE'*

Further exploring the concept of place attachment in his article, "Exploring Place From an Aboriginal Perspective: Considerations For Outdoor and Environmental Education", Greg Lowan (2009) writes that there is a "need to consider each Aboriginal community's symbiotic connection to a specific geographical area when designing educational programs that teach 'traditional culture' to contemporary Aboriginal youth" (2009, p.47). When exploring Indigenous relationships to specific places, Lowan found that outdoor programs should "foster a sense of place—helping students to feel at home in, rather than separate from or challenged by, their natural surroundings" (2009, p. 48).

Gregory Cajete, Tewa Indian from Santa Clara Pueblo, New Mexico, author and professor and pioneer in reconciling Indigenous perspectives with Western academia, writes:

> Every cultural group established this relationship to place over time. Whether that place is in a desert, a mountain valley, or along a seashore, it is in the context of natural community. Indigenous people came to understand themselves as part of a natural community, and through that understanding they established an educational process that was practical, ultimately ecological, and spiritual. In this way they sought and found their life. (1994, p. 112)

It is important to note that Cajete's (1994) description of Indigenous peoples' approach to their traditional home territories contrasts with the philosophies of many current contemporary outdoor education programs such as Outward Bound" (Lowan, 2009, p.47) However recently, in response to these sentiments, Outward Bound Canada (OBC) has begun to develop their pedagogical philosophy to emphasize 'land-based learning' over 'growth through challenge'[9].

Lowan (2009), among others, questions outdoor programs where the "focus is on approaching the natural world and its inherent challenges as a vehicle for personal and group development" (p. 48, see also Brookes, 2004, 2006; Curthoys, 2007; Lugg, 2004; Stewart, 2004; Wattchow, 2006). As touched upon in the curriculum section, some outdoor education programs have been criticized for the static or binary relationship fostered between student or group and the landscape. It is in this way the natural world or landscape is used as a backdrop or a vehicle for personal change (Lowan, 2009). With this in mind, the following section articulates ways recent outdoor education has fostered a sense of place allowing students to feel attachment and a relationship to place (Lowan, 2009).

## *ATTACHMENT TO 'PLACE' AND 'BECOMING'*

Drawing from Leopold's notion of 'landlessness' (the way that we have no 'vital' relation to the land), Asfeldt, Urberg, and Henderson (2009) believe that the current disconnection from the land contributes to the "environmental, cultural and social maladies" going on today (p. 34). They trust that outdoor education programs can offer ways to re-establish this vital relationship to the land, writing:

> As educators engaging our students in remote wilderness travel and living experiences, it is our goal to not only provide a safe and adventurous experience, but also to facilitate connections to and understanding of nature, landscape, culture and stories past and present. (2009, p. 34)

It is their hope that 'landfullness' (the opposite of 'landlessness') will be created in their students "by re-establishing this vital relationship so that they may play a responsible role in their local and global

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[9] "Since Lowan's 2009 paper, Outward Bound Cantada (OBC) has been responding to Lowan and others' concerns. OBC currently works with local knowledge keepers, indigenous instructors, and Elders to develop programs, be present, and deliver content. OBC has also successfully applied funding to train Indigenous youth to become instructors through their Indigenous Instructor Development Course. In its first year this resulted in 10 youth taking the course, with 8 converting to internships and a number of the participants are currently working as full instructors on both indigenous-focused and non-indigenous courses." (R. Wallis, Principal and Curriculum and Education Manager, personal communication, May, 2018)

landscapes" (2009, p. 34). They offer the example of traditional wilderness skills (i.e. cutting wood, 'fishing with self-made gear' and 'confronting the life and death process of hunting') as a way to connect students to the land. They write, "using the traditional and cultural practices of the place allows for more direct living and acknowledgement of our dependence on the natural environment for sustaining our lives" (2009, p. 35). The authors further tell us that much of our everyday lives involve separation of means and ends, offering examples such as students not knowing where their water comes from or where their food is grown. The authors believe that activities like hunting to understand where meat comes from and chopping wood for warmth, creates a 'landfullness' or connection to the land. They write, "a common outcome of the homestead living experience is that students more fully appreciate the cyclical nature of life, and as a result begin to imagine a more direct life for themselves regardless of where they live and travel" (2009, p. 36). Asfeldt et al. (2009) begin to carve out ways that outdoor education moves beyond the severing of means and ends within living, which in turn, can also sever the connection between humans and place.

Mullins (2009) relays his findings from a 100-day canoe expedition from the foothills of the Canadian Rockies to the Arctic Ocean, a trip totaling 2,680 km. The members of the expedition dedicated their efforts to rethinking how outdoor recreation engaged them in relationships with their environment. Mullins writes, "despite the tendency in outdoor education research to frame landscape and environment as detached from activities (Beringer, 2004; Baker, 2005), the mutability of land and fluidity of wind and water are shown to be important factors in shaping canoeing" (2009, p. 235). In essence, Mullins (2009) explores how place meanings are created through outdoor activities. He claims that body movement with outdoor activities provides "fertile ground for investigating the connection between skill and environmental perception" (2009, p. 237). Like others, Mullins is dissatisfied with the Western nature/culture divide and explores how this Western dichotomy can be woven together in the skilled activity of canoeing. He writes, "canoeing, then, is understood not only as a mode of transport, but also a way of attending to the world…" (2009, p. 239). For Mullins, canoeing responds to the landscape and environmental features and necessitates "an association with particular aspects of the outdoor environment" (2009, p. 243). Mullins finds a way in canoeing that moves beyond the traditional critiques of outdoor activities that see the environment as a vehicle for skill development and personal growth. He writes, "no feature of the landscape is of itself, a challenge; it only becomes a challenge or symbolizes change, in relation to activities of the people for whom it is recognized and experienced as such" (2009, p. 242). In his example of canoeing it becomes clear that this activity can be understood as not detached from the land, but that the land shapes people and their activity and people shape the land. Mullins' research suggests that recreational activities play an important role in mediating place meanings and structuring participants' environmental perception. He writes, "focusing on skilled activity in ever-shifting landscapes …allows scholars and practitioners of outdoor recreation and tourism to grapple with human-environment interrelations in a way that does not rely on the nature-culture dichotomy" (2009, p. 252).

Mikaels and Asfeldt (2016) also use the canoe as an avenue to understand the human-environment relationship in outdoor education programs. Like the above articles they also react to 'past research within outdoor education [that] has often concerned itself with personal and social development', which reinforces anthropocentric (or human centred) views, pushing the environment to stage or mere backdrop. In guiding their research they ask the question: "what modes of relating to place(s) may emerge from a decentering of humans in favour of mutual and relational engagements with matter and human-nonhuman encounters?" (2016, p. 5). They promote an understanding of the world that

views it as flat, rather than humans "having power over or being superior to the more than human world" (2016, p. 3). They further tell us that there are no distinctions between nature and culture, rather "they are already … enmeshed in one another" (2016, p. 3). For Mikaels and Asfeldt (2016), this is what underscores the philosophical concept of 'becoming', which is drawn from Deleuze and Guattari (1987). They explore this idea in their study of 14 students on a canoe journey, within three guiding topics: skill, place, and journey. By skill, Mikaels and Asfeldt (2016) do not just mean technical skill but also 'reading the landscape' - the flora, fauna and flow of the river. They write, "being able to read the land and relate to place in a more reciprocal and responsive way, enable[s] [a participant] to better understand the impact the world had upon [that participant]" (2016, p. 6). Further Mikaels and Asfeldt (2016) explore how skill can be a way for participants to appreciate the world. They quote another participant:

> *I found that as my skills and knowledge of the outdoors grew, so did my*
> *respect and appreciation for the natural world. By gaining more skills I*
> *was able to feel more comfortable within the natural world until I felt like*
> *I was a part of it rather than just travelling through it for personal gain.*
> *(2016, p. 5)*

This idea of being a part of the natural world forms an important aspect of the notion of 'becoming'.

Clarke and Mcphie (2014) also explore the idea of 'becoming' within the concept of 'critical outdoor education'. Like the above articles, these critical approaches question the nature/culture divide that can underpin outdoor experiences. Clarke and McPhie (2014) propose a relational understanding of the world "where elements and parts interact in complex ways" (p. 199). They offer a philosophy of 'becoming' as a way forward. They argue that Western thought characterizes the world in terms of divisions between mind/body or artificial/nature, subject/object and that these divisions are illusory (Wylie, 2007). To flesh this complex idea out more they use the example of an outdoor learning activity where students are asked to identify the species in a local park. Using identification sheets, students find, name and record the different species they encounter. Clarke & Mcphie (2014) argue that this naming can falsely suggest that animals can be considered independent from their environment. They write, "a species cannot be said to be a separate process or separate point in the ecosystem, because it is deeply embedded within relations to the world" (2014, p. 203). Clarke and McPhie (2014) suggest that the concept of 'nature' implies a distance, where the concept of 'place' draws people into the world.  In other words, they invoke an understanding of humans as continuously moving, engaging and interacting rather than simply being in a place as if they were performers dropped onto a built stage. Rather, humans are a part of complex whole, making their way 'along paths'. Returning to the example of naming in a park, Clarke and Mcphie (2014) suggest (drawing from Gough, 2008, p.78) that instead of naming "animals and plants that signify their instrumental value" (p. 210), practitioners use a naming process that highlights their kinship . They call this 'creative verbing', which denotes the process where "students and experience can become the places, species and happenings" (p.210) they encounter.

Drawing from Ingold (2011), Clarke and McPhie (2014) use the example of how the Koyukon of Alaska name animals as descriptions rather than static names (like pigeon, or C. palumbus); 'flutters around the shore' is the name for the Spotted sandpiper and 'far away yonder there appears a flash of fire' is the name for the Red Fox. In this way, Clarke and McPhie (2014) believe that students, through 'verbing' their surroundings, may begin to see the interconnection of the human and non-human world. In sum, they advocate for more "ecologically informed outdoor learning practices; practices that treat

humans as 'of' the environment (and vice-versa), rather than 'separate from' or 'in relation to' it" (Clarke & McPhie, 2014, p. 205).

## *DECOLONIZING*

The severing act of naming can also be framed within the concept of decolonization. Blenkinsop et al. (2016) write, "the plants described in guidebooks have their stories told by human subjects and are of utilitarian value and almost always anthropocentric …" (2017, p. 210). In other words, the description of plants in guidebooks are useful to humans but often have no relevance or relation to the plants themselves. The authors understand this act of naming as an act of colonization.

The idea of colonization of the natural world is fleshed out more when Blenkinsop et al. (2016) draw parallels between the examples of Ota Benga, a Congolese pygmy who was displayed in a cage at a world fair in St.Louis in 1904 and Red Maple tree in a large concrete pot on the campus of Simon Fraser University. By drawing parallels between these two images the authors hope to illuminate the idea that the natural world is also colonized within in the current epoch of the Anthropocene in general, and within the implicit curriculum of education, in particular. They write "almost nothing in most teacher education programs has prepared the modern Western teacher to conceptualize other than humans as capable of voice(s) and culture(s ) (Van Dooren, 2014), [and] as having agency …" (2016, p. 213). By having agency they mean the ability to act for oneself. They provide several reasons for educators to consider this parallel between Ota Benga and the Red Maple as more than a metaphor. One important reason is that in both images, "colonization is separating the other from their communities" (Blenkinsop et al., 2016, p. 202). Ota Benga was captured and stripped of his community within the Luzon mountains of the Philippines, and the Red Maple is not native to the area where the SFU campus resides. Blenkinsop et al. write, "the nearest indigenous population of Red Maple lies at least 3000 km away…placed in a concrete cell [it was] unable to interact with others of its own community as it would in its native forest" (2016, p. 203). A second reason they give as to why these two images can be considered in parallel is that the colonized often show acts of resistance to their colonizers. Ota Benga's resistance to his colonizers was eventually communicated through his suicide and the "act[s] of resistance by Acer [Red Maple] are hard to determine with any certainty but perhaps its constant locating and pushing roots through cracks, or its curled leaves when water had been forgotten … are expressions of resistance and agency" (2016, p. 203).

Blenkinsop et al. also respond to the nature/culture divide prevalent within education and our culture. They write:

> *This is, for us, a clear manifestation of nature/culture duality where human is placed in a …  superior position to other-than-human. By confining Acer Rubrum to the concrete block, we strip away aspects of its subjectivity and manufacture it into an object for humans. (2016, p. 203)*

In other words, the Red Maple in this example is treated as if it has no inherent value and is not an end in itself. Rather that it has value only insofar as humans give it value. Blenkinsop et al. (2016) ask environmental educators to consider the natural world as being colonized within their outdoor practices. Adding to this idea of the natural world as colonized, research has found that colonization not only exploited Indigenous peoples but also the land on which Indigenous peoples have sustained themselves for thousands of years (Root, 2010; Graveline, 1998; Settee, 2000; Simpson, 2002). According to

Root (2010) and Graveline, (1998) we cannot begin the decolonization process without considering the injustice inflicted upon land which our existence depends.

By understanding the natural world as a colonized other, humans may come to understand that their current relationship towards the environment is not unlike the other horrific acts of colonization committed in the past. The intent of this reframing is to consider the injustices inflicted upon the natural world and work towards creating a less colonized and thereby destructive relationship with it. Echoing the anti-colonialist movements of Memmi and Freire, Blenkinsop et al. (2016), articulate a way to move forward. They write, "to admit that 'we' have and continue to 'colonize' the 'natural world' is to confront a history of rapacious destruction and denigration, but it also offers us an orientation to begin to listen to and heal from this legacy" (2016, p. 208). The concept of listening to the natural world in outdoor education is further explored by Blenkinsop and Piersol (2013) in their research at a place-based, all outdoor public school called Maple Ridge Environmental School. The authors found that there is an attempt being made to listen to the more than human world as an active voice in which teachers begin to understand the natural world as literally able to speak. They write, "if we start from the assumption that the natural world is speaking than we must acknowledge that when we speak at the school, we are actually speaking over other voices, interrupting other conversations" (2013, p.44). The voices of the natural world (geese flying above, changing colours of leaves, Orion appearing in the sky) are often seen as less worthy than other more "culturally foregrounded messages: the clothes we wear, the cars we drive, and the music that speaks to us" (Blenkinsop & Piersol, 2013, p. 46). Furthermore, the silencing of these voices allows us to engage 'numbly' in environmental destruction, and use 'more-than-human communities' as instruments. . Blenkinsop and Piersol (2013) go on to describe different ways that educators can begin to encourage communication with the natural world. They ask educators to venture beyond the classroom and into the more-than-human community to learn.

Learning from other species is a concept also explored by Taylor and Pacini-Ketchabaw (2015). Returning to the notion of the Anthropocene, Taylor and Pacini-Ketchabaw (2015) take the naming of the Anthropocene as a moment of 'pedagogical opportunity' in which they "decentre the human as the sole learning subject and explore the possibilities of interspecies learning" (p. 507). They use encounters between small children and ants, slugs, and worms to illustrate how paying close attention to our relations with other species can help us to "rethink our place in the world" (2015, p.507). They attempt to move beyond education's traditional focus on child development and learning within an exclusively human context and reposition children within interdependent multispecies worlds in which they live. They challenge human-centric assumptions including the assumption that only humans have the capacity to exercise agency (Plumwood, 2007) and to learn in these inter-species encounters. In lieu of singling out children as the sole learning subjects and regarding their actions upon the world as the sole locus of agency, 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. (Taylor & Pacini-Ketchabaw, 2015, p. 508)

In their article they articulate a profound shift within early childhood environmental education, a shift

that decenters 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. They believe that by looking at 'multi-species vulnerability' educators can tackle the problem of the Anthropocene. The idea that humans are the only ones learning in an encounter with the natural world is common understanding within both traditional and outdoor education. They believe that this anthropocentric view of the world could be considered fostering the human-driven planetary shift, named the Anthropocene.

To conclude this section on Environment, it is clear to say that the notion of the Anthropocene is gaining momentum, and has been in the last ten years. The outdoor educator's role has become increasingly important for connecting students to lands less traveled and facilitating a philosophical shift towards problematizing colonization and recognizing the importance of Indigenous ecosystem-based ideology. The topic of Environment is big, and therefore must be interpreted with inspiration. It is a curious thought to imagine what will be deemed prominent in another ten years from now.

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# CHARACTER

*The cultivation of flowers and trees is the cultivation of the good, the beautiful, and the ennobling in [hu]man.*
*(J. Sterling Morton, founder of Arbor Day)*

Character and OEE has come under much scrutiny in the last decade in part originating from Andrew Brookes' treatment of 'unsubstantiated rhetoric' born out of the research literature. One can argue the research is tightening up in this regard to provide a clearer evaluation of character outcomes in OEE. That said, character education remains a substantial part of the conversation in OEE, and often overlaps with curriculum, environment and well-being in both research and practice.

## CLARIFYING CHARACTER

While contact with nature has been associated with better physical and mental health, recent research has also indicated that outdoor education influences some aspects of character development. The research found on character dovetails with the research on well-being. In fact, for the philosopher Martha Nussbaum, well-being and character fit seamlessly in the 'capabilities approach', where the question, 'what does complete physical, mental and social well-being mean?' underscores them both. Louise Chawla, Professor Emeritus Environmental Design tells us that the capabilities approach revives Aristotle's notion of Eudaimonia. Etymologically, Eudaimonia consists of the words 'eu' (good) and 'daimōn' (spirit) and is often translated as happiness or 'human flourishing'. For Aristotle (2014), happiness is the ultimate purpose of human existence and it is achieved through people's realization of their capabilities. Nussbaum (2011) and Chawla (2015) confer that capabilities are 'human capacities to do and be'. Chawla further tells us that Nussbaum's capabilities represent the functioning of a whole child and that children's access to and engagement with nature is essential for the flourishing of a whole child.

The University of Birmingham hosts a research centre that focuses on character virtues and values in the interest of human flourishing. The Jubilee Centre for Character and Virtues (2017) provides a 'Framework for Character Education in Schools', in which they write:

> A society determined to enable its members to live well will treat character
> education as something to which every child has a right. Schools should
> consider questions about the kinds of persons their students will become,
> how the development of good character contributes to a flourishing life,
> and how to balance various virtues and values in this process. (p. 1)

While character development is seen as a central aim of schooling at the Jubilee Centre, research specifically connecting the environment or outdoor education and character development at the Jubilee Centre is thin to non-existent. Moreover, research on character within the field of outdoor education is also relatively scarce and mainly found within outdoor adventure literature. One reason for this lack of research is perhaps due to the difficulty of proving that outdoor experience (or any individual experience) causes the development of personal traits or 'builds character'.

Pulling from literature addressing outdoor adventure education (which doesn't necessarily reflect all

outdoor and experiential programs), Brookes (2003a, 2003b) wrote two influential critiques concerning character building. By character building, Brookes (2003a) means, "personal traits (such as honesty, trust, loyalty, compassion, care for nature or for that matter, ruthlessness)" (p. 51). He argues that no research has proven that desirable personal traits can be developed in a short duration adventure program and that any personal traits developed will carry over and persist in other situations such as the workplace, or everyday life. He claims 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). He further argues that outdoor adventure education programs often encourage universalist applications and individualist explanations ; in other words, that an individual's personal traits will manifest themselves across a range of circumstances. He disagrees, for example, that a rock climbing experience brings out the latent or innate personal trait of courage in an individual and that this personal trait can and will remain with that individual throughout their life and throughout many different circumstances. In conventional outdoor education practice Brookes is talking about 'transference'.

Given Brookes' (2003a) critiques of 'unsubstantiated rhetoric' surrounding character building, he offers three ways for outdoor education research to move forward in terms of the concept of character:

1)  More attention should be paid to the socially and culturally constructed meaning of outdoor adventure education (OAE). In part, this means appreciating OAE programs within their specific context and avoiding generalist assumptions about perceived outcomes.
2)  OAE programs should shift towards constructing "ongoing relationships between individuals, particular groups, and particular places in the outdoors" (Brookes, 2003a, p.60). Repeated exposure to these contexts may lead to enduring changes.
3)  Focus on how outdoor experiences construct meaning and shape knowledge for participants, instead of describing dispositional and/or character traits that arise from these experiences.

The disparity between Brookes and other social psychologists' critique of terms such as 'personal traits' and 'disposition', and the Jubilee Centre's use of these terms may be due to the fact that the Jubilee Centre uses these terms not as innate character traits (like Brookes suggests). The centre writes, "character is educable: it is not fixed and the virtues can be developed"  (2017, p. 11). Further, the Jubilee Centre claims that:

> Character virtues should be reinforced everywhere: on the playing fields,
> in classrooms, corridors, interactions between teachers and students in
> assemblies, posters, head teacher messages, and communications staff
> training, and in relations with parents. (2017, p. 8)

The most influential critiques from Brookes (2003b) state that outdoor education researchers often overlook the contributing situation and ascribe instead to a personal trait, and "make overly confident predictions when given small amounts of trait-relevant information" (p. 120). With this critique in mind, the research viewed and described in this section pays attention to 'situations'. In other words, it pays attention to specific geographical, social, political, cultural, and personal circumstances accounting for the character traits. The research has moved away from studying one-off experiences towards studying where there are 'ongoing relationships' between the individual or group and the specific outdoor environment.

According to the Jubilee Centre framework, character is divided into four building blocks that lead to practical wisdom or good sense. They are: intellectual virtues; moral virtues; civic virtues; and performance virtues. Nussbaum (2011) also identifies 'Ten Central Capabilities' that are necessary to lead a flourishing life. They are: life; bodily health: bodily integrity; senses, imagination and thought; emotions; practical reasons; affiliation; other species; play; and control over one's own environment. The Jubilee's 'building blocks of character' along with Nussbaum's Central Capabilities and Chawla's (2015) adaptation of them are defined more fully below, as they relate specifically to outdoor education.

## *INTELLECTUAL VIRTUES*

Intellectual virtues are necessary for discernment, right action and the pursuit of knowledge, truth and understanding. The Jubilee Centre provides examples of these virtues, including autonomy, critical thinking, curiosity, judgement, reasoning, reflection and resourcefulness. In addition, Nussbaum (2011) identifies senses, imagination and thought as central capabilities. And Chawla (2015) further adapts this as "better concentration, less inattention and impulsivity, resourceful use of nature's loose parts, and multisensory experiences of the natural world" (p.435). Many of these intellectual virtues and capabilities were found in the research concerning children's access to nature and outdoor education.

In a review of the research on nature play, Erickson and Ernst (2011) found that play in nature boosts brain development, fosters emotional well-being and strengthens social bonds, and preconditions children to care about the natural environment later in life (see also Wilson, 2012). Ruth Wilson, environmental education consultant and curriculum writer, also outlines benefits of playing in nature on our intellectual capabilities. She writes, "some of these benefits are increased sense of wonder and imagination, increased observational skills and curiosity, improved awareness and ability to concentrate, increased joy and confidence, increased problem-solving and critical thinking skills, increased interest in and concern for the environment" (2012, p. 10). Chawla writes that "a number of studies on school grounds and childcare centres … indicate that natural areas provide for more imaginative, constructive, sensory, and socially cooperative play than asphalt, flat expanses of lawn, or built play equipment" (2015, p. 445). For example, children engage in more creative forms of play, including fantasy and pretend play, in natural areas than in more traditional playgrounds or indoor play spaces (Elliot 2008; Louv 2006; Moore and Cosco, 2000, as found in Wilson, 2012).

Additionally, Wilson (2012) tells us that, "creative play in natural environments allows the naturalistic intelligence to flourish. The core of learning about the natural environment is not embedded in information provided to a child (knowledge presented from the outside) but in the interaction between the child and the world of nature" (p. 15). Wilson (2012) believes that naturalized outdoor environments provide opportunities for children to experience all the senses: visual, kinaesthetic, tactile, auditory, smell, and taste. Further, Chawla (2015) writes that, "more than any other setting, places with earth, sand, water, and vegetation offered malleable elements that enabled children to 'dialogue' with the environment in engrossing sensory ways" (p. 438).

In addition, one study done by Dadvand et al. (2015), aimed to assess the association between green space and cognitive development in primary school children and found an improvement in cognitive development, working memory, and attentiveness, particularly with the presence of green spaces at schools. Their study was based on 2, 593 school children in the second to fourth grades of 36 primary schools in Barcelona, Spain (2012-2013). The study suggested that vegetation may mitigate air pollution

from traffic, a factor that negatively impacts cognitive development (Chawla, 2015).

Further studies found that when children with ADHD diagnoses were led on a twenty-minute walk through a city park, their performance on tests of concentration improved to a degree comparable to the effects of widely used medication for ADHD (Kuo & Taylor, 2009). Another study done by Martens-son et al. (2009) found that children playing in large and integrated natural areas, "showed significantly less inattention, with lower measures of impulsivity that bordered on significance" (Chalwa, 2015, p. 443). Additional research done by Amoly et al. (2014) found that higher levels of greenness around the homes of seven to ten year-old students were associated with less inattention and hyperactivity (as found in Chawla, 2015 p. 443). Similar results were found in studies done in Munich (Markevych et al., 2014); England (Flouri, Midouhas, and Joshi, 2014); Netherlands (van den Berg & van den Berg, 2011) and many more.

In addition to lowering ADHD, greenness and vegetation around schools has also shown to be benefi-cial for increasing test scores. Third-grade students in Massachusetts made higher scores on standard-ized tests of English and mathematics when there were more trees around their schools (Wu et al., 2014). In Michigan, students in high schools with trees and shrubs had higher graduation rates (Mat-suoka, 2010). Research published in the academic journal, *Early Education and Development*, has shown that children with higher levels of active outdoor play had improved cognition which resulted in better academic performance in reading and mathematics (McArdle, 2017, August 27).

In addition to creativity, cognitive development, and curiosity, reflection and critical thinking are also prominent traits encouraged by outdoor education.  In a recent article, Bailey and Fernando (2012) tell us that reflectivity is associated with wisdom, the discovery of meaning in life and happiness. In their study, Bailey and Kang (2015) found that wilderness orientation program participants demonstrated a higher frequency of reflection during the first semester of college. Previous studies have also shown that time spent outside has been associated with reflectivity (Bobilya, Kalish, McAvory & Jacobs, 2005).

## *MORAL VIRTUES*

The Jubilee Centre defines moral virtues as character traits that enable us to act well in situations that require an ethical response. Examples include compassion; courage; gratitude; honesty; humility; integrity; justice; respect. In addition, Nussbaum (2011) identifies Emotions: 'being able to have attach-ment to things and people outside ourselves'; Affiliation: 'being able to live with and toward others, to recognize and show concern for other human beings'; Other species: 'being able to live with concern for and in relation to animals, plants, and the world of nature' as three of the Ten Central Capabilities for a flourishing life. Chawla (2015) further adapts these capabilities to include 'development of place attachments' and 'sense of affiliation and connection with nature.'

### Compassion/Care/Empathy/Affiliation

Chawla (2015) credits Nussbaum (2011) with "including affiliation with other species as a Central Capa-bility".  Through these relations with nature, human well-being is influenced, "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" (Chawla, 2015, p. 445). Further Chawla (2015) refers to Nuss-baum telling 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' (Nussbaum, 2011, p.34)" (p. 438).

Along similar lines, Wilson (2012) defines empathy as "the ability to identify with and understand the situation and feelings of others" and suggests that, "the 'other' can be another person, a group of people, other living things (individually or collectively), as well as living systems, such as ecosystems" (p. 88). Past research has shown that children have a 'special affinity' and a 'primal seeing', which encourages children's empathy towards nature and understanding of the struggles and needs experienced by other living beings (Sebba 1991, Slade 1991, Pearce 1992, as found in Wilson, 2012). Wilson (2012) writes, "these unique connections allow children to identify with and understand the struggles and needs experienced by other living things" (p.88). Wilson further delineates between caring and empathy and explains that caring also includes a sense of responsibility for the other's welfare. She writes, "caring is found rooted in connectedness or relationships, and cannot develop or exist in isolation. Caring is one of those virtues that develops by being caught versus being taught" (Wilson, 2012, p. 88).

The idea that encouraging empathy towards nature during the early years leads to an environmentally responsible adult is supported by a large body of research[10]. In her article "Joy of Nature, 'Friluftsliv' Education and Self", Gurholt (2014) informs us that the autobiographies of prominent environmentalists describe that they were deeply immersed in nature as young children. She further tells us that the idea behind friluftsliv (A Norwegian word and concept commonly translated to English as 'open air life') is that identification with nature and empathy towards it is intended to encourage people to act protectively towards nature and to develop sustainable ways of living (Gurholt, 2014). Gurholt further 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" (Gurholt, 2014, p. 234). Similarly, Chawla (2015) informs us that in a review of more than thirty studies that 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). Further, research on factors influencing positive attitudes towards the environment strongly supports the need for outdoor education and experiences during childhood. According to Wilson (2012) the two main reasons that influenced individuals to choose professions related to environmental conservation are:

1) Frequent positive experiences in natural environments during childhood; and
2) An adult who modeled interest in and respect for the natural world.

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 (Elliot 2008). Wilson (2012) concludes, "love for the natural world and an appreciation for its beauty and complexity are far more motivating in getting people to take care of the Earth than telling them what needs to be done" (p.88).

## Courage, Fear, Risky Play, and Bodily Integrity

Nussbaum (2011) identifies 'play', 'bodily integrity' and 'control over one's environment' as three more of the Ten Central Capabilities that fit under this particular aspect of moral virtues. Chawla (2015) adapts these terms to suit a child's developmental needs: "more outdoor play in green neighbourhoods"; "more creative play in natural settings"; and "freedom to appropriate undeveloped land that is

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[10] Wilson, 2012; Chawla, 2015; Chawla, L. & Derr, V., 2012; Nisbet, E. K., et al.; 2009; Gurholt, 2014; Beery & Wolf-Watz, 2014; Honig, 2015, and more.

not controlled by adults" (p. 435). Conversely, Wilson (2012) identifies fear as a fundamental barrier to children connecting with and playing in the natural world.

While the research specifically connecting outdoor education and courage is thin, there has been a recent swell of research on fear and the natural world. Wilson (2012) tells us that "fear of the natural world is a part of the de-naturing of childhood. Too many children are beginning to see nature as our natural enemy" (p. 85). Past research has also found fear to be a major deterrent for urban school children visiting a natural area. Bixler et al. (1994) found that children are often fearful and anxious, and have no idea of what to expect when visiting a natural area. Wilson (2012) writes, "in addition to having a general fear of being in the woods, these children also feared snakes, insects, and spiders. Their list of what they feared included small native mammals (such as squirrels, chipmunks, and rabbits), as well" (p.85).

Wilson further tells us that Biophobia (an aversion to nature) tends to develop if children's natural attraction to nature is not encouraged during the early years of life. She writes:

> Biophobia can take a variety of forms and range from discomfort in natural
> areas to active scorn for whatever is not made or managed by humans.
> Biophobia is also manifested in the tendency to regard nature as nothing
> more than resources to be used. (2012, p.87)

Without frequent positive experiences with the natural environment, children are likely to develop fears, phobias, and prejudices against nature (Wilson, 2012). Wilson tells us, "such attitudes and feelings can become major obstacles to later understandings of and respect for the natural world" (p.87).

In addition to Biophobia, parental fears are another factor inhibiting children's natural play. Overprotective parents and teachers who are 'ruining children's play' is a topic that has gained much attention from the media recently. A Google search of 'overprotective parents' found 706, 000 results, with topics ranging from "children of overprotective parents are slated for failure" to "prisoners and children: most are allowed outdoors only under strict supervision". A recent article in the Daily Mail quoting Dr. David Whitebread, developmental cognitive psychologist at the University of Cambridge, reads "youngsters cannot develop normally and are 'play deprived' because of our risk-averse, regimented lifestyles. This means many lack vital skills such as resourcefulness, independence or self-regulation" (Harris, 2013, para. 2).

Dr. Whitebread believes this problem affects both poor and affluent children. Poor children in cities can suffer from 'stressed parenting' and lack of access to the outdoors. On the contrary, children brought up in relatively affluent households may be over-scheduled and over-supervised as a consequence of perceptions that urban environments are dangerous for children, combined with a growing culture of risk-averse parenting. He believes that if lack of play becomes severe, it can lead to abnormalities in neurological development (Harris, 2013, May 31).

Moreover, a recent article in BMC Public Health found that adult fears are often disproportionate to actual risk  and that "restricting children's outdoor play activities may have unintended consequences, such as reducing children's opportunities for reasonable, age-appropriate risk-taking" (Bundy et al., 2011, para. 2). Furthermore, studies have found that fear of litigation results in minimising risks and decreasing outdoor play (Ball, 2010, as found in Bundy et al., 2011). Additionally, Carver et al. (2008)

suggest that parents restrict their children's outdoor play because of anxiety relating to road safety and 'stranger danger'. The research also 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 et al. 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" (2008, p.224). Past studies have also suggested when children perceive that play settings are not demanding enough, they may compensate by engaging in activities that they perceive as challenging leading to undesirable behaviour such as bullying or using play equipment in dangerous ways (Walsh, 1993; Stephenson, 2003; Waters, J., & Begley, S. 2007).

On the other side of the same coin, recent research published in the *International Journal of Environmental Research and Public Health* indicates that "findings supported the promotion of risky outdoor play for healthy child development " (Brussoni et al., 2015, p. 6424). Brussoni et al. define risky play as "a situation whereby the child can recognize and evaluate the challenge and decide on a course of action" (2015, p. 6425). Risky play is also defined as thrilling and exciting play that can include the possibility of physical injury (Sandseter, 2011). Types of risky play might include play at height, speed, near possible dangerous elements or tools, rough-and-tumble play, or play where there is the potential for disappearing or getting lost. One study found children in an experimental group exposed to a 14-week risky play intervention improved their risk detection and competence, increased self-esteem and decreased conflict sensitivity (Lavrysen et al., 2015, as found in Brussoni et al. 2015). Their study showed that with ready access to unsupervised outdoor play opportunities, children developed increased motor skills, social behaviour, independence and conflict resolution. (Brussoni et al., 2015). Furthermore, Bussoni et al. (2015) tell us that, "experience with risks during childhood is believed to assist with developing risk management strategies , and the ability to negotiate decisions about substance use, relationships and sexual behaviour during adolescence" (p. 6426).

Moreover, in a UBC NEWS interview, Dr. Brussoni, assistant professor in UBC's School of Population and Public Health and Department of Pediatrics, found that, "play environments where children could take risks promoted increased play time, social interactions, creativity and resilience" (Came, 2015, para. 3). In the same interview she goes on to say that "these positive results reflect the importance of supporting children's risky outdoor play opportunities as a means of promoting children's health and active lifestyles" (para. 3). According to Brussoni's research, playgrounds that offer natural elements such as trees and plants, changes in height, and freedom for children to engage in activities of their own choosing, have positive impacts on health, behaviour and social development. Dr. Brussoni concludes that children can learn about risk through exploring their own limits while playing in such spaces and that, "…the evidence suggests overall positive effects of risky outdoor play on a variety of health indicators and behaviours in children aged 3-12 years" (2015, p. 6447).

Past research also fleshes out Brussoni's findings, arguing that more freedom in natural play areas can lead to attachment in natural spaces. Kytta (2004) calls this a 'mobility license', which is defined as "a license to move around independently in the environment. The degree of a mobility license refers to the sets of rules defined by parents …" (p. 180). Drawing from Kong's (2000) research, Kytta tells us that "mobility restriction can also affect the development of emotional bonds between children and the natural environment" (2004, p. 180) and the development of children's sense of responsibility for the environment. Studies have also revealed that restricting children's mobility keeps them from having

favourite places in the environment (Corbishley, 1995; Kytta, 2004). Additional research indicated that children growing up in an artificial environment do not possess enough sensitivity to nature (Herrington & Studtmann, 1998). And lastly, Sandseter (2009) found that, being allowed 'free play' in natural environments affords more intense and varied physical activity than a standardized playground.

## *CIVIC VIRTUES*

### Community Mindedness/Sense of Place/Belonging

The Jubilee Centre defines character traits as those that are necessary for engaged responsible citizenship contributing to the common good. Examples include civility; community awareness; neighbourliness; service; volunteering. The majority of the research found connecting civic virtues and outdoor education circled around the ideas of community, belonging, trust, social support systems, and sense of place. In particular, the literature was rich concerning the positive effects outdoor orientation programs (OOP) or wilderness orientation programs (WOP) had on first year college students in terms of community and sense of belonging. Howard et al. (2016) suggest that the term community can be viewed in two distinct ways; it can be a "geographical location such as 'neighbourhood,' 'city,' or 'campus'"or it can be "primarily relational with a focus on interpersonal interaction, social cohesion, and emotional connectivity" (p. 46).

In their article, Howard et al. (2016), examine the impact of an OOP on first year university students. They found that the OOP affected students through the development of a strong sense of community. They use 'sense of community' as it is defined by McMillan and Chavis (1986):

> *Sense of community is a feeling that members have belonging, a feeling*
> *that members matter to one another and to the group, and a shared faith*
> *that members' needs will be met through their commitment to be together.*
> *(as cited in Howard et al., 2016, p. 47)*

Howard et al.'s study found that a sense of a community development happened, shown through the results that, "students identified themselves as a members of a tightly knit group" (2016, p. 49). Within the theme of community development, Howard et al. explain that three sub-themes emerged: building a family community, profound experience, and commitment to long-term relationships. They write that "students described the profound relationship that they developed with their peers and OOP trip leaders in familial terms" (2016, p. 50). In addition, they claim that all participants of the OOP found their experience to be profound and transformative and that they "expressed a commitment to maintain a long-term relationship with each other" (Howard et al., 2016, p. 51).

In a recent research review, Bell et al. (2014) found a number of positive impacts of student participation in OOP. Included in these are increased GPA, increased retention, and increased levels of student development. Bell et al. (2014) write, "these variables are an important part of the overall mission of residential colleges hosting outdoor orientation programs and are considered measures of student success" (p. 35). The sub-factors driving these results are improved connections with peers (Bell, 2012); social adjustment (Bobilya, Akey & Mitchell, 2011); friendship formation (Austin et al., 2010); sense of strong social support network, attachment, sense of fitting in (Austin et al., 2009). Overall, Bell et al. (2014) conclude that the "social structure of an outdoor orientation is important for student development" (p. 35).

In their study "Modelling the impact of wilderness orientation programs on first-year academic success and life purpose", Bailey and Kang (2015) found that "WOP participation had a direct and positive influence on informal social engagement for first semester students" (p. 216). The authors believe that the sense of community developed during the WOPs may play a role in establishing healthy social habits, including social confidence and developing a sense of community. Further they conclude that students who are more socially engaged are also more likely to remain enrolled in university. Additional studies have shown increased feelings of social support for participants in wilderness orientation programs (Wolfe & Kay, 2011).

Lastly, in the book *Nature and Young Children*, the author refers to Kostelnik et al.'s idea that social competence is manifested in the way:

> *Children perceive, interpret, and respond to the variety of social situations*
> *they encounter… A high level of social competence in our society means*
> *that a person exhibits responsible, independent, friendly, cooperative, pur-*
> *poseful, and self-controlled behavior. (as cited in Wilson, 2012, p.58)*

Creative play in natural environments offers rich opportunities for social skill development and in using natural materials, children have opportunities to share their discoveries, to negotiate and problem solve with others, and to make and enjoy playing with friends (Wilson, 2012). They also have the opportunity to practice pro-social behaviours such as helping and cooperating. Wilson tells us that "the outdoor environment is the ideal place to engage in dialogue with children, as there are so many interesting and ever-changing topics for discussion" (2012, p.58).

## *PERFORMANCE VIRTUES*

The Jubilee Centre (2017) defines performance virtues as those that have an instrumental value in enabling the intellectual, moral and civic virtues. Examples include confidence; determination; motivation; perseverance; resilience; teamwork. The majority of the research found surrounded the concept of resilience.

### Resilience

The concept of resilience is difficult to define and has been extensively debated in the literature (Whittington, 2016). Resilience comes from the Latin word resilire, meaning 'to spring back', but further understandings of resilience are relative to cultural definitions. In other words, resilience is not a fixed quality (Martin & Ho, 2009). In their article "Promoting resiliency in adolescent girls through adventure programming", Whittington et al. (2016), write, "simply defined, resilience is a combination of traits, the ability to effectively cope with challenges, stress or adversity, and the internal and external factors that shape and/or support an individual" (p. 3). They further write that "… resiliency is the ability to respond or perform positively in the face of adversity and to achieve despite disadvantages" (2016, p. 3). Resiliency is not something that is solely psychological but is also social and political (Debold et al., 1999—as found in Whittington et al., 2016). Working from this definition, Whittington et al. (2016) conducted a study that evaluated the effects of participation of an adventure program on girls' self-reported resiliency. They found that girls who participated in the program "showed improved resilience in the form of increased sense of mastery [greater optimism, flexibility and problem solving], increased sense of relatedness [includes comfort with others] and less emotional reactivity [less sensitive to stressors]" (2016, p. 11).

Whittington et al.'s study is one of many indicating that participation in outdoor programs leads to greater resiliency in youth. Ungar, Dumond and McDonald (2005) found evidence that at-risk youth experience positive outcomes by participating in outdoor programs. Whittington and Budbill (2013) found that an adventure program promoted resilience in youth. Another study conducted with elementary school students found that girls in an outdoor program had significantly higher resiliency scores in the areas of goals, aspirations, and self-efficacy (Beightol, Jeverston, Carter, Gray & Gass, 2012). Further studies show that adventure programs and wilderness orientation programs positively influence efficacy (Bobilya, Akey & Mitchell, 2009).

Another study done in the UK found that nurturing, nature and free play are considered to be a 'powerful combination' in the promotion of resilience. The study showed that the relationship between outdoor play and risk-taking behaviour can contribute to the development of resilience in young children from challenging backgrounds.  They believe that the natural world is important in providing challenge to the children so they can test their own boundaries and engage in imaginative, creative and slightly risky play in a safe environment. The authors of this study note that while development in resilience was apparent over the 10-week program, they believe that the most traumatised or neglected children clearly need longer than this to overcome prolonged experience of neglect or repeated trauma.

## *PRACTICAL WISDOM*

Research from the Jubilee Centre (2017) claims that the four building blocks of character – intellectual, moral, civic and performance—lead to practical wisdom. They define practical wisdom as "the integra-

tive virtue, developed through experience and critical reflection, which enables us to perceive, know, desire and act with good sense. This includes discerning, deliberative action in situations where virtues collide" (2017, p. 5). In addition, Nussbaum (2011) defines 'practical reason' as "being able to form a conception of the good and engage in critical reflection about the planning of one's life" (p.34) as one of the Ten Central Capabilities. Practical wisdom leads to flourishing of individuals, society, and the natural world.

It is interesting to note that parallels can be found between the character virtues in Western philosophy and those found within Indigenous knowledge. Stonechild (2016) tells us, from his time spent with Elders, that "the well-balanced individual possess the seven virtues: respect, courage, love, generosity, honesty, humility, and wisdom" (p. 84). These parallels to Western philosophy can be seen in Stonechild's descriptions of Indigenous knowledge virtues. For example, he writes, "respect includes respect towards others and their belief in all parts of Creation. If we cannot show respect, we cannot expect respect to be received" (2016, p. 84). Wisdom, Stonechild writes, "is knowing the difference between what is proper and improper and appreciating the consequences of our actions. We cherish the value of knowledge" (2016, p. 84).

The article, "Connecting with place: implications of integrating cultural values into the school curriculum in Alaska" reports on the progress of a place-based education program for Indigenous students at a Russian Mission School in rural Alaska. The report shows that this program has resulted in raising pupil's academic skills and confidence. Takako et al. (2009) write, "the disconnection from the land was also seen to threaten identity and self-esteem because the Yup'ik worldview situates people in a web of relationships with other worlds including the natural and spiritual" (p. 355). They go on to write that "much of the literature and comments from Alaska Natives themselves link violence and negative behaviour of people with the loss of identity and cultural pride" (2009, p. 355). The principal and senior teacher at this school believe that their identity is reinforced by re-connecting students to their natural environment. They write, "by re-opening access to and repeatedly providing significant experiences in their environment [the principal] believed that the connection would be re-established" (Takano et al., 2009, p.355).

In summary, Character has been clarified in this section beyond its traditional definitions in OEE. Four building blocks have been identified: intellectual virtues, moral virtues, civic virtues, and finally performance virtues. These building blocks come together to advance a practical wisdom as a way to character enhancement.

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# WELL-BEING

*"In order to have a good life one must have a goal. The goal is to be free from illness, to live to the fullest. . .One must work on prevention and not only healing . . . One must eat well, act well, and live physically, mentally, and emotionally and spiritually well"  - Rheault (1998)*

*"No ecological renewal of the world will ever succeed until and unless we consider the Earth as our own Body and the body as our own Self" - Panikkar (1992)*

In the first research summary, COEO outlined well-being as promoting lifelong physical, emotional and spiritual wellbeing of participants… [providing] safe skill development in outdoor activities that are personally fulfilling and environmentally sustainable.  As seen in this definition, one's well-being is often viewed as a summation of multiple life dimensions over time.  How these dimensions are expressed in academia can be variable and broad according to the discipline.  Throughout this document, much of the research presented can be considered a commentary on individual dimensions of well-being.  However, research exploring the synergy of these dimensions can be difficult.

There is a growing amount of research exploring the limitations of traditional Western methods of research when documenting the benefits of the more-than-human world, especially when speaking about spirituality, emotions or matters of the heart (Allison and Pomeroy, 2000; Seaman, 2008; Willis, 2011; Tooth and Renshaw, 2009; Asfeldt & Beames, 2017). In their article "Trusting the Journey: Embracing the Unpredictable and Difficult to Measure Nature of Wilderness Educational Expeditions" Asfeldt and Beames (2017) claim that practitioners have long recognized a gap between the learning and healing often witnessed during outdoor experiential programs and the ability of traditional research methods to explain how it occurs. Asfeldt and Beames (2017) recommend that outdoor education researchers embrace diverse research methods to gain a deep and rich understanding of the inner workings of outdoor education. They write, "we need both traditional methods and more story-based research in our quest for understanding 'how' and 'why'  the OAE [outdoor adventure education] process works" (2017, p. 81).

This section explores research concerning health and well-being as it relates to outdoor education from around the world including Japan, Norway, Spain, Holland, South Africa, Canada, USA, and from Indigenous perspectives. In addition to health science research, the use of personal observations, narratives, and stories of the healing benefits from outdoor education experiences are also included.

Common themes emerging from this research are that time spent outside in general, and outdoor education in particular, have overall health benefits for children. Additionally, the research found that too much time spent sitting indoors and not connecting with nature has detrimental effects on children's body, minds, emotions, and spiritual well-being. Lastly, it is important to highlight that the well-being of the Earth is intimately connected to the well-being of humans . Not only do humans need the Earth to flourish in order to maintain their own well-being, but recent research has also identified that the well-being of humans may promote the well-being of the Earth. For example, Nisbet, Zelenski, and Murphy (2009) have found links between the health and well-being of humans and environmentally sustainable behaviour.

## *BODY OR PHYSICAL*

Inactivity within children is becoming a serious problem around the world.  In a recent study in the International Journal of Environmental Research and Public Health, Tremblay et al. (2015) claim that the proportion of children around the world meeting physical activity guidelines is very low and likely declining.  According to the research, physical activity data shows that among Canadian children aged 6 to 10 years, 14% of boys and 7% of girls achieve the recommendations, and they spend an average of 8.2 hours per day being sedentary (Colley et al., 2011; Gray et al., 2015: Tremblay et al., 2015). Engaging in moderate to vigorous activity for at least 60 minutes is recommended for children (Cardon & De-Bourdeaudhuij, 2008; Hallal, 2012; Ministries, 2004).  This inactivity is worrying as physical activity and sedentary behaviour habits formed during childhood tend to track overtime into adulthood (Biddle, et al., 2010; Bjorgen, 2015; Janz et al., 2005; Tremblay, 2015).

The drift from time spent outdoors to increased time spent indoors has occurred parallel to the inactivity crises (Tremblay, 2015).  Evidence suggests that the current generation of children play outside less frequently and for shorter durations than their parents' generations did (Gray et al., 2015). Children's physical activity is moving away from unstructured and unsupervised outdoor play and toward structured and supervised activities that primarily occur indoors . In particular, more and more time is spent on computer games or other forms of digital entertainment (Gordon, 2013; Gray et al., 2015; Knight, 2011). Sitting inside during school hours also contributes to this sedentary behaviour.

Sadly, the health consequences due to this inactivity are very severe. In July 2012, The Lancet, a British Medical Journal, confirmed that physical inactivity is a leading risk factor for deaths due to non-communicable disease. The journal reported that inactivity causes 5.3 million deaths per year making the risk of inactivity to health similar to the risk posed by tobacco use (Lee et al., 2012). In addition, more studies have consistently shown lower risk of mortality among more active individuals (Tremblay, 2015) and higher risk of mortality among sedentary individuals (Biswas et al., 2015). According to Louv (2016) the most fundamental health benefit of spending time with nature is that it gets children off chairs and moving.

Recent research in Norway found that even the youngest children are sitting more and are less physically active (Bjorgen, 2015). Researchers directly observed children's level of physical activity and found that preschoolers are often sedentary throughout their day, even during outdoor times (Bjorgen, 2015; Brown et al., 2006, 2009; Pate et al., 2008). The results of Bjorgen's (2015) study indicate that practitioners play an important role in engaging children in physically active play outdoors. By engaging in playful behaviour, practitioners provide a scaffolding for children's involvement and enjoyment. Brown et al.'s (2009) study also showed that teacher involvement in outdoor play increased the physical activity of preschoolers. Bjorgen (2015) advises that practitioners should be aware that they are laying the foundations for children's well-being and involvement in physically active play both now and in the future.  Nonetheless, the research shows that when children are outside, they spend less time being sedentary, compared to being indoors (Gray et al., 2015; Raustorp et al., 2012; Skala et al., 2012; Tremblay et al., 2015; Vanderloo et al., 2013).

Chawla (2015) believes that in addition to the benefits of physical activity, a compelling body of evidence exists that trees and natural areas are essential elements of healthy communities for children. She believes that natural areas "need to be integrated at multiple scales, from landscaping around

homes, schools, and childcare centers, to linked systems of urban trails, greenways, parks and 'rough ground' for children's creative play" (Chawla, 2015, p.433). Chawla observes that unfortunately childcare centres and schools are often 'barren sites', even though the research shows that "trees, naturalized habitats and gardens offer benefits for dimensions of children's well-being" (2015, p. 446).

Paralleling Chawla's research, paediatrics specialist Professor Susan Prescott from the University of Western Australia also claims that exposure to nature has important physiological impacts. She suggests that being in contact with nature has multiple benefits to our physical health, including exposure to beneficial microbes and the absorption of Vitamin D from sunlight (Tucak, 2016). Prescott goes on to suggest that our immune system benefits immensely from exposure to these microbes and that in turn our physical and mental health are positively impacted. Furthermore, a recent study published in the European Respiratory Journal, indicates that living near green spaces can reduce the risk of childhood wheeze and bronchitis (Tischer et al., 2017). According to Gray et al. (2015), "access to active play in nature and outdoors – with its risks – is essential for healthy child development " (p. 6476). It is recommended that children's self-directed play outdoors be increased in all settings. Similarly, the results from Tremblay et al.'s study conclude that childhood healthy active living and outdoor play should be positioned as a child rights concern (2015).

In light of the research on the importance of physical activity for school-aged children, the following piece is taken from the author (Chloe Humphreys)'s personal observations, recorded while researching at the Maple Ridge Environmental School - an all outdoor, place-based Kindergarten - Grade 7 public school in British Columbia:

> *November, 2013.*
> *It was the first snowfall of the year today and the kids were outside to greet it. The soft flakes drifted down from the vast, white, falling sky and their faces were turned upward to catch the snowflakes on their outstretched tongues.*
>
> *It reminded me of a first snow fall during my childhood; it happened during school hours. Inside our classroom, a boy named Jason noticed and immediately, loudly, announced the news. The teacher spent the remainder of the afternoon getting us to sit in our seats and pay attention to her, and not the falling snow outside the window. I remember wishing I was at home. When the bell rang we were let outside, but it had warmed up. The delicate dryness of the first snow had already disappeared.*
>
> *Standing there as a researcher watching the kids at Maple Ridge soak up the freshly fallen snow brought back both the excitement from my childhood and also regret that staying indoors during school lessons was enforced at my elementary school.*
>
> *At Maple Ridge Environmental School the new snow was not a distraction but an affordance, a learning opportunity. The assignment that emerged from the moment of the fallen snow was to collect snowflakes to be examined under a microscope. From here began lessons on temperature,*

*on dimensions, on collecting, on difference, on patterns, on counting, and later the inspiration for snowflake art and sculpting. All of these lessons occurred while the children were outside walking, scooping, squatting, standing, running, reaching, and rolling in the fresh snow.*

*This snowflake example at the Maple Ridge outdoor school is not a lone example, being outside and using their bodies during lessons was every school day, all day. At outdoor schools like the Maple Ridge Environmental School, physical activity is a part of the implied curriculum. Physical activity occurs not just in P.E. class, but during math, literacy, history, and science lessons.*

Lastly, it is important to mention that while physical activity is a fundamental part of children's well-being, outdoor educators must also be aware of a tendency towards abilism, or discrimination in favour of fit, able-bodied people. Russel et al. (2013) believe that outdoor education is a place where bodies deemed athletic and healthy are privileged. Nonetheless, they conclude their article by claiming that outdoor education has a 'wonderful opportunity' to undo these able body biases and embrace and engage bodies of all sizes and abilities, and 'disrupt fat oppression' (2013).

## *MENTAL OR MIND AND EMOTIONS OR HEART*

The body of evidence that suggests natural areas are a benefit for mental and emotional health is growing. Recent research indicates that urban parks with the greatest biodiversity have the highest beneficial effects on psychological health and well-being (Louv, 2016). Natural areas afford children with places for creative play, opportunities to develop strength and skill, as well as quiet retreat (Kreutz, 2015). These are all important aspects for psychological well-being (Chawla, 2015).

In her article "Benefits of Nature Contact for Children", Chawla (2015) reports on the findings from four large-scale health database studies that "green space proximity predicts better mental health and emotional adjustment among children . . ." (p. 444). Louv (2016) attributes this to the fact that when we are in the presence of other animals, and aware of this, we do not feel alone; we feel we are part of a larger community. Further, working with children in rural New York, Wells and Evans (2003) found that the more stressful events children experienced, the more strongly nature acted as a buffer (as found in Chawla, 2015). In addition to studies done on children's living spaces, several studies have compared mental health effects of indoor classrooms to outdoor classrooms (Chawla, 2015). Chawla et al.'s (2014) study on elementary school children who had access to the woods, found that compared to indoor classrooms, natural areas promoted greater concentration and relief from stress. Roe and Aspinall's (2011) study found that a forest school in Scotland had significant positive effects on children, including a greater sense of energy and happiness and less anger at the end of the day. Moreover, a recent study from Spain suggests that green spaces, especially at schools, are linked to improved cognitive development in children, including better memory and a reduction in inattentiveness (Dadvand et al., 2015).

Louv (2016) tells us that nature is the antidote to stress, a statement supported by studies linking landscapes to stress reduction. In their study on the health promoting impact of outdoor environments, Abraham et al. (2010) believe that landscapes have the potential to promote mental well-being through attention restoration and stress reduction, and can evoke positive emotions. Further,

researchers in Sweden have found that joggers who exercise in natural green settings as compared to more man-made environments feel more restored and less anxious, stressed, angry, or depressed (Bodin and Hartig, 2003).

In addition to running or jogging, walking through the woods has been reported to have many physical and mental healing benefits. In Japan, forest bathing (or shinrin yoku), in which a person walks in a natural area, is reported to have calming, rejuvenating and restorative benefits (Louv, 2016). Park et al. (2010) published a paper in the US National Library of Medicine concerning the physiological effects of shinrin yoku. They conducted field experiments in 24 forests across Japan. In each experiment, 12 subjects walked in and viewed a forest or city area. Salivary cortisol, blood pressure, pulse rate, and heart rate variability were used as indicators. The results showed that forest environments promoted lower concentrations of cortisol (a stress hormone) lower pulse rate, lower blood pressure, greater parasympathetic nerve activity (increasing the "rest and digest" system), and lower sympathetic nerve activity (lowering the fight or flight response) than city environments. Park et al. (2010) suggest that further research will develop a 'forest medicine' field which can be used as a preventative medicine strategy.

Studies have found consistent evidence that physical inactivity elevates the risk of depression (Mammen & Faulkner, 2013). The World Health Organization[11] (WHO) warns that the burden of depression and other mental health conditions is on the rise globally. The WHO states that at its worst, depression can lead to suicide. Close to 800 000 people die due to suicide every year and suicide is the second leading cause of death in 15-29 year olds . Further, the World Health Organization declares that depression is the leading cause of disability worldwide.

Psychological health benefits of time spent in nature may serve as a buffer to anxiety and depression. When Mass et al. (2009) examined the medical records of Dutch citizens in relation to the percentage of green space near their homes, they found that more green space was associated with significantly lower rates of depression for children. In Scotland, the studies show that children living less than twenty minutes from green space had better mental health (Aggio et al., 2015). In addition, the results of two studies found that nature relatedness[12] was a major predictor of happiness (Nisbet, 2011; Zelenski, 2014). The results "support the notion that nature relatedness could be a path to human happiness and environmental sustainability" (Zelenski, 2014, p. 4).

Overall, there is a growing body of evidence which shows that exposure to landscapes that are minimally dominated by human activity have direct and positive impacts on mental and physical well-being ; however, more research is still needed (Bowler, Buyung-Ali, Knight, & Pullin 2010). The following narrative section is taken from a collaborative autoethnography that attempts to capture the emotional healing power of nature, written by Asfeldt and Beames (2017):

> *The Wolf*
> *About 10 days into a 21-day journey, we were camped at the confluence of*
> *two rivers. We had arrived there late the previous night, because we had*
> *chosen to paddle under the midnight sun to avoid daytime winds. Our*

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[11] As found on the World Health Organization website: http://www.who.int/

[12] Nature relatedness is an individual's level of connection to the natural world (http://www.naturerelatedness.ca/Nature_Relatedness.html)

*six tents were pitched in close formation and I remember falling into my
sleeping bag, exhausted after the long paddle. Sometime during the night,
I awoke to howling wolves; as an avid photographer, these howls would
normally find me scrambling into my boots and reaching for my camera.
However, being exhausted, I rolled over in my sleeping bag, silently wish-
ing the wolves would "shut-it-down" so I could sleep. It was at this point
that a student called to me in a concerned voice about the wolves in camp.
Here we pick up Kerry's story. After waking to the same howling that had
roused me from my sleep, Kerry sat up in her tent and looked out its screen
window. While she was watching the wolves move between the tents, one
of the wolves came and sat on its haunches a few feet from her thin screen
window, and the two made eye contact. Kerry says she doesn't know how
long she sat eye-to-eye with the wolf, only that it was a moment of epiph-
any. She came from a broken home and for years had blamed her father for
the family breakdown because of the many summers he had spent away
from the family doing research; her father was a wolf biologist. In an emo-
tion-filled voice at breakfast the next morning, Kerry told the group that
as she made peaceful eye contact with the wolf, she suddenly understood
what had drawn her father into the field all those summers. She explained
how, while staring into the wolf's eyes, a sudden and profound understand-
ing of her father welled up from deep within her. After our expedition, Kerry
began a path of reconciliation with her father that has been lasting; just
last summer—over 20 years later—I had a chance encounter with Kerry, as
she and her two young children were on their way to pick up her father and
take him to a World Cup soccer match. (p. 5-6)*

Briefly summed, the importance of this story is two-fold. First, it demonstrates the emotional healing
benefits that can arise for students on an extended wilderness camping trip, and second, it shows the
importance of narrative in capturing this healing process. While this story reveals a vital transforma-
tive healing aspect to time spent in the natural world, it is important to note that this is an exceptional
experience and not a universal experience for all students who spend time in wilderness settings.
Although there are numerous healing benefits to spending time outdoors, it should not be understood
as a panacea for all that ails us; it is, rather, one part of a multi-dimensional process of healing and well-
being.

In fact some children may suffer from biophobia—a fear or an aversion to nature (Wilson, 2012). Warren
et al. (2013) suggest that not everyone views nature as a fun or safe place to explore, play, grow, and
learn from. For example, research that explored the social and collective memory of Blacks in relation
to the outdoors found that a lot of Blacks associated the outdoors with slavery, share-cropping, and
lynching (Johnson, 1998; Warren et al., 2013). Finney reports:

> *There is a persistent feeling by people of color that being involved with
> the environment is something White people do; yet on another level, there
> is a passionate acknowledgement about the importance of nature and
> the land and need to claim a place within it. (as cited in Warren et al., 2013,
> p. 91)*

With a different take on this subject, Le Grange (2012) investigates how the healing of the social might also affect the healing of nature and the self in South Africa. Le Grange (2012) observes that in South Africa the social suffers through war, apartheid and dictatorship; the environment suffers because of soil degradation, deforestation and water scarcity; and the self suffers not just materially but mentally as well. He believes that 'the psyche' cannot escape colonial rule and therefore experiences alienation from cultural traditions. Le Grange (2012) explores the concept of 'ecosophy' (also known as 'ecophilosophy'), which recognizes that the biosphere, mental ecologies, and incorporeal species are all interrelated and "that suffering in one ecological domain… will also manifest in suffering in the other two ecologies" and "healing in one domain might transversely affect healing in the other two ecological registers" (2012, p. 61). It is here that Le Grange invokes the Xhosa concept of Ubuntu (humanness) because "cultivating Ubuntu by definition involves healing of self, society and nature" (2012, p. 63). Le Grange concludes by explaining that Ubuntu is becoming recognized in the South African curriculum (as found in Humphreys and Blenkinsop, 2017).

## *PERSPECTIVES OF INDIGENOUS WELL-BEING*

The following section is inspired by the four dimensions of the Indigenous Medicine Wheel: body or physical; mental or mind; emotion or heart; spiritual or spirit as outlined by Ritchie et al. (2015) and Stonechild (2016). Ritchie et al. (2015) explain that the Medicine Wheel is "one of the most prevalent frameworks of Aboriginal health in Canada … it reflects a holistic and communal view of well-being that includes the individual, family, community and the natural world" (p. 352). Given that the land on which OEE programs often take place is in Indigenous territory, and Indigenous well-being is intimately connected to this land, Indigenous perspectives are essential to include in this section. It is necessary to note that there can be a danger of misappropriation in blending Western science and Traditional Ecological Knowledge (Lowan-Trudeau, 2014). With this in mind, the intention here is not to blend Indigenous thought with Western science within the category of well-being, but to explore these perspectives in parallel, without assimilation[13]. While Lowan-Trudeau (2014) cautions of the dangers of blending Western science and Traditional Ecological Knowledge, he also supports scholars and educators, such as the late Nakoda Chief John Snow (1977-2005), who suggest that the "future success of our society will require the combined wisdom of Aboriginal and non-aboriginal cultures" (Lowan, 2011, p. 10).

While the following research concerning Indigenous spiritually is from different Indigenous groups, it is important to note that each Indigenous group's spirituality, while similar, is tied to the particular land they inhabit. What follows is a sketch of current research concerning Indigenous Spirituality and Well-Being; it is kept mostly in the original authors' words to avoid dilutions or misappropriation. Buddhist and Christian spirituality and their ties to environmental education are also explored.

In his book, *The Knowledge Seeker Embracing Indigenous Spirituality*, Blair Stonechild (2016), Cree-Saulteaux member of the Muscowpetung First Nation and Professor of Indigenous Studies at First Nations University Canada, describes his experiences with education, Indigenous Spirituality, and the significance of coming to understand the proper relationship with all created beings. Stonechild (2016) observes that the public education system today tends to steer clear of conversations regarding religion

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[13] The author acknowledges her settler identity and recognizes the devastating effect colonization has had on Indigenous people and their land.

or spirituality.  In his study on holistic assessment in Kindergarten-Grade 12 education, he found an absence in teaching of spirituality in both Aboriginal and non-Aboriginal classrooms. Further, teachers and students reported a sense of 'something lacking' and thought that content on spirituality would contribute to more holistic learning  (Stonechild, 2016). Additionally, Mohawk scholar and educator Ruth Koleszar-Green, believes that "spirituality can bring people from marginalized spaces together. No one should have to park their spirituality at the classroom door, but rather should be able to bring their whole selves in" (as cited in Baskin, 2016, p. 54).

Stonechild (2016) goes on to tell us that education is one major vehicle through which change can occur and that "for authentic holistic education to occur from an Aboriginal perspective, holistic development—physical, emotional, mental, and spiritual—must be respected" (p. 183).  He writes that "Indigenous inhabitants understood that all life was worthy of respect and entitled to its place in Creation" and concludes that, "education must focus on building positive and respectful relations" (Stonechild, 2016, p. 59). Further, Stonechild (2016) observes that "Elders describe holistic life as necessarily encompassing physical, emotional, intellectual, and spiritual aspects. This can be portrayed in the form of a Medicine Circle"(p. 58).  The Medicine Circle, he tells us, makes a clockwise rotation beginning in the east, the direction of the rising sun, which signifies beginning or birth.  He writes:

> *At birth humans come to the earth with a mission deeply embedded in their consciousness, hence the association of the East with spirit and vision … South, as life becomes nourished by the sun, is the direction of youth development … where we seek to find appropriate and healthy relationships that will enable us to develop our gifts and become a fulfilled member of the community … West is the direction of the setting sun, the direction of maturity. The focus is on the development of knowledge and maturity of emotions. North is the direction of the coming cold and marks the end of the cycle, it is the time of harvest of the cycle's activity, with the emphasis being on realization of our goals through implementation of action and being able to give to heal through wisdom and implementation through wisdom and sharing. (2016, p.58)*

Stonechild observes that more often than not humans find themselves out of balance in one of these areas. He shares that a spiritual imbalance will impact other aspects of life and that in today's world, the imbalance is generally due to a 'deficiency in spirituality' (Stonechild, 2016, p. 57). He goes on write that:

> *The more spirit is ignored or mistreated, the more it forms a shell, making it difficult to reach. We become materialistic, intellectual, and unfeeling in relation to the environment, and function with little connection with spirit. Our spiritual life is withering. This disassociation can lead to treating others as mere objects, to selfishness, greed, and hedonism, otherwise understood as the essence of negativity in relationships. (Stonechild, 2016, p. 60)*

Later on in his book, Stonechild observes that "through spirituality they [aboriginal societies] maintained healthy relationships with the land, natural environment and other Indigenous groups. The lifestyle did not emphasize materialism or give priority to exploitation" (2016, p. 182). Similar to Stonechild, Baskin (2016) writes:

*My understanding of Indigenous spirituality, according to the teachings that have been passed on to me, is that spirituality embodies an inter-connectedness and interrelationship with all life. Everyone and everything (both "animate" and "inanimate") are seen as being equal and inter-dependent, part of the great whole and as having a spirit. This view permeates the entire Indigenous vision of life, land, and the universe.*

*Within Indigenous worldviews and spirituality, there is no separation between people and the land. Place, or the physical environment, shapes Indigenous people's entire lives and everyone else's lives as well, even though in Western worldviews, people are largely removed and unaware of the connections between themselves and the physical environment in which they live. . . The Earth is often referred to as our Mother for she gives birth to us and provides all that we need. The land has the ability to calm and restore us and to inspire creativity. The land is home. The land is in us. The land is us. (p. 52-53)*

Inuit Scholar, Tommy Akulukjuk, in his and Rasmussen's article "My Father Told Me to Talk to the Environment Before Anything Else", (2009) writes:

*The Qallunaat (European-Canadians) have a strange concept of their environment. For instance, the term wildlife is used to separate themselves from their home and separate community from the natural environment. They do not realize that they're part of wildlife; they were wild once and will be part of the wild forever, but they like to exclude themselves from anything the natural world provides. Inuit do not have such a word in their language, we are part of nature and cannot be excluded from it. (The word "Inuit" itself means "living beings'; it does not connote any sense of superiority ). (p. 287)*

In their article, "Connecting to the Good Life through Outdoor Adventure Leadership Experiences" Ritchie et al. (2015) suggest that Indigenous perspectives may fill a void in the philosophical foundation of outdoor education. They believe that "outdoor education and therapeutic programs in Canada may reflect some Indigenous approaches and practices, but the voices of Indigenous people are essential to meaningful discourses on Indigenous perspectives in adventure programming" (2015, p. 351). Further, Ritchie et al. (2015) write about how a 10-day outdoor adventure leadership experience can promote resilience and well-being for Indigenous youth through their participation in the program. Ritchie et al., (2015) state that "the concept of connecting with the Good Life described the way in which Wikwemikong youth developed resilience and well-being  as they participated in the OALE [outdoor adventure leadership experience] program" (p. 357). In this program Indigenous youth were engaged in activities for a 10-day period that were historically carried out by their ancestors. These activities connected students to their ancestors, each other and their community, and their own sense of identity (Ritchie et al., 2015). According to Ritchie et al. (2015), "Wikwemikong Elders described the OALE process as an eye-opener, helping the youth wake up to the Good Life; and that through it their hearts were opened" (p. 364).  Further, Ritchie et al. explain that the Spirit in the medicine wheel signifies com-

munion with creation; connection with creation is "the process of waking up to the world, to all that was external to one self" (2015, p. 360).

In his article "Exploring Place from an Aboriginal Perspective" Lowan (2009) recounts an insight told from an Outward Bound staff member:

> *I think that without experience on the land, young people can't truly be good stewards of the land, and unless they've had that moment of truly connecting with land and feeling its pull, that it's hard in [more] than a superficial way, to be a strong steward or advocate for land. I think that seeing that on the map and knowing that that is a place that we're taking people to, and to make that pilgrimage to those places as they sleep on the earth and spend that quiet time there, that they are going to absorb some of the ancient feelings of those places that for many of them will be an awakening and hopefully something that they remember for a long time… to know that their heritage and stewardship is a very ancient thing. (p. 48)*

It is important to underscore that Lowan (2009) advocates for outdoor programs to be guided by Indigenous instructors and/or Elders. And further, his research indicates that students' connections to place were found mostly through "unguided personal experience rather than culturally grounded instruction" particularly when the guides were non-Indigenous (Lowan, 2009, p. 49).

Blenkinsop and Beeman (2010) also pick up on this idea of unguided personal experience in nature, and suggest that educators make a shift from "the other-than-human-world as backdrop for education to active co-teacher for our students and even ourselves" (p. 27). By co-teacher they mean understanding nature as literally able to teach to students. They offer that the educator's challenge is to let the natural world do the teaching and not interfere when they believe direct learning from nature is occuring. Blenkinsop recounts an experience, copied below, illustrating these ideas regarding nature as a co-teacher, especially when it concerns an Indigenous student with a non-Indigenous teacher:

> *About fifteen years ago, when I was working with Outward Bound, I was witness to what I can only describe as a transforming experience for a young woman, named Donna. She was an adolescent participant in an all-Native group I was ostensibly leading, and we were on a three-week paddling trip through a swath of Northern Ontario. The group was challenging, made up of 10 young people all considered "at-risk". The students came from several different First Nations in Ontario (Six Nations, Cree, and Anishinaabe) and had very mixed living experiences. Half were still living with biological parents on reserves while the other half were with adoptive parents or in the care of social services and living in larger, predominantly non-native, centers. Donna came to the group bearing traces, both internally and externally, of tremendous scarring. She had been shuttled throughout the "system" and had suffered deeply. She resembled a late-fall maple leaf, fragile, buffeted by her environment, and physically and mentally, curled in on herself. There was very little life left, and what was left was easily crushed. Donna tended to be quite withdrawn, and in the*

*group setting her body would curl itself up, trying to disappear, shutting off and protecting herself from the outside world, the source of pain. She had many inch-long scars running along the inside of both arms from her wrists to mid-biceps indicating a systematic process of self-abuse, and a clear sign of a person calling out for help or for whom blood, pain, and fear is the best, the only, reminder of being alive.*

*For the first two weeks, until the beginning of the "solo experience", Donna remained detached, self-protective, her personal pain almost palpable. The "solo experience" is designed as an opportunity for the students to test their recently learned skills but, more profoundly, it is a chance for them to be alone with themselves immersed in the nonhuman world without all the trappings and distractions of our modern society; it is a component of the Outward Bound program that often has deep, educative value. For some students "solo" can be the most difficult time they have ever spent. Others discover they are just not comfortable alone. It could be because they are deeply communal, or they define themselves solely through interactions with other people, or they dislike who and what they are and while on solo, what normally distracts them from themselves is absent. Or it could be that they don't know what to do. On the other hand, I have seen students for whom this experience is wonderfully positive, a chance to reflect, to self-examine, to discover what they know or don't know about themselves, gaining strength through the process. For yet others the experience is neutral. Nothing seems to occur except that they are able to complete the practical project and move on. Whatever their reaction to the situation, the students are not actually alone when they are on solo. They are certainly away from other people, but they are in fact immersed in the wilderness, completely surrounded by it.*

*For Donna, the solo experience was to spend three days on her own small island from which she could see my campsite, if she so wished. This also allowed me to check on her without intruding on her solitude. On the evening of pick-up I paddled over to the island. The sun was at my back and sinking low in the sky, and the world had that translucent feel of a late summer evening. As I approached I could not see Donna, but there was a small pile of her belongings sitting next to the shore. She must have been waiting for me back in the forest because, as I landed, she came out and walked towards me. At first, I did not recognize her. The setting sun was shining directly on her, and yet she seemed to have a glow of her own. She was taller, more comfortable (at ease), and more alive than I had ever seen her. She seemed to have gone through a complete change of persona. For this moment anyway she was not turned into herself, exuding pain and distrust; she was a spring leaf fully unfurled and open to what world had to offer. She radiated strength, courage, and hope, and I realized that something had happened to her on this solo experience . Whether she realized this or not, I don't know, but I do know that I almost paddled away and left*

*her in that place, not wanting to disturb what was possibly the first time in Donna's life of safety, belonging and learning. It was both a humbling and awe-inspiring moment, I observed a change in Donna during that solo experience that was truly significant, and that it had very little to do with me as a teacher.*

*This planted a burr. How was it that this place, this experience, could help, even teach, Donna to feel safe, to unfurl, to come into her own? I have since come to the realization that the transformation of Donna did not occur as a result of my, or any human's, intervention, or best-laid plans, or active mediation and interpretation. It is, I believe, an example of the direct encounter between an individual and the wilderness where the more-than-human world embraces the learner and provides opportunities for learning, as any good teacher might. (Blenkinsop and Beeman, 2010, pp. 29-31)*

Blenkinsop's story of Donna highlights some important aspects to consider: it shows how solo experiences in nature can be enlightening; it further demonstrates the awareness of a non-Indigenous teacher in allowing the more-than-human world space to 'teach' and to help heal an Indigenous student who has been 'let down' by the system. Moreover, it reveals the ability of personal account in capturing the healing power of nature.

In Takano et al.'s (2009) report of a place-based education program in Alaska, they also write about the detrimental effects 'the system' has had on Indigenous people's cultures and identities. They claim that the 'early school system' introduced to Alaska Natives, was 'based on a simulation policy', and continues to generate a 'negative relationship between school and community' (Takano et al, 2009, p. 349). They write that before the early school system, "Traditional Yup'ik education was holistic in nature, with practical implications based on the principles of a collective survival and a balance among the human, natural and spiritual worlds…"(2009, p. 350). With this in mind, the recently implemented outdoor place-based school in Alaska provides extensive outdoor experience and engages the kids in outdoor activities important to Yup'ik culture, like ice fishing and berry picking. Berry picking also incorporates many aspects of health and well-being, including physical activity, as the students need to climb hills above 1000ft where the berries are found. Takano et al. write, "this tradition not only provides food for people during camp, but also has been an important part of maintaining their health during the long winter when Vitamin C is not available. The act of berry picking has also been a time for people to congregate, tell stories and deepen relationships with each other" (Takano et al., 2009, p. 352).

## *SPIRITUAL*

Physical, mental and emotional, and indigenous perspectives have each been addressed as they pertain to overall well being. General research on spirituality and the intersection of spirituality and outdoor studies have also received attention in the research literature. In addition to Indigenous spiritual connections to the land, Buddhist spirituality or the concept of mindfulness has been explored in relation to environmental education. Bai and Scutt (2009), in their article "Touching the Earth With the Heart of the Enlightened Mind", believe that Buddhist mindfulness has an educational objective to the issues and concerns surrounding environmentalism. They write, "we see mindfulness as an effective way to cultivate a sense of interbeing or consanguinity between ourselves as human beings and

all other beings that make up the ecological community that we call earth" (2009, p.100). Bai and Scutt (2009), like many other Buddhist practitioners and environmental philosophers, believe that the dualistic split between self and nature objectifies beings in the natural world, viewing them either as objects to be examined or instruments to be used by humans. They contend that through mindful meditative practices, humans can 'feel a continuity' rather than a separation between oneself and the natural world . This continuity allows one to feel 'awe, wonder, and gratitude' for the environment. In other words, through mindful practices one can "appreciate and love the world for its intrinsic value and not just for its utility or instrumental value" (Bai & Scutt, 2009, p. 101). They define intrinsic value as "integrity and legitimacy of right to be for itself" (2009, p.95).

Moving beyond the idea that the world has intrinsic value, some theorists believe that the objects we experience through our senses are not inanimate, but animate beings (Abram, 1996; Bai, 2009; Clarke & McPhie, 2014). Bai (2009) speaks about the recovery of animism within experiential learning, in which we understand nature not as a silent, inert object but as a living being. Her hope is that once we see the non-human world as a living being, we will view all beings as worthy of our care . Bai (2009) contends that it is through outdoor education that we can experience the world through all of our senses. She believes that practitioners should teach students to care about the environment not through telling them but through encouraging students to embody respect, compassion, care, and love through the senses and by spending time outside. Bai (2009) believes that we need to include in the school curriculum a lot more time and mindful opportunities for students to be outdoors in direct contact with the soil, rocks, trees, and water and to be more curious and conscious about our connection to the earth.

A great example of this is found within Blenkinsop's and Piersol's (2013) observations of "Bambi", a first grade student at the Maple Ridge Environmental School, an all outdoor public school in BC. They write:

> *As we make our way through the forest, I feel like she [Bambi] is acutely aware of her footprint regarding certain things. . . As she grows older, she seems to intuitively know it as a 'home' for other creatures and her possible impact on that home changes the way she walks on it … We walk a bit further and she yells at a boy in front of her who is standing on a decaying log. "Get off of that!" She complains. "Why should I?" He demands. I ask her why it's making her so upset. "It's alive." She tells me. I argue back that is was an old tree that is now dead. The boy hops off and she reaches over and points at the green moss that was trampled under his feet. (p. 51)*

The above example illuminates the porosity of boundaries between living and dead. While logs and stumps are often seen as dead, environmentalists like David Suzuki (and children like Bambi) have long found that these cultural demarcations are not helpful in understanding how ecosystems work (Grady & Suzuki, 2007). Logs and stumps are a part of the living ecosystem. Broadening Western boundaries between what is living, dead, and inanimate can, if supported by teachers, bring about a better understanding of the natural world and care for it. It is clear from these writings that one's interpretation of well being could be linked to spirituality or religious understandings.

Lastly, Stonechild (2016) differentiates between religion and spirituality:

*Spirituality involves direct contact and connection with the mysteries of the transcendent … More experienced mentors can guide and give advice, but will not dictate what and how the spiritual quest unfolds. Religion is characterized by a belief system defined in rigid written texts … The ordinary person's relationship with the sacred is mediated by interpreters, be they priest or rabbi. Mystical aspects are considered 'hidden' from ordinary knowledge, and adherents are to defer to church authorities. (p. 3-4)*

While religion is beyond the scope of this summary, there is a body of research exploring connections between various religions and outdoor education. For example, Steven Bouma-Prediger (2016) writes from a Christian perspective, identifying fourteen ecological virtues that arise from the biblical story. Similarly, Paul Heintzman, from the University of Ottawa, in the last decade, has devoted significant scholarship to the ethical foundations of Bill Mason, who as a canoeist, through his film making, writing and painting, has articulated a Christian understanding of environmental stewardship. Heintzman writes on Mason's environmental ethic (2007), play ethic (2011) and ecological virtues (2017). Bill Mason, who despite his passing away in 1988 has remained a force in Canadian outdoor education.

Paul Heintzman (2016) has also contributed a behavioural model of outdoor education to synthesize empirical findings on outdoor activities and spirituality. The framework "provides a way to explore the processes that link outdoor activities with spirituality, and helps explain the complexity of the relationships between these two phenomena" (p. 395). Antecedent conditions such as personal history and spiritual traditions plus one's setting (being away and nature) and recreational mode such as activity, time alone or in groups lead to spiritual outcomes in terms of short term spiritual experiences or long term spiritual well being (Heintzman, 2016).

In summary, well being in this document is perceived from the familiar themes of body, mind and heart and spirit. Mind and heart were too difficult to separate out in the research articles reviewed so have been presented together. Spirituality was considered distinct from religious practice (which is modestly mentioned here) and indigenous perspectives of human well being were included due to their prominent presence in the research literature in the past ten years. This section presents a hopefully, new and enlivening way of considering human well being as it is influenced by OEE.

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# CONCLUDING REMARKS

As a document for public and professional use and scrutiny, it is our hope that this research summary has expressed the dynamic range of research and conceptual thinking and practice in OEE today. Through reading and reflecting on this content, we hope outdoor educators will widen their horizons concerning their practice and find this document to be a useful tool to engage with research generally and with specific research articles mentioned within. To that end, the editorial team for Pathways: The Ontario Journal of Outdoor Education, plans to create a series of invited responses from our members to specific research articles of their choosing. The 'Explorations' column will serve this function and each issue will feature a particular topic. Look out for these in the near future.

The four COEO pillars (Curriculum, Environment, Character, Well-Being) used as an organizational framework for this Research Summary were established by COEO in 2004. For the purposes of the work here, the pillars served more as strands of a web given the interweaving of ideas between pillars evident in the research. The COEO Executive is planning to revisit the pillars to explore any revisions or changes needed fifteen years later.

Lastly, we again want to thank Chloe Humphreys, the author of this document. There were many back and forths by email and phone and our time working together has been rewarding. We are indebted to her for her talents and commitment to this project.

Ultimately, this document illustrates the potential for reciprocal healing between nature, the individual and society delivered through OEE programming. Practitioners are encouraged to follow their passions within the broad scope of OEE and are asked to consider how their practice contributes to the whole of an educated public. From its forefathers to the wayfinders of today, the major aims of OEE surround the concept of the development of an informed citizenry that is willing and capable to effect positive change.

# APPENDIX A: RESEARCH SUBMISSIONS

**Editor's Note**: We asked fifteen Outdoor Educators in Canada or as Canadians to select a "top five list" of influential research articles written over the last ten years. This was meant to serve as a starting point for our researcher. What follows is the return correspondence from a group of eleven respondents. Some book titles are included along with the majority of journal article submissions. Thanks to Morten Asfeldt, Simon Beames, Sean Blenkinsop, Mary Breunig, Bob Henderson, Bryan Grimwood, Andrew MacDonald, Tim O'Connell, Connie Russell, Zack Stevens, Stephen Ritchie for their contributions.

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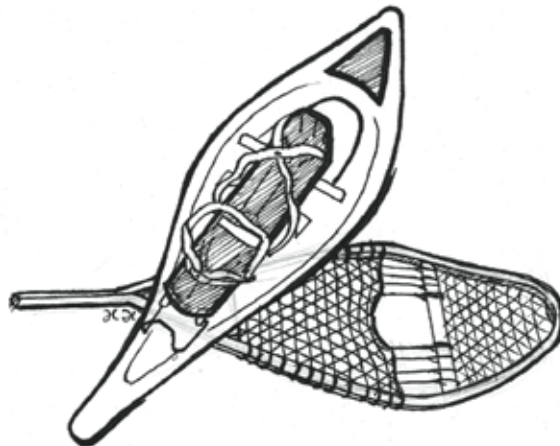
*"Like one of those large Ontario lakes, this book is clear, wide and deep. Presenting cutting-edge thinking in and around the domain of outdoor education gleaned from a range of accomplished scholars and practitioners, it provides guidance that can and should inform the day-to-day work of environmental and outdoor educators and offers a variety of entry points for the translation of theory into practice. With a focus on curriculum, environment, character and well-being, this volume presents a highly readable, informative and well-referenced review of the outdoor education research literature primarily published between 2007 and 2017. Of real and pressing importance is its extensive engagement with the work of Indigenous scholars."*

Dr. Richard Kool is the co-founder of the Royal Roads University MA program in Environmental Education and Communication. He has worked as a naturalist, museum educator and curator, government biologist, and both secondary and university teacher. A self-described intellectual omnivore who finds almost everything both interesting and distracting, Rick is a grateful immigrant to the Songhees (Coast Salish) territory in Victoria BC.

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*Dynamic Horizons is a great gift to educators who are looking for an up-to-date resource that examines a whole-student approach to Outdoor Environmental Education. This research summary provides a comprehensive look at best practice and the benefits of OEE—that the way we learn is just as important as what we learn. Students are encouraged to be life-long learners; this resource inspires educators to do the same and be life-long learners themselves. Dynamic Horizons equips the reader with the tool of well researched evidence of the importance of OEE and the potential for 'reciprocal healing between nature, the individual and society' through deep connection with the land. A fabulous aid for educators hoping to widen the horizons of their own practice while also shifting the mindset of those who have yet to understand the power and impact of Outdoor Environmental Education.*

Haley Higdon is a guest on Turtle Island and is the Director for Natural Curiosity. She has her BEd and MA in Child Study and Education from the Dr. Eric Jackman Institute of Child Study at UofT. She has spent the last three years working as the managing editor for the development and creation of *Natural Curiosity 2nd Edition: The Importance of Indigenous Perspectives in Children's Environmental Inquiry*. Haley supports educators with incorporating environmental inquiry into their practice.



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