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**Teach a Person to Fish: An Examination of the Functionalities of Outdoor Classrooms in Windsor-Essex County**

by

**Loretta M. Sbrocca**

A Thesis  
Submitted to the Faculty of Graduate Studies  
through the Faculty of Education  
in Partial Fulfillment of the Requirements for  
the Degree of Master of Education  
at the University of Windsor

Windsor, Ontario, Canada

2022

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by

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January 19, 2022

## **DECLARATION OF ORIGINALITY**

I hereby certify that I am the sole author of this thesis and that no part of this thesis has been published or submitted for publication.

I certify that, to the best of my knowledge, my thesis does not infringe upon anyone's copyright nor violate any proprietary rights and that any ideas, techniques, quotations, or any other material from the work of other people included in my thesis, published or otherwise, are fully acknowledged in accordance with the standard referencing practices. Furthermore, to the extent that I have included copyrighted material that surpasses the bounds of fair dealing within the meaning of the Canada Copyright Act, I certify that I have obtained a written permission from the copyright owner(s) to include such material(s) in my thesis and have included copies of such copyright clearances to my appendix.

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## **ABSTRACT**

Outdoor classrooms are valuable learning environments that are adaptable in the face of differing terrain, climate, geography, weather and changing educational requirements. They can be used to teach all subjects, engage students in personal development goals and organizational priorities, and promote community involvement. How can educators harness the vast potential of outdoor classrooms as a learning tool? Understanding their functionalities is one means. This research employs an online questionnaire and optional follow-up interviews with various types of educators throughout Windsor-Essex County to help participants understand the functionalities of their own outdoor classrooms. Results showed that educators had different interpretations of what constitutes the features of their outdoor classroom, but one certainty was that they were using each other's outdoor classrooms as well as public green spaces for learning. They indicated more than 100 reasons for taking their students into the outdoor classroom.

Benefits/perceived benefits of time spent in the outdoor classroom for educators and students (perceived) included feeling calmer and more peaceful, increased physical activity, and better student-teacher rapport. Students were also perceived to better understand the topic. Educators were keen to discuss the amount of space, the transmission of sound and the diversity of texture as topics of functionality. This research has the capacity to benefit educators and administrators who work at schools, school boards, pre- and in-service teacher education programs, museums, and a variety of organizations (such as environmental, historic, faith-based and youth development) that use outdoor classrooms.

## **DEDICATION**

For Shawn and Annabeth: keep playing in the world's sandboxes.

And for Trevor: we done good!

## **ACKNOWLEDGEMENTS**

The pursuit of my Master of Education was always intended to be a means to a career change, but I did not foresee the research element becoming such a labour of love and dedication. I love to learn from teaching and teach from learning, and I will always be dedicated to both, no matter the challenges they bring. And challenges there have been! Numerous family crises and months of delays associated with the pandemic turned easily into personal doubts that I would ever finish this thesis. I am grateful for the opportunity to complete my research and contribute to the fascinating field of outdoor classroom education. I hope this leads to many more educators and youth stepping outside to learn.

I must sincerely thank my husband, children, family, and closest friends for believing that I had the strength and abilities to achieve this, and for taking the time to remind me. I thank Dr. Clinton Beckford, my advisor, for guiding me through this process without subjecting me to deadlines I couldn't meet, and for his rare but emphatic use of multiple exclamation marks!!!!!! Appreciations go to my committee members for their patience and involvement. Thank you to my marketing specialist for climbing such a steep learning curve with me during the recruitment process. Joyful acknowledgements go to my children's kindergarten teachers, without whom my family and I might not have discovered the wonder of the outdoor classroom. Finally, I am beholden to Audrey, Bethany, Brian, Caroline, Christina, Della, Green Leaf, Odin, Sunflower, Terri and Val for sharing their enthusiasm, stories, and perspectives, and to all the questionnaire respondents for choosing to contribute to research and make a difference in someone's world.

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## **LIST OF ABBREVIATIONS**

ECE – Early Childhood Educator

EDU – Ontario Ministry of Education

EE – Environmental education

ERCA – Essex Region Conservation Authority

FB – Facebook

NFER – the National Foundation for Educational Research in England and Wales

OA – Outdoor adventure

OC – Outdoor classroom

OE – Outdoor education

PBE – Place-based education

PBL – Play based learning

PD – Professional development

PPNP – Point Pelee National Park

REB – Research Ethics Board

US – United States of America

UWin – University of Windsor

WGEE – Ontario Ministry of Education, The Working Group on Environmental Education

YDO – Youth development organizations

## **CHAPTER 1 INTRODUCTION**

### **My Personal Interest in Outdoor Classrooms**

The vast potential of outdoor classrooms (OCs) became quickly apparent to me when my son started Junior Kindergarten. Day after day I heard joyful accounts of his many outdoor activities: painting, building, making music, climbing, flying homemade kites, exploring puddles, learning to print, engaging in dramatic play at the outdoor kitchen, counting, collecting, gardening, making friends and “camping” in a tent. Furthermore, anything the kids did indoors, they did outdoors with twice as much creativity and vigour. We parents learned to dress our kids for the elements and our kids learned to have fun in all seasons, despite our region’s damp, wet winters. Guided by a team of kindergarten teachers, Early Childhood Educators (ECEs), Education Assistants, and Developmental Services Workers, the students tended the rooftop garden from planting to weeding to picking and observed in fascination as the classroom pumpkins ultimately rotted and returned their nutrients to the soil. Children developed gross motor skills as they explored the ditches, climbed trees, and rode tricycles. The kids were happy, the teachers were refreshed, and the academic and social learning was tremendous.

As a substitute teacher, I witnessed more and more kindergarten teachers bringing students outdoors, and I jumped at the chance to contribute ideas from my son’s classroom. When my daughter began kindergarten three years later, the outdoors provoked in her a love of science and a fascination with insects that still excites her today. Having achieved my Kindergarten Specialist Additional Qualification, I now have a better understanding of the philosophies and pedagogies that guide Ontario’s Early Years (EY) programs and direct play-based outdoor learning. I see the function in the fun. I understand why my kids still won’t let us fill in the backyard sandbox!



Heading into Grade 6, my son went through a very difficult transition from using pencil and paper in his classroom to reading information online and having to battle a keyboard to submit even the smallest assignment—one that he could otherwise have finished on time and to an average or above-average standard. Without manipulatives in his math class, he simply lost interest. When the COVID-19 pandemic lockdown began later that school year, my daughter, in Grade 3 at the time, struggled similarly to manipulate different apps and learning tools for each subject, despite my desperate attempts to help relieve her stress by offering her a pencil and paper. This is when the importance of functionality hit home the hardest, and I began to look for ways to incorporate the pandemic into my research.

From pencils to laptops to platforms to apps, from keyboards to wireless headphones to sketch books, fidget-spinners and sand: each has its own features and designs that suit different physical, social and psychological needs of learners and provide a range of benefits. In the face of the COVID-19 pandemic causing loneliness, depression, and fear in all ages (Marques de Miranda et al., 2020; Salari et al., 2020) and the virus itself spreading faster indoors, I believe outdoor classrooms can become an important tool in uniting our communities, families, and sense of normality. This research is my way to inspire educators across Windsor-Essex County, and hopefully Ontario, to open their doors and head outside.

## **Background**

In this section I will outline a definition of outdoor classrooms, then discuss four key elements of functionality: features and designs, users, purposes for use, and benefits to users. In this way I will illustrate the flexibility and adaptability of OCs and set the stage for the research problem. My choice of these four elements is based on a combination of “the primacy of function in architectural design” as summarized on the website of Omrania (2018), an award-

winning international architecture and engineering firm, and Wax's (2008) guidelines for achieving functionality in website and app design. This suits my personal and professional experiences with OCs as having a degree of interactivity,<sup>1</sup> thus requiring some form of logical process to achieve functional design. At the same time, it helps to explain my choice of examining functionality (that is, the 'teaching a person to fish' aspect of the proverb used in my thesis title), rather than examining individual lesson plans, games or activities (the 'fish') that take place in OCs.

### ***What are Outdoor Classrooms?***

Publicly funded schools are popular locations for OCs and a great place to begin to examine them. At some schools, infrastructure is built to enable teachers to conduct lectures and studies outdoors. Tree stumps, logs and boulders make for good seats for the students (see Figure 1, p. 4), gazebos provide shade and a meeting place, rain barrels collect water for experiments, and hills can be used for testing wind resistance or just for sitting and sketching. Large rocks can be climbed or overturned for discovery of flora and fauna. Students can tend gardens and box gardens in rural and urban areas. Wooded areas, streams, fields, ditches, marshes, and beaches are great areas for exploration, particularly if they are part of or nearby to the schoolyard and accessible daily with proper supervision (see Figure 2, p. 4).

Examination of the Ontario Ministry of Education (EDU) curriculum documents helps us visualize why and how to use OCs. In the Grades 1-8 curriculum for The Arts, teachers are encouraged to bring students outdoors and out-of-classroom to learn about dance, music, and art

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<sup>1</sup> An example of interactivity would be watering seeds in a box garden, which then grow into flowers, which attract bees, which can be observed, sketched, and studied by the students. The bees will encourage growth of more flowers in the area, which may require more watering, etc.

**Figure 1:**

*Large Rocks in an OC in Windsor-Essex County*



This boulder structure is set up in a row-seating configuration, but it can also be used for gross motor skills development, balance development and muscle development (stepping or jumping on and off). The boulders can be illustrated with paint or chalk, used to learn about how objects absorb the sun's heat, and there are very interesting bugs that live where the rocks meet the ground below.

**Figure 2:**

*Greenspace Adjacent to a Schoolyard in Windsor-Essex County*



This space can be useful for birdwatching, bug collecting, painting, sketching, or just for mentally decompressing even though it is separated from the adjacent OC by a fence.

forms, and to use natural objects from the outdoors to create artwork (Ontario. Ministry of Education [EDU], 2009b p. 3). The Health and Physical Education curriculum for Grades 1-8 advocates using school grounds, nearby trails and fields and “various other outdoor venues” (Ontario. Ministry of Education [EDU], 2015, p. 4) to get active and learn about humankind’s impact on said venues. The curriculum explains natural and built environments “as sites for discovery, problem-solving, and active learning, as well as for first-hand experiences that put students in touch with nature” (EDU, 2015, p.5). Also, EDU’s kindergarten curriculum is built on an outdoor-friendly play-based pedagogy, and replete with examples of social- and curriculum-based learning opportunities that can take place outside (Ontario. Ministry of Education [EDU], 2016b, see “Learning in the Outdoors” and throughout). In a landmark step, in 2009 EDU published a framework requiring the incorporation of environmental education (EE) into all subjects in Grades JK-12 (Ontario. Ministry of Education [EDU], 2009a). The framework did not mandate use of OCs or bringing students outdoors, but it is an influential document considering the evolution of the EE movement to favour learning outdoors (see Athman & Monroe, 2001).

Day cares, private schools, schools on reserves, Forest Schools, post-secondary institutes, and other types of schooling venues might also include what this study considers to be OCs. Outdoor education centres, mostly used for EE and often tied to Ontario curriculum, are typically found in forested areas, but also include indoor infrastructure for gathering, examining, discussing, and sometimes spending the night (Borland, 2015).

Beyond schools, public and private campgrounds may have a multitude of educational features, such as hiking trails, native and at-risk flora and fauna, streams, marshes, meadows, and beaches along waterways. Depending on the campground owner, onsite guided OE may be

offered to campers. In Ontario, protected areas such as national, provincial, and municipal parks and environmental sites and Conservation Areas, have green and blue space worthy of exploration, and purposefully built gathering spaces where a guide can introduce the day's activity, answer questions, and discuss their organization's mission and *raison d'être*.

Finally, historic sites, museums, art galleries, libraries, and faith-based venues—and surely I have missed some! —are more places where OC facilities can enhance the learning experiences for all.

In this study, an *outdoor classroom* must include natural or built structures that are designated for a group to gather, discuss, and exchange ideas in the outdoors for the purpose of learning. The OC need not be on school grounds; however, my interest lies in learning benefits for kids in Grades JK-8 (ages 4-13<sup>2</sup>).

### ***Features and Designs of OCs***

Features and designs of OCs vary tremendously. Infrastructure may be built to enable educators to conduct lectures and typical indoor-style lessons under better lighting conditions in the outdoors (Khan et al., 2018; Yaman, 2005). This could include amphitheatre-style seating with chalk boards or white boards at the front. Seating comprised of rocks or logs might be placed under a shady tree near bird feeders and bird houses behind a church or mosque, creating a spiritual environment for faith-based lessons for youth groups. Perhaps an art gallery director has added picnic tables and a pavilion to the gallery's outdoor sculpture gardens for children's weekend outdoor painting classes. Gardens and box gardens offer opportunities to study life cycles and changes over time, as the students return to the garden to track growth, enjoy the

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<sup>2</sup> Depending on their birthdate, children might begin Junior Kindergarten at age 3. Likewise, there are various reasons a child could be 14 years old in Grade 8. However, this age range is meant to represent most students in Grades JK-8.

harvest and prepare for next year's planting. Hills, ditches, low trees and tree stumps offer unstructured play opportunities and stimulate sensory development and the development of gross motor skills and co-ordination, as young children use their large leg and arm muscles to choose how they will move about these structures (Nel et al., 2017). Fallen logs can be used for physical training and development of balance and are ideal for problem-solving and working on overcoming fear (Fernández-Río & Suarez, 2016). Sometimes, OCs are surrounded by naturally occurring wooded areas, streams, fields, ditches, marshes, or beaches. When used for activities, lessons and explorations, these features are also valid OCs (McDonnell, 2013; Ward, 2018; Wood, 2015).

Not all OCs are designed for the exploration of green space. A group of picnic tables under a shelter can be added to an historic site or outdoor train museum to allow for discussion, questions and crafts before and after guided exploration of the grounds, or a fire pit can serve as an outdoor cooking school, such as at the John Walter Museum "Bake Off" camp in Edmonton, Alberta during designated times of the year (see <https://movelearnplay.edmonton.ca/COE/public/category/browse/>).

### ***Who is Using OCs?***

Historically, the outdoors has been a focal location for valued ways of teaching and learning amongst First Nations, Metis, and Inuit in Canada (Beckford et al., 2010; Córdoba, 2005), Maori in Australia and New Zealand (Brown & Heaton, 2015), and Aboriginals in the United States (US) (Yeboah, 2005). Yet, engaging students in outdoor exploration for academic gain is simultaneously being studied as a new and innovative technique in Australia, Norway, the US and Japan (Anonymous, 2017; Cone et al., 2015; Jolly & Sandberg, 2018; Robertson et al., 2015), to name but a few countries. Additionally, modern-day educators are developing OC

experiences to link today's youth to earliest inhabitants' cultures, beliefs, and respect for the land (Chambers & Radbourne, 2015; Elliot et al., 2014; Hennig & Paetkau, 2018; Ward, 2018; Williams & Taylor, 1999). There are studies of OC-use spanning all ages of students from kindergarten through adult (Bentsen et al., 2017; Chapman, 2017; Fjørtoft, 2004; Truong et al., 2016; Williams & Taylor, 1999), and educating outdoors is not limited to certified teachers (D'Amore, 2018; Lange et al., 2011).

### ***For What Purposes Are Educators Using OCs?***

OCs offer extensive teaching, learning and personal development opportunities and are adaptable to most geography, topography, and climates. In Australia, New Zealand, and many European and Scandinavian countries, educators have been teaching in natural outdoor classrooms for decades in all terrains and seasons (Bentsen & Jensen, 2012; Brown & Heaton, 2015; Gelter, 2000; Legge, 2018; McDonnell, 2013). OCs also lend themselves to many pedagogies, such as Deweyan experiential learning (Bentsen & Jenson, 2012; Jolly & Sandberg, 2018), play-based learning (Nedovic & Morrissey, 2013), place-based education (Lisle, 2018; Smith, 2002; Ward, 2018; William & Taylor, 1999) and inquiry-based learning (Lebak, 2005).

The need for the environmental education of children and youth is both expansive and expanding, and critical now more than ever. The most recent report by the Intergovernmental Panel on Climate Change (2018) scientifically forecasts increases in extreme high and low temperatures, flooding, duration and severity of droughts; and acidification of the oceans in many regions of the world if unprecedented worldwide changes are not enacted to limit global warming by 2030. Studies using interviews and questionnaires with teachers and students have shown that learning in the outdoors increases children's awareness of and interest in the environment and environmental issues (Jolly, 2012; Lloyd, 2018; Leeming et al., 1997).

Additionally, the efficacy of EE is related to the relevance of the topic to the learner, making immediate surroundings an ideal place to start to learn (Athman & Monroe, 2001).

Another goal of OC use is reconnecting children to nature in the face of Louv's (2008) 'nature deficit disorder'. Louv describes nature deficit disorder as "not a formal diagnosis, but a way to describe the psychological, physical and costs of human alienation from nature, particularly for children in their vulnerable developing years" (Louv, 2009, para. 2). There is also concern that a decrease in nature-based recreation is at fault for children's lack of knowledge of biodiversity and their pessimism and fear about our planet's environmental problems (Elliot et al., 2014).

Use of OCs for teaching the arts (Ward, 2018), journaling (Johnson, 2014), music (Lindemann-Matthies & Knecht, 2011), mathematics (Bentsen & Jenson, 2010; Ward, 2018), literacy (Chambers & Radbourne, 2015; Johnson, 2014; Ward, 2018), social studies (Smith & Sobel, 2010) and science (Khan et al., 2018) shows they can be functionally adaptable for cross-curricular goals at school, but historically, OCs in forests and mountains, with streams and rough terrain have been used in many countries for strength and stamina training and character development (Borland, 2015; Ho, 2014; Peredun, 2018). *Parcours* ("free running" using trees, rocks and outdoor terrain as an obstacle course) is popular with youth under its Anglicized name, "parkour," thanks to video games, but in Quebec it is called *hébertisme* after France's Georges Hébert, who developed the sport. A quick Google search shows dozens of parks, camp programs, youth programs and schools throughout Quebec that provide *hébertisme* facilities and/or instruction.

***What Benefits Have Been Realized by Teaching in OCs?***



Hébertisme is an example of creating physical health benefits by teaching in OCs. Other personal wellbeing benefits such as decreased stress for students and teachers (Truong et al., 2016; Wells & Evans, 2003 as cited in Nedovic & Morrissey, 2013) and improved socialization skills for students (Bentsen, et al., 2017; Lisle, 2018; Maynard et al., 2013; Truong et al., 2016) have also been realised during studies of outdoor learning and OCs. In Khan, et al. (2018), students showed “significantly better” academic attainment of lessons on plants and soil, a significant preference of the lighting and acoustic conditions of the outdoor classroom compared to the indoor classroom, and significantly more enjoyment of learning science outdoors compared to indoors (p. 25). The National Foundation for Educational Research in England and Wales (NFER) categorized the impacts of outdoor learning into cognitive, affective, interpersonal/social and physical/behavioural (Dillon et al., 2005), but found through surveys and interview that teachers and students are also experiencing a variety of “other aspects of learning” (p. 22). Thus, it is evident that the features and designs of OCs, users of OCs, purposes to use OCs and benefits to users abound.

### **Research Problem**

The vast flexibility and adaptability of OCs described above raises a plethora of questions: Do certain features of OCs lend themselves to teaching certain subjects or achieving certain benefits? Is it better to decide on the design of the OC first, or determine purposes for use first and then build the OC accordingly? What if those purposes (such as school priorities) change? These are questions of relationship that harken back to my interest in OCs as a *learning tool* the same way a laptop is a learning tool. An examination of the functionality of OCs—what makes them most suitable to serve their purposes—is one lens through which important relationships and discussions about OCs as learning tools may emerge.

There are numerous studies of how/if targeted use of OCs relates to specific, predetermined outcomes (Chapman, 2017; Jolly & Sandberg, 2018; Khan et al., 2018; Truong et al., 2016). Other studies are more open-ended as to the OC activities (Alikhani, 1986; Elliot et al., 2014). Studies that attempt to determine relationships among multiple or all the key elements I have put forward above are less common (Braun & Dierkes, 2017; Dillon et al., 2005; Yaman, 2005). Dillon et al. (2005) is particularly inclusive of the key elements I have put forward, but the study took place in England and Wales. Yaman (2005) presents forty potential designs of outdoor classrooms that would create functionality across multiple fronts, but the classrooms exist only on paper and the benefits are, as such, only hypothetical. In the context of Ontario elementary schools, there is little, if any, research specific to the functionality of OCs. As for the community of educators and users that goes beyond publicly funded schools (such as private schools, faith-based organizations, on-reserve schools, the three levels of governments, non-governmental organizations, or NGOs, and more) I have not been able to find any research that includes these diverse and fluid groups. Researchers often gage benefits to students (increased awareness of the environment, development of socialization skills, etc.), but not as often benefits to the educators. Research on the features/designs of OCs heavily favours examining gardens, but rarely consider how a sandbox, a giant xylophone, a shady pavilion, or distance from the rest of the school contribute to the functionality of an OC. This brings to light an important question: at what level are educators ‘learning to fish’—that is, understanding how an OC can serve they and their students’ full spectrum of identities, needs and purposes?

Further to the research problem, there is an ongoing need for knowledge at several levels of the publicly funded education system. EDU continues to insert recommendation to teach outdoors into their curricula (EDU, 2016b; EDU, 2017, p.5), but their policies and frameworks

do not define outdoor classrooms. As each Ontario school board is mandated to come up with its own cross-curricular plan for teaching EE, based on its own needs, neighbourhoods, priorities, and potential community partners (EDU, 2009a), there is a strong need for school board administrators to understand how OCs can serve all these requirements. Educators have the greatest need to understand the functionality of OCs: the latest kindergarten curriculum (EDU, 2016b) heavily promotes outdoor play and educators are mandated to teach EE as part of every subject (EDU, 2009a). Yet, hesitation to teach students outside is widespread. Studies in Ontario, British Columbia and other countries consistently show that lack of knowledge about what and how to teach outdoors, difficulty determining curricular connections, not enough time in the day, poor level of confidence, lack of financial support, perceived lack of administrative support, safety concerns and fear of insurance issues are some of the reasons teachers do *not* use OCs (Balkwill, 1996; Barfod & Bentsen, 2018; Caner, 2012; Maynard & Waters, 2007; Pedretti & Nazir, 2014). Ultimately, knowledge and understanding of functionality at all levels of the education system could contribute to more valuable outdoor experiences for students.

## **Definitions**

To build a well-rounded understanding of OCs, it is important to delineate OE from outdoor adventure and situate OCs within the demographic of interest (Grades JK-8/ages 4-13 in Windsor-Essex County). Because different countries have different frameworks and policies regarding their education systems, the definitions here have a particularly operationalized Canadian relevance.

## ***Outdoor Education***

Definitions of outdoor education (OE) as they pertain to Canada range from very broad (Balkwill, 1996; Borland, 2015; Glithero, 2004) to much more explicit (Passmore, 1972). For

example, in his historical examination of OE centres in Ontario, Borland (2015, p.2) collected this collaborative definition: “*Outdoor education (OE)* is conventionally described as a multidisciplinary teaching method where educators intentionally use outdoor spaces to teach skills and concepts deemed best learned through direct contact with the natural environment (Andrews, 2003; Borland, 2011; Brookes, 2002; Carlson, 2000; Foster & Linney, 2007; Priest, 1986; Sharp, 1943; Whitcombe, 1991).” Note the use of “multidisciplinary” and that “skills and concepts” are not defined. Likewise, in his survey of Kent County teachers, Balkwill (1996) adopted Priest’s very broad definition: “An experiential process of learning by doing, which takes place primarily through exposure to the out-of-doors” (Priest, 1986, p. 13). This implies that any subject taught outdoors is making use of outdoor education teaching methodologies” (p. 2). Indeed, Balkwill included as part of his survey activities ranging from outdoor math, history and guidance counselling lessons to nature walks, orienteering, kayaking and skiing (1996, p. 118). Glithero (2004) and Ward (2018) focus on relationships – both human-to-nature and human-to-human – as factors of successful OE, while WGEE’s definition narrows OE to “a distinct and critical component of environmental education” (WGEE, 2007, p. 6).

In contrast, John B. Passmore, former Supervisor of Camping at the Ontario Department of Education, health education textbook co-author and organizer of Canada’s first conference on outdoor education, leaned towards the more ecologically oriented and pinpointed words of Dr. John J. Kirk of the New Jersey State School of Conservation: “Outdoor education is the method that utilizes the out-of-doors to cultivate a reverence for life through the ecological exploration of the interdependence of all living things, one on the other, and to form a land ethic illustrating man’s temporary stewardship of the land” (1972, p. 13).

EDU's definition(s) must also be considered, as my interest lies in the outdoor education of students from kindergarten through Grade 8. In the 2016 draft re-write of EDU's community-connected experiential learning policy framework (Ontario. Ministry of Education (EDU), 2016a), learning out of doors is classified as "linked to the curriculum" (p. 23), and falls under the general description of "field study:"

*Field study* is an experiential learning opportunity involving exploration of the outdoors or other environments or organizations. The experience can be open-ended – students might investigate similarities and differences between local environments – or it can be organized for a specific purpose – for instance, to investigate garbage build-up with the intention of developing an action plan to address the problem. (p. 24).

EDU's elementary geography, history and social studies curriculum defines 'field study' as hands-on outdoor learning that "provides an abundance of resources and materials that can support learning" (Ontario. Ministry of Education (EDU) 2018d, p. 38), with field study kits available on loan to teachers through school boards.

In my own studies and experiences as a teacher (elementary level and adult), Ontario conservation authority employee, science centre employee and volunteer with Parks Canada and Scouts Canada, Priest's definition (as cited in Balkwill, 1996) is appropriate for this paper because it does not exclude (a) the capacity to develop skills and knowledge in any subject area; (b) the capacity to develop traits beyond curriculum, such as self-esteem, social skills and empathy; or (c) the capacity to develop relationships. At the same time, it is hard to pin personal development such as capacity for empathy to straightforward learning by doing, but educators report it to be a result of working in farm classrooms with animals (Lisle, 2018), for example, which is certainly OE according to Priest's definition. Thus, a more complete

definition would welcome incidental learning experiences, as well as personal development learning. My studies and experiences also lead me to conclude that ‘education’ is equally as important in the terminology as ‘outdoor’, and thus I would expand Priest’s definition to include “teaching” alongside “learning.”

Based on this expansion of Priest’s definition, OE may include visitor education programs at parks and historic sites, such as guided forest walks and maple syrup festivals, need not be linked to the publicly funded education curriculum. Libraries, galleries, and museums can also create OE scenarios, where the learning-by-doing might include a guided walk and discussion through an historical part of the city, sketching classes and a ride in an original Model-T (<https://www.thehenryford.org/visit/greenfield-village/rides-at-greenfield-village/>), respectively. Faith-based organizations could hold study classes outdoors, English as a Foreign Language instructors could teach newcomers by way of a walk through the downtown—the possibilities are endless. OE experiences could be led by trained staff, biologists, curators, or faith leaders rather than classroom teachers, although they may include classroom teachers if they are booked as a field trip for a classroom. Volunteers also make great outdoor educators, as is the case with volunteer-led Family Nature Clubs in the US, which offer organized trips to green and blue spaces, for education, recreation and the many other benefits of families spending time together outdoors (D’Amore, 2018).

### ***Outdoor Adventure***

To differentiate outdoor education from outdoor adventure (OA), in Canada outdoor adventure normally focuses on intense physical activity in the outdoors (Balkwill, 1996), and is not led by the participants’ schoolteacher. It often involves an element of risk and takes place in a backwoods or wilderness setting (Balkwill, 1996). Canoe trips, multi-day backpack trips and

rock-climbing expeditions for youth or pre-service teachers are a few examples. Kurt Hahn's Outward Bound program is a prime example of outdoor adventure (Outward Bound International, 2004). In some parts of Canada, outdoor adventure trips are accredited towards high school diplomas (Outward Bound Canada, n.d.) and Quebec's CEGEP (Cégep de la Gaspésie et des Îles, n.d.). OA often shares as goals with OE learning about and appreciation of self and the environment, and for this reason outdoor adventures are used as examples when appropriate in this paper.

### ***Outdoor Classrooms***

EDU's environmental education policy document *Acting Today, Shaping Tomorrow* (2009) does not define outdoor classrooms. It mentions learning "outside the classroom" (EDU, 2009, p. 15) and "naturalization of the schoolyard" (p. 17) and provides an example of an outdoor "green classroom" (p. 17) in Terrace Bay, Ontario, but with little detail. The kindergarten curriculum (EDU, 2016b) provides research support for learning in the outdoors, details relevant learning theories and pedagogies for educators to review when designing outdoor (and indoor) spaces for EY students. However, in Canadian context, there is little, if any, scholarly discussion of what delineates a giant field from an outdoor *classroom*. Even dictionaries focus on a classroom being a "room," often indoors (Cambridge Academic Content Dictionary, n.d.; Collins English Dictionary, n.d.; Google, n.d.), although the Merriam-Webster (n.d.) broadens the definition by calling it a "place where classes meet." Dictionary.com (Random House Unabridged Dictionary, n.d.) includes the traditional definition as well as this explanation: "It can also be used in a more general way to refer to any space where students are being taught by a teacher," explaining that "Some *classrooms* might not even be in a room—some schools have outdoor *classrooms* where students are taught outside, for example."

For the purposes of this research, I defined outdoor classrooms as designated outdoor teaching and learning spaces that include a gathering area (such as but not limited to tree stumps, logs, rocks, or benches) such that discussions, lectures and exchanges of ideas can take place in a group setting. OCs may or may not also consist of features such as rain barrels and bird boxes. They may also include natural areas such as a field, a grove of trees or built-to-appear-natural areas such as ditches, hills, a pond, and more. Key to this study is that activities/lessons/explorations in the OC are based guided by a trained or certified educator and linked to visions, missions, goals and/or curriculum, or beneficial to students in their personal growth. Based on my expanded version of Priest's definition of OE, however, the focal point of the OC is the gathering space.

### ***Functionality***

The Oxford Learner's Dictionary (n.d.) defines *functionality* as "the quality in something of being very suitable for the purpose it was designed for" and lists *practicality* as a synonym. I have expanded upon Wax's (2008) discussion of the functionality of a website to provide the following illustration: One might say a screwdriver's purpose is to help a carpenter assemble pieces of wood, but more specifically, its purposes are to install and remove screws. The grooves on the handle and the sturdy shaft allow for firm grip and forceful rotation. These are the features/qualities of the screwdriver that make it suitable for its purposes. If the users need to install and remove screws *that are in hard-to-reach places*, this becomes the more defined purpose for the screwdriver; the original screwdriver is no longer functional, but a *ratcheting screwdriver* with interchangeable bits and a rotating handle becomes the more functional choice. Having to prevent wrist strain due to long periods of use and right- versus left-handedness would



be additional needs that could further define the purpose and therefore influence the features and design of the humble screwdriver to maintain its functionality (see [Snapon Tools Africa], n.d.).

Shih-Chung (1998) illustrated functionality in “A Study of the Design and Functionality of Multimedia Classroom,” by uncovering the many purposes for using multimedia classrooms at Taiwan’s Tamkang University and the classrooms’ user-groups and sub-groups. The faculty then cross-referenced purposes and users and created an inventory of best-suited technological features and room designs. Four classrooms were either upgraded or installed as a result of faculty input, after which Shih-Chung (1998) concluded that the university’s “technologically rich environment” required “new levels of faculty support” and could result in “new perspectives of educational materials development” (p. 301).

The use of “functionality” in this thesis is based on the above dictionary definition and illustrations, and the premise that there are as many purposes for an outdoor classroom as there are educators and students. Because of this complex interpretation of functionality and, it is considered to be the ‘learning to fish’ aspect of the proverb used in the title of this thesis, whereas a single goal or lesson plan or activity taking place in the OC would be considered more of the ‘fish’ being handed to a person for short-term benefit.

### ***Additional Definitions***

*Educators* are adults (18 years or older) who have earned certification, accreditation and/or formal education that will afford them a professional or expert viewpoint of teaching and learning in the OC based on an alignment to their organization’s missions/visions/goals/curriculum. *Students/youth* are youth aged 0-17 who are under the direction of the educator. They may include classroom students, students on a field trip, visitors

to a national park or similar, members of Scouting, Guiding, 4-H and other clubs, youth in a faith-based group, and more.

*Administrators/administration* in general is used to differentiate educators from those who make decisions about how education programs are run in an organization, school, at a level of government or in a private company. *School administrators/school administration* includes principals and vice principals, but not in their capacity as teachers. *Board administrators/Board administration* refers to non-educators who make or contribute to decisions at the school board level (such as the Director of Education, superintendents, union and student representatives and trustees), and others employed by the school board who may create and run professional development programs.

### **Significance of the Study**

This study has three main significances: to address gaps in the research, to increase knowledge at multiple levels of education programs and to communicate best-practices.

Regarding gaps in the research, this study will help to paint a larger and more well-rounded picture of OC use in Windsor-Essex than currently exists by including educators and students from a variety of non-school situations, such as youth development organizations, faith-based organizations, and day cares. Also, examining what makes the OC useful, purposeful, *functional* will add an element of pragmatism that has not often been the focus of research on OCs in any location.

As for increasing knowledge on multiple levels, my research may help administrators when they are considering their organization's priorities. For example, in addition to EE, OCs can also be functional in addressing mental and physical wellness, personal development, FNMI education and more (see "Background. What benefits have been realized by teaching in OCs?").

My secondary research will expand knowledge of the features, designs, purposes, and functionality of OCs as they are used in other parts of Ontario, Canada and the world, which may inspire administrators to build an OC or expand their organizations' use thereof to address priorities beyond EE. My primary research, which focuses on understanding functionality, may help administrators in the planning process of organization-wide projects and programs, as in taking care to consider where to plant different tree species, how to get the community involved, or researching what type of garden might serve youth who are refugees. Also, my secondary research will provide details of how OE and opportunities for OC use are imbedded into mandates, policies and priorities of EDU, and mandates, visions, missions, and goals of the many types of organizations that are involved in the education of youth throughout Windsor-Essex. This could be important reference material for administrators across the province who are looking to develop OC programs or OC partnerships that are entrenched in policy.

Regarding educators, Balkwill (1996), Barfod and Bentsen (2018), Caner (2012), Maynard and Waters (2007), and Pedretti and Nazir (2014) have shown that educators harbour uncertainties and concerns about using OCs, creating potential for a gap between policy (EDU, 2016b) and practice. However, educators will find it useful to read what others are doing in the OC when planning their own lessons and activities, especially if they are lacking in PD. Specific to this significance is that my primary research aims to extract practical details and narrative from educators who have *successfully* used OCs (see "Methodology" for discussion on use and definition of success). I will give due attention to a variety of curriculum subjects and cross-curricular integration within the context of Ontario, with a focus on benefits to teachers and students. This will also make my study of interest to pre-service and in-service teacher education programs: the educators of the educators.

Although Rogers and Shoemaker (1971) list educational cost per pupil as the single best predictor of the adoption of educational innovations, I will aim to uncover through my interviews examples of how teachers are taking students into OCs with negligible expense and admirable results, thus making a case for school boards (and other organizations) to explore how to develop their OC programs. I will also use interviews to try to unearth stories of successful community partnerships, so they may become catalysts for administration and educators to seek out new connections for the interest of the students and support of the educators. These are two important ways I believe my study has significance to communicate best practices.

Ultimately, one cannot adopt an innovation if one doesn't know the innovation exists (Rogers & Shoemaker, 1971). Whether innovations be products (such as organic weedkillers), practices (such as taking birth control pills), or educational practices (such as using a new pedagogy), Rogers and Shoemaker (1971) posited that knowledge of an innovation is the first step towards potentially adopting that innovation. Also, communication of successes represents a key step in both the diffusion of innovations and individual confirmations (Rogers & Shoemaker, 1971), underscoring the significance of this paper at the most grassroots level.

Considering it has been more than 40 years since Brekke (1977) called for itemized and co-ordinated efforts by the province, school boards and principals to support teachers in expanding their OE abilities, the wealth of information provided by this paper may be long overdue in the schools, and of great benefit to many governments and independent organizations.

### **Purposes of the Research**

Thus, the purposes of this research are (a) to examine the functionalities of outdoor classrooms in Windsor-Essex County, that is their natural and structural features, who is using them, for what purposes and to what benefits; (b) to encourage thoughtful analysis of the

relationships that make up functionality, and how those relationships can be used to better the OC experience for educators and students, and (c) to be useful as a resource and inspiration for educators, schools, school board and educational administrators, policy-makers and Teacher Education program directors across the province.

This study aims to present an in-depth, holistic view of the functionality of OCs within Windsor-Essex, guided by specific questions and based on qualitative research, backed by theory and literature. This will offer guidance for embedding outdoor learning and OCs into school boards and pre-service and in-service teacher programs, and for advancing OC use in local organizations and those that work with youth across Ontario and Canada.

### **Research Questions**

The study will be guided by the following key questions:

- 1) What structural and natural features are found in the outdoor classrooms used by Windsor-Essex educators?
- 2) For what purposes are educators using outdoor classrooms? (That is, for what activities, lessons and subjects, curriculum-based activities, personal development activities and other uses? Are they following play-based learning, place-based education or other pedagogies when teaching in the OCs? What times of the year are they using OCs? What influences has professional development had on educators' uses of outdoor classrooms, if at all?)
- 3) How do teachers/educators of Windsor-Essex perceive the benefits of outdoor classrooms?
- 4) How do the educators of Windsor-Essex interpret the functionality of the outdoor classrooms they use?

### **Ethical Considerations**

To ensure quality and integrity of my research, I received ethical clearance from the University of Windsor (UWin) Research Ethics Board (REB) prior to recruiting for questionnaire and interview participants. Informed, voluntary consent was required for the online questionnaire to begin, and I received written, digital, or recorded verbal informed, voluntary consent before conducting interviews with educators and key informants.

I respected the confidentiality of questionnaire participants and maintained anonymity by not collecting participants' names or the names of their schools or organizations. I referred to questionnaire responses using general analysis of themes and relationships and used pseudonyms in text where it benefitted the research to attribute a questionnaire response to a specific interview participant. I have respected the confidentiality of all interview participants and maintained anonymity in text by avoiding specific references, using pseudonyms, and avoiding figures (such as photos) that reveal identification.

I conducted questionnaires and interviews according to written, agreed-upon terms between me and the participant.

I am not seeking to compare school boards, schools, organizations, administrators, owners or educators regarding their outdoor facilities, priorities, or policies, but rather to bring to light the many different angles and options of outdoor classrooms that can benefit students and educators.

## **CHAPTER 2 LITERATURE REVIEW**

This Literature Review is organized on a three-tiered basis—globally, nationally, and provincially—to communicate some of what I feel to be the most interesting and unique histories and uses of OCs. Stories and perspectives from across the globe include examples from Canada, and my own interpretations of how the stories can be turned into relevant practices in Ontario or Windsor-Essex County. The global stories and perspectives are arranged by functionalities that I noticed during my literature review process, and the section ends with real-life scenarios to consider in order to keep OC experiences as positive as possible for all users. The national tier recognizes Canada’s heterogeneity in climate, topography, geography, culture, and other elements that affect education policy. It is also the main introduction of non-school organizations that have relevance to OC use. The provincial tier is mainly historical research, and the largest section of the literature review that is based on history. Through printed sources, I describe historical movements and government policies and documents that are evidence of a variety of uses of OCs in Ontario. This tier also includes examples to support my Chapter 1 definition of an outdoor classroom as including built structures, natural structures and/or both. The chapter ends with a detailed picture of Windsor-Essex County as it pertains to opportunities to learn in an OC.

By examining historical and modern uses of OCs, functionality of OCs across the globe and pedagogies, I hope to paint a picture of OCs as a resource that is adaptable to numerous goals and subject areas and is coming full circle from necessity to innovation, and perhaps back to necessity.

### **What Makes OCs Around the World Functional and Relevant?**

National systems of education are “a combination and interweaving of several factors” which include but are not limited to geography, economy, social factors, culture, history, religion, politics, language, and technology (Evans, 2013, see “Introduction”). Factors that are dominant in one nation’s system may not be in another’s (Evans, 2013). Methods and philosophies of teaching and learning differ from country to country and society to society. Landscape, climate, curricular goals and acceptable practices in schools vary from and within nations. These variables may affect acceptance and use of the outdoors as a teaching and learning tool. As I learned in my Kindergarten Specialist course, what matters most is how the educator *engages* students in all that the outdoors has to offer. This section is presented to provide examples from across the globe that show how educators across the globe are engaging their students and tapping into the functionalities of OCs.

### ***Scandinavian Influences***

**Friluftsliv.** Visions, missions, and practices of many public- and private-school OE and OC programs throughout Canada are overtly or covertly linked to the *friluftsliv* (“free air life”) lifestyle in Scandinavian countries (Andrachuk et al., 2014; Elliot et al., 2018; Gelter, 2000; Harris, 2018; MacEachren, 2013). Historically, *friluftsliv* described a *feeling* of great mental and physical joy that is the reward for connecting with nature by undertaking outdoor activities and recreation; a philosophy of life that is entrenched in Scandinavian culture, as their countries are known for their extraordinary beauty (Gelter, 2000). In this sense, *friluftsliv* is not a specific activity, methodology or pedagogy. However, *friluftsliv* is embedded in the curriculum of all Scandinavian countries (Gelter, 2000), although each country experiences it in different ways.

**I ur och skur.** In Sweden, the *I ur och skur* (“rain or shine”) pedagogy is practiced in over 200 schools (McDonnell, 2013). Pre-school and kindergarten students dress for a day of



outdoor exploring in whatever nature and the elements bring and are lead through a long-term narrative learning process based on the traditional (fictional) character *Skogsmulle*, who guards the Scandinavian Forest (McDonnell, 2013). While exploring the outdoors (most often forested area), teachers engage students in songs, rhythms, and ongoing stories of Skogsmulle, his friends who guard the water ways and high alpine ecosystem, and an extra-terrestrial who sees earth objectively from outer space. Twice a year, students interact with these characters in the forest in the form of adults dressed up in costume. The characters help to instill in the kids a sense of awe and wonder in the natural world, while the narratives focus on the interconnectedness of all ecosystems. In Canada, venturing outdoors in all types of weather is becoming more popular. It is a foundation of Canada's Forest Schools (Andrachuk et al., 2014) and was an important element of my own three-part Kindergarten Specialist course (a certified Additional Qualification offered by the Elementary Teachers' Federation of Ontario). My children played in their kindergarten's OC in all seasons, and often came home with wet and muddy clothes, but joyful stories of their activities.

**Udeskole.** Denmark's *udeskole* (meaning outdoor school) consists of compulsory weekly or bi-weekly trips to the schoolyard, museums or natural areas that are curriculum-based (Lloyd, 2016). Even the travel portion of an outing, whether on foot or by vehicle, through urban or forest settings, is considered a valuable part of the day, giving children and teachers a chance to bond (Bentsen et al., 2017). Distinguishing characteristics of udeskole theory are the role of kids "actively contributing to the construction of curriculum-based knowledge" and cross-curricular integration through structured lessons (Lloyd, 2016, p. 32). Analysis of 107 pre-school to Grade 10 teachers practicing udeskole in 93 schools across Denmark showed that the top three subject areas teachers integrated into udeskole were all-around personal development,

natural sciences and technology, and math (Bentson & Jenson, 2010, p. 210). Bentson & Jenson (2010) also found that half of teachers who practiced udeskole one day a week or more did so with special education needs students. Furthermore, following the instillation of udeskole into Denmark's federal education policy, research showed an increase in teachers practicing udeskole and in the regularity with which they practice it (Barfod et al., 2016). Barfod et al. (2016) argue that this proof of increase is grounds for the requirement of initial and in-service teacher training on how to use outdoor spaces, and for careful architectural planning to incorporate learning into schoolyards.

Udeskole influences can be found in Ontario's curricula, most notably in the kindergarten curriculum (EDU, 2016b), where the incorporation of learning into the outdoors is explained, encouraged and noticeably cross-curricular. Also, WGEE's Scope and Sequence document (WGEE, 2007a) listed the United Kingdom's practice of using "immediate environments as contexts for real-world learning" (p. 9), and the province of Alberta's multidisciplinary, curriculum-based "outdoor ecological investigation" (p. 8) as models upon which to build Ontario's EE policies.

**Living Skule.** In Norway, *Living Skule* (meaning Living School) arose because of a new curriculum for elementary and junior high school, as well as perceptions that society had become alienated with nature and where food comes from (Jolly & Sandberg, 2018). In 1996, teacher and farm-owner Sidsel Sandberg pioneered a rotating four-week farming experience at her own farm near Oslo for students of Nannestad Junior High. Students learned all aspects of planting, tending, and harvesting the crops, tending the animals (including slaughter), cooking, and maintaining an organized and clean farm (including scheduling and small repairs). In the process, students realized "changes of attitude and the feeling of self-efficacy...connecting to the

work, to people and to place” (Jolly & Sandberg, 2018, p. 657). Additional farm projects were launched between 1996 and 2000. Where farms were not available, schools created on-site gardens. The Agricultural University of Norway (now Norwegian University of Life Sciences) eventually provided accredited courses where farmers could learn the schools’ goals and needs and teachers could learn about “sound environmental agriculture” (Jolly, 2012, p. 34). Questionnaires, interviews, and case studies with former pupils of Norway’s farm-school co-operative programs show Living Skule to be a model for teaching environmental sustainability (Jolly & Krogh, 2010).

**Forest School.** Derivative of udeskole and friluftsliv (Leather, 2018), Forest School programs in the United Kingdom are operated by certified and trained Forest School teachers (as opposed to state-run schoolteachers) for half-days or full days. The youth participate on a regular basis (such as a weekly field trip), or as daily campers in a summer program or holiday break program. Objectives are outside of traditional school curricula. Through woodland activities such as building forts, nature art, sensory walks, cooking on an open fire and making and using tools, Forest School teachers help students strive for personal goals such as communication skills, self-confidence, self-discovery, motivation, engagement, and inspiration in and through nature (see Lloyd, 2016, p. 31).

### ***Long-Term Goals, Responsibility and Experiential Learning***

The functionality of Norway’s *Living Skule* stems from having animals to care for on-site and long-term projects that mix physical, emotional, and mental responsibilities. In southwest Sydney, Australia, Truong et al. (2016) examined a community gardening collaboration between the Royal Botanic Garden Sydney, Western Sydney University, and a public-school detention centre for upper-primary and lower-secondary students on long-term suspension from their

regular public schools. Over a ten-week period, students designed and built garden beds, planted, tended, and harvested vegetables and herbs, learned to cook what they had grown, then feasted on the results. The authors felt the garden had notable effects on the student participants specifically because they were at-risk youth:

The study has illuminated how outdoor learning can make a valuable contribution towards enhancing self-esteem and building social capital and interpersonal skills. The students move throughout an educational system where they rarely have an opportunity to see a “final product.” Due to a host of reasons, they are effectively “educational nomads” relocated from one school to the next. For this reason, many have not remained in one place long enough to witness the long-term impact of their learning endeavours. The GBL [garden-based learning] program became somewhat metaphorical: as the plants grew, so did the students’ self-esteem. They were able to observe over time the fruits of their effort by sowing and growing the school garden. (Truong et al., 2016, pp. 376-377)

In Victoria, Australia, educator Clarice Lisle has developed a farm into the Mount Rowan Campus of Ballarat and Queen’s Anglican Grammar School. Year 4 students (ages nine and ten) spend four of every five school days at this campus. Lisle (2018) has noticed that time spent observing and caring for the domestic and wild animals has resulted in “a notable improvement of their ability to connect on an empathic level with the animals and each other” (p. 697). The first step is for students to resist chasing the animals—to let the animals approach them. By year’s end, many students develop friendships with the chickens, pigs, and lambs, playing with them and noticing their mannerisms and abilities to ‘speak’ to their young. Through this hands-on, experiential program, the students become cognizant of the realities of life and death, and “the symbiotic relationship they share with the world and all it has to offer” (Lisle, 2018, p. 693).

It is not unreasonable that an OC in Essex County could make use of nearby farmland, as nearly 80% of land in Windsor-Essex is used for “important agricultural land uses” (Essex Region Conservation Authority, n.d.-a). Also, communities in Ontario have access to animals through programs such as “Rent the Chicken” (Rent the Chicken, 2019), and egg-hatching time of the year is already a favourite at my children’s elementary school!

### ***Creating Space in Southeast Asia***

In Taiwan, junior high students with autism spectrum disorder exhibited a higher level of moderate-to-vigorous physical activity in their physical education class when the class was outdoors rather than indoors (Pan et al., 2011). The authors hypothesized that this could be because of larger space for more movement. Similarly, outdoor infrastructure may offer a solution to crowding and the poor-quality learning environments of indoor classrooms in developing countries. Khan et al. (2018) noted Grade IV (ages nine and ten) students’ elevated opinion of the lighting, acoustics and view of the board in an outdoor brick amphitheatre classroom, when compared to the crowded, linearly designed, noisy and stuffy indoor classrooms that are standard in government schools across Bangladesh. Given that dropout rate in elementary school are 20.9% percent in Bangladesh (Khan et al., 2018, p. 2), this quasi-experimental mixed methods study may open the door for basic changes in school and school yard design. Similarly, Yaman (2005) suggested that Malaysian elementary students would benefit from fully roofed, open-air classrooms based on improved thermal and spatial comfort and acoustics. The school board would benefit economically, and teachers in an outdoor setting would be better able to incorporate EE that is in keeping with the inquiry and reflection practices of Islamic teaching.

### ***Flexibility of Program Development***

As in Ontario, taking students outdoors in other countries has roots that have shifted and settled according to the needs of each jurisdiction. For example, OE in the US is rooted in “a militaristic style of wilderness travel” (Peredun, 2018, p. 765). Similarly, the histories of OE in the United Kingdom and Singapore (a British colony until 1963) are based on developing physical strength in youth to build a national military defense (Ho, 2014). In Singapore, once independence was considered secure, this evolved into a physical education approach to combat obesity and develop what first Prime Minister Lee Kuan Yewa called a “rugged society,” (Ho, 2014, p. 159). By the end of the 1990’s, secondary students were *mandated* to participate in at least one camping experience before graduation. This progressed into overseas adventure travel for youth and junior college students, based on the government’s desire for Singaporeans to achieve the “tenacity to thrive in a globalised environment” (Ho, 2014, p. 160). Similar philosophies trickled down to primary school curriculum after a primary system review in the late-2000’s (Ho, 2014). Bentsen et al. (2017) describe a two-day outing of three hundred 10-year-olds from a Singapore elementary school: campers stay in traditional long-houses at an outdoor adventure learning centre, and practice kayaking, rock climbing and caving skills. Some of the activities are group-focused, including a culminating performance for teachers and parents, contributing to socialization and team building. Although this example of outdoor adventure is beyond the focus of my primary research, it illustrates how physical education in the outdoors can morph into OA and overseas adventures.

In Canada’s far north, D  l  n   elders teach youth how to carry on their culture in an annual outing called Knowledge Camp at Saoy  -  hdacho National Historic Site, on Great Bear Lake in the Northwest Territories. Elders tell stories, prepare traditional foods and medicine, and conduct celebrations and ceremonies; the youth join in. In an inspiring example of successfully

mixing the old with the new, the youth have begun to use audio, video, and print to capture what they are learning for the benefit of history and all Canadians (Parks Canada. Aboriginal Affairs Secretariat, 2015).

Forest Schools provide a system-wide illustration of how OCs lend themselves to flexibility of program development. Canadian schoolteachers quickly discovered Forest School Canada, formed in 2012, and just as quickly called for revisions. By 2014, individual Forest School Canada-licensed schools were already entering into custom partnerships with schools, school boards and municipalities. These partnerships saw provincial curriculum, schoolground programs and professional development for public school educators becoming mandates of licensed schools, in return for public funding support and regular student attendance (Andrachuk et al., 2014, pp. 48-52).

### ***All-in-One Learning***

Organized camping, with its roots in the US, is an example of non-school related OCs with unique functionalities. Organized camping takes learning, conservation, and recreation into the outdoors by offering extended overnight experiences that are prearranged to promote an objective or philosophy in a group living environment (Shivers, 2011). Jewish summer camps date back to the early twentieth century and are representative of the significance of organized camping as part of OE: an estimated fifty-thousand Jewish youth attend these camps each year in the United States to strengthen their Jewish identity and values, make personal connections and connections to Israel, learn Hebrew, pray and develop good citizenship while enjoying sports, recreation and arts activities; another ten-thousand people serve as staff (Zola, 2006).

Organized camping requires a permanent facility, trained counselors to provide guided learning, and “all camping activities are oriented toward group needs in a democratic context”

(Shivers, 2011, p. 304). “Learning by doing” is fundamental to organized camping (Zola, 2006, p. 4), and Shivers (2011) advocates having a location for gathering to plan the day’s activities. A friend who participated in organized camping in Essex County throughout his youth described campgrounds as having a designated outdoor area where all campers gathered for orientation, planning, learning, singing, doing crafts, and in the case of his faith-based camp, worshipping (personal communication: R. Reeb, July 10, 2021). This would equate to an OC. With trails, green space and perhaps blue space, there is much to explore and many ways to learn and utilize the OC. In 1922, former Harvard University President Charles B. Eliot called the organized summer camp “the most important step in education that America has given the world” (Zola, p. 19).

### ***Self-Esteem Development***

In many countries, researchers are undertaking studies of personal development through the lenses of OCs, OE and OA (Barr-Wilson & Roberts, 2016; D’Amore, 2018; Gray & Mitten, 2018; Peredun, 2018; Whittington, 2006; Whittington et al., 2011). Not all undertake quantitative research, but Alikhani (1986) noticed a significant improvement in 127 sixth-grade females’ attitudes towards themselves and their teachers after only one day in an OC. Alikhani (1986) also showed that after only one day learning outside, the percentage of sixth-grade male students’ positive responses about how much they learned and about their teachers’ perceptions of them *doubled* (see p. 59, para. 3). Three weeks after their one day of outdoor learning, the percentage of the males’ positive responses was not as high, but still higher than pre-test percentages, with some percentages still double the pre-test level (Alikhani, 1986, see p. 59, para. 3).



Elementary school educators may benefit from studies of all-female outdoor adventure by adapting lessons learned to their own OCs. For example, all-female OA participants have reported improved short- and long-term body self-image as they focus more on what their bodies can do rather than what they look like (Barr-Wilson & Roberts, 2016; Whittington, 2006). Educators could engage students at all grades with this positive message, beginning as early as kindergarten with the development of gross motor skills by climbing and riding a tricycle in the OC. Girls have also reported feeling less concerned about what they look like, are wearing and even how they smell as they're engaging in outdoor adventures (Barr-Wilson & Roberts, 2016; Whittington et al., 2011). This could serve as discussion material before undertaking a parcours course in a natural OC, for example. Females' leadership skills, strength, perseverance, and self-confidence have also been shown to improve in all-female OA, along with noted feelings of safety, freedom from stereotypes and increased connection with peers, (Whittington, 2006; Whittington et al., 2011).

### ***New Lenses***

There are some examples of OE worth mentioning here because they can be translated to activities within OCs. For example, Hoad (2105) observed a group of students at the Great Ocean Walk in Victoria, Australia, not through a typical lens of what they did and learned, but through the lens of Gibson's theory of affordances, in which objects and places are seen for their possibilities for action (Gibson, 1986; see Chapter 8). As an example of a cultural affordance, Hoad suggested that because the coastline where his study took place is replete with shipwrecks, a teacher might ask students to imagine what it was like for the family that lived in the lighthouse to be so isolated. Although the students couldn't interact physically with the shipwrecks, the shipwrecks provided cultural affordances for the students to learn about a different time period,

with different customs, food, travel and so on. Similarly, teachers in Ontario's north might employ walks into adjacent forest to consider the lifestyle of a fur trader. Sitting in a cornfield that backs onto a Southwestern Ontario school, students might imagine how the developing automobile industry was viewed by farmers in the early 1900s.

Traditional Maori teaching methods and values are being explored in outdoor settings in Australia and New Zealand. Outdoor educator Mike Brown (Brown & Heaton, 2015) believes "learning can be enriched for participants when educators...incorporate different conceptions of learning and experience into their outdoor programmes" (p. 49). Within traditional Maori principles, according to Brown, learning experiences are meant to be social activities processed in a social context by the heart and "one's centre (pito)," resulting in emotions, wisdom and well-being, rather than in isolation in the head of the individual, resulting in a fact (Brown & Heaton, 2015, p. 56). Brown & Heaton illustrate this by describing a five-hour hike through rain and mud to the summit of a mountain, after which hikers look out over the land and share memories of people and places of long ago, invoking a feeling of belonging to the land in body, emotion, and spirit. Traditional passing down of knowledge could be arranged in Ontario by creating a partnership with an Elder and hearing about local First Nation history and traditions while sitting in a circle in the OC—an authentic set up for such an activity.

### ***Adaptable to Different Pedagogies***

The Scottish government envisions all children's educational journeys as including "a series of planned, quality outdoor learning experiences" that are embedded in the curriculum (Learning and Teaching Scotland, 2010, p. 5). Of note is their commitment to what are called *progressive* outdoor activities: teachers are instructed to communicate with each other to understand and build upon what students have experienced outside in past years, with an eye to

how their own planned activities can be developed in future years. Progressive experiences may be realized on a very basic level by re-visiting a location in different seasons or at different year levels, or in progressively complex contexts, as the government does not shy away from promoting overnight excursions.

Fuji Kindergarten in Tokyo, Japan, is an inclined ovoid ring structure and has fluid boundaries between the outdoors and indoors. Classrooms have doors at both ends, trees grow through the roof onto the second level, and there are resident small animals such as goats and turtles. Tesuka Architects designed the school for Montessori teaching methods (wherein students of all ages learn together) with the help of an acoustical engineer so the school embraces white noise as natural and comforting without disrupting students and teachers (Anonymous, 2017). Fuji Kindergarten is also a unique setting for progressive education. The kids are learning by running around and around and rediscovering the same thing over and over in a slightly different context: alongside different classmates, at a different time of day, and when a different activity is going on—whether that be rediscovering a tree, a teacher playing the piano, or the resident turtles in their cages (TED, 2015). Fuji Kindergarten was awarded the Moriama RAIC International Prize, a prestigious architectural distinction, in 2017 (Anonymous, 2017).

Rather than considering place as “merely a venue for an activity,” place-based education (PBE) has emerged to “build connections, dialogue and relationships between people and their environment, a sense of place” (Stewart, 2003, see para. preceding “Outdoor Education”). Further to that goal is that the relationships support a deep wanting to care for that place (Lisle, 2018). A good example comes from Williams and Taylor’s (1999) profile of Environmental Middle School (EMS), situated near expansive green spaces, waterways, and mountains in Portland Oregon. Teachers emphasized the local by centring all study around the theme of

rivers, forests, parks or mountains, and classes often worked and studied outdoors. Students studied rivers in art and painted themed murals, sang and wrote poetry about rivers, monitored and conducted science experiments in nearby streams and worked as a team to rehabilitate eroding streambanks. Through partnerships with the local college, university, department of environmental services and various sponsors, students created on-site gardens and composting/recycling programs in nearby parks, removed invasive ivy and mapped the park. Native American elders regularly visited EMS to “tell the history of place through their stories,” guide the planting and maintenance of cultural gardens at the school, and help the school make curricular connections for Native American students to counteract their high dropout rates (William & Taylor 1999, p. 85). In 1996, as an EMS student helped with sandbagging against Portland’s notorious Willamette Valley flood, it was not the volume of water but the *garbage* he saw floating in the water that caused the student the greater grief—an unfortunate but exemplary instance of “connecting youth to the bioregion” (Williams & Taylor, 1999, p. 80).

Australian kindergarten and primary school educator Kumara Ward (2018) implemented PBE through stories, songs and dances in her school’s OC in Wallumbin, New South Wales:

The content of the curriculum, although directly linked to the required syllabus, was taught through the experience of place because it simply could not be ignored. The lushness of the local environment was so powerful, and experienced through all the senses...From, through, and in our place, we discovered Dreamtime and creation stories, the secret lives of animals, insects, and habitats, learned about geology, water cycles, and life cycles, learned about growth patterns, photosynthesis, and metamorphosis... (p. 608)

Such place-based explorations may help students “gain the insights needed to make the wide range of difficult decisions regarding the environment likely to face them as they grow into adults” (Smith & Sobel, 2010; p. 40).

Loose parts play is an up-and-coming branch of play-based learning that sees students engage in unstructured play using piles of loose materials such as buttons, balls of yarn, washers, recovered chandelier crystals, toy gems and the like. Attributed to Simon Nicholson, a landscape designer/architect from England, loose parts play offers all children the ability to explore their inherent creativity and has been shown to develop skills such as cooperation, innovation, and collaboration (Neill, 2018). When taken outdoors, added benefits are being recognized. Teachers in an Australian kindergarten reported calmer and more focused and imaginative play after they added natural and organic materials, including natural loose parts, into an outdoor play space (Nedovic & Morrissey, 2013). The kids turned woodchips, pinecones, and pebbles into imaginary food for dinosaurs, bottles for babies, life-giving water and much more. Those teachers also reported a decrease in some students’ separation anxiety from their parents when they were allowed to take home a natural loose part that had been part of their play-based learning that day. Large loose parts also provide benefits to children’s learning. Children in Nedovic and Morrissey’s study (2013) used hay bales and wooden stumps in their dramatic play, which increased in occurrence. Early childhood teacher Jackie Neill (2018) described outdoor play in a kindergarten OC with large loose planks and frames that resulted in collaborative play, problem-solving and the opportunity to teach kids about re-purposing used objects. Re-purposing builds upon other environmental elements of OC use, and the outdoors provides space for these large objects that would not be available indoors. Outdoors, children can also gather

and add natural loose parts such as stones and fallen branches to their larger loose parts creations, adding innovation and physical movement to the mix of benefits.

### ***Promotes Spiritual Connections***

In Holden Village, a religious retreat in Washington's Cascade Mountains, parishioners worshipped outdoors even during the harsh winters by sitting on carved snowbanks and singing by the light of candles and stars. Seasonal changes became part of the liturgy in the form of planting, harvesting, collecting native flora, acknowledging long nights and the return of light in the springtime, and recognizing the local glaciers, creeks and mountain lakes during prayers and petitions. Parson Scott Kershner said the villagers saw the trees "as co-participants in our common worship and ourselves as faithful members of the land community beyond our doors" (Kershner, 2017; p. 44).

### ***Fresh Air for Health and Preventative Medicine***

Setting up classrooms outdoors to provide children with fresh, circulating air to avert the spread of infectious disease pre-dates the onslaught of COVID-19 by more than 115 years in Europe and 100 years in North America (MacDonald, 1918). In his book *Open-Air Schools*, Queen's University Doctor of Pedagogy student and Toronto Public School Inspector Neil MacDonald (2018) details how fresh air and sunlight was advocated in Germany as a prevention and even cure for tuberculosis before the turn of the twentieth century. Hence, day sanatoria for men, women and children were sprinkled across the country, but educators did not want children to fall behind in their schooling. This led to the first Open-Air School, which began operating in 1904 in a forest just outside the city of Charlottenburg, Germany. Children who were anaemic and had mild heart and lung conditions or signs of developing tuberculosis spent their days outdoors learning science, mathematics, geography, poetry, singing and gymnastics. The

students tended gardens of vegetables, and the girls learned needlework, wove grass baskets, and learned to cook the vegetables. Students were provided clothing and blankets to keep them warm through all the seasons, and a principle of open-air schools was for the children to rest every afternoon, sleeping outdoors unless it was raining. The first open-air school in North America was opened in Providence, Rhode Island by Drs. Mary Packard and Ellen Stone, both early female graduates of Johns Hopkins School of Medicine (Korr, 2016). Although children with tuberculosis or early signs thereof were the main students, the school eventually welcomed healthy kids to *prevent* them getting tuberculosis, and admitted kids with other illnesses and transmissible diseases, as well. By 1918, there were open-air schools in Canada, Italy, France, Switzerland, Sweden, Denmark, Austria-Hungary, and Norway (MacDonald, 1918).

Fast forward to September 2020 and the COVID-19 pandemic. The New York City Department of Education, in conjunction with the Department of Parks & Recreation, the Department of Transportation, the Department of Sanitation, and the fire and police departments launched the Outdoor Learning initiative to allow teachers to hold classes in their schoolyards, on nearby streets and in nearby parks, and to expand their schoolyards using adjacent available property to” give all of our children the quality education they deserve in a safe and socially distanced environment” according to Mayor Bill de Blasio (NYC, 2020). Applications from school principals in areas hit hardest by the pandemic were given priority, as were applications to teach subjects that required space to move and breathe heavily, such as classes in music, chorus, drama and physical education. Outdoor Learning initiative was continued for the city’s summer school program for Grades K-8 and is planned for the 2021-2022 school year (NYC, 2020).

### ***Cautionary Tales of Outdoor Classroom Use***

Built or natural OCs that provide space to interact outside of proximity and/or direct site of an authority figure might not be a positive experience for those that fear such circumstances. For example, in a study of the perceptions of safety and unsafety of 11,152 students from 65 Southern Ontario schools in grades 4 through 12, the time and location that elementary students who felt “unsafe” deemed to be the most unsafe was “Recess/break outside” (39.0%) (Vaillancourt et al., 2010, p. 46). Similarly, educators in Wales noticed that students playing in an OC found out-of-site locations, such as behind their built teepee, to engage in unsafe play such as pretend sword fighting with sticks (Nedovic & Morrissey, 2013).

Children’s memories of negative experiences in the outdoors may drum up mental health issues when children have had traumatic outdoor experiences. A study by Hoven et al. (2005) of 8236 New York City children in grades 4 through 12, six months after the bombing of the World Trade Center on September 11, 2001, showed that “a high proportion” of the subjects had a “probable mental disorder” (p. 545). Probable agoraphobia—a fear of being in places that have caused stress or anxiety in the past, including open and public spaces—was the most prevalent mental disorder (14.8%) (Hoven et al., 2005, p. 548). Probable separation anxiety was seen in 12.3% of children, and probable post-traumatic stress disorder was seen in 10.6% of subjects (Hoven et al., 2005, p. 548). The study also found that exposure to trauma prior to the attack was "a major risk factor for a post-September 11 probable mental disorder" (Hoven et al., p. 551). The authors viewed this as a warning that thousands of children could now be considered at higher risk for probable mental disorders in the future *because of* their exposure to the September 11 attack, which itself is considered a trauma. This brings into consideration the risk of mental health disorders among children who have or will come to Canada from war-torn countries. What might they be remembering when they are outdoors and invited by classmates to join in



pretend chases or battles as part of dramatic play? Of 364 Bosnian children ages 6 through 12 evaluated for distress symptoms while in camps for displaced persons, 99.4% showed increased arousal, whence “The mere presence of loud noises or military personnel would make the children feel as if they were once again amidst hostilities. They were unwilling or, in more severe cases, unable to play with other children and startled easily” (Goldstein et al, 1997, see “Distress Symptoms”). Unfortunately, even another student jumping out from behind a tree could create distress in students from war-torn countries; educators should be aware of the triggers and needs of these high-risk students.

Being required to send their youth outdoors in the winter may cause worry and distress at the parental level. Somali immigrant parents in Portland, Maine cited fear of broken limbs, concern about pneumonia, lack of resources for warm clothing and gender barriers as reasons they kept their children indoors despite recognizing the need to be active for health reasons (Rothe et al, 2010). While these concerns are not insurmountable, addressing them would add to a teacher’s workload, as teachers’ primary responsibilities in the outdoors must always be safety of the students.

In “‘Fatties Cause Global Warning:’ Fat Pedagogy and Environmental Education” (Russell et al., 2013), Lakehead University Master of Education student and Outdoor Education teaching assistant Hannah McNinch calls out to educators everywhere not to mistake body size for fitness level, love of nature or caring for the environment:

I had a classmate tell me that I could not be “outdoorsy” because I did not “look the part” and that my food choices did not support a “natural” lifestyle...If weight-based oppression continues within education, I fear other youth may avoid the outdoors as I did,

and then miss opportunities to foster appreciation of, and connection to, the natural world. (Russell et al., 2013, p. 28)

Russell et al. (2013) also chastises noted author Richard Louv for warnings of what he declares to be “life-threatening” obesity throughout his book *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder* (Louv, 2008): “While obesity is not necessary for his main argument, clearly he found this discourse to be a powerful tool” (p. 35). Finally, Ho (2014) does not advocate the following of international OC trends within her home country of Singapore. She suggests that social skills, cultural awareness and developing critical perspective can be “homed in many settings” other than the outdoors (Ho, 2014, p. 167), and that place-based OE is not fit for such a small country when they are far behind in global citizenship.

### **OCs in Canada**

According to most recent statistics, 21.9% of Canada’s population are immigrants—the highest proportion of the G8 countries—and 6.2% are of Aboriginal ancestry (Statistics Canada. Social and Aboriginal Statistics Division, 2019). There are over 250 ethnic origins or ancestries within the population, with 4 out of 10 people reporting more than one origin (Statistics Canada. Social and Aboriginal Statistics Division, 2019). Canada is also the second largest country in the world, bordering three oceans. How does a country of such diversity decide what goals to adopt for education? What does ‘outdoor education’ look like across almost 41 degrees of latitude, seven time zones, the longest coastline in the world and four of the five Köppen-Geiger climate regions<sup>1</sup>, when the range of extreme coldest to extreme hottest all-time temperatures is nearly 120 Celsius degrees (Bonikowsky, 2016)?

In fact, education in Canada is governed by the provinces by order of the constitution, and the territories by order of the federal government (Graham & Yarhi, 2017). Each province

and territory interpret the function of education and its placement within society differently. The names of the departments/ministries hint at their priorities: the Northwest Territories' Department of Education, Culture and Employment, Prince Edward Island's Department of Education, Early Learning and Culture, and Manitoba's Department of Education and Training are just a few examples.

The following is a sampling of OC use in publicly funded schools and other organizations across Canada, with focus on benefits to users.

### ***Community Focus in British Columbia***

At Davis Bay Elementary School on the Sunshine Coast, School District 46 launched Nature Education for Sustainable Today's and Tomorrow's in 2013 with 33 students in grades K-4. The educators apply play-based, place-based, and experiential pedagogies (Sunshine Coast School District, n.d.; Wood, 2015) with a focus on environmental sustainability. Daily destinations may include the beach, the forest, a neighbour's meadow, an estuary, or a creek with Pacific salmon, all in the nearby community. Down the highway in Roberts Creek, the same school district spearheaded building of an OC pavilion targeted to become "a shared use space for the Roberts Creek community and the elementary school, where people can gather and learn about food cultivation and sustainability" (Woodroffe, 2019). These goals are particularly relevant considering the Sunshine Coast's ongoing water shortage that led to Stage 4 water bans in 2015, 2017, 2018, and 2021 (Bartlett, 2021). Thanks in part to thousands of dollars of donated labour and materials, the finished OC includes garden beds and a large learning space. Classes and teachers are now using the OC, and pavilion designer and builder Cody Chancellor is proud to say the project has come "full circle" since he was hired "to run an after-school art program in

the building [pavilion] and the surrounding gardens” (C. Chancellor, personal communications, May 26, 2021).

In 2012, the Sooke School District near Victoria and its community partners on Vancouver Island opened the Sangster Elementary School nature kindergarten to national and scientific interest (Alphonso, 2013; Elliott et al., 2014; Westwood, 2013). It was inspired by European forest schools, Scandinavian I ur och skur and “aboriginal ways of knowing,” but based on the B.C. curriculum and EY frameworks (Elliott et al., 2014, p. 106). The program’s guiding pedagogical principles are: “(a) connecting deeply with nature through play; (b) local ways of knowing and understanding; (c) physical and mental health; (d) learning collaboratively as part of an empathetic community, and (e) the environment as a co-teacher” (Elliott et al., 2014, p. 106). Quantitative research showed that the nature kindergarten students’ levels of nature relatedness increased from the beginning to the end of the year, while students in the control (non-nature) kindergarten experienced a decrease over the same time period, creating a significant difference between the two groups’ levels of nature relatedness by the end of the year (Elliott et al., 2014).

### ***Learning Languages***

Grade 3 students at ŁÁU, WELNEW Tribal school on Vancouver Island learn the native language of SENĆOTEN while they tend vegetable gardens and learn about traditional foods. Community partner and Elder Ashley Cooper considers language and land to be an obvious pairing: “I’ve always been told from my elders that SENĆOTEN comes from the land, so it just seems really appropriate to be teaching them the language [this way]” (Hennig & Paetkau, 2018). The students are said to feel proud of their accomplishments and empowered about their heritage (Hennig & Paetkau, 2018). Similarly, Alberta Tourism, Parks and Recreation and partners

piloted the highly successful Learning a Language, Learning the Land program in 2010, using the outdoors as classrooms for teaching English to adult immigrant newcomers. Based on the widely used Language Instruction for Newcomers to Canada curriculum, educators lead students progressively from in-class literacy instruction to a one-day visit to an Edmonton park, to a three-day camping trip in a provincial park, all under the umbrellas of nature and outdoor recreation themes. Although the students were adults, the research and evaluation report of the program (Lange et al., 2011) provides pages of valuable interview and survey data and makes best practice recommendations that would benefit any educator wanting to pair OCs with language learning. For example, this recommendation—one of 38—is worth considering for introducing immigrant newcomer students to a natural outdoor classroom:

#### 15. Interpretation Walks.

It is recommended that interpretation tours be smaller, have two interpreters at the beginning and end of the group, go less distance, begin with the knowledge in the group, and encourage finding parallels to home country ecologies, talk slower, and simplify the language for newer English language speakers. (Lange et al., 2011, p. 120).

### ***Avenues for Technology***

Technology use in OCs takes many forms. Tecumseh, Ontario's Vista Academy JK-12 school includes three fully accessible OCs with lighting, charging stations and USB ports. Parent Council member Heidi Hotz-Nourse cites specific benefits to special needs students who can now charge their electric wheelchairs, iPads, and other support devices in order to be able to learn outdoors (Langille, 2017). The OC at Hazelwood Elementary School in St. John's, Newfoundland comes fully equipped with wi-fi. It is used by all grade levels at the school.

Principal Dale Lambe credits technology for changes in how students are learning (Thomson, 2016). At the same time, within the last decade doctors, teachers' unions, parent groups and advocacy organizations have questioned the safety of microwave radiation levels in schools, demanding scientific review and in some cases the ban of wi-fi and wireless devices from schools (Csanady, 2016; Janus, 2014; Nguyen, 2011).

In Nunavut, researchers from the Canadian Network for the Detection of Atmospheric Change enlisted the assistance of elementary and high school classes in Iqaluit, Igloolik and Resolute Bay to monitor atmospheric conditions over a seven-year period. Students as young as Grade 1 took regular outdoor temperature readings, while older students learned to measure wind speed, wind direction and solar radiation (Canadian Network for the Detection of Atmospheric Change, 2017, see "About the CANDAC student-researcher collaboration program"). Goals of the multi-year project include engaging the students in discussion about changing atmospheric conditions and the exchange of ideas amongst students and researchers. Given the territory's goal of helping students become aware of Nunavut's "critical links to national, circumpolar and global issues" (Government of Nunavut, n.d., see "Nunavusiutit"), this monitoring project could be the basis for cross-curricular, inquiry-based, place-based, and highly scientific learning.

### ***Outdoor Physical Education and Training***

Outdoor physical training has been used historically to develop military strength, especially in males (Ho, 2014; Peredun, 2018). France's Georges Hébert sought to develop physical strength, mental fitness, and personal morals with outdoor activity when he developed his *education physique, virile et morale par la méthode naturelle* ("Physical, Virile and Moral Education by the Natural Method"). Similar goals form the bases of Kurt Hahn's Outward Bound program and Lord Baden Powell's Scouting movement. Today, various adaptations of

hébertisme courses (also known as *parcours Hébert* and *parcours* courses) are popular in parks throughout Québec. Participants undertake an obstacle course in a natural, outdoor setting using logs, trees, ropes and rocks and incorporating different terrains. Schools also promote hébertisme. For example, General Vanier Elementary School in Saint-Léonard, Québec (now permanently closed) used to offer an annual Grade 6 leadership retreat in the Laurentian Mountains that included hébertisme activities (General Vanier Elementary School, 2018). Taking all safety concerns into consideration, tree stumps, rocks, and logs within built-up or natural OCs could be turned into curriculum-based *parcours* courses for the development of balance and motor skills.

### ***The Role of Federal Government***

There are several national and provincial bodies and policies that are relevant to the building and use of OCs. Parks Canada, the federal governing body for national parks, national urban parks, national historic sites and national marine conservation areas, supports OE across the country through its Mandate and Charter, which obliges them to “protect and present nationally significant examples of Canada's natural and cultural heritage, and foster public understanding, appreciation and enjoyment in ways that ensure the ecological and commemorative integrity of these places for present and future generations.” (Parks Canada, 2002). This is carried out by being guardians, guides, partners, and storytellers. Further, the Parks Canada Agency Act (Government of Canada, 1998) dedicates national parks “to the people of Canada for their benefit, education and enjoyment” now and in the future (see 4(1)). Parks Canada’s “Framework for History and Commemoration: National Historic Sites System Plan” (2019) and the “Canada National Marine Conservation Areas Act” (Government of Canada, 2002) have similar mandates and dedications.

Another relevant government organization is the Canadian Cadet Organizations, comprised of Sea Cadets, Air Cadets, Army Cadets and, in remote areas, Junior Canadian Rangers. Sponsored by the Canada's Department of National Defence, its goal is to develop values such as fitness, survival, and leadership skills in kids ages 12-18, based on the Canadian military (Government of Canada. Department of National Defence, n.d.). Army Cadets focuses on physical activity and the outdoors, including map and compass skills, survival skills, mountain biking, hiking, rafting, ziplines and parcours courses, for example. Physical activity in many forms (Fjørtoft, 2004; Pan et al., 2011), leadership (Smith & Sobel, 2010) and parcours (Fernández-Río & Suarez, 2016) have been studied as they pertain to OE. According to the links on Canadian Cadet Organization's main website, (Government of Canada. Department of National Defence, n.d.), Air Cadets also learn survival skills such as building a fire, creating a safe shelter for the night and how to be seen by a rescue squad, all of which would be appropriate to teach in an OC. Training courses for Cadet leaders have a strong focus on military drills, behaviour and regulations, and the flying, sailing and land-based skills that the youth must learn. Leaders also receive training to create a positive learning environment that helps with the development of the youth. Assuming other criteria are met, this training would qualify a cadet leader as an educator for this study.

### ***Youth Development Organizations***

Youth development organizations (YDOs) with a link to environment, agriculture, leadership skills and other topics that translate well into OC lessons, activities and explorations are plentiful and popular throughout Canada and Ontario. According to their website, Scouts Canada, geared towards ages 5-26, follows a programming manual called The Canadian Path (Scouts Canada, n.d.). The Canadian Path outlines six focal program areas: Environment &



Outdoors, Leadership, Active & Healthy Living, Citizenship, Creative Expression and Beliefs & Values. A new program, Scouts for Sustainability, now aligns Canadian Path programs with the UN's Sustainable Development Goals (World Organization of the Scout Movement, n.d.). Girl Guides of Canada is for girls aged 5-17. With a mission "to be a catalyst for girls empowering girls" (Girl Guides of Canada-Guides du Canada, n.d.), Guiding provides opportunities to explore outdoor challenges and global awareness. Volunteer leaders are trained to deliver Girls First programs safely and inclusively, and they learn strategies to engage girls as participants, decision-makers, and future leaders (see <https://www.girlguides.ca/web>). Outdoor Activity Leadership training is offered for leaders wanting to take girls camping. Until 2019, Girl Guides Canada owned several organized camping facilities in Ontario (Girl Guides of Canada-Ontario Council, n.d.). 4-H Canada, another popular YDO, is driven by projects that are curriculum-based (see <https://4-hontario.ca/>). Photography, birdwatching, gardening, the great outdoors, hiking, and yard art are examples of some existing and former project topics. 4-H Ontario is geared towards youth ages 6-21 and includes organized adventure and leadership camps.

### **Ontario: Filled with Possibilities**

In Canada, there is no federal department of education. The jurisdiction of public education falls to the ten provinces as stated in the Constitution Act of 1867 and has been delegated to the territories by the federal government (Graham & Yarhi, 2017). Each province and territory has its own department or ministry to create and govern education policy and curriculum, headed by a minister appointed by the Premier. Ontario has a Ministry of Education responsible for "child care and for administering the system of publicly funded elementary and secondary school education in Ontario" (Ontario. Ministry of Education, 2018a, See "Ministry of Education"). "Publicly funded" means the majority of funding comes from the province and

municipality, whereas schools on Ontario's First Nation reserves (called "on-reserve" schools) are funded by the federal government, and private schools may be funded by tuition and/or donors but are not funded by the Province of Ontario (Ontario Ministry of Education, 2018c).

The history of OE in Ontario shows us that the use of OCs has changed and evolved continuously and is still evolving today. Learning about and experiencing Ontario's land formations, water bodies, flora, fauna, and agriculture were the goals of nearly all the province's movements of outdoor education (Borland (2015). According to Borland (2015), early documentation has Christian missionaries introducing agricultural education to Indigenous populations in the 1820's, as they felt it would be beneficial to a people who were formerly nomadic hunter-gatherers. Within two decades, the nature study movement, founded by scientist and educator Louis Aggasiz, was becoming popular. This saw students immersing themselves in field guides and outdoor study of their local natural history. While the nature study movement developed into the hands-on outdoor Junior Naturalists clubs of the late 19<sup>th</sup> century, the early 20<sup>th</sup> century brought official recognition of the importance of agricultural education by the Canadian and Ontario governments, resulting in agricultural studies for rural secondary school kids and gardening/nature study courses on school grounds and in local parks for their urban counterparts.

The late 19<sup>th</sup> century/early 20<sup>th</sup> century also marked the development of the camping movement, first in private schools and later as summer camps through organizations such as the Canadian General Council of the Boy Scout Association (now named Scouts Canada) and the Young Men's/Young Women's Christian Association (YMCA/YWCA). According to Borland (2015), camp administrators applied "the latest psychological principles of education and pedagogical principles of the progressive education movement to frame their businesses as

places which provided ideal environments for fostering the positive psychological health for children” (p. 29).

The conservation movement began to take shape in the mid-20<sup>th</sup> century when marine biologist Rachel Carson’s international bestseller *The Sea Around Us* (1951) revealed the interrelatedness and fragility of land, air, sea, sun and moon, and her *Silent Spring* (Carson, 1962) warned of the dangers of chemicals such as DDT. In Canada, the 1960 opening of the Island Natural Science Centre on Centre Island in Toronto, by the Toronto Board of Education (currently called the Toronto District School Board) marked the first time Ontario’s curriculum was linked to the outdoors with a facility specifically designed for conservation education (Borland, 2015). By the late 1960s, many of the then-flourishing school board-operated OE centres had become equipped for the newest movement in OE, the adventure movement (Passmore, 1972). Following in the footsteps of Kurt Hahn and his Outward Bound schools, adventure educators engaged youth in risky physical pursuits such as back-country hiking, rock climbing, canoeing and kayaking, as well as teaching skills such as cooking and cleaning in a wilderness camping setting. This use of natural OCs to improve personal strengths, mental and physical fortitude, self-esteem, problem-solving abilities, and teamwork skills shows an expansion of OC use beyond academic purposes.

A current-day Internet search of remaining Ontario school board-operated OE centre websites shows that nowadays they are typically run with assistance from partnerships, grants, and sponsorships. Furthermore, in 2009 EDU published a new policy framework (EDU, 2009a) mandating that EE be a part of *all curriculum subjects* in elementary and secondary school, leaving administrators seeking budget-conscious means to, in essence, expand teaching

capabilities of all educators. Thus, OCs are being re-visualized and studied as innovations in education (Cone et al., 2015).

### ***Current Publicly Funded School Education Policies in Ontario***

The road to EDU's current position on EE stretches back nearly 15 years but is highly relevant to the development of OC usage in Ontario's publicly funded schools. In 2007, EDU's Curriculum Council convened the Working Group on Environmental Education (WGEE) to review and analyse elementary and secondary schools' EE needs and practices within Ontario, and to research suitable best practices within Canada and beyond. WGEE published *Shaping Our Schools, Shaping Our Future* (Ontario Ministry of Education. The Working Group on Environment Education [WGEE] 2007) in June of that year. The report noted the lack of a "coherent approach to environmental education in Ontario schools that will prepare our young people to take their place as environmentally responsible citizens" (WGEE, 2007, pp. 2, 3).

WGEE's 32 recommendations informed EDU's update of EE philosophies, goals and mandates. By 2009, EDU had created *Acting Today, Shaping Tomorrow: A Policy Framework for Environmental Education in Ontario Schools* (Ontario Ministry of Education [EDU], 2009a). *Acting Today, Shaping Tomorrow* provided three main directives of interest for this research. The first was EDU's policy that EE is not a subject in and of itself, but that the Ministry of Education would "embed environmental education expectations and opportunities in all grades and in all subjects of the Ontario curriculum, as appropriate" (EDU, 2009a, p. 12). The second was that each school board would create and implement its own EE policies based on its own needs, the needs of its students and its potential for community partners. The third main directive of interest required school leaders to oversee policy implementation in a manner that is further narrowed to the needs and visions of their own school populations and neighbourhoods.

Student engagement and leadership, local relevance, and community partnerships, sharing educational resources, and an integrated teaching approach are recurring themes throughout the framework, setting the stage for inquiry-based and experiential learning about and in local and neighbourhood environments.

*Acting Today, Shaping Tomorrow* contains the term ‘outdoor education’ but does not define it. Some curricular documents provide ideas for taking students outdoors. One example is in *The Arts* curriculum:

...a sense of connection to the immediate environment and the natural world is frequently reflected in the arts – for example, Paleolithic cave paintings of animals, traditional dances and performances that evoke aspects of nature, landscape painting, and Impressionist music. To facilitate these connections, arts teachers are encouraged to take students out of the classroom and into the world beyond the school to help students observe, explore, and investigate nature, and to design activities that allow students to integrate natural materials into their creative works.” (EDU, 2009b, p. 49)

From *Health and Physical Education* comes this example:

Appreciating the value of fresh air and outdoor spaces...being aware of the impact of using trails, and understanding the health risks associated with environmental factors such as sun exposure and air pollution are all components of environmental education that are integrated with learning in health and physical education. To facilitate these connections, health and physical education teachers are encouraged to take students out of the classroom and into the world beyond the school to help students observe, explore, and appreciate nature as they discover the benefits of being active outdoors. (EDU, 2015, p. 65)

Because of such policy flexibility, it can be argued that *Acting Today, Shaping Tomorrow* is the document that has the most positive influence on creation, use, and functionality of OCs in Ontario's publicly funded schools (see Kyriakides et al., 2015, p. 113; see also Stewart, 2011, "Teacher reform"). However, *The Kindergarten Program, 2016* (Ontario Ministry of Education [EDU], 2016b) contains the most direct call to bring students outdoors:

Children's natural curiosity and sense of wonder can be fostered by providing them with many opportunities to learn outdoors. The learning that takes place in classroom experiences can be explored in the "extended classroom" that nature provides. Similarly, the natural environment can be reflected in the indoor learning environment...In the Kindergarten program, learning in the outdoors is included as part of the instructional day, and the educators play an active role, engaging with children in an inquiry stance as they play, explore, and learn together outside the classroom. (p. 34)

*The Kindergarten Program* (EDU, 2016b) also references research about the many benefits of being in nature. There are links to a video and a website to guide teachers in taking students outdoors daily, and natural objects are to be included as play items in the indoor classroom.

Neither *Acting Today, Shaping Tomorrow* nor *Shaping Our Schools, Shaping Our Future* contain the term 'outdoor classroom'. However, EDU uses the term 'field study' in *Acting Today, Shaping Tomorrow* (EDU, 2009a, p. 13), and throughout *Environmental Education, Grades 1–8: Scope and Sequence of Expectations, 2017* (Ontario Ministry of Education [EDU], 2017), a resource guide that walks teachers through curricular and cross-curricular implementation of EE in all subjects in Grades K-8. The best example of field study comes from the Social Studies, History and Geography curriculum document, where educators will find this overarching consideration for program planning: "Field studies in the schoolyard, a

park or field, or a local neighbourhood allow students to observe and discuss patterns in the built environment, traces of human activities, and different types of land use or natural physical features” (EDU, 2018, p. 36). Again, however, it is the play-based learning kindergarten curriculum that is scattered with examples and discussion of the functionality of outdoor spaces (see EDU, 2016b), making this EDU’s most progressive stance on OC usage.

Overall, EDU’s policies, directives and curricula present an expansive picture: nothing is specifically labelled an “outdoor classroom,” but cross-curricular learning in the outdoors is promoted within the schoolyard and neighbourhood, and EE is mandatory in all subjects.

### ***Government of Ontario***

Indigenous education has always been a form of outdoor learning throughout Canada and Ontario. With Canada’s Truth and Reconciliation calls to action (Truth and Reconciliation Commission of Canada, 2015; see Items 62-70 and 79-83) paving the way for content about residential schools to enter EDU’s curriculum in 2018 and the revision of the First Nation, Métis, and Inuit Studies curriculum in September 2019 (Ontario Ministry of Education [EDU], 2019), there has been an increase in studying traditional education and FNMI culture and history in publicly funded schools. The calls to action are also useful for YDOs, historic sites and provincial government looking for direction to increase their traditional teachings; YDOs particularly may find ways to do this in OCs. In 2016, my own Kindergarten Specialist Additional Qualification class traveled to Bkejwanong Kinomaagewgamig (formerly Walpole Island Elementary School) to learn about incorporating traditional content into play-based learning and expanding our uses of OCs.

The provincial government has influence in OC use that goes beyond EDU and beyond EE. For example, under Ontario’s Conservation Authorities Act, the province’s 36 Conservation

Authorities have powers to “provide, in the area over which it has jurisdiction, programs and services designed to further the conservation, restoration, development and management of natural resources other than gas, oil, coal and minerals (Government of Ontario, 2021a; see Part V, Objects, 20 (1)). Conservation Authorities were created for watershed management, but this often includes ownership and management of green spaces, and may include management of a green space that is also an historic property, (such as the John R. Park Homestead in Essex; see <https://essexregionconservation.ca/location/john-r-park-homestead/>). Outdoor classrooms and outreach education would fall under “programs and services” deemed necessary by the Authority to carry out their purpose (Government of Ontario, 2021a; see Part V). Further, the province’s Ontario Heritage Act allows municipalities to designate and manage heritage conservation districts. These are sites that contribute “to a sense of place extending beyond their individual buildings, structures and landscapes” (Ontario Ministry of Heritage, Sport, Tourism and Culture Industries, 2017), making them yet more locations for building OCs. Finally, Ontario’s Provincial Parks and Conservation Reserves Act (Government of Ontario, 2021b) does not mandate learning or education, however the Ontario Parks website (<https://www.ontarioparks.com/>) does detail guided (or self-guided, depending on COVID restrictions) outdoor Discovery Programs where available.

### ***Moving into Modern Day Uses of OCs***

The Ontario Camping Association, founded in 1933, currently provides government lobbying, research, mentoring and marketing services, and upholds standards for more than 450 organized camps and OE centres (Ontario Camps Association, n.d.). Their website (<https://ontariocampsassociation.ca/>) offers 18 different areas of focus to choose from when searching for a camp or OE centre, including academics, equestrian, First Nation, environmental



education, leadership, performing arts, STEM, social justice, special needs and teen development, as well as specialized Christian and Jewish camps. Camp Arrowhead in Muskoka offers a Refugee Program. Four different camps (including Outward Bound) offer winter/winter holiday programs. Intergenerational camp programs are designed for the entire family. Because of the overnight residences, group activities and outdoor spaces for learning and having fun, organized camps can address social, spiritual, and physical needs of youth, and the youth can develop “self-expression, self-confidence and independence” by taking part in daily programming (Shivers, 2011; p. 313).

Services within the province pivoted successfully to create outdoor learning opportunities during the COVID-19 pandemic. In mid-June of 2020, the Native Child and Family Services of Toronto (NCFST) launched a Trauma-Informed Land-Based Response to the isolation that children and families were experiencing during the first wave of the pandemic in Ontario. NCFST staff and a ceremonial attendant met outdoors in a park in Toronto with one Indigenous family at a time to do a smudge, sing songs and often do activities at the creek (Garrick, 2020). The program eventually expanded to two other parks and included physical activity, arts and crafts and Indigenous storytelling. In May of 2021, during the third wave of COVID-19 in Ontario, Toronto’s Hospital for Sick Kids, NCFST and researchers from University of Toronto’s Factor-Inwentash Faculty of Social Work, published a report/call-to-action to citizens, politicians, educators, and health care professionals across Ontario to provide and advocate for safe, outdoor spaces for children and youth to play and connect with nature (Schiffer, Birken et al., 2021). The report was based in part on a “rapid evaluation” of the more than 50 families who participated in the Response during the first two waves (Schiffer, Birken, et al., 2021; p. 3).

Improvements in mental and physical health were noted, as were “an increase in feelings of family, community and cultural connectedness” (Schiffer, Birken, et al., 2021; p. 3).

### ***Situating Windsor and Essex County***

The County of Essex includes seven municipalities: the Towns of Amherstburg, Essex, Kingsville, Lakeshore, LaSalle and Tecumseh, and the Municipality of Leamington. The City of Windsor is its own municipality, for a total of eight municipalities in what is known as *Windsor-Essex*. Windsor is Canada’s southernmost city. Point Pelee National Park (PPNP), Canada’s southernmost mainland point, is in Leamington.

Windsor-Essex is surrounded by Lake Erie to the south, the Detroit River to the west and northwest, and Lake St. Clair to the north. Chatham-Kent County (including Wheatley Provincial Park) lies to the east, and to the south is the Township of Pelee, which consists of nine islands that comprise Canada’s southernmost points of land. With a latitude of 42.3149° N (as far south as northern California), Windsor topped many categories in Environment Canada’s most recent “Weather Winner” Highlights (Environment Canada, 2012), which presents 30 years of weather data for Canada’s 100 largest cities: warmest fall, most thunderstorm days, most smoke and haze days, most cooling degree-days, most warming degree-days, humidex days at or above 30C, high humidex days at or above 35C and most humid summer location. Windsor is also listed as having Canada’s third hottest summer, after Kamloops and Penticton, B.C.<sup>3</sup>

There are three main watersheds (Lake Erie, Detroit River and Lake St. Clair), and 29 sub-watersheds (Essex Region Conservation Authority, 2009) in Windsor-Essex. The waterways provide outdoor physical activity and recreation opportunities such as canoeing, stand-up paddle

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<sup>3</sup> Reports and awards on the website have not been updated to include the record-breaking heatwave in British Columbia during July of 2021.

boarding, swimming, fishing, and beach activities. Also, citizens of all ages can volunteer with the Canadian Freshwater Alliance to test water quality, plant native flora, and do shoreline cleanups of Lake Erie (Canadian Freshwater Alliance, n.d.). The local English public and English Catholic school boards have an agreement to use LaSalle's Fighting Island, a former dumping ground for industrial waste that was cleaned up and is being revitalized, as an OC for curriculum-based learning (Diamond, 2018).

Situated in the physiographic region of the St. Lawrence Lowlands, Essex County was at the bottom of a glacial lake during the last ice age, such that it is very flat today (City of Windsor, 2017). As part of Canada's Southern Deciduous Forest, Windsor-Essex is home to native trees that do not grow anywhere else in the country (Bliss et al., 2015). Windsor has an "about average" tree canopy coverage of 19%, but tree cover across the county of Essex (Windsor notwithstanding) is low, at "about 8.5%" (Cross, 2021).<sup>4</sup> The fauna of the region is among the "rarest and most biodiverse in Canada," with over 240 "federally or provincially rare species of plants or animals" (Essex Region Conservation Authority, n.d.-b; see "Wildlife"). Farmers in Essex County cultivate planted crops and fruit trees and use greenhouses to take advantage of warm fall and mild winter weather to grow year-round. Wind farms are another way to take advantage of the county's flatness.

Historically, Windsor-Essex makes for prolific place-based learning which can be discovered on the County of Essex website (<https://www.countyofessex.ca/en/>; see "History").

The Wyandot, Huron and Ottawa First Nations were already present when French soldiers began

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<sup>4</sup> According to ERCA's most recent Watershed Report Card (Essex Region Conservation Authority, 2018; see "Forest Conditions"), one of the foremost reasons for low tree coverage in Essex County is the prominence of agriculture. Local undertakings such as 4-H, the ERCA Demonstration Farm, Greener Farms organic compost facility and Serenity Lavender Farms show that there is potential to capitalize on agriculture as a subject for OC learning (albeit for a wider age-range than the target audience of this paper).

to settle in Windsor-Essex County in the mid-1700s. In March 2021, the Caldwell First Nations received reserve status and took full possession of an 80-hectare property in Leamington (Kabatay, 2021). Windsor's proximity to Detroit, Michigan in the US was vital in the area's role in the War of 1812, the development of the railroad and the development of the automotive industry. The manufacturing industry continues to be the most prominent labour industry in Windsor (Statistics Canada, 2020b; see "Total labour force population aged 15 years and over by Industry"). Windsor-Essex is also distinguished for being a haven of freedom for tens of thousands of black slaves who fled across the Detroit River from the US via a network of people and hiding places known as the Underground Railroad.

There were 398,953 people living in Windsor-Essex County in 2016, according to the census, and one in four Windsorites living in private houses were foreign born (Statistics Canada, 2020a; see "Immigrant status for the population in private households"), making Windsor a very culturally diverse city.

### ***Situating Windsor-Essex County in Outdoor Learning***

There are four school boards in Windsor-Essex County. The Greater Essex County District School Board is public English and includes the Township of Pelee. The Windsor Essex Catholic District School Board is Catholic English. Conseil scolaire catholique Providence is Catholic French and extends eastward to Woodstock-Oxford County and north to the Gray-Bruce region. Conseil scolaire Viamonde is public French, covering southwestern Ontario and much of the Golden Horseshoe. Each board approaches outdoor learning slightly differently. There are also many private schools: some are faith-based, others Montessori, and still others specialize in sports or music. There is one registered Forest School.

PPNP is the only national park in Windsor-Essex, although there is federal commitment to designate Ojibway Shores and surrounding protected natural areas as a national urban park (Garton, 2021). Ojibway Prairie Reserve in Windsor is a non-operating provincial park and home to more than 500 flowering plants, of which 18% are rare in Ontario (Ontario Ministry of the Environment, Conservation and Parks, n.d.). There are also 19 publicly accessible conservation areas and close to 100km of trails owned/managed by ERCA. Waterfront parks and beaches are plentiful and used almost year-round.

There are branches of Scouts Canada, Girl Guides, 4-H Canada, junior field naturalists and many faith-based and non-secular youth clubs in Windsor-Essex. Museums, historic sites, walking tours and annual events celebrate the area's rich history and cultural heritage. The Detroit River is the only river with the dual distinction of being designated both an American Heritage River and a Canadian Heritage River (Essex Region Conservation Authority, n.d.-b; see "Detroit River").

After an extended March Break in 2020, no school boards in Ontario were permitted to have students return to in-person learning for the duration of the 2019-20 school year. Kingsville and Leamington were the last locations in Ontario to enter Stage 2 reopening during the first wave of COVID-19 restrictions in June 2020 (Aziz, 2020), followed by Windsor-Essex being the last health unit to enter Stage 3 reopening in August 2020 (Fraser, 2020). Except for "continued in-person support for students with special education needs who require additional support that cannot be accommodated through remote learning" (Ontario Office of the Premier, 2021b) who were able to continue attending in-person, students in Windsor-Essex County finished their school year with more than two months of online learning during stay-at-home circumstances for the second year in a row.

The University of Windsor has a Faculty of Education for preservice, in-service, and graduate studies. Outdoor Recreation has been a course in the university's Department of Kinesiology undergraduate program since the degree started in the 1960s, and there is also a Practice, Theory and Analysis of Urban Outdoor Recreation class, begun in 2008, which focuses on having students explore physical activity possibilities in outdoor spaces around the university, Windsor, and Essex County (V. Paraschak, personal communication, January 19, 2022). Other programs and partnerships also promote and provide outdoor learning opportunities. At St. Clair College, programs in Early Childhood Education, Native Early Childhood Education, Child and Youth Care, Developmental Service Worker, Fitness and Health Promotion and Autism and Behavioural Science might also lead graduates to working in OCs.

There are chapters of Sea Cadets, Air Cadets and Army Cadets in Windsor-Essex County, and land and infrastructure for organized camping owned by Scouts Canada, Girl Guides of Canada (transitioning to the Optimist Club as per personal communication with C. Robertson, July 20, 2021), and PPNP. The organized camping facilities are available for rent by YDOs and other groups.

## **Chapter Summary**

From a global perspective to a national perspective to a provincial perspective, it is apparent that OCs are being used for far more than learning about the environment. In addition to school subjects, educators of all types are leading students and youth through personal and social development activities, development of leadership skills, fitness training, survival skills training, transmission of culture and heritage and so much more. OCs lend themselves well to pedagogies such as experiential learning, play-based learning, place-based education, loose parts play, traditional Indigenous education and progressive education. OCs are also used to teach I ur

och skur, friluftsliv and Forest School, and for youth development organizations and government programs for military training, conservation education, agricultural knowledge—too many to list in one summary!

In examining OC functionality on all these plains, recurring themes emerge. OCs are functional because of their spaciousness as compared to indoor classrooms and gymnasiums, allowing for increased physical activity (Pan et al., 2011) and tackling of physical challenges (Nel et al., 2017), and elaborate dramatic play. Space to cultivate gardens and food and engage with animals provide tremendous opportunity for developing responsibility, leadership, and pride (Jolly & Sandberg, 2018; Truong et al., 2016). Caution must be exercised by teachers to avoid creating frightening and/or bullying situations because of the spaciousness of the outdoors (Goldstein et al., 1997) and educators in general need to be aware of all their students' needs (Hoven et al., 2005; Vaillancourt et al., 2010). OC's provide opportunities for increased noise levels such as group singing and music making of all kinds (McDonnell, 2013; Ward, 2018), including with natural items. This might be based on their distance from indoor classrooms. OCs can offer varying degrees of infrastructure (Borland, 2015) , and can offer a functional and inexpensive alternative to less-than-ideal indoor classrooms (Khan et al., 2018; Yaman, 2005) Outdoor classrooms offer a diverse range of topography, climate, flora and fauna, stimulating creativity in students and educators and providing a setting for teaching any subject. This also contributes to their flexibility in accommodating the various needs of federal and more local educational goals. Because changes occur naturally in OCs, they allow students to undertake their same explorations in different seasons and under different circumstances, making them an ideal setting for teaching about the cyclical nature of life and the environment. Finally, because they are viewed as both a traditional and innovative teaching platform, OCs offer extensive

opportunities for community partnerships: from environmental organizations to community elders, artists to farmers to builders, with prospects to benefit from the knowledge and experiences of all types of educators, certified or not.

Windsor-Essex is ideally situated for learning in OCs. With its mild climate, plentiful waterways and surrounding lake and river, fascinating history and multicultural population, there is much to see, do and explore outdoors in all seasons.



## **CHAPTER 3 METHODOLOGY**

This study investigates the functionality of OCs within Windsor-Essex, guided by specific questions and based on qualitative research, backed by theory and literature. It will explore lessons for embedding outdoor learning into priorities for schools, organizations, and pre-service and in-service teacher education programs, and for advancing OC use in local organizations and those that work with youth across Ontario.

The purposes of this research are (a) to examine the functionalities of Windsor-Essex County's outdoor classrooms- that is their natural and structural features, their use and purposes, and the perceived benefits; (b) to encourage in participants and readers thoughtful analysis of the relationships that make up functionality, and how those relationships can be used to better the OC experience for educators and students, and (c) to be useful as a resource and inspiration for policy-makers, administrators and educators across the province.

To fulfill the first two purposes, I undertook a two-phase approach. First, I created online questionnaires with opportunity for descriptive, qualitative comment. Second, I used the questionnaire responses to inform semi-structured, follow-up phone interviews with those participants who were interested and qualified. As I received questionnaire and interview data, I analyzed them for themes and items of interest, and created charts, tables, graphs, and narrative, each where appropriate. To fulfill the purpose of creating a useful and inspirational resource, I pursued communications with key informants, especially concerning professional development, and wrote the findings and discussion sections as though the interview participants were part of a group discussion, as I feel strongly that they would have had much to share and learn from each other had they been allowed to meet.

### **My Role as a Researcher**

Interpretations of research are based on the background and experiences of the researcher (Lichtman, 2012). I fulfill three roles that I feel will influence my interpretation. First, as a parent, I have watched both of my children develop into curious, creative, non-stop learners, thanks in part to the incorporation of daily outdoor learning in their play-based kindergarten program. I learned pedagogies, teaching strategies and practical examples applicable to outdoor learning throughout my three-part Kindergarten Specialist Additional Qualification course (which I pursued while my kids were in Early Years/Primary grades), and now have a well-rounded understanding of the potential of OC use. Second, my Master of Education specialization in Second Language Acquisition, Culture and Society increased my awareness of the needs of all students and gave me an appreciation for cultural learning opportunities (which I now understand can fall under place-based learning). Finally, as an Occasional (and Long Term Occasional) Teacher of many years, I worked in such a variety of educational settings—schools in different socio-economic situations, run by administrators with different styles and priorities, in all parts of Windsor-Essex County—that I recognize and accept that what works for one school, classroom, or student, may not work for another. Ultimately, this motivates me to provide a plethora of choices and ideas, and to want to help educators chart their own OE journeys.

## **Research Formats**

### ***Combining Historical and Descriptive Research***

When combined, historical and descriptive research is useful for recognizing trends within the subject (Charles, 1998). Historical research is peppered throughout the global and Canadian tiers of my Literature Review and directly addressed in the provincial tier (see Chapter 2), revealing the development and adaptability of OCs across the globe and in Ontario,

particularly. For example, outdoor physical training for combat in the United Kingdom has been replaced by very popular Forest School. Children in Norway, many of them in cities, are now heading *back* to farms to take classes about where their food comes from. Ontario's camping movement began with Scouting, but nowadays, in some secondary schools, students can obtain credit for outdoor adventure classes. As for the descriptive element of Charles' (1998) equation, much of the global and Canadian tiers cite descriptive secondary research, and my primary research is also descriptive, presenting the stories, opinions, and reflections of the participants.

### ***Qualitative Research***

Qualitative methods paint a well-rounded picture of the research subject (Lichtman, 2012). They help us acquire information and understanding about the values, beliefs and motives that fuel decisions, activities and events (Treagust & Fraser, 1984)—in this case, regarding educators taking their students outdoors. They also provide an opportunity to delve into local contexts, stakeholders' needs and change over time (Johnson & Onwuegbuzie, 2004). The questionnaire first and foremost was designed to guide follow-up interviews, as “Well-executed qualitative research is often essential preparation for worthwhile quantitative research and vice versa” (Bouma et al., 2016; p. 55). It was also designed to help me determine where participants fit in the target population, so I could make the findings credible to the community I am researching (Creswell, 2009). Collecting qualitative data suited the pragmatist in me; I queried the respondents about their training, goals and their thoughts moving forward, without attaching or asking them to attach a philosophy to the findings (Creswell, 2009; Johnson & Onwuegbuzie, 2004). It is my hope that my findings will pique interest at the administrative level to encourage further research and action, particularly by those in charge of PD.

### **Data Collection**

### *Qualitative Online Questionnaires*

The first phase of data collection was the online questionnaire (Appendix A). I use the term ‘questionnaire’ rather than ‘survey’ because there was and is no central data bank about OCs or OC-educators in Windsor-Essex such that I could have planned to achieve a representative sample. Also, I included several opportunities for descriptive text entry answers, intending for the questionnaire to inform my interview rather than provide a data set. I designed the questionnaire using Qualtrics, which is the University of Windsor’s web-based survey tool, while referring to Charles (1998), Creswell (2009), Johnson and Onwuegbuzie (2004), and Lichtman (2012) for guidance on how to formulate questions in an unbiased way, to pinpoint what I would need to know for a rich follow-up interview. Five people tested the questionnaire: four were teachers and one an Information Technology specialist. Testing took place before the pandemic, and I made changes according to feedback.

The questionnaire commences with the full text of the Letter of Consent, including detailed definitions of “educators,” “students/youth,” “outdoor classroom,” “activities/lessons/exploration in the OC,” and “some degree of success.” The first question requires the participant to give their informed consent before the questionnaire can continue. The initial questions request anonymous information about the respondent’s sub-population (see “Sub-populations across Windsor-Essex County,” below).and the PD they may/may not have had, as a reassurance to me that they meet the participation criteria as trained educators. These questions also helped me determine which sub-populations were/were not responding. The main questions then explore design and features, purposes for use and benefits to users. Respondents are instructed to consider only one OC when answering these questions (see “A pathway to functionality,” below). Short questions about pedagogies and seasonal use of OCs

provide a quick and easy break from the more serious questions about key elements of functionality.

Throughout the questionnaire, there are reminders for respondents to focus on their one chosen OC. Definitions of critical terms re-appear through a ‘hover-over’ feature wherever those terms are written in blue text (not accessible to cell-phone users, unfortunately). The definition of functionality is kept simple: “how the OC is well-suited to serve its purposes and meet the needs of its users” and explained further as how the OC is “well-suited to serve its purposes, meet your needs and the needs of your students” (App. A). Respondents could leave their questionnaires for 72 hours and return to complete it by using the same browser on the same device.

Towards the end of the questionnaire, respondents who wanted to enter the draw for the \$20 Indigo e-gift card prize were taken to a second Qualtrics questionnaire to input their email addresses, so their addresses resided separately from their raw data, creating a level of anonymity. Placement at the end of the questionnaire discouraged those only interested in the opportunity to receive incentives from continuing through the entire questionnaire. Knowing that fieldtrips, March Break camps and YDO gatherings were cancelled or had turned virtual, and that libraries, galleries, museums, and faith-based organizations were closed to the public, I expected non-school educators to have more time on their hands. I optimistically targeted 50 as my maximum questionnaire participant expectation.

**A Pathway to Functionality.** When designing the questionnaire, I intentionally created a ‘pathway’ of questions (adapted from Wax, 2008) to try to lead educators to consideration of the functionality of OCs based on the four key elements I introduced in Chapter 1 (see “Background”). I limited respondents to focusing on only one OC, as it would be difficult to

draw linear conclusions otherwise. Wax (2008) proposed a line of questioning appropriate for a designer wanting to create a product, whereas the respondents in my study are using OCs that have already been built. Thus, (having obtained information about the user at the beginning, as discussed in “Qualitative online questionnaire,” above), I commenced the pathway by asking about categories and sub-categories of features of the OC (App. A, Q5-13). Next, I wanted to introduce the concept of purpose: to determine what makes an item suitable to its purpose, one needs to know the item’s purpose! Based on the diverse examples in my secondary research, I included lengthy and detailed checklists of potential purposes for using OCs (App. A, Q15-27). By including scholarly, personal development and life skills goals, I intended for this section to also make respondents think about their needs and the needs of their students. This leads into questions about benefits to self and perceived benefits to students (App. A, Q28-32).

The questions about functionality come at the end of the pathway of questioning, to draw out deductions and thoughtful conclusions from respondents. Additionally, in creating my functionality question checklists, I took a page out of the profession of architectural design by attaching physical features to human needs (adapted from “The multiple meanings of function,” 2018): where I listed physical features such as amount of space, presence of nature, presence of wind and abstract features such as providing access to changing surroundings and change of season, I hoped for the respondents to consider the need. I also planned to ask respondents about those needs during follow-up interviews.

### ***Optional Follow-Up Interviews***

Semi-structured interviews were the second phase of data collection. Participation was optional to all questionnaire respondents, and only to questionnaire respondents. I planned a few questions to ask all interview participants (such as what they think is the purpose of an outdoor

classroom), but garnered most questions from the participant's questionnaire responses, creating a semi-structured situation (Kallio et al., 2016). I screened for interview participants based on their indicated willingness to participate (App. A, Q37-39) and their suitability according to their questionnaire responses: I sought trending or outlying opinions and responses, and roles as educators that filled any gaps in the target sub-populations (see "Sub-populations across Windsor-Essex County," below). Indicated willingness provided me with a sample of convenience (Henry, 1990) and an email address so I could send the participant more detailed criteria for participation.

Interviewing subjects in person allows the interviewer to observe the subject's expressions, body language and environment (in this case their school and OC), but is often cost-prohibitive (Jaeger, 1990). Indeed, I originally planned for extensive time and travel to visit educators in person and hopefully during activities in their OCs. However, because of contract negotiation-based limitations that were in effect with various educator and secretary unions when I first applied to the UWin REB in March 2020 (see "Union work-to-rule and strike conditions" below), I had to re-organize my methodology to do interviews by phone. Telephone interviews share with in-person interviews the advantages of allowing the subject to ask clarification questions and the interviewer to be flexible with questioning based on the participants' responses (Jaeger, 1990). This proved to be advantageous when COVID restrictions made this format necessary.

I projected interviews of 30 minutes maximum, unsure of what would be practical for the many educators who were working from home during February's stay-at-home order (Ontario Office of the Premier, 2021a). It became quickly apparent, however, that participants were eager to share their experiences with OCs with me, which extended most interviews. In some cases, I

obtained verbal (recorded) permission to extend the interview. In all such cases of enthusiasm, I recognized how important it was for participants to be communicating something positive in the middle of the COVID-19 crisis, so I did not push for conclusions about functionality where it was clear that was not of great interest to the participant. In addition, some interview participants were slightly confused about how much time had passed since they had taught in an OC. I attribute this to the fact that during my recruitment, COVID-19 restrictions had been in effect for one full year, potentially keeping them out of their OC for that amount of time.<sup>5</sup> In consultation with my adviser, I pursued additional interviews to guarantee a scholarly investigation. Sixteen educators indicated interest in being interviewed. Four did not respond to my scheduling email (sent three times as per REB instructions), and I chose 11 of the remaining 12 as appropriate for this study

My goal was to obtain anecdotal examples of unique uses of OCs, personal interpretations of best practices, and guided discussion of functionality without losing sight of the main themes and questions (Algozzine & Hancock, 2016). I asked questions that were generally open-ended, as they are particularly appropriate for qualitative research (Creswell, 2009, p. 181), and directed clarification questions to participants via email following my transcription of the interviews.

Regarding requesting participants' personal photographs of their OCs and obtaining permission from principals to publish photos of OCs in schoolyards, I did not do this for publicly funded schoolteachers because I knew that school boards were not supporting research at that time. Also, because of the provincial stay-at-home order, it was not appropriate to ask participants to travel to their OCs to take photos, and at least two interview participants taught in

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<sup>5</sup> According to clinical psychologist Ali Mattu (Burger, 2021), my hypothesis on the phenomena of losing track of time during the pandemic was fairly accurate.



OCs that they felt would be inaccessible for several weeks, if not months. I did ask a few participants about using posted online photos of their OCs; one emailed me to confirm that children's parents had given written permission for those photos to be posted so I was welcome to use them. Ultimately, I felt it was an inappropriate time to seek permission from administrators who were already burdened with circumstances beyond their control. Instead, after the stay-at-home order lifted, I stopped to take photos of empty OCs during my own travels and based on my extensive knowledge of Windsor-Essex.

### ***Key Informants***

The final arm of my primary research was communication with administrators and other key informants to explore trends and topics of interest that emerged after the transcription of interviews. I did this through emails and phone conversations.

### ***The Target Population***

The target population for this study was educators who have used an OC in Windsor-Essex County in the last three years with some degree of success. Since it was not possible for me to create a list of all those who meet this description, I commenced research knowing that I would need to use non-probability samples (Henry, 1990). I carefully considered each component of the target population and have discussed them below.

**What Makes an Educator?** Throughout this study and from its onset, I have used the word 'educator' rather than 'teacher' as much as possible, since the word 'teacher' suggests a certain level of training and expertise (United Nations Educational, Scientific and Cultural Organization, n.d.) and I did not want to dissuade those without such a level of training from joining the study. Also, not all educators work from a school or school curriculum. I considered these and other factors when creating my definition of an educator, aiming to be inclusive right

from the start. As in the teaching of First Nations culture and traditions, having acquired expertise by doing something thoroughly and for a long time can make someone an esteemed educator (Stiegelbauer, 1996), and as such I pondered how to incorporate knowledge of subject matter into the definition. I countered that thought by asking myself what would be the amount and type of training an educator would need to make conclusions about benefits to their learners and functionalities of an OC? After much research, I opted for requiring formal education and/or training that would afford the participant “a professional or expert viewpoint of teaching and learning in the OC” (App. A, see “Letter of Consent”), according to the vision, mission, goals and/or curricula of their school or organization. In YDOs, for example, training is required for educators that is different from pre- and in-service teacher training. Cadets (in Canada) and Junior Rangers (in the US) have non-curricular goals that would drive educational activities in an OC.

**Windsor-Essex County.** I grew up in Windsor-Essex County and currently live and study there. Under COVID conditions and restrictions, I chose this location to give myself the best possible chance of success by: (a) Being able to benefit from my extensive knowledge of the schools, green spaces throughout the county and use of OCs by local organizations and branches of government, (b) Not having to travel out of the county during the pandemic, and (c) Being able to visit OCs in person to take photos.

***Sub-populations Across Windsor-Essex County.*** My target population included not only certified teachers from publicly funded schools, but teachers from private schools and on-reserve schools, and educators from day cares, faith-based organizations, environmental and historic sites, libraries, galleries and museums, youth development organizations, government bodies and any other school or organization, provided the educator would meet the definition described

above in “What makes an educator?” and meet the criteria of having taught students between the ages of 4 and 13 in an OC in the last three years with some degree of success. This broad spectrum of educators set me up with a large and relevant target pool, which was vital considering the stresses that schoolteachers were dealing with because of COVID conditions in schools.

Although I hoped for representation from across this spectrum of educators, only Q3 (App. A) on the questionnaire would help identify the educator. To improve my chances of broad representation, I recruited participants through connections with my LinkedIn account, the project Facebook (FB) page and the project e-mail).

**Some Degree of Success.** Because questions 28-30 and 32-35 of the questionnaire (App, A) require respondents to judge the benefits of class time spent in the OCs and describe the functionality of the OCs, respondents need to have had positive experiences in the OC. Algozzine and Hancock (2016) reinforce selecting participants “whose knowledge and opinions may provide important insights regarding the research question” (p.39). For the purposes of this research, I define “some degree of success” as having taught lessons/led activities in the OC about which the educator can say any of the following:

- The activity was more successful than I hoped it would be;
- The activity was as successful as I hoped it would be;
- The activity was less successful than I hoped, but I can see it has potential and I will try it again with appropriate changes;
- The activity yielded successes in a way I didn’t foresee.

This definition was included in correspondence and publicity material where necessary, the letter of consent and the online questionnaire.

**Timeframe of the Previous Three Years.** As a former elementary school educator, I do not feel that asking respondents to recall benefits and functionalities past the timespan of the three previous years is a sound research choice.

**Identifying and Recruiting Participants.** Because I was not working with a school board or partner educational organization, I used a two-pronged approach to recruit potential participants: I promoted the study through social media, which included paid advertising; and I sought connections through e-mail, Facebook, and LinkedIn so the connections could then see my social media marketing. I discuss these approaches in detail below, as my methodology and for the benefit of others who find themselves recruiting using the Internet.

First, I secured a project e-mail address from UWin to keep my student address separate, anticipating months of communications. Second, I hired a marketing specialist to help me through the social media aspect, as it was not my strength. Third, I established an advertising budget.

The marketing specialist posted graphics based on the REB-approved basic recruitment poster (see Appendix B) on the project FB page about the study and questionnaire, and short textual blurbs two and three times per day, appropriately timed to capture the attention of teachers who might be on lunch break or just finishing school and checking their FB page. Simultaneously, I was engaged in the second prong of recruiting, which was using LinkedIn and the project email to establish connections who would then see the project FB page.

Here I will pause to discuss the second prong. The UWin REB does allow use of LinkedIn for recruitment since LinkedIn is meant to be used for business rather than personal communications. To begin the process, I identified local private schools and organizations with educators who were likely to match the criteria, that would have use of outdoor classrooms (see

Appendix C). I avoided the four local school boards, since that would have required clearance from their respective REBs, and only if they had resumed research. I did Internet searches for private schools, the Caldwell First Nations, environmental and historic organizations, museums, galleries, faith-based organizations, youth development organizations and multi-cultural organizations within the Windsor-Essex area. I also searched for umbrella organizations that might have local membership, such as the Canadian Museums Association. For non-publicly funded schools and YDOs, I verified that educators would require formal education and training, and that curriculum or visions, missions, and goals were well-defined on the website. For other organizations, I verified that visions, missions, and goals were well-defined on the website. I also looked for evidence of a well-trained educator on staff, such as a curator or ECE, but did not exclude organizations lacking this, as I didn't expect that to be standard website material the same way visions and missions are. Once I identified a list, I sought connections through LinkedIn and the project email, and used relevant hashtags on my LinkedIn posts (such as #yqg, #environmentaleducation, #curator and #4h) to guide my LinkedIn posts to be seen by educators. Also, I included the link to the project FB page on my LinkedIn posts. In addition, I posted recruitment blurbs with/without graphics on my project FB page to reach out to: faith-based leaders, curators, private school educators, teachers, ECEs, DSWs, FNMI Elders, and those who have led taught on culturally, historically, or geographically significant land.

It is imperative to note that my marketing specialist and I did not approach individuals known to either of us to participate in the study. We approached groups and individuals to be Internet friends or LinkedIn connections. I emailed brief introductions to directors or general mailboxes, inviting the recipient to spread the link to my project FB page to their staff and volunteers (see Appendix D for a generic example). Recipients were under no agreement to do

so. I noticed that those who liked my FB and LinkedIn posts *did* eventually share them with prospective educators, but that was due to the snowball effect of social media and not my methodology. As per the instructions of the UWin REB, I only communicated with people I knew if they contacted me first and expressed interest in joining the study.

Each time educators contacted me by project email to tell me of their interest in participating, I sent a communication clearly outlining the criteria for participation (see Appendix E). I then sent the link to the questionnaire in a separate communication (see Appendix F), only to those who emailed me to confirm they did indeed qualify.

Following the questionnaire process, I sent one letter to those (who indicated they were willing to be interviewed) that I wanted to interview (see Appendix G) and a different letter to those I chose not to interview (see Appendix H). Interview participants received their Letter of Consent (see Appendix I) by email, and were allowed to send me a signed, scanned copy or indicated permission at the onset of the interview (which was recorded).

## **Data Analysis**

### ***Analyzing the Questionnaires to Plan for the Interviews***

I initially reviewed questionnaires as Qualtrics received them. This gave me a feel for trends, unique experiences, and comments, and which sub-populations were answering the questionnaire, all of which helped me choose who among the interested respondents I wanted to interview. I then reviewed more closely the questionnaires of those I wanted to interview so I could tell them my areas of interest in my scheduling e-mail (see Appendix ??? for a generic example). Once the interview was scheduled, I reviewed the questionnaire again and wrote out my specific questions, along with the few questions that I would ask all participants.

### ***Analyzing the Optional Follow-Up Interviews***

I transcribed interviews as I completed recording them so I could ask questions in remaining interviews based on emerging themes (Algozzine & Hancock, 2016). When I had finished all interviews and transcripts, I began to code. I quickly recognized that Lichtman's (2012) advice to code manually when working with small-scale data sets was more appropriate than learning to use the coding functions of the Qualtrics software. I coded transcripts based on OC features, users' identity, purposes for use, users' needs, benefits to users, functionality and other items of interest that would help me to answer my research questions. During my second and third reading of each transcript, I sub-coded the key elements, then highlighted sentences and phrases that were emerging as the most important themes, thus refining according to Lichtman's (2012) three Cs of codes, categories and concepts; I had ample information to address my research questions. By coding after I'd finished the transcribing, I was able to sub-code and categorize quickly and easily because I knew what I was looking for.

### ***Analyzing the Questionnaires Post-Interview***

I returned to the questionnaires after coding and analyzing the interviews to look for factual information (such as numbers of completed questionnaires, percentages, most and least popular responses and the like) and responses that added to the discussion of themes that had emerged in the interviews. I also re-examined the functionality responses after having had the benefit of interviews. The number of questionnaires completed, 20, was too few for me to draw conclusions about relationships.

### **Data Management**

#### ***Establishing an Anonymous Sample Frame***

I recorded phone interviews using an Olympus Digital Voice Recorder WS 853 and a land-line phone on speaker function, because the device does not attach to a cellphone. Once the

interview was completed, I deleted the participant's phone number from my land-line phone, transcribed the interview and deleted the audio file of the interview from the device.

### ***Safeguarding Data***

I exported questionnaire data from Qualtrics to Excel to be stored in University of Windsor's password-protected Office 365. I exported reports about the data from Qualtrics as .pdf documents to be stored likewise. Transcribed interviews are saved in the same password-protected Office 365, with hard copies in a fire-proof safe.

### ***Maintaining Anonymity***

I requested that interview participant provide their own pseudonyms to be used for their interview and in all written material in my thesis, to respect their ethnicity and help develop positive relations with them (Allen & Wiles, 2016). In a few instances, I advised the participant if I felt they could be identified by their chosen pseudonym and chose the pseudonym myself when requested to do so. All computer files are saved by pseudonym only. Transcripts use only pseudonyms. The master list of real-names-to-pseudonyms is kept in a locked safe. Key informants are properly referenced as personal communications. I did not find it necessary to use pseudonyms for interview participants' schools/organizations, as there were no more than three interview participants whose main roles as educators overlapped (for example, three who were publicly funded schoolteachers, three who worked for environmental organizations, two who were YDO educators, etc.). Also, I presented findings and discussion as a conversation with the interview participants, making it easier to know which school/organization is being referenced.

### ***Addressing Challenges***

#### ***Non-Responsiveness***



To give schoolteachers as much time as possible to respond to the questionnaire, I obtained a ten-day extension. This kept it active until April 18, 2021, which was the final Sunday of the April Break (revised from March Break due to COVID-19). This resulted in 12 additional completed questionnaires. I also eventually added the link to the questionnaire to the screening e-mail to make the process shorter. I put the link at the end of the e-mail so recipients would still go through the screening process. In the final few days of recruitment, I posted the link to the questionnaire on the project FB page, knowing that the letter of consent included all necessary definitions and criteria, and it provided contact phone numbers for questions.

### ***Union Work-to-Rule and Strike Restrictions***

In December 2019 and January 2020, as I was simultaneously applying to the UWin REB and an ethics committee at an Ontario public school board, the Elementary Teachers' Federation of Ontario and other unions representing teachers, ECEs and school secretaries were escalating their work-to-rule restrictions (Elementary Teachers' Federation of Ontario, 2020) to the point where it was becoming unlikely I would be able to visit or speak to a school educator in person. This was because of limits on the amount of time educators were able to spend on non-curricular activities, and the amount of time educators were permitted to stay on site at the end of the school day. This delayed my application process, but I was able to overcome these obstacles by creating a plan to do the interviews by phone and ask the participants to take non-identifying photos of their OCs (for which I would later obtain approval from the principal). Although this plan did not come to pass, it did put me in an ideal position when COVID-19 restrictions required data collection to take a non-contact format.

### ***COVID-19 Conditions and Restrictions***

COVID-19 resulted in a full-year delay in my being able to start my primary research because my originally targeted school board and others across the province immediately cancelled all research when the COVID emergency was declared by the province on March 15, 2020. Once I re-designed my proposed research and received clearance to begin recruiting, it was difficult to have to compete with the surge in online work, shopping, and recreation to get the attention and commitment of potential questionnaire participants. It was also challenging to have to contend with online and what had been name ‘Zoom fatigue’ (Bailenson, 2021) in general, especially during the April Break, which was a long-awaited opportunity for school educators to take a break from computers. Even educators whose primary jobs were not based out of a school were most likely working from home due to widespread closures of businesses and organizations, making them among the millions who were experiencing fatigue from hours of daily video chats (Forani, 2021).

### **Limitations**

It is unfortunate that pandemic restrictions made it impossible to observe educators and students at work and play in their OCs, for that would have given the author first-hand perspective of how the OCs were being used and how different features and designs of the OCs were serviceable or adapted to become serviceable. Even meeting with educators at their empty OCs was prohibited by the University of Windsor Office of Research and Innovation throughout the time that data were being collected. The study would also have profited from being able to obtain the students’ input on what they experienced as benefits, since only one participant mentioned tracking benefits to students specifically based on their time in the OC. Again, however, it was not possible to meet students while they were learning in the OC because of COVID restrictions and because many OC programs in Windsor-Essex were shut down,

eliminating my own perspective on how students are using and benefiting from OE. When it is again possible, future studies might take into consideration the viewpoint of the student.

Thankfully, because six of the 11 interview participants were engaged with the same students on a regular basis for ten months in a row, and four others reflected upon specific students, discussion with educators about perceived benefits to students did appear to be carefully considered. Benefits to self appeared very well considered based on interviews, but no participants mentioned any form of tracking for this.

Compared to a standard, pre-COVID recruitment partnership with a school board, the study was expansive in terms of types of educators who responded but limited in terms of number of respondents. The author attributes this to having to compete with all other Facebook posts for the attention of OC educators, as only 31 educators signed into the questionnaire, despite the respectable reach of the project Facebook page<sup>6</sup> and the author's LinkedIn posts. The author considers the competitive aspect of Facebook to be a limitation to recruitment and suggests that researchers who are primarily relying on Facebook have a plan and budget to promote their posts to a targeted audience, have time to post unique, eye-catching messages at least twice daily, and have a large existing friend base to assist with sharing posts. The technical difficulty of the Qualtrics questionnaire may also have contributed to the low response: it prevented the completion of at least one questionnaire, and possibly three others. The advertised length of the questionnaire, at 20-25 minutes, was likely another contributing factor.

Because the target population has not been previously identified, the participants may not comprise the best sample of the target population. That is, they may not be the educators who use

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<sup>6</sup> As of October 9, 2021, the project Facebook page had 71 followers, 69 accumulated likes, an "estimated" (according to the Facebook Business Suite) one-day organic high point reach of 738, and an estimated one-day paid reach of 8 809. Having never had my own FB page to draw upon for contacts and 'friends', I consider this a respectable reach for a recruitment that only lasted five weeks.

the OCs most often or most diversely or have the most useful information to contribute to the field. This is undiscernible. Also, although the premise of this research is not to be comparative, the participants came from different schools, school boards, YDOs and other organizations, meaning that some have more training and support to develop their ideal programs for their OCs than others. Incidental comparison is hard to avoid, which is one reason I organized Chapters 4 to resemble a discussion: I believe all the participants, had they been able to meet and share experiences, would have learned from each other regardless of their respective profiles as outdoor educators.

Finally, the author's attempt to include pedagogies in the questionnaire as a purpose for taking students into the OC was incomplete, asking only about PBL and PBE and not giving respondents a chance to check off or add other pedagogies. Although this was not a limitation to the entire study, it was a poorly designed element that limited the resulting knowledge of pedagogies as a purpose of using OCs in Windsor-Essex.

### **Disseminating Findings**

My primary audiences are educators and administrators from school boards and organizations in Windsor-Essex whose business it is to educate students ages 4-13 based on visions, missions, goals and curricula, and administrators of teacher training programs at UWin and St. Clair College (see "Situating Windsor-Essex County"). My secondary audiences are school boards and teacher training programs across Ontario. Once I have successfully defended my thesis, I will post a two-page, plain-language highlight infographic about key elements of functionalities and functionalities of OCs in Windsor-Essex—or a similar version thereto, depending on comments during my defense—to the project FB page, which I will then promote through LinkedIn, Twitter, my membership in WE-SPARK Health Institute and other

appropriate social media. I also intend to send an electronic copy of the infographic with a generic letter of introduction (see Appendix J) to my primary and secondary audiences, and any other applicable organizations in Windsor-Essex.

The generic letter will include an invitation to share the report with all staff, a link to access the full thesis through the University of Windsor repository of theses and dissertations at [https://scholar.uwindsor.ca/education\\_etd/](https://scholar.uwindsor.ca/education_etd/), and a notice that receipt of the infographic in no way suggests that any of the participants were their employee or volunteer.

## **Summary**

This examination of the functionality of the OCs of Windsor-Essex County elicited information on relationships between features, users' grade levels and teaching specialization, activities, benefits to self and perceived benefits to students associated therewith. I undertook two sequential phases of qualitative research: an online questionnaire based on the four key elements of functionality and functionality of OCs in Windsor-Essex, and semi-structured follow-up interviews with a purposive sample of convenience (the individual's willingness to participate). I used respective questionnaire responses to guide my questions for each follow-up interview. I transcribed interviews as I conducted them and planned upcoming interviews with some thought to emerging themes. I coded and analysed transcripts based on the four key elements and my research purposes. Following interviews, I collected photos of various OCs around Windsor-Essex, based on my own travels and knowledge of the city and county.

This study will be useful to educators throughout Windsor-Essex County and across Ontario who require knowledge of the functionality of OCs to augment their abilities to teach outdoors, particularly if pandemic conditions require creative solutions to keep students learning in person. It will also benefit school boards across Ontario who are wanting to strengthen their

installation and use of OCs and (better) integrate OCs into their Board-wide EE policies and priorities. Since teacher education programs throughout Ontario should include instruction in creating cross-curricular lessons and incorporating EE in all subjects, directors of said programs will benefit from a better understanding of the multi-faceted functionalities of OCs and their place in EE. I will disseminate a graphic summary of my findings to all these parties.

I feel that these many benefactors, the lack of research that explicitly covers the functionality of OCs in Windsor-Essex, and the potential for generating interest and influence in the use of OCs for (particularly during COVID-19 conditions, and in educational landscape design justified the need for this research.

## **CHAPTER 4 FINDINGS**

This chapter is divided into four parts. Part 1 discusses the numeric data that I obtained from the questionnaire responses and follow-up interviews. With only 20 completed questionnaires, the anticipated connections and generalizations for the local population of educators did not materialize. Still, the questionnaire data did provide some numeric (if not statistical) findings that are worthy of discussion. Part 2 introduces the interview participants and is organized based on the purposeful pathway that I incorporated into the questionnaire to lead respondents to understand the concept of functionality: think of your identity as a user, then of the features your OC has and how you use them; this will lead you to recognize the benefits to yourself and perceived benefits to your students (the other main OC users) and formulate opinions about the functionality of your OC. I hope this will lead the reader to understanding of functionality the way it did to some of the participants. Part 3 presents insights into functionality of local OCs that emerged during follow-up interviews; these are presented as themes. In Part 4, I summarize my findings and associate them with the questions that I intended to answer with this study. This research aimed to uncover:

- The structural and natural features found in the OCs in Windsor-Essex County;
- The purposes for which educators are using OCs in Windsor-Essex County (that is, the curriculum-based activities, personal development activities and other uses), the seasons during which educators are using the OCs, and the influence (if at all) of professional development on the way they use the OCs;
- The benefits that educators have experienced and the perceived benefits to their students, from time spent teaching and learning in OCs;

- How the educators of Windsor-Essex understand and interpret the functionalities of the OCs they use.

Starting in Part 2, I have presented the findings as though the interview participants have gathered to meet each other and exchange ideas about OC use and functionalities. I designed this format after hearing so many stories during the interviews that would be inspiring to the other interview participants; hence, I put them all in a room together on paper, because I couldn't do that in real life. Where possible, I used direct quotes (but without quotation marks, as this is set up as a discussion). This format also allowed me to edit any paragraphs that originally consisted of several rapid changes of subject and tense as the participants were excited to talk about their experiences. Finally, with the exception of small words and transition phrases such as "So did I!" or "Thank you for mentioning that," for example, I was careful not to attribute to participants anything that they did not truly express, and to keep dialogue in context.

### **Numeric Data: The questionnaire and interview participants**

Thirty-one responses to the online questionnaire were received over 38 days. The questionnaire was active during the April Break. Q2 asked respondents to 'sign' the Letter of Consent (which was Q1), therefore the first significant question was Q3. The participants completed the questionnaire as follows:

- 29 finished up to and including Q3;
- 24 finished up to and including Q5;
- 20 completed the entire questionnaire (unless otherwise specified on a question-by-question basis).

Two respondents had technical difficulties with their questionnaires, but this was resolved.



Eleven follow-up interviews were completed with respondents included one participant who had not completed the questionnaire but wanted to do the interview. Accommodations were made with extra questions during the interview to gather information that was absent from the questionnaire.

Respondents were instructed to choose “**only one OC** to reference for this entire questionnaire” so the pathway to understanding functionality would be more obvious. There were reminders to focus on that one OC throughout the questionnaire, and only one deviation from said instructions, late in the questionnaire.

Although the question of who is using OCs in Windsor-Essex County was not a core question in this study, information gathered about educator users and student users can be a starting point from which to discuss trends, commonalities/differences, and perceptions of functionality. For example, student users were identified according to grade level, age group, type of school (publicly funded, private, forest school or homeschool), membership in an organization, circumstance surrounding their visit (as a field trip participant or a visitor with family), and sometimes multiple categories simultaneously. Regarding experience teaching in OCs within and prior to the three-year limit, 29 respondents indicated 11 different types of OC teaching experience (see Table 1, p. 91). Six respondents (20.69%) had more than one response for Q3; there was no discernable pattern in the multiple responses. Table 1 shows which types of educator viewpoints were not represented in the questionnaire.

Multiple responses to Q5 through Q13, about features, were allowed, as OCs have multiple features. Twenty respondents answered the full series of questions. Items that can be repositioned (83.33%), green space to use along with the OC (83.33%), large infrastructure (LI) (79.17%), and brown space (50%) were each present in at least half of the 24 OCs described in

**Table 1:***Location of Participants' OC Experiences*

EXPERIENCE TEACHING IN AN OC	# of Respondents	%age of Respondents (n=29)
Publicly funded school	14	48.28
Youth development organization (Scouting, Guiding, 4-H, Junior Achievement, etc.)	7	24.14
Private school <sup>1</sup>	5	17.24
Environmental organization or site	4	13.79
– Church or faith-based organization	2	6.90
– Historic organization or site		
– Early ON Centre		
– Family Learning Centre		
– Camp counsellor	1	3.45
– Homeschool		
– Forest School		
– Reserve school		
– Agricultural organization	0	0.00
– Library		
– Language instruction or tutoring		

<sup>1</sup>Educators could have experience teaching in OCs in multiple settings, such that percentages will add up to more than 100%.

Q5<sup>7</sup>. Smaller infrastructure (SI) (45.83%), blue space to use along with the OC (41.67%) and permanent technology (20.83%) were each present in less than half the chosen OCs. The number of features per OC ranged from two (with only wood chips and a central oak tree) to 29.

Indication of LI presence (such as picnic tables and large rocks) and/or items that can be repositioned (such as chairs and small tree stumps) suggest a spot to gather for a group to take

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<sup>7</sup>Because the questionnaire did not collect data about location of the OCs, it is possible that two or more people described the same OC, and that one or more OCs were described multiple times.

part in lectures, discussions, and question/answer exchanges. Thus, I used these subcategories to check that participants were understanding my explicit definition of an outdoor classroom. Only one respondent did not indicate any type of gathering structure. This respondent's chosen OC included a wood chip patch, which could be used for sitting, and an oak tree, which could be used to indicate the 'front' of a gathering space.

Essex County contains three main watersheds and 29 sub-watersheds (ERCA Geomatics, 2011), making for many opportunities to learn about, alongside, in and using the local waterways and surrounding rivers and lake. Although only 41.67% of OCs described by respondents who completed Q5 included blue space to use along with the OC, 90% of those OCs featured multiple blue spaces. Indicated blue spaces were enclosed water (such as a pond), flowing water (such as a river, stream, creek, or ditch), wetland/marsh, access to Lake Erie, and swamp. This is a good example of how expanding the target audience beyond publicly funded schools broadened the findings and bases for discussion, as there are no publicly funded schools in Windsor-Essex that have schoolyards on flowing water.

Of note are the many items that were added to the 'Features' section by text entry, with LI and SI additions being most prominent. Pollinator gardens, washroom structures, docks, compost, cabin, natural indigenous plant garden, beach, savannah forest, fire pits and more were added to LI, resulting in 20 indicated LI items. Two respondents added text-entries of flora/fauna to SI, those being "pine cones, leaves, the forest floor" and "Generally any items that are typically found in varied natural habitats including feathers, egg shells, snail shells, live animals and insects." Picnic tables, climbing gear and canoes were also added, totaling 15 distinct SI items. "Sand at the beach," a stone path, rock gardens, and an upstairs herb and vegetable garden were added to Brown Space. Other features that did not fit a category included "Blacktop

area, chain link fence that we attach many things to, flower pots with cement on top to use as moveable solid surfaces” and “Portable classroom with water and electric.”

Under ‘Green Space’, when writing “marked patches of native plant species,” the respondent may have been stressing the importance of the labels and the fact that the plants were native to the area, rather than the plants themselves. Similarly, I interpreted that the wording of “Access to weather shelter” and “Adequate shade due to the pavilion” may have been meant to stress the *affordances* of the infrastructure, rather than the infrastructure itself, suggesting an appreciation of intangible features.

When designing the survey, I failed to notice having included “gravel patch” in Q11 and the smaller infrastructure item of “stones to play with” in Q7.

Finally, permanent technology was indicated in the fewest number of OCs (20.83%) described by respondents who answered Q5. Within the three OCs described by respondents who answered Q6-13, there was one OC with solar panel(s), wi-fi access and wind turbine(s), one with outlet(s) and wi-fi access, and one with only wi-fi access, making wi-fi access a feature of all three.

This study did not ask respondents the purposes for which their chosen OCs were built despite this being a definitive ingredient in determining functionality (see “Definitions. Functionality” in Chapter 1). Educators who are new to an organization or school might only be aware of general purposes such as teaching environmental education or allowing Early Years students a place for exploration. School/organizational priorities, improvement plans, and annual reports do not always include purposes for which OCs were built or intended to be used. Regardless, for this study, it is the purposes for which the *educators* are utilizing the OCs that is being investigated since it is the educators—the users—who are being asked to determine the

functionalities of these OCs based on their personal experiences and their perceived benefits to their students.

Thus, Qs 13-27 provided the respondent with 93 potential “Purposes for teaching in an OC,” organized into 12 categories (not including ‘Other’). Respondents were instructed to check all that apply and add Others by text-entry. The 12 categories of purposes are shown in Figure 3 (p. 95). All 20 respondents who completed Qs 13-27 specified using their chosen OCs for health-based and science-based activities. All but two categories (First Nations, Métis, Inuit activities and second/additional languages activities) had every purpose (not including ‘Other’) checked at least once. Between check marks and added text entries, respondents indicated 101 different purposes for using their chosen OCs—ten more than the options provided (see Qs 13-27 in App. A for a comprehensive list of options provided in the questionnaire). There were 18 different purposes indicated under personal development activities, 11 indicated under geography/history/social studies-based activities, 10 under health-based activities and 10 under Arts-based activities. The lone respondent whose sole experience teaching in an OC was teaching in a faith-based organization was also the lone respondent who indicated social justice education/activism as a purpose and the lone respondent who did not indicate using their OC for math-based activities.

Respondents were asked about their professional development history, if any, to determine the influence PD might be having on the way educators use the OCs. Interest in this stemmed from my discovery of the Simcoe County District School Board, which provided (pre-COVID) day-long, hands-on, outdoor classroom PD sessions three times per year that were typically held in a park or conservation area (PbeacockL, 2016; Simcoe County District School Board, 2017; Simcoe County District School Board, 2019a; Simcoe County District School

**Figure 3:**

*Purposes for Using Chosen OCs, as Indicated by Respondents*

	<i>Purposes indicated within this category, in descending order<sup>1</sup></i>	<i>Purposes indicated within this category, in descending order<sup>1</sup></i>
Percentage of respondents who use the OC for this purpose (n=20)	Health-Based Activities (100%) <ul style="list-style-type: none"> <li>Learning to dress for the weather</li> <li>Healthy lifestyle</li> <li>Mental health</li> <li>Body confidence</li> <li>Nutrition</li> <li>Spiritual health</li> <li>Body knowledge (heart rate, temperature, function of body parts, etc.)</li> <li><sup>w</sup>Nature observation with parents and children</li> <li><sup>w</sup>Body kinematics</li> <li><sup>w</sup>Risk Assessment</li> </ul>	Science-Based Activities (100%) <ul style="list-style-type: none"> <li>Exploration</li> <li>Life sciences (biology, botany, ecology)</li> <li>Field study (including sampling, collecting)</li> <li>Environmental science/sustainability</li> <li>Gardening</li> <li>Learning to use scientific equipment</li> <li>Physical science (e.g. properties of matter, chemistry, experiments, etc.)</li> <li>Agriculture/food science</li> <li>Astronomy</li> </ul>
Percentage of respondents who use the OC for this purpose (n=20)	Math-based Activities (95%) <ul style="list-style-type: none"> <li>Collecting data</li> <li>Numeracy</li> <li>Structural engineering</li> <li>Mathematical problem solving</li> <li>Geometry</li> <li><sup>w</sup>Use of topographical and other maps (combining math and other features)</li> </ul>	Play-based Learning Activities <ul style="list-style-type: none"> <li>Yes (95%)</li> <li>No (5%)</li> </ul>
Percentage of respondents who use the OC for this purpose (n=20)	Language-Based Activities (90%) <ul style="list-style-type: none"> <li>Storytelling</li> <li>Reading</li> <li>Singing Songs for Recreation</li> <li>Literacy</li> <li>Writing</li> <li>Journaling</li> </ul>	Life Skills (90%) <ul style="list-style-type: none"> <li>Decision making</li> <li>Problem solving</li> <li>Using technology (GPS, apps)</li> <li>Map-reading</li> <li>Building a fire</li> <li>Cooking</li> <li>First Aid/CPR</li> <li><sup>w</sup>Fire lighting</li> </ul>

*Purposes indicated within this category, in descending order<sup>1</sup>*

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	<i>Purposes indicated within this category, in descending order<sup>1</sup></i>		<i>Purposes indicated within this category, in descending order<sup>1</sup></i>	
Percentage of respondents who use the OC for this purpose (n=20)	Geography/History/Social Science Activities (75%)	Storytelling	First Nations Metis Inuit Activities (40%)	Storytelling
		Environmental/Sustainability education		Environmental values
		Community project (e.g. cleanup, erosion control, neighbourhood garage sale, creating neighbourhood history book)		Community project (e.g. Traditional music)
		Water study		Principles of learning
		Activity with community partner elder		Traditional artistry
		Soil study		Spiritual values
		Learning about/engaging in historical activities (collecting samples, weaving, harvesting)		
		Rock study		
		Social justice education/activism		
		Disability education/activism		
		*First Nations teachings about land and water		
Percentage of respondents who use the OC for this purpose (n=20)	Second/Additional Languages Activities (25%)	Casual or incidental French conversation		
		Casual or incidental English conversation		
		Structured English lessons		
		Structured French lessons		
		Games for learning French		

<sup>1</sup>Descending order does not distinguish purposes that were tied in the ranking. All purposes listed here were indicated by at least one respondent

<sup>w</sup>Indicates purposes that respondents added by text-entry.

Board, 2019b) and attended by more than 100 educators per session (B. Kennedy, personal communication, September 18, 2018). Attendees signed up voluntarily and were from within and outside the Simcoe Board (B. Kennedy, personal communication, September 18, 2018). Of the 19 respondents in the current study who indicated they had participated in teacher



training/professional development about how to teach in OCs, the following seven specific training providers emerged: ERCA, the Elementary Teachers' Federation of Ontario, a forest school in Southwestern Ontario, Parks Canada, Scouts Canada, Respect Group (providers of the Respect in Sport program) and EcoSchools. Eight more non-specific providers were listed: "First Aid," "the city" (municipality not specified), an EY conference, a school board, a local naturalist club, "basic safety training for youth," a forest school and ECE workshops. This constitutes up to 15 different PD providers across 19 respondents (fewer if any of the non-specific and specific providers were the same).

Respondents checked off every one of the benefits to educators and perceived benefits to their students that were available to check (see Figure 4, p. 112) and added additional benefits by text-entry. Additions to benefits to educators were "great satisfaction in engaging families to learn the importance of the outdoor classroom environment and the value of learning outside;" and "'building' a pollinator garden with the families and community," for a total of 12 distinct benefits to educators. Additions to perceived benefits to students included "greater environmental stewardship;" and "a general knowledge and ability to acknowledge their likes/preferences, confidence in creating their own fun and a sense of happiness in outdoor spaces" (see "Benefits" in Part 2, below, for more examples), for a total of 26 distinct perceived benefits to students. Question 31, 'How do benefits to yourself and your students impact you as an educator?' generated more revealing answers than a similar question regarding functionality. Educators called themselves calmer, engaged, enthusiastic, resilient, and effective as teachers. These were mixed with statements that the benefits were rewarding, motivating, important for our mental health and they prevent burnout. One educator saw their self as a "more engaging presenter" and another "a better person because of the work I do." Another was constantly

challenging their self and learning with their students. Finally, there was this from a YDO educator who did not take part in interviews: “Students get to see that a growth mindset is required - forever :).”

Regarding interpretations of functionality, Table 2 (p. 99) shows that every respondent indicated spaciousness as being a functionality of their chosen OC. The mean average of number of functionalities chosen per respondent was 15.15, the range between three and 23. There were no added text entries.

**Table 2:**

*Graded List of OC Functionalities According to Questionnaire Respondents*

Percentage of Responses n=20)		Percentage of Responses n=20)	
Functionality		Functionality	
More spacious than indoor classroom	100	It is pedagogically relevant	65
Better air flow than indoor classroom	90	Different lighting/shadows than indoors	65
Gives access to changing seasons	85	Allows us to experience the wind	60
Helps create social connections	85	Gives access to changing surroundings	60
Enhances mental health	85	Helps create spiritual connections	60
Includes variety of textures	80	Distant from indoor classrooms	50
Contains living things	80	Features of OC are moveable/adaptable	50
Includes variety of sites, sounds, smells of nature	80	Relevant to my school's/organization's priorities	40
Presence of green/blue/brown space	75	Built on geographically/historically/culturally significant location	35
Includes calming features	70	Close to indoor classrooms	35
Sound is transmitted differently than indoors	70	Sheltered from the wind	30
Lack of walls	65		

Of the 14 respondents who answered Q35 about how functionality impacts their use of OCs, one wrote that it did not, one was unsure, and one wrote “if it is too much planning or work to use the space – I will not use it.” Two were contending with dysfunctionality within their OCs that had to do with the weather. Eight respondents wrote of the importance of functionality, and the final respondent felt that any space could be made functional with an educator who is passionate and knowledgeable of how to do so.

### **Chat Session: The Pathway to Functionality**

#### ***The Users***

**Primary Investigator (PI) to interview participants (GROUP):** Welcome, everyone. Thank you for joining me. Could you please introduce yourselves?

**AUDREY:** Hello, I’m “Audrey.” I’m a secondary school teacher but I worked for three years at a privately-owned property that’s very popular for science-based classroom field trips. There’s a vast property to use along with the OC that includes trails, a pond and portable classrooms that have electricity and running water. I’ve taught students from JK-12 [ages 4-18] at this OC, and I find that most teachers think the program is just related to ecosystems, but my colleagues and I have come up with physics- and chemistry-related ways to learn in the OC, and a great biology application. I incorporate examples from the property into my secondary school lessons whenever I can.

**BETHANY:** Hi! I’m “Bethany.” I worked at an Early Years drop-in centre [ages 0-6] and we had access to the most vibrant community garden! It was right next to our own outdoor learning space. Altogether, we had the garden and a little hill and a small, forested area. I currently homeschool 4-year-olds, and I’m going to open my own homeschool kindergarten, complete

with functional OC. I consider myself a facilitator rather than an educator, with a desire to instill a love of the earth.

**BRIAN:** I'm "Brian." I've been teaching Intermediate students [Grades 7-10, ages 12-16] at a publicly funded school for many years. I try to share my love of the outdoors with students and coworkers whenever I can. I helped with having 3 outdoor classroom spaces designed and built at my school, and now we're working on a 'legacy project' to build an outdoor classroom structure with a cement pad, a blackboard, a whiteboard, and seating with enough area for the kids to spread out because of COVID. My class and I also use the trails and picnic shelters at the park adjacent to our school.

**CAROLINE:** My name is "Caroline" and I was a contract educator at an environmental/historic site OC with access to a trail, a pond and a beach. I hosted field trips with students from JK-12, but Grades JK-3 [ages 4-8] were my main students in the outdoor classroom. I began each field trip with an exercise in mindfulness and allowed some time throughout the day for open-ended exploration, no matter what the age of the students, so they would benefit from sensory experiences and leave with an appreciation of nature. Working on an historical space, you can touch on many different topics: What has changed over time about the physical land? About the culture? What would the space and environment have meant to people before you?

**CHRISTINA:** Hello everyone, my name is "Christina." I've been teaching JK/SK [ages 4-6] for over twenty years in the publicly funded school system, and I've been a presenter at conferences and AQ [Additional Qualification] courses for several years. This year, our class has been exploring a park close to our school. We also did a garbage cleanup there and wrote a letter to the city asking them to put garbage cans in the park. To those of you who want to teach outdoors but feel that you lack the space, I have two words for you: traveling wagon!

**DELLA:** Hi, I'm "Della." I'm also a JK/SK teacher at a publicly funded school. The last couple of years brought several changes for me: a new school with a very different outdoor space; a meadow and a forested area; much smaller class size; and students with some not-as-common physical and neurological needs. And by 11 o'clock in the morning it's *very* windy in our OC, so wind has been a huge part of our learning. Then there's COVID-19, of course. But you don't give up. You address the challenges one step at a time, come up with solutions, make sure everyone is on board and head outside!

**GREEN LEAF:** "Hi everybody, I'm "Green Leaf"—not my real name. I used to be an outdoor educator [JK-12 and public visitors of all ages], but I'm currently working in project and infrastructure development at an environmental organization. I've been creating indoor and OE programs and learning tools at environmental and historic sites for the past two decades, for two user groups: students and the public. I go through a logical planning procedure to create experiences that fulfill my organization's mandates and promote its visions, plus I like to tell an impactful story.

**ODIN:** I'm "Odin." I volunteer for a youth development organization, and I've led kids ages 5-10 during my 11 years with this organization. I take a kinematic approach to physical health and body awareness in the OC, particularly with the 8 to 10-year-olds. This means I supervise the youth as they discover what they are capable of and how their bodies work. For example, when they've had enough exposure to how their body moves, how it feels when they fall, how it feels to jump different distances, they develop this inherent appreciation for limitations and risk that's healthy, as opposed to one that is artificially generated.

**SUNFLOWER:** Hello, I'm "Sunflower," also not my real name. I also volunteer for a youth development organization, and I take my 4–7-year-olds to outdoor classrooms across Essex

County, mostly in public parks. Through careful planning and with the help of parents, my group and I had this amazing one-time outing at an OC that was quite far away from our regular meeting area, but the kids had asked to go there. The day was so full of creative exploration and unexpected learning opportunities! I find the youth are more curious and creative when they can really *feel* and play with natural items.

**TERRI:** Hi everybody! My pseudonym is “Terri.” I’ve led OC activities and explorations for publicly funded classes, private school classes and Forest School Canada programs. My employer is a learning centre collective that promotes its missions and mandates through different themes and programs, at different locations. In fact, right now we’re on the cusp of offering a lot of different programs that we just couldn’t release due to COVID-19 restrictions, including a farm school. I think of an OCs not so much as a classroom, but as a learning opportunity and a natural space.

**VAL:** I’m “Val.” I was hired to do a contract as an education coordinator for an environmental organization. I helped create many programs; I’m here to talk about a neighbourhood birdwatching program for families that we ran in an OC in an urban park. The program was attended by children ages 6-14, each with one or two parents, twice per week for one month. It’s a captivating factor having a birdwatching program in an urban neighbourhood that has mature trees. I think neighbourhood is important for outdoor classrooms. There’s so much to be explored in every square foot!

**PI to GROUP:** Thank you. Let’s get straight to the purposes for which you used your chosen OCs. When I asked you what drives your activities, lessons, and explorations in the OC, whether it was curricula, the visions, missions, goals of your school or organization, it was

more so combinations of these things that surfaced. Personal and professional combinations surfaced, as well.

**SUNFLOWER:** In the organization that I teach in, the focus is on being outdoors and teaching the kids skills. They can earn badges that carry over for the duration of the program they're in. I guess you could call the skills the curriculum. But I'm also driven by the location itself; the location is primary because the kids like to pick the location. My favourite thing about these OCs is watching how creative the kids can be, so that's always in the back of my mind.

**BETHANY:** As a facilitator of learning I have a vision, a mission and a goal. I enjoy and love the outdoors and I feel if we're going to have children who grow up to be adults who take care of the outdoors, they need to have a relationship with it. I'm driven to instill in children a love of the earth. And I want them to have pure, unadulterated fun!

**CHRISTINA:** I'm with you, Bethany! Part of what I do is conditioning my students as they grow up to care about their environment and want to do what's best. It's instilling them with knowledge that I'm hoping they will talk about at home. Curriculum-wise, did you know that there are only four learning expectations in the Early Years curriculum that *can't* be addressed outdoors?

**DELLA:** I did know that, in fact! I think outdoor learning makes the children more independent thinkers overall, and better problem-solvers. And I really want the kids to love nature and feel comfortable outside. For example, I don't want them to be afraid of bugs. Every kid by the time they leave my program likes bugs!

**CAROLINE:** I also try to give the students a love of nature and a great experience. Our programs are curriculum-based, but I also can go with the flow of what the students are interested in.

**TERRI:** My organization's main mandate is to connect people with nature, to kind of foster that nature connection and environmental stewardship, and then the learning that happens is extra. And when we're talking about children learning literacy and math, it's not always that concrete 'two time two equals four'. It's sometimes a very abstract look at problem-solving, for example, or basic engineering skills depending on what we're doing that day.

**GREEN LEAF:** Our organization has a mandate, as well, with ecological, earth-education goals that we're trying to share and teach. Curriculum totally matches up with our mandate anyway, and it becomes a gateway to share our mission for conservation when we're doing what we call formal education (nature walks and school programs). When we're doing non-personal exhibits—things that don't involve direct teaching, like setting up information panels—we stick to our mandate and don't consider curriculum.

**PI to GROUP:** I noticed that 16 questionnaire respondents indicated practicing place-based education, and when I asked those of you who had indicated that, as interview participants, to discuss a place-based experience, not all of you understand what the pedagogy was. Yet, your stories convinced me you *are* practicing PBE, nonetheless. Through activities and explorations about Carolinian flora and fauna and the history of the Three Fires Confederacy and Caldwell First Nations—and even just by discussing land recognition with your students—you are teaching them important lessons about the history, culture, botany and ecology of local OCs and Windsor-Essex County. So, hats off to you for that!

Odin, you said you would like some guidance in creating learning opportunities with First Nations, but for the most part, you as a group did not show interest in learning more about PBE. Your professional development interests, and experiences, were all very personal and unique. Della, do you want to give us your perspective?



**DELLA:** All the learning that I've had from being an outdoor educator, I've learned through some colleagues that I've worked with, and through conferences for kindergarten teachers. Even within the conferences, outdoor learning has been a small portion, but to be fair, it's becoming more popular. The biggest connection I've had with other educators was when I participated in a kindergarten conference as a presenter with my teaching partner, discussing all the value and the things that happen during outside learning. And for sure, the teachers who picked our workshop to attend were *really* interested, *really* excited about it.

**CHRISTINA:** I have to agree! There is a lot of interest out there! Prior to COVID restrictions, my teaching partner and I were getting ready to do a presentation to our Board because we had a lot of administrators that were interested in how we do the outdoor classroom. We were starting to see educators spending more time outside, but without the valuable engagement and documentation parts. It's now a part of the Kindergarten Specialist AQ [Additional Qualification] course, but there's a difference between just reading about it and fully understanding it.

**BRIAN:** We actually had a couple of ERCA-led workshops at our school. The most recent one was because of COVID. It was about outdoor activities we can do with the students to get them out of the classroom so they can get their masks off.

**PI TO BRIAN:** Did the teachers then use those ideas?

**BRIAN:** Yup, most of them, as far as I know.

**PI TO GROUP:** How else does the PD you have received affect how you teach in your OC?

**TERRI to group:** My training has given me a toolbox to draw from so that I might apply it to different learning situations [Barrable & Arvanitis, 2019]. We have a variety of educators who

take our training sessions. We have Ontario College of Teachers-certified teachers, and people who are in an OE or environmental science program in university, and Forest School practitioners, etc. We're all at different levels and we compliment each other in many ways. A schoolteacher might look for connections to Ontario curriculum, and a Forest School teacher might help them facilitate how that would happen in the outdoors [Carney, 1998, and Sparks, 1994, as mentioned in Mueller & Welch, 2006].

Through my training I learned that I don't have to have all the answers. That's a guiding principle for me. It's more about our abilities to want to learn and grow with the children. Quite often I'm learning something because the children are enquiring about it, and we're learning it together so we're co-facilitators [Barrable & Arvanitis, 2019].

**ODIN to group:** I put my training to use every time I go outdoors with my students, and I, too, have a guiding principle, which I developed from watching another volunteer's willingness to fail. There's a big expectation these days that if you're not very good at something right off the bat you might as well not stay at it because you're not cut out for it. The willingness to be terrible at something really has a tremendous amount of value [Zhou et al., 2020].

### *Needs of the Users*

**PI TO GROUP:** You talked about your needs as educators: Having the energy to be physically active with the kids, to move around, climb the hills, walk on the rocks, do everything that the kids do. What else?

**CAROLINE:** A warm coat! But seriously, if the students will pay attention to half of what I say, half the time, I can bring them along the rest of the way with my love of nature and prior experience in rocks and soils.

**BETHANY:** At the drop-in centre I needed an outdoor storage unit, so I didn't have to haul items outdoors and back in. At the homeschool I'm creating on my property, I'm considering the location of the OC: if I can't supervise or see most of the children, and I'm on edge because I can't see them, I won't even send them out. Then the OC just isn't functional, right?

**VAL:** I need to have a safe gathering space that allows an element of control, equipped with bathrooms and running water and a first aid kit. When you're in the elements, things can change quickly, people's conditions can change, all kinds of factors.

**PI TO GROUP:** Several of you talked about the needs of students in general and your particular students as users of the OC: they need freedom and independence to explore their capabilities and surroundings, room to move and get their energy out, and to spend more time in nature. Are there additional thoughts on this topic?

**BETHANY:** Children need something to draw them in. Once we had that little hill built on our property, the children loved the hill, and it drew them in, and it was at a level that was accessible for everybody to enjoy it in any way. Also, educators and students need accessibility to the outdoor space. That includes considering the distance from the indoor classroom for washing their hands and using the bathroom.

**AUDREY:** Yes! We had to change the location of one of our portables because the younger students couldn't get to it; it was too far away for them to walk to and still have time to do activities.

**GREEN-LEAF:** We had a similar issue. One of our most important outdoor experiences for school groups and the public was designed to last one hour, and to meet the requirements for the most people, most of the time. Unfortunately, erosion degraded that experience, so we've

recreated the experience in a different location, and are in the process of re-defining and re-invigorating it.

**VAL:** I think kids need the attention of their parents. That's what we learned by doing these education programs. It's the parents that are going to create in their children a long-lasting love of nature.

**ODIN:** They need re-centring, connecting to the land, the quiet, the calm, the beauty of the natural world. One of the reasons I like going to the overnight camps as opposed to just the day activities is the quiet times: in the early morning, there's always someone who's up first just sitting, overlooking the water. The sun's rising, the steam's coming off the water. The kids go there for the re-centring.

**TERRI:** I see kids that need to spend time alone, too, Odin. I also want to add that children need to make deep connections, to *integrate* what they see and do into their own passions for learning. They need to use their imaginations so they're not just memorizing things and repeating them. And that's what outdoor learning allows them to do.

**PI TO GROUP:** Have you noticed anything about the needs of particular students as users of your OCs, that you think worthy of mention?

**BETHANY:** With the four-year-olds that I have right now, I can have bags of children's books, but it's the adult reference books they want to look at. I have no problem going to the adult reference books to look things up with them, about insects, plants, the wingspan of a Great Blue Heron—whatever interests them.

**CHRISTINA:** There's been an explosion of occupational therapy referrals in kindergarten in the last two to four years. Children are great at using devices, but their parents aren't buying them things they can build with, so they aren't developing the muscles in their hands. They aren't

running around, climbing. Prior to us going on lockdown, an occupational therapist would come into our classroom and work with a group of children, helping them with their muscle movement.

**BETHANY:** I've noticed that, too, Christina. When the community garden would get mulch or gravel or dirt delivered, I would watch the little ones and they didn't know how to climb a hill! There was this one instance when we had straw bales in the garden and it was piled high—it was almost up to my chin, it was so high—and you could see some children capable and able to climb, and some of them were brave enough to jump off. But you'd also see some children who might put their foot up and say 'I can't do this', and they would put their foot back down. Some of them were not so little; some of them were four or five! Getting a teeny hill built outside the drop-in centre was one of the best things we invested in.

**PI TO GROUP:** I'd like to talk about technology in the outdoor classroom. Three questionnaire respondents mentioned wi-fi as an OC feature, but at least five of you talked about your students using phones and other devices to identify flora and fauna, look up building plans, and do photo essays, for example (although not all of you indicated whether you had wi-fi service or were using personal cellular data). Audrey, you and your colleagues regularly shared data and research using your devices. Brian, you had some additional uses of technology.

Would you like to share?

**BRIAN:** We'll bring our iPads or Chromebooks to the outside classroom to do work sometimes. If the students can get their wi-fi—and most of the time they can—they can access Google Books to do an essay or a story. While they're doing the literacy project they get to stop and take time to appreciate the natural world. They're being observant of what's around them, and anything can happen at any time.

Also, what I've done with one of my colleagues is I've done a couple of podcasts through Twitter. The first one we did was at a park by the school. We went live and I talked about the different things to see. When we go live, we give a link to the students and the teachers so they can all watch at the same time. We're working on one about spring wildflowers right now, then we'll probably do another one about migratory birds as soon as migration picks up a little bit.

We keep track of all the birds that we see in the schoolyard, too. We've created a school biodiversity project. It's not just for the school itself, but for anyone who comes into the area. Anyone who is out birdwatching in our area can use an app to identify the bird species they see, then look up our school on the app and add the data to our school project.

### ***Benefits***

**PI:** Thank you so much. I want to move on to benefits. Let me show you this chart. There was a total of 36 experienced and perceived benefits to users due to time spent teaching and learning in the chosen OC. Figure 4 shows that perceived personal development benefits to students were indicated more frequently than perceived learning benefits to students and benefits experienced by educators.

Other benefits that were added by text entry were:

- “Great satisfaction in engaging families to learn the importance of the outdoor classroom environment and the value of learning outside.” [experienced in self]
- “Greater environmental Stewardship” [perceived in students]
- “I teach Kindergarten, and many do not know what to do when they go outside and actually beg to go in when outdoor learning time is first introduced every September - so

**Figure 4:**

*Questionnaire Respondents' Indications of Benefits and Perceived Benefits*

*Legend:*

*Perceived Personal Devo. Benefits to Students (n=18)*

*Perceived Learning Benefits to Students (n=20)*

*Benefits Experienced by Educator (n=20)*

<i>More than 90%</i>	Calmness, peacefulness, ability to relax		
<i>81-90%</i>	Better student-teacher rapport		Feeling more calm, relaxed, peaceful
			Happier
			Increased/improved physical activity
<i>71-80%</i>	Improved social skills	Increased physical activity	Better rapport with students
		Understood topic better	Improved teaching skills
<i>61-70%</i>	More appreciative	Improved learning skills	Better rapport w/ colleagues, administrators
	Improved leadership skills	Increased creativity	Improved creativity
	Improved self-esteem, body image	Improved co-operation skills	
		Learned more about the topic	
<i>50-60%</i>	Growth mindset	Improved gross or fine motor skills	Growth mindset re: new experiences
		Increased communication skills	Improved self-esteem, self-awareness, body image
<i>Less than 50%</i>	Decrease in bullying behaviour	Improved language skills	Willing to give a student a 'clean slate'
	Increase in anti-bullying behaviour		

just a general knowledge and ability to acknowledge their likes/preferences, confidence in creating their own fun and a sense of happiness in outdoor spaces” [perceived in students]

**CHRISTINA:** Can I jump in here, being a kindergarten teacher? Within the two years that I have my kindergarten children, they grow to appreciate and love nature. They want to make the world a better place and share this passion with their families.

**AUDREY:** We have very, very few behaviour issues at our location—far, far less than the classrooms. It's just different; it's not paper and pencil, and it's new—sadly—to many kids that don't get out of the city, so I find them more engaged.

**BRIAN:** They're better listeners.

**BETHANY:** I noticed the children have improved relationships with their caregivers.

**CAROLINE:** I find the kids can learn to use new words. I have taught four francophone classes, and sometimes even though they've studied a unit prior to coming outdoors, they may not really have grasped what the names of things are. But when we're seeing and exploring erosion and where houses are built and community encroachment, the students are taking back to their classroom a whole bunch of new language that they're able to *use*. I've had teachers tell me that before. It's neat to be able to help the kids put things together.

**ODIN:** That's how I feel about our archery program, Caroline. When I get the kids who have ADHD [attention deficit hyperactivity disorder] on the archery line, suddenly someone who thinks of 14 things at once is an asset because in practicing archery there's a whole lot of variables that you're trying to keep track of at once. I've seen several kids who were otherwise unable to pay attention or sit still or stay on task able to focus and do very, very well at archery. Then, when the parents come to pick the kid up, I bring them out to the archery range and the child is so excited to show the parents what they can do, and so proud of themselves! It's a boost to their self-esteem and self-awareness.



**DELLA:** The kids in my class who don't have special needs have learned and grown so much and are so excited for my special needs kids when they see that they're able to do things outside. My little guy who was in a wheelchair can now walk using a walker, and the other kids will go behind him in case he needs help. They want to be supportive. They bring him natural things to paint with! And the kids who have special needs are benefiting by growing and achieving in their own way in the outdoors. I feel like, by taking them all outside, I'm helping to facilitate people who are going to see people with disabilities as people with abilities.

### ***Recognizing Themes Through Interpretations of Functionalities***

After coding and sub-coding, the 11 interview transcripts and text-entries from the questionnaire, I referred to the original questions and purposes to determine the value of the emerging themes. Some themes, which became apparent in large part to stories, details and opinions provided by enthusiastic interview participants, are recurring themes in the OC research of the last decade. They are important to the broader field and form part of the holistic picture of OCs in Windsor-Essex:

- Educators who teach outdoors have a personal love of nature and/or grew up in the outdoors (Balkwill, 1996; Willis, 2001);
- Kids are losing touch with nature (Elliot et al., 2014; Louv, 2009);
- Educators want kids to develop a love of nature and grow up to make a difference in this world;
- Outdoor classrooms provide physical benefits, such as being able to run, which children need to do (Dillon et al., 2005; Pan et al., 2011);
- Outdoor classrooms provide mental benefits, such as decreased stress (Truong et al., 2016; Wells & Evans, 2003 as cited in Nedovic & Morrissey, 2013);

- Learning outdoors helps kids with socialization skills (Bentsen et al., 2017; Lisle, 2018; Maynard et al., 2013; Truong et al., 2016);
- Gardening gives kids a sense of ownership and responsibility and something to look forward to (Dillon et al., 2005; Jolly & Sandberg, 2018; Truong et al., 2016);
- More local teachers are wanting to take their students outdoors.

However, the themes I explored more deeply are sub-topics of the above or outlying perspectives on the above that may never have appeared in research findings, but they have a direct link to functionality. This will contribute to the goals of filling gaps in the research and providing a holistic view of outdoor classrooms in Windsor-Essex County, such that administrators and educators who read these findings might discover something they did not know or had not thought of, that will spur them to commence, review or develop their use of OCs.

**Access to Natural Sounds. PI TO GROUP:** Eighty percent of questionnaire respondents indicated the inclusion of a variety of sites, sounds and smells of nature as a functionality of their OCs, but six of you chose to elaborate specifically on sound. You cited birds singing (Bethany, Brian, Caroline, Odin, and Della), the sounds of bullfrogs (Della) and small animals (Brian), the wind in the trees or tall grasses (Brian, Caroline, and Sunflower), and rain coming down (Sunflower) as sounds that calm you and your students, make it easier to focus, incite curiosity and leave an impression on students. Sunflower, can you tell us about your rainy-day hike?

**SUNFLOWER:** Sure. During a hike on a very wet day, I had the kids be quiet and listen to the sound of the rain, and I told them it's very calming if you think about it, and I want you to be quiet for a little part of this walk and just listen to the rain. And they did, and I didn't really get much feedback from it, but I think it did give them something else to think about on the hike

rather than ‘oh, I’m just walking and it’s wet and I’m miserable’. It gave them something else to focus on. They didn’t complain or anything, and you know they heard it. I think just listening to the rain is good for mental health. Maybe next time they’re out in the rain they’ll take some time to enjoy it.

**BETHANY:** I think there’s a meditative aspect to hearing a bird or hearing the wind, and if you can draw a child’s attention to that, they’re automatically quieter and calmer.

**PI TO GROUP:** The way sound is transmitted outdoors was cited as a separate functionality by 70% of questionnaire respondents.

**BETHANY:** Sound dissipates outdoors, making it easier for social interactions to take place than in a noisy indoor classroom.

**SUNFLOWER:** I agree. The kids can run around and be noisy outdoors because there are no walls for the sounds to bounce off. So, there’s a lot less ‘Stop doing that!’ going on. In fact, I find I need to take the kids outside as much for my own stress level.

**CAROLINE:** There’s a definite difference in sound. Either you’re hearing more sound, like if the wind is whipping through, or if it’s a really cold day and we have that covering of snow, just that insulating feel where it just *feels* so quiet and things are echoing. Sometimes it’s a bit of a sensory overload for some students who haven’t had that experience, even though they hear loud sounds all the time in the city. There’s just an audible change in the atmosphere around them.

**BRIAN:** Indoors when it’s quiet, you can’t hear anything, but when it’s ‘quiet’ in the outdoors, there’s always the birds and the wind. The students become curious about bird calls and small animal noises, and they ask me what they’re hearing, so it’s an opportunity for learning.

**PI TO GROUP:** Sound also brings a certain authenticity to outdoor learning experiences.

**DELLA:** It does. The sound of the birds really sets the mood when we do yoga by the meadow.

**BETHANY:** At the Early Years centre, we had a seed-planting event in the community garden and an Anishinaabe Elder came to bless the seeds and do some traditional drumming. Another time, members of a different Indigenous culture—I can't recall which—did an indoor book-reading and led us in a beading activity. The indoor event was wonderful, but I don't think it was as impactful as hearing the drum outside with the sun shining overhead and the birds singing in the background.

**Access to Different Textures. PI TO GROUP:** I did not include hands-on learning as a multiple-option choice in the questionnaire because it is so general a term and can be considered a pedagogy, a purpose, a benefit and a functionality. I did include two specific and literal hand-related choices: improvement of fine motor skills as a purpose and benefit, and 'includes a variety of textures' as a functionality. Eighty per cent of questionnaire respondents indicated texture variety as a functionality. You told me it helps them pinpoint their interests, develop their creativity, and problem-solve.

**ODIN:** The students are noticing and benefiting from texture even if they don't know how to iterate what they're learning.

**BETHANY, CAROLINE, SUNFLOWER:** Absolutely!

**ODIN:** They might substitute branches with smooth bark for those with rough bark when they're trying to tie them together, for example.

**SUNFLOWER:** We went outdoors with sidewalk chalk once, and you can see how the sidewalk is very different than a piece of paper. One of the kids used up their whole piece of chalk, breaking it up, squishing it with his hand and mixing the different colours. Kids get so creative with texture! Like when they were building ramps and bridges in the sand for their remote-control cars in the OC I chose for the questionnaire. They were also using their fine and gross

motor skills. I think when you give them fun activities like that and the freedom to explore the possibilities on their own, it really helps with rapport between educator and youth.

**CAROLINE:** I used to get the students to really *dig their hands* into different types of soil before we talked about the soil composition. This would lead to discussing things like gardening, erosion and building foundations for houses, so, more problem-solving and learning opportunities.

**ODIN:** I've noticed the texture of snow makes for a great learning opportunity, too. If we're building a quinzhee, we throw the snow high up in the air and let it land because the energy of that movement helps the snow sinter and bond together.

**PI TO GROUP:** Interesting! It sounds like texture can be a catalyst for discussion, learning, problem solving—what else?

**CHRISTINA:** It's a great platform for vocabulary-building.

**DELLA:** Yes! talking to kids about what they're touching, seeing and hearing outdoors helps even the youngest students understand and use new words.

**BETHANY:** The children were always touching things in this little herb patch. We'd rub the plants then smell our hands or pick an herb and taste it. It was all part of the amazing sensory experiences we had in the garden.

**CAROLINE:** That's interesting, Bethany, because I've found that some kids will always want to touch things—even snakes!—whereas others don't feel comfortable engaging with unfamiliar textures.

**Ability to Engage with Snow. PI TO GROUP:** Although only 50% of respondents to Q14 (regarding seasonal use of OCs) use(d) their chosen OC in wintertime, 85% of respondents indicated access to changing weather as a functionality, and eight (72.73%) of you talked of

positive experiences with snow, ice and cold weather use of the OC. We heard that snow is a component of sound transmission and learning through texture. What else do you want to say about snow?

**BRIAN:** It's great for physical activity. I have seven or eight pairs of snowshoes that I keep with me to take different groups of students outside to snowshoe around the schoolyard.

**SUNFLOWER:** We went tobogganing this year. That was one of the most fun meetings they had all year! They just tobogganed for the full hour straight, without any complaints.

**AUDREY:** The kids always love checking out the tracks! One November morning after a snowfall the number of tracks that were around the property was just phenomenal! You could see all the *movement* of the animals. I'd never seen that before, and I didn't envision the place being that busy, so it was a learning experience for me, too.

**SUNFLOWER:** I know what you mean. I'd never seen the shoreline trees and bushes draped in layers of ice from the waves crashing up against the beach in the wintertime, but I found it fascinating and so did the kids. They weren't allowed near it, of course, but it made for a good opportunity to turn a standard lesson about water safety into a lesson about safety on ice.

**Having More Space than Indoors. PI TO GROUP:** Having more space than indoors was indicated as a functionality by 100% of respondents who completed the questionnaire. Being outdoors has been associated with restoring mental fatigue, reducing stress, and improving one's mood (Gladwell et al., 2013), but some of you pinpointed mental health benefits specifically associated with spacious OCs. As an example, did any of you who are schoolteachers take advantage of additional space in your OCs during COVID-19 restrictions?

**DELLA, BRIAN, CHRISTINA:** I did!

**BRIAN:** Our school's fortunate because we're near a park that has two picnic shelters, so during COVID I brought over an easel, the kids packed up their books, and a couple of days we spent the whole day over there, just doing everything outside. Also, as I already mentioned, ERCA staff led an outdoor classroom workshop at our school; they taught teachers outdoor activities to help get everyone outside, but still learning.

**CAROLINE:** It's so necessary to be able to access and interact with the space you have. I've had experiences in outdoor classrooms elsewhere where you are in a good setting, but you're stuck to the path. You can't leave the path to touch the leaves; you can't get down in the dirt. Kids need opportunities to see the plants up close, touch the plants. I think that's always a really great thing to connect them to the environment instead of just pointing or showing them a picture.

**GROUP:** Absolutely!

**DELLA:** Another functionality of space I'd like to point out is that coming to the teacher in the OC for one-on-one help, sounding out a word for example, is different than having to put up your hand and ask for help in front of the whole class. The OC is a safe space for students to get the help they need, and I like being able to take the time to work with them individually without the pressure of other kids noticing who needs more help.

**PI TO DELLA:** I have not heard or read of that before, Della. Thank you for putting that on the table. Being too embarrassed or afraid to ask for help must surely have negative effects on a child. Perhaps educators can take the first step by approaching those students who they feel may need extra emotional, physical, or learning support while other kids are too far away to notice.

**CHRISTINA:** I find there are children that really, really struggle in the beginning with coming into kindergarten and being in a space where it can be overwhelming to them. There are so

many choices, so many things that we're engaged in. They could be struggling but they're not able to express themselves, and behaviour issues set in. Whereas for a lot of children, their coping mechanisms work so much better outdoors. It's almost like a switch goes on and there's space and there's freedom.

**PI TO GROUP:** I also noticed an interesting emerging pattern with space and time.

Audrey, what did you notice when your students set out on a hike?

**AUDREY:** There's opportunity when you're hiking to develop student-teacher rapport. You can end up hiking next to certain students and you talk to them. They want to share with you the things they've experienced and they're tying this field trip into what they know. As you walk on, the groups re-mix and you end up hearing from other students.

**TERRI:** I have sooo many stories about that! Often kids will be registered for the same program because their friend is in it, or their cousin, and they'll arrive in these little cliques. But there's a lot of collaborative working-together play and working-together learning in our space, so they really don't have the opportunity to stay in their little cliques. The children are confronted very quickly with having to learn how to get along with all different types of people. It doesn't take long for everybody to break down the barriers and see everyone else as a potential playmate or friend or acquaintance.

**PI TO GROUP:** What I am hearing is that having time to move about freely allows the students to develop and improve relationships with educators and each other, learn from each other and improve social skills. Would you agree?

**BETHANY, CAROLINE, DELLA, TERRI, VAL:** Absolutely!



**BRIAN:** I think with my class this year, the biggest concern some of them had when we were walking on a trail was who they were going to walk with, why wasn't this person talking to me-- those kinds of more social friendship issues.

**PI TO GROUP:** Thank you for that different take on the subject, Brian.

**Providing Opportunity for Community Engagement, Community Focus and Community Partnership. PI TO GROUP:** The findings of this study indicate at least three different ways that functionality of outdoor classrooms can be linked to community: through community engagement, community focus and community partnership. Community engagement, as described by all of you in your interview, means including educators from the community in the activities, lessons, and explorations; including family members who learn with the students; and/or having community members help design and build the OC.

Val, family and community engagement shone through in all aspects of your birdwatching program. It was a main purpose, and it benefitted the students with a better understanding of what they learned, a greater volume of learning, being able to enjoy quality family time and being able to engage in Indigenous learning first-hand. What can you tell us about engaging the parents and community?

**VAL:** We recruited youth to participate in the program with their parents so they could learn together—that was always the plan. During the morning sessions the parents sat with their kids and learned observation skills, then in the evenings we brought in other people to learn with. We had a lot of fun! We had volunteers who helped put together souvenir scrap books for each youth to work in throughout the program. I arranged for an expert forager to join us on a foraging outing in the surrounding neighbourhood, and there was a neighbour who invited our

group to see their incredible yard, which we did do. A biologist worked with us on identification of bird sounds and a lesson on bird movement.

Also, a First Nations chief came to talk to us about use of land and to lead a water ceremony. She brought a drum and there was movement and song. We sat under these great big oak trees, and she started explaining about the connection between people and laws and agreement, and she introduced the idea of the wampum belt, and the youth asked her questions about it, and they discussed it. Then she talked about the four directions and the sacredness of water, because in her role, she is the woman responsible for our waterways. We walked together down to the river, and she engaged us in this ceremony. It was a ritual, really. It's interesting what happens—when you're outside and you're in a ritual, your mind goes into I'll say a trance state. When you're engaging in ritual you're out of your norm, right? Something more perpetual, something greater than the moment, greater than your day-to-day. I was taking pictures and I was looking around and I could see that they were all extremely engaged.

The birdwatching program was a lot of work, but ultimately it showed the organization what can be done in an urban area with help from the community.

**PI TO GROUP:** What terrific learning opportunities, Val! Thank you for sharing that.

Brian, you have had the support and involvement of administration, colleagues, parent council, students and their families throughout your 16 years of planting trees and building OCs at your school. Community engagement started at your school when the ash trees in your schoolyard succumbed to the Emerald Ash Borer beetle. Can you tell me how it progressed?

**BRIAN:** We planted in the neighbourhood of 50 trees the first couple of years. The town donated the mulch, and everybody helped plant: parent council, teachers, all different classes came out. We had a parent who owned a playground company who came in with his post-hole

digger to break up the soil, so those trees have done well because their roots have had room to grow. Parent council allowed some funding for us to get rocks as a seating area. The ERCA forester comes to our school occasionally and teaches the kids about the trees, the pruning and gives them a little forestry lesson. We added more large rocks during COVID to give more cohorts a place to sit.

**PI TO GROUP:** The Roberts Creek Pavilion discussed in Chapter 2 is a good example of an OC that was conceived with a community focus: it is an OC and garden situated at a school that is also a place for the community to gather and learn together (Woodroffe, 2019). I can see community focus in what Brian has been doing this past year: he has registered the school with a birding app that anyone can contribute to and is posting podcasts on Twitter about the ecosystems in the neighbourhood and nearby parkland. Interestingly, the Roberts Creek Pavilion has been completed since this study began, and pavilion designer and builder Cody Chancellor was hired to teach after-school art lessons in the outdoor classroom, making it a “full circle” undertaking for him that he was thrilled to be part of (C. Chancellor, personal communication, May 26, 2021). Perhaps the legacy OC Brian mentioned in his introduction will result in similar community focus uses.

As for the third way that functionality of OCs can be linked to community, Terri, your learning centre collective doesn't own the land where you hold your outdoor classroom programs but has an agreement with a community partner that gives you permission for its use for your outdoor classes. Can you tell us more about that?

**TERRI:** We're always looking for natural spaces to use and strategic partners to work with to offer programming in different parts of the county and city. We're now offering a specific program that focuses on organic farming. We're also looking for a partnership with a city park

to expand our programming to urban areas. So, the community partner maintains ownership of the land, but the learning centre collective offers the programs. The nice thing is, we won't be severing our partnership with the forested area where we currently hold our programs. The new programs will co-exist. It's an expansion, really.

**PI TO TERRI AND GROUP:** The farm school sounds like a great place to learn about where food comes from, healthy eating and being good stewards of the land, Terri. I hope the urban park program will attract kids who do not have the means to travel to the county!

**PI TO AUDREY:** Audrey, you told me you had one last important thought to share; here's your opportunity.

**AUDREY:** I think any outdoor education is absolutely amazing. Kids are losing touch with nature and where things actually come from. My only concern is Lyme disease. It definitely is something, a real illness that people don't understand. Doctors don't understand what it's really like, so it flies under the table pretty easily. People don't know the signs of Lyme disease to look for, and they also don't know that if you don't treat it right away, it is a big problem.

**PI TO AUDREY AND READERS:** Thank you Audrey. Here are some websites to help everyone learn more about ticks, including where they are found, how they spread disease and what to do to lower your risk of getting bitten by a tick:

- The Windsor-Essex County Health Unit: <https://www.wechu.org/your-environment/ticks-and-lyme-disease>;
- The Government of Canada: <https://www.canada.ca/en/public-health/services/diseases/lyme-disease.html>.

## **Summary**

This study aimed to present a holistic picture of OCs in Windsor-Essex and fill gaps in the research pertaining by investigating what features local OCs contain, how and why educators use local OCs, benefits of teaching and learning in the OCs, and the educators' interpretations of the functionalities of OCs. Questionnaire respondents' and interview participants' uses of OCs in Windsor-Essex County can be described as diverse and in an exciting state of expansion. In addition to schoolteachers, there are a variety of paid and volunteer educators who use OCs daily, weekly, or occasionally with some degree of success, and educators who work at OCs where they host different student user and general public user groups every day. More than half the 11 interview participants regularly use OCs that are not owned or operated by their school or organization.

The OCs of Windsor-Essex have items that can be repositioned, green space and large infrastructure above other features. Educators differed on what they considered to be features, some adding insects and dead leaves by text-entry, for example. Electronic devices were used in the OC by four Interview participants, but not evident in any questionnaires as a write-in feature, opening the topic for discussion and further research. The local educators who participated in this study were guided in their OC planning by visions/missions/goals or curriculum, or a combination of both. More than half were also or primarily guided by a personal mission to instill in their students a love of and/or desire to take care of nature, the environment, and the earth. Educators used OCs to teach life skills and personal development as often as they used OCs to teach most academics-based activities (with science-based activities being the exceptions). Gardening, bird watching and winter activities such as snowshoeing, hiking, tobogganing, building snow structures and playing in the sand (in wintertime) showcase how the warm local climate and southerly geographical location influences what users are doing in their

OCs. Place-based education opportunities in the OCs centred around Carolinian flora and fauna, land recognition, and First Nations ceremonies, agricultural practices and use of the land.

COVID-19 restrictions caused an increase in usage of OCs, as the four interview participants who were legally able to teach in OCs during different stages of COVID restrictions increased their use of outdoor classrooms because of challenges associated with masks, distancing, sharing toys and gathering indoors.

The functionalities that interview participants were most passionate to discuss were access to different textures (prompting students to learn without realizing it); access to sounds of nature (students and educators are calmed by this); providing opportunity for community partnerships (local families, residents and organizations are enthusiastic about creating and engaging in outdoor learning opportunities); and, having more space than indoor classrooms (for creative exploration, mental and physical relief, development of physical skills, privacy to ask an educator for help, and room to develop social relationships with other students and teachers). Although the educators were not always aware that they were discussing functionality, it was clear that they had thought a great deal about their purposes for taking their students outdoors, and the ways that their OCs could help them achieve those purposes.

## CHAPTER 5 DISCUSSION

In this study of the functionality of outdoor classrooms as learning tools in Windsor-Essex County, I explored the educators and students (through the eyes of their educators) who have used these OCs with some degree of success; the features of these OCs; the types of learning that are being done in these OCs; the personal, academic and life skills benefits to the educators and students because of their teaching and learning in these OCs; and, the educators' thoughts on the functionalities of these OCs based on their own experiences in them. Being that this was descriptive research, I did not intend for any one answer to emerge. I did intend, however, for many functionalities to emerge, as is shown by my use of the pluralized form of the noun, *functionalities*, in the title of the study and throughout the paper whenever possible. I was not disappointed: educators cited numerous ways that their OCs helped them to achieve the goals they were wanting to achieve. That in itself is worthy of further discussion, for how often do educators extol the features of their indoor classroom or school gymnasium as tools for learning?

### **The Users**

Studies, journal articles and official reports about OCs and OE habitually fall into categories. The subjects might be teachers (Balkwill, 1996; Stan, 2010; Pedretti & Nazir, 2014; Willis & Connelly, 2001), or students (Barr-Wilson & Roberts, 2016; Braun & Dierkes, 2017; Chapman, 2017; Cone et al., 2014; Elliot et al., 2014; Fernández-Río & Suarez, 2016; Truong et al., 2016; Whittington et al., 2011) and sometimes both (Dillon et al., 2005; Lebak, 2005). Common locations for studies are schools and pre-schools (Elliott et al., 2014; Lloyd, 2016; Lyne Strachan et al., 2017), OE centres (Borland, 2015), and in the case of outdoor adventure, the location where the adventure is taking place (Barr-Wilson & Roberts, 2016; Hoad, 2015). There are other categories based on what is being studied, such as level of environmental

awareness and/or activism uptake (Elliott et al., 2014; Johnson, 2014), pedagogies (Gelter, 2000; Gough, 2009; Jolly & Sandberg, 2018; Lloyd, 2016; McDonnell, 2013), and personal development (Alikhani, 1986; Whittington, 2006). The OCs themselves—how big they are, their designs and features—are another category that falls under the umbrella of studies of OE (Nel et al., 2017; Wood, 2006; Yaman, 2005). By using my study to explore a mix of these categories simultaneously, I was able to detect certain dynamics taking place among users across Windsor-Essex County.

First, the educators are using each others' OCs. Three of the interview participants mentioned (by location name) having used an OC associated with another respondent/participant<sup>8</sup>, and three others alluded to doing the same. One participant named more than one OC associated with another respondent/participant. Second, it is possible that the users have interacted with each other, not only because they have used each others' OCs, but also because three of the respondents/participants indicated having provided instruction in how to use OCs/develop OC programs, and multiple respondents/participants indicated having received PD from sources that match the description of the PD provided by the three. Also, four respondents/participants are educators from schools/organizations where mentorship was used (pre-COVID) as a form of PD such that they may have learned from or alongside another respondent/participant in a mentorship relationship. This contrasts with the arguments of Henderson and Potter (2001), who suggest the outdoor educators in Canada are far apart and rarely have communication (albeit Henderson and Potter studied only OA educators, and OA has become more popular since their study).

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<sup>8</sup> In order to maintain anonymity, I removed identifying names of people and places from questionnaires and transcripts, but I nonetheless became aware of user-to-user relationships during interviews and the process of removal.



Even within a small group of local OC educators from a variety of walks of outdoor education (the 24 respondents who completed up to Q5), communication opportunities are nearby and, in some cases, convenient. If there were a blog, a series of webinars or other formal/informal communication forums open to local outdoor educators regardless of school board or type of organization, the educators could be learning from one another and having their questions answered by those who are in similar situations. Although the Organisation for Economic Co-operation and Development (2011) specifies that teachers can and should do more towards PD than just talking and exchanging ideas with each other, these communication forums could be a first step towards more systematic collaboration and mentoring relationships as promoted by the same organisation. Also, adoption of an innovation—in this case, looking at an OC through the lens of functionality—begins with knowing the innovation exists, then develops with the awareness of successes pertaining to that innovation (Rogers & Shoemaker, 1971). Such is the basis for the need for organized communication among educators, led by those who have achieved success as outdoor educators.

### **The Features**

Educators differed greatly in what they considered to be features of their OCs. Questionnaire responses about features ranged from the very small (pebbles, detritus, insects, etc.) to the very large (chain link fence, nearby building, etc.), to what was potentially meant as the intangible (access to shelter and shade, information about native plants). Surely, all OCs include insects and small stones, just as OCs in schoolyards all include a nearby school, and many OCs in urban settings would be surrounded by a chain link fence. Yet not all respondents who could have included these as features, did. It is possible that some respondents placed value on certain items as part of their students' learning, thereby making a point to identify them as

features. Despite inconsistencies among what respondents called features, and within what interview participants listed as features versus what they discussed as important features of their OC programs, all educators did include a combination of natural and built items as features.

Based on this spectrum of interpretations, I propose that educators would benefit from learning to look closely at what is around them in their OCs and learning to recognize what they and their students can do with and learn from what is there. When Della and her students noticed that strong winds blew in at least once a day in their OC, instead of going inside, they began an exciting tradition of bringing out scarves, gathering leaves and making kites and other objects to test the strength and direction of the wind. Caroline used *water* to illustrate soil varieties by having the students try to dig and fill trenches on the beach, in the garden and in the marsh. Green Leaf suggested that educators without access to natural areas find a park with a rotten log, and let the learning begin! Academic and environmental educator David Sobel has labelled these types of wonder filled investigations as “initiation experiences” (2008, p. 12) into the natural world. They provide to children “the essential glue, the deep motivational attitude and commitment, the connection to the animals and dirt” that ultimately fuel a “pursuit of knowledge that leads to conservation behavior” (Sobel, 2008, p. 12).

These vastly different interpretations of and innovations with features could also be the basis for discussion about my definition of an outdoor classroom, versus what one might call “the outdoors being used as classroom” (C. Beckford, personal communication, January 19, 2022). Who is it that must “designate” a space as an outdoor classroom? Can the addition of new features or the recognition of common items (such as twigs and leaves) as features turn a non-designated OC into a designated area of learning, and at what point does is the line crossed? This is beyond the scope of this research, but worthy of further consideration.

The utility of features is equally relevant to those who are or would be building the OC. Administrators, boards of directors, parent councils, donors, educators, and community partners would benefit from a careful review of what users in similar situations considered to be functional features and designs of an OC, and how those users garnered value from their chosen features and designs. For example, Green Leaf’s organization is strategic in choosing “exhibits and props” (features) to enhance outdoor learning and motivate users to become stewards of the environment, as guided by their mandate and a stewardship scale:

Does a natural place need bat houses to help these animals? No, it doesn’t. But it shows people that in places where there aren’t many places to live, that’s a place a bat could live, and *you* could build that and put it in your backyard and then *you* become part of the conservation story for that species. You could say that about...a butterfly house...or a small pond as a water feature for birds, or a small garden or planting a tree—it’s all the same idea...If you just left the field alone, the trees would show up eventually, but by getting people to plant trees, then maybe they become part of the conservation movement that’s surrounding that natural space. And then they bring that concept to their homes and their neighbourhoods.

Christina, who has spearheaded building OCs at two different schools, advocated consulting the students on what they would like to have as part of their outdoor learning space (Salama, 2008), and Della has noticed that students are proud and motivated to work in a garden that they have planted themselves (Block et al., 2012; Cavaliere, 1987). She said students will enjoy maintaining a garden that they have not planted, but not to the same extent. Indoor-outdoor interfaces such as windows, covered porches, and indoor plants and small animals also

bring happiness and aesthetic pleasure to students who are learning indoors (Dutt, 2013).

Clearly, there is much worth knowing about features and designs.

Do the above comments from the interview subjects form the foundation of a Local Knowledge System? It is possible, as the educators' data are hyper-local, developing over time and with experience, and based in some cases on theoretical constructs (Dingcong, 2016).

Again, Windsor-Essex would benefit from a communication forum that would allow local educators of all types to connect, especially since this study has shown that they are already teaching some of the same students, from some of the same school boards, and interacting with each other without realizing it. Professional development would be another option for sharing information, particularly if it were provided in an outdoor classroom (Schleicher, 2011). I have learned a great deal about setting up and running an OC from courses that included instruction in and use of an OC.

As for content of a PD course, many elements of Forest School practitioner training would be appropriate. Rather than supporting a curriculum, the courses teach guiding principles to prepare educators to use OCs effectively regardless of location and features, based on the needs of children (Barrable & Arvanitis, 2019). Terri's description of how interactive and supportive the many types of educators have been during her training supports this.

Rasmussen's (2004) study of 'children's spaces' (as opposed to adult-created 'places for children') gives sociological insight into meanings that children attribute to outdoor spaces they have created and designated on their own. The Reggio Emilia approach asserts that teachers should create designs and choose features thoughtfully to help students connect with their home life (Edwards et al., 1998). In fact, Malaguzzi's interpretation of the physical environment of the inside and outside of the school as a key "third teacher" (Edwards et al., 1998, see Chapter 9;

Strong-Wilson & Ellis, 2007) would be most applicable. According to Malaguzzi, the success of the environment as a teacher is based in part on its flexibility to undergo frequent modifications by both children and teachers to maintain the ability for students to construct their own knowledge (Edwards et al., 1998).

All the EY interview participants in the current study described a form of daily modification by carrying the children's items of choice (buckets of water, paint, books, building blocks) into the OC using a wagon or a bin. Audrey and Brian, who taught older students, used camping and gardening equipment and electronic devices, respectively, as modifications, showing how the Reggio Emilia approach can be put into practice with older students, as well. On a more long-term basis, Bethany had a small hill and a wooden xylophone built in her OC, and her students planted a garden. Bethany, Brian, Christina, Della, Sunflower and Val expanded the space in which their students were able to explore and learn. Even Green Leaf's team, who work at a place where the *first* teacher is the environment, recognized that it was necessary to make changes to ensure their students could continue to construct their own learning experiences.

### **Purposes for Using Chosen OCs**

Purposes were categorized in the questionnaire by topics such as math-based, science-based, First Nations studies-based and second language study-based, although the purposes themselves were deliberately presented as generic (storytelling, working with community partners, warm- and cold-weather physical activities) so respondents would not automatically associate them with school curricula (Creswell, 2009). In addition, there were purposes categorized as personal development purposes and life skills.

Each of the 20 respondents who completed the questionnaire reported an average of 40.75 purposes for taking their students to do lessons, activities, and explorations in their OCs. One hundred and one different purposes were named, and more were discussed during interviews that were not counted. Whether respondents answered purpose-based questions based on what they already knew to be their reasons for teaching in the OC, or whether they became aware of what they and their students were doing and were capable of doing *because of* the choices provided in the questionnaire, or a combination of both, is not possible to know from this study. Regardless, this shows tremendous potential for the direction that teaching can take in an outdoor classroom—far beyond EDU’s curricula that promote field study, music, the Arts and play-based learning as the main reasons to head outdoors. According to Christina, administrators in her Board had been noticing more schoolteachers heading outdoors pre-COVID but, treating it as “an extended recess time” without “that engagement part that is so important.” This reinforces the need for local communication forums, and this study’s findings suggest that at least 20 local outdoor educators would have valuable contributions.

Four guiding purposes for using the OC—one more than I presented as options—surfaced during interviews. They were curricula, an organization’s visions/missions/goals, relief from COVID restrictions and personal aspirations (this being the additional purpose). Ten of the eleven interview participants clearly iterated without hesitation their guiding purposes for all that they teach in the OC. Stories emerged from those ten about the educator seizing an opportunity to supplement a planned or emerging lesson/activity in the OC to include a guiding purpose. For example, Val accepted an on-the-spot invitation from a homeowner for parents and children to explore their backyard garden, thus increasing the amount of community involvement (goal). Sunflower spontaneously adapted a standard lesson about water safety (curriculum) to a lesson

about ice safety not just for the safety aspect, but so her students could work towards their safety badges (goal). Odin had this to say: “The outdoors is often chaotic, and procedures and systems don’t work out as you plan...A knowledge of first principles and how to build a plan from there really goes a long way.”

Some would dismiss this as nothing more than taking advantage of teachable moments, however, Khoza (2016) has shown how an educator’s understanding of curricula, the organization’s visions and goals and their personal vision are reflected in their teaching practices. Along this same line, Christina’s PD advice is for kindergarten teachers to become familiar with the EY curriculum, “really understand it and help parents understand why you are spending so much time outdoors and how the children are developing.” She underlined the importance of understanding the play-based pedagogy (an EY purpose), especially in the face of websites such as Pinterest, from which educators mistakenly draw ideas that they automatically think they can bring into their OC. Similarly, Khoza (2016) recommends that self-educating through reading is a key first step to reflecting upon personal visions and understanding curriculum and your school’s visions and goals.

### **Benefits and Perceived Benefits**

The questionnaire was not developed to determine if benefits and/or perceived benefits aligned to the purposes for taking the students into the OC. There were some similarities in answer choices, but the two key elements were not aligned explicitly. I did not want to make respondents feel they had shortcomings as educators (Creswell, 2009). If they could not see the alignment between purpose and benefit or were not realizing benefits stemming from their original goals. Additionally, the questionnaire was designed to impart understanding of

functionality, rather than for respondents to be able to review all their answer to cross-reference relationships among the key elements of functionality.

I feel the value of knowing the benefits is in being able to use this to help with building new and expanding existing OCs and OC programs. This came to light because of the ten interview participants who told of their personal involvement in past developments/expansions (Bethany, Brian, Caroline, Christina, Green Leaf and Val) in-progress developments/expansions (Bethany, Della, Green Leaf and Terri), and/or developments/expansions specifically for relief from or despite COVID-19 restrictions (Brian, Christina, Della, Odin, and Sunflower). No matter what the scale of the development/expansion, money will always be a main concern. It may manifest as the fee for signing a child up to be an army cadet or gas money for taking field trips. Support sometimes hinges on a budget to water and maintain new trees and gardens in an OC in a schoolyard over the summer. There are a lot of grants available for building and enhancing OCs, according to Christina, but in her experience, the application is best accompanied with a plan, a vision for learning and “the latest research with the importance of children being outdoors.” The many benefits that surfaced during this study (12 for educators and 26 for students), the *range* of benefits (from learning skills to social skills to mental health benefits), and the ways that respondents were affected as educators by these benefits (calmer, engaged, enthusiastic, resilient, and effective) address Christina’s third point. The benefits are *impacts* of outdoor learning, and presenting impact is necessary for successful fundraising (Gail Perry Group, n.d.).

### **Functionality**

All 20 respondents who completed the questionnaire were able to determine multiple functionalities for their chosen OC, and 70% chose to write a comment about how functionality



does/does not influence their use or their students' use of the OC. Only one of the 14 respondents who wrote about influence was decidedly uninfluenced by functionality. One of the 14 wrote "unsure," suggesting that 13 of 14 (92.86%) respondents who entered a comment about functionality understood what functionality meant. The responses of the interview participants suggest that all 11 (100%) understood the meaning of functionality. Despite the respondents having more to say by text-entry about benefits than functionality, I feel functionality was a worthwhile topic to explore.

Having access to snow was an unanticipated theme among functionalities, given the warm climate of Windsor-Essex (Environment Canada, 2012) and the fact that only 50% of respondents indicated using their OCs in winter. The snow was accessed passively by Caroline's students as it dulled surrounding noise; actively by Audrey's and Della's students who investigated it; and with purpose by Brian's, Odin's, and Sunflower's students as they interacted physically with it. Educators said it spurred creativity, was useful for developing engineering skills and doing physical activity and was a source of unadulterated joy. There is very little research about the use of snow in OCs, however, Son et al. (2017) showed that students learning Science Technology Engineering and Math activities through snow-science at an outdoor school showed optimal engagement on three fronts: in Science Technology Engineering and Math learning, engaging in physical activity, and balancing physical and mental challenges. Furthermore, they did it by designing creative inquiries and joyfully taking part in skiing, snowboarding, and hiking as each pertained to Science Technology Engineering and Math topics. The students of the current study experienced much the same academic, physical, and cerebral stimulation during their snow-based learning in OCs, albeit on a smaller scale. Local outdoor educators may want to use scaled-down and grade-appropriate versions of the snow

science activities from the Son et al. (2017) study, such as examining snow crystals under a microscope, experimenting with slope and avalanche potential, estimating the amount of water in a body of snow (then melting the snow!), exploring the characteristics of hard- versus soft-packed snow (as Odin's students did), and having students come up with their own inquiries.

During interviews, participants had much to say about access to sounds of nature as a functionality of the OC, but for reasons far beyond calming effects. Brian's students became curious about the different calls of birds. Bethany found that the dissipation of sound on the OC made it easier for her students to have social interactions outdoors than indoors. Bethany, Della, and Val said outdoor sounds made their experiences in the OC more genuine. Buxton et al. (2021) corroborated that "exposure to natural sounds improves health outcomes and positive affect and decreases stress and annoyance" over exposure to noise (p. 3 of 6). Water sounds, according to the researchers, improve health, while bird sounds primarily alleviate stress and annoyance (see Figure 5, p. 140). The study also determined that natural sounds are better for our health than no sound at all, and more natural sounds are better than fewer natural sounds (Buxton et al., 2021). Caroline and Sunflower both discussed the affects of natural sound and noise, on the students and the educators, respectively. Caroline found that students from an urban location who were accustomed to loud city noises were sometimes overwhelmed with the quiet of her site's rural setting, the "audible change in the atmosphere around them." This supports Buxton et al.'s speculation that "an absence of natural safety indicators in the acoustic environment may provoke vigilance and autonomically induce a more alert, aroused state" (2021, p. 4 of 6). Sunflower found it too difficult to speak above crashing waves. For that reason, her ideal OC would include sand and piped-in running water, but not be at a beach. Interestingly, Buxton et al. (2021) posited that the benefits of continuous water sounds may

relate to their ability to mask noise, although the sources of the water sounds (trickling stream versus tempestuous ocean) are not discussed.

Pan et al. (2011) investigated the value of space to provide room for students with autism to engage in physical activity. Khan et al. (2018) attributed higher science scores in an OC to the amount of space, fresh air and good lighting compared to overcrowded, stuffy indoor classrooms. However, most studies about learning, doing schoolwork, engaging in physical activity and playing outside focus on the presence of nature in an outdoor space (Chambers & Radbourne,

**Figure 5:**

*Birds Nesting in a Pavilion in Windsor-Essex County*



Birds will nest in many different types of spaces. Hearing and seeing birds piques the curiosity of students working outdoors, according to Brian.

2015; Chapman, 2017; Fjørtoft, 2004; Gladwell et al., 2013; Johnson, 2014) rather than the *amount* of space available. Indoor learning space improves mood and increases amount of ‘teachable moments’ when it affords views of outdoor space (Dutt, 2013). Research that is beginning to surface surrounding use of OCs during the pandemic includes topics such as how to execute an outdoor learning program during the pandemic (Beery, 2020) and the impact of COVID-19 on nature-based education programs already in existence (Borelli et al., 2020).

Again, however, it appears that the functionality of having more space outdoors is taken as obvious rather than studied. Figure 6 (p. 142) shows how one teacher used hidden OC space to carry on activities with students while they were relegated to learning from home. Additionally, the current study's participants were very specific in their explanations of space as a functionality, and the topics they brought to light fill in gaps in the research. For example, Della found that having more space allowed students to approach her privately when they were afraid to ask for help in front of their classmates. She also experienced this in a regular schoolyard: two sisters who needed help learning to speak English would be silent in class but would reach out to learn from Della while walking with her during Della's recess supervision duty. When Christina sensed students becoming frustrated from overstimulation in a busy indoor classroom, she opened the doors to the OC and watched them run out to find relief in the very neutral-coloured, unadorned, spacious outdoors. Audrey and Terri found that having space and time to go for an extended walk allowed for the development of better teacher-student and student-student rapport, respectively, although Brian noticed short trail walks causing some social unease in his Intermediate level students. Finally, Caroline felt that it is not how much space you have, but what you do with the space, that is significant. She advocated giving students access to the space to connect with nature: examine it, touch it, smell it and just take one's math book outside to enjoy how the space one is in can be calming. Students will often connect with the space itself, regardless of the features within it, by creating favourite places for socializing or being alone (Rasmussen, 2004; Root et al., 2017).

The engagement of families, neighbours and the community with teaching and learning in an OC is a functionality that can take the form of place-based education projects (Smith, 2002; Williams & Taylor, 1999) such as Bethany's ceremonial seed-planting and Val's water ritual;

land-use arrangements (Jolly & Sandberg, 2018; Truong et al., 2016), such as with Audrey's, Terri's and Green Leaf's organizations; or perhaps starting small and building outward, such as Christina's students writing to the city to ask for garbage containers in the park, or Brian creating a wildlife-spotting data bank for his school's OCs to which the public can contribute. Bethany felt her EY students were benefiting socially when they interacted with other youngsters who were in the community garden (Kingsley & Townsend, 2006), and even benefitted from exposure to groups of people they might not normally see, such as groups of seniors and

**Figure 6:**

*Using Hidden Space in an OC in Windsor-Essex County*



These photos, taken three weeks apart, show how an educator successfully used hidden space in an OC to encourage students to use the OC during mandated online learning in spring of 2021. Students created objects to add to the fairy garden, then traveled to the garden to add them, peruse what had been added since their last visit, and play in the OC. The fairy garden was kept hidden so it would not be ransacked or destroyed.

handicapped persons. Ultimately, the gardeners allowed the drop-in centre a plot of land to sow and tend as their own, showing strong community spirit and connecting with Bethany through common interests (Kingsley & Townsend, 2006). Odin and Sunflower are themselves community partners who are engaging as volunteer outdoor educators (D'Amore, 2018). This is common with YDO leaders. There are two takeaways from uncovering the functionality of OCs as a good base for developing partnerships. The first is that there are a variety of ways to engage community partners, including as being the educators. The second is that Windsor-Essex is fortunate to have citizens, companies and landowners that are willing to engage to give local students the chance to learn outdoors. Even at the post-secondary level, there are impressive community alliances, such as the Great Lakes Institute of Environmental Research and the Walpole Island Land Trust, offering OE and research opportunities. Partnerships are also to thank for the Essex Children's Water Festival and Detroit River Canadian Cleanup, both offering different forms of hands-on, outdoor learning. President and CEO of the Canada Foundation for Innovation Roseann O'Reilly Runte, in her keynote presentation 'COVID as Catalyst: Innovation and Discovery', described how to create partnerships to promote Windsor-Essex County as a vibrant, desirable place to visit and live (R. Runte, keynote presentation, October 7, 2021). I immediately thought of the local community involvement in OE as a strong draw for families considering moving to the area. I hope the current study spreads knowledge of partnerships and community focus initiatives and result in further development to that end.

Lastly, the educators' recognition of access to texture as a functionality of their OCs brings up interesting potential for further research. For example, the educators noticed that the students were learning through touching different textures, but without any targeted teaching taking place: Sunflower's student crushed the pieces of chalk, felt them, and mixed the crushed

pieces together of his own accord. Caroline did not have to encourage her students to reach out to touch leaves as they walked through the forested area. This is likely because using the tactile sense—touching things and differentiating textures—helps with cognitive development in children (Piaget, 1952/1963). Although it was not specifically discussed, it appears Odin recognized this when he watched his students determine which barks were most suitable when tying together sticks and fallen branches. Likewise for Caroline, who always gave her students soil to dig their hands into when teaching about planting, creating a foundation for a house and erosion. Touch is also a natural part of fine motor skill development in babies and infants (Crider, 2020), making Christina’s and Bethany’s comments about declining fine motor skills in their EY students a topic with great potential for further research, especially considering Christina’s remark that kids are coming into kindergarten with a lot of experience using electronic devices, which have smooth, uniform keys.

The importance of understanding functionality became apparent through my discussion of professional development with Kris Ives, ERCA’s education co-ordinator (personal communication, May 28, 2021). According to Ives, ERCA’s outdoor classroom training program [which was mentioned by Brian in his interview] started as a curriculum-focused way to get teachers and students outside during the pandemic. The training program was very well-received by Essex County school boards. However, some teachers were reluctant to take their students outdoors, Ives said, because they did not feel they knew enough about nature to be able to teach nature to their students, and/or did not have lesson plans for the outdoors. Others felt stigmatized by their school’s paved schoolyard (K. Ives, personal communication, May 28, 2021). Ives showed the teachers how to take lessons they already had and extend them into the outdoors by using whatever space they had. She pointed out trees and bushes that were *just*

*outside* their schoolyard and discussed how they could be used to initiate learning. She felt she and her team were able to convince some of the hesitant educators that it was okay to learn about nature and the environment *alongside* their students. By the end of these adapted training sessions, the educators had become more confident to take a first step into outdoor learning, Ives sensed (personal communication, May 28, 2021).

With that in mind, I reviewed Table 2 to study the functionalities indicated by the study's respondents (three of whom were fortunate to have OCs surrounded by multiple acres of undeveloped land). Based on Table 2, 'presence of green/blue/brown space' is the only functionality that would *not* exist in a paved, fenced-in lot such as an urban schoolyard, although it *could* exist with box gardens, container gardening, a rain barrel and the like. In fact, this approach could be the basis for community partnerships with nearby hardware stores and neighbours who could donate shovels, bags of soil, containers and even bulbs. Additional purposes would be served by having the students research and contact potential partners and decide what to plant.

Even cultural and historical significance can be studied by walking the nearby neighbourhood to read street names<sup>9</sup>. I contend that a review of and conversation about functionalities with a fellow educator who has experienced success teaching outdoors could positively influence reluctant educators to try taking their students outdoors (Rogers & Shoemaker, 1971). Rogers and Shoemaker's theory of the adoption of innovations (1971) may explain why Ives was able to help reluctant schoolteachers, as Ives is herself an experienced educator at the John R. Park Homestead.

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<sup>9</sup> As a former photojournalist for The Windsor Star, I wrote a recurring feature called 'Foundation Families', where I interviewed the descendants of the earliest settlers of Essex County. Many families had streets and county roads named after their surnames.



Furthermore, discussions about functionality could form part of PD opportunities and communication forums. Green Leaf considers functionality at every step of the way in designing outdoor learning spaces. One of his suggestions in the case of a learning space that is not as functional as it needs to be was to introduce the students to the intended experience ahead of time, then bring props into the OC to enhance the experience. “The learning happens at a totally different pace and over a short period of time” when the learning space is small, according to Green Leaf. This information could be put to use by outdoor educators in many different situations.

## CHAPTER 6 CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

This study examined educators' interpretations of the functionalities of outdoor classrooms in Windsor-Essex County by investigating the key elements of functionality: users, needs, purposes, features and designs, and benefits. Results were derived from a survey questionnaire and interviews. Twenty respondents completed the questionnaire, and 11 were interviewed. The study gleaned useful information and new insights that have not previously been researched in this location or using this target population. The results revealed a bird's-eye view of local OC users, uses and functionalities that had never been studied before. The discussion is organized according to the research questions presented in Chapter 1.

***Research Question 1: What structural and natural features are found in the outdoor classrooms used by Windsor-Essex educators?***

Questionnaire results showed that OCs have anywhere from two to 29 natural, built and/or built-to-be-natural (such as installed hills and ponds) features. The categories of 'items that can be repositioned', 'green space to use along with the OC' and 'large infrastructure' were each present in more than 75% of the described OCs. All but one OC contained places to sit and gather, such as a picnic table, tree stumps, large boulders, and other similar features. A place to gather was an essential component of the author's definition of an OC for the purpose of this study. Although leading American school designers recommend that OCs have wi-fi access, (Minero, 2018; see 'Technology Integration' and 'Outdoor Learning'), having wi-fi access was indicated as a feature of fewer than 40% of OCs described in this study.

Respondents' interpretations of features differed widely, ranging from stones and detritus to living insects and small animals, to rock climbing gear, to indoor learning spaces that were

used in tandem with OCs. Conversely, some interview participants who discussed incorporating these and similar items (snowshoes, camping gear, birds, and wagons to transport art and craft supplies, for example) into OC learning, did *not* include them as features in their questionnaire responses. Technology use in OCs included cell phones or mobile devices that students used for research. The author recognizes that level of importance to the educator and ownership of the item may be factors in what were considered features. However, with such a small sample, it is difficult to determine patterns, if there are any.

The results of this study show that, in Windsor-Essex, there is crossover in use of OCs and public green spaces between schoolteachers, YDO leaders, outreach educators and others. The public places were not necessarily designated as outdoor learning spaces—another rarely-discussed detail that shows the ambitiousness, skills, and flexibility of the educators (see Figure 7, p. 149). This also makes us consider the adaptability of the spaces themselves: how fancy and expensive do they need to be? According to the six participants who discussed using these ‘other’ and ‘makeshift’ OCs, the students became more civically responsible and interested in nature, and/or spent time engaged with their parents while exploring, playing, and learning in them, suggesting that children do not need to have the ideal, pre-designated or built outdoor classroom with a plethora of expensive features to experience benefits. Ultimately, administrators from different sectors would benefit from sharing resources when it comes to developing and improving OC programs.

**Figure 7:**

*A Makeshift OC in Windsor-Essex County*



Although this space in Point Pelee National Park is not designated as an educational area, it includes a gathering place, a fire pit, a pavilion, a wooden playground, and access to sand, green space, rare flora and fauna, and nearby trails and the lake. This is an ideal place for outdoor learning in all seasons.

***Research Question 2: For what intended purposes are educators using outdoor classrooms (that is, for what activities, lessons and subjects, curriculum-based activities, personal development activities and other uses)? Are they following play-based learning, place-based education or other pedagogies when teaching in the OCs? What times of the year are they using OCs? What influences has professional development had on educators' uses of outdoor classrooms, if at all?***

To draw relevant conclusions, it is first necessary to summarize who the users are. The study reflected a diversity of types of educators using OCs in Windsor-Essex, from schoolteachers and ECEs to Forest School practitioners, camp counselors to educators working

at environmental locations, faith-based leaders to youth development organization leaders, and more. Considering the many events and schools/organizations that are known to use outdoor classrooms but did not have representation in the data (such as Cadets, Detroit River Canadian Cleanup, the Essex Children's Water Festival, etc.), there is an exciting variety of opportunities for students to learn in OCs in Windsor-Essex based on interest, age, grade, faith, and other criteria.

The students-users are not restricted to those kids in schools with OCs. Neither are they restricted to the youngest of this study's targeted 4-13 age group. Kids from birth to age 18 are participating in OC learning in Windsor-Essex County through publicly funded, private and Forest School schools and pre-schools, faith-based organizations, YDOs; as visitors to Early Years drop-in centres and environmental/historical sites; and as participants in outreach education programs.

**For what intended purposes are educators using outdoor classrooms (that is, for what activities, lessons and subjects, curriculum-based activities, personal development activities and other uses)?** With educators indicating more than 100 different purposes for using OCs, these students, and sometimes their accompanying parents, have been engaging in (in order of popularity according to the questionnaire) outdoor lessons that fall into the categories of health, science, math, language, the Arts, physical development, geography/history/social studies, FNMI and a second language. This could include formal instruction, less formal exploration and activities, or combinations thereof. Teaching personal development skills and teaching life skills were nearly as popular purposes as were teaching health- and science-based lessons/activities/explorations (both indicated as purposes by 100% of respondents who answered that question). Interview participants' place-based education undertakings were

largely focused on native flora and fauna, and local First Nations history, culture and traditions. More recent history (than Indigenous history), use of natural resources, environmental regeneration and meeting the neighbours were also used as PBE topics. In the author's opinion, this was one of the most interesting and inspiring findings of the study. Play-based learning was popular with those who taught Early Years students, but also practiced to a lesser degree with older students by those who were field trip educators, outreach educators and YDO educators. The study did not delve deeply into the degree to which participants understood and exercised pedagogical principals for PBE or PBL; this would require a more targeted study.

Many of the interview participants stated that instilling in their students a love of the outdoors and caring for the environment was equally or more important to them than their school's/organization's goals. These participants were thankful to be able to share the outdoors with their students in ways that they hope were, are and continue to be as meaningful as possible. The students of Windsor-Essex County are fortunate to have outdoor educators that are so dedicated to their principal causes.

**What times of the year are they using OCs?** Use of OCs by respondents was equally prominent in spring and fall seasons, and less but equally prominent in summer and winter. When asked about using their OCs in wintertime, three of the 11 interview participants were eager to discuss how snow had been fundamental to their students' past learning experiences, and three others mentioned how the presence of snow did factor into what they chose to do in the OC or how they chose to lead their outdoor lesson for the day (see Figure 8, p. 152).

**Figure 8:**

*Animal Tracks in the Snow in Central Ontario*



Although not taken in Windsor-Essex, these photos show how snow can reveal not only various animal tracks, but the movement of the animals, as was discovered by Audrey.

**What influences has professional development had on educators' uses of outdoor classrooms, if at all?** The respondents had a variety of educational training including certified teaching qualifications, training based on their school's/organization's mandates, additional training such as First Aid, or combinations thereof. Some of the participants were certified by more than one organization, such as the Ontario College of Teachers, their YDO's certification program, a Respect in Sport program, First Aid program and/or as Designated Early Childhood Educators. Thus, training qualifications as they pertained directly to OC use, ran a spectrum

from minimal and incidental to targeted and extensive. One of the interview participants attended a Forest School practitioner training course that include educators of mixed training, giving all a chance to learn from and assist one another, since each participant had valuable viewpoints and experiences to bring to the table.

Those interview participants who discussed their training and PD in detail primarily derived from it either a philosophy that influenced their in-the-moment engagements with their students (such as ‘it’s all right to learn along with your students’), or a set of guidelines to help them in their organization and planning (such as carefully considering what items to bring into the OC to engage students in exploration and learning). Publicly funded schoolteachers mentioned the need for them and/or their colleagues to receive more targeted, PD on how to teach in an OC. They listed pedagogies, documentation strategies, how to communicate the learning to parents, how to stay focused on curricula, how teachers of higher grades can use OCs, and how to engage with students outdoors as essential to outdoor classroom PD. Many of these elements were seen to be missing from current PD opportunities. Also, one non-schoolteacher interview participant was seeking help with the proper way to approach an Elder for help incorporating more Indigenous teaching in their OC activities.

***Research Question 3: What benefits to themselves and their students/youth have educators of Windsor-Essex seen/perceived because of using outdoor classrooms?***

Collectively, respondents checked off 100% of the possible benefits to self and perceived benefits to students, then added more by text-entry. It is obvious there is a great deal of knowledge among the educators of this study of how to put their OCs to use for fun, learning, academic improvements, and personal development. It is also worth simply taking a moment to consider these numbers: each of the 20 respondents indicated an average of 18.5 benefits to



themselves/perceived benefits to their students because of their time spent teaching and learning in the outdoor classroom. It would behoove educators and administrators to look over the list of benefits (Fig. 4.2) and consider how they might tap into these opportunities in their OCs.

Students are perceived to be experiencing personal benefits (calmness, peacefulness, and ability to relax, better student-teacher rapport and improved social skills) at an even higher rate than learning benefits (increased physical activity, better understanding of the topic, improved learning skills and increased creativity). Educators are benefitting from feeling more calm, relaxed and peaceful, being happier, increased/improved physical activity and better rapport with students. The text-entry responses and findings presented as conversations in Chapter 4 reveal valuable details about how the benefits come about. Furthermore, respondents wrote that the benefits made them more enthusiastic, resilient, fulfilled and generally better educators. The benefits also improved their mental health and prevented burnout, making this a topic deserving of further research.

***Research Question 4: How do the educators of Windsor-Essex interpret the functionality of the outdoor classrooms they use? What aspects of functionality guide their uses of outdoor classrooms, if any?***

**How do the educators of Windsor-Essex interpret the functionality of the outdoor classrooms they use?** Although the word ‘functionality’ is not often used in research about OCs, many of the most-reported functionalities from the current study were typical of those discussed as findings in other studies: spaciousness, better air flow than indoors, helps create social connections, and enhances mental health. However, less common findings in the field of research (gives access to changing seasons, includes a variety of textures, contains living things, and includes a variety of sites, sounds and smells of nature) were also indicated as functionalities

by 80% (n=20) or more respondents in the current study. These may have surfaced as top functionalities because of the relatively warm Canadian climate and Carolinian zone of Windsor-Essex.

The author noticed that interview participants had quite *particular* interpretations of certain functionalities, that, although not the most popular (nor in some cases presented as options to begin with), emerged during interviews. For example, the way sound transmits outdoors was seen as calming and providing an authentic atmosphere for learning about Indigenous ceremonies. Access to different textures was described as enhancing creativity and problem-solving skills; students learned much from texture without even realizing it. Students' ability to engage with snow was a basis for learning about fauna, texture, and sound, doing math activities, and engaging in fun physical activity. Having more space than in an indoor classroom, when mixed with time to explore that space as a group, allowed for development of student-teacher and student-student rapport, but could also create light stress with social situations among students. Further to student-teacher rapport, with classmates spread out and far away from the teacher, students sometimes took advantage of having privacy to approach the teacher for help. This is a functionality of which all students, educators and administrators should be made aware. Finally, community members were engaged with educators in their OCs as colleague educators, land-use partners, and benefactors.

### **What aspects of functionality guide their uses of outdoor classrooms, if any?**

Responses about how functionality impacted the respondents' use of OCs ran the gamut from having no impact, to use of the OC being impacted by the weather, to functionality being recognized as very important to use of the OC. There were few details that described *impact*,

suggesting this question required clarification. However, from this question there did come the viewpoint that any space could be made functional with desire and knowledge to do so.

### ***Final Conclusions***

Despite the amount of detail in the questionnaire and the time it took to analyze and interpret the data, breaking down the concept of functionality into key elements resulted in tremendously useful—and in some cases rarely-studied—information. It is hoped the educators benefitted from these interviews by having the chance to talk about functionality and the ways that their OCs are helping them meet their visions/missions/goals and/or curricula.

### **Recommendations and Further Research**

Outdoor classrooms are adaptable spaces (and tools!) for learning that serve hundreds of fascinating purposes globally, across Canada and within Ontario. The educators who participated in this study revealed that the climate and history of Windsor-Essex County contribute to a stimulating OC culture that should be tapped into by administrators and educators, promoted as a draw to the area, and enjoyed by students of all ages.

It is because of the vast amount of resourcefulness, imagination, pedagogical knowledge and pure joy at being outdoors with their students, revealed by this study of only 20 educators, that the author urges educators and administrators from local school boards, schools of all types, teacher education/ECE programs, YDOs, faith-based organizations, libraries, museums and galleries, environmental/historical organizations and other interested organizations to read this study and engage educators in sharing their knowledge through professional development and communication forums throughout Windsor-Essex.

Communication should lead to sharing of ideas in PD settings. Professional development emerged during interviews as inspiring and guiding educators daily and throughout their careers

and having the potential to help educators translate what they see and read into what they become capable of and confident in *doing* in OCs.

The author also recommends administrators build the key elements of functionality into the planning for the building and use of their OCs: Who will be the users (both educators and students)? What will be their needs? What purposes beyond curricular and mission-based can be fulfilled? Can our educators incorporate personal development skills (positive body image, growth mindset, social and leadership skills), life skills (reading maps, using technology, problem solving, decision making), and/or community partnerships? (This study's respondents assure us that all are achievable!). Likewise, administrators should be asking themselves with whom they can share use of their OC, and whose OCs their students can use in return. Benefits should be communicated, and there needs to be ongoing support to develop the skills of the outdoor educators.

Reflecting upon functionality, while not the topic of greatest interest to the interview participants, is the next logical step in the design process after key elements have been determined: How can we design the OC to always have a view of the students? Where on the grounds should we build it to provide access to calming sounds? What kinds of vegetation can be planted to create a safe space for all cultures, introduce a variety of textures, and provide shade and shelter from the weather in the face of the climate crisis? Should we plant native species? How can we engage our students, students' families, community partners and Elders in the process of planting? Who will be our partners in the processes of design, building, teaching, and learning alongside the students? How shall we design the gathering space? How shall we use the OC to share cultural experiences and learn about the history of the land and neighbourhood? *Is more space necessarily better?*

If the OC is already built, administration, educators, students, and community partners can work together to evaluate its functionality and determine how often to repeat the evaluation. If it is no longer functional, there needs to be careful consideration of what can be done to make it more functional in the face of changing visions, goals and curricula, societal needs, social mores and user makeup.

The Simcoe County District School Board, with an OC in each of its 87 elementary schools, has embedded a commitment to outdoor learning in its planning and priorities. The Board's strategic priorities for 2017-2022 cite "appreciation for environmental practices and outdoor learning" under Wellbeing, and "innovative and engaging teaching practices and learning environments" and other goals suitably applicable to OCs (Simcoe County District School Board, 2018; see "Strategic Priorities – 2017-2022"). Likewise, the administrators of Windsor-Essex County can and should commit in writing to using OCs and creating congregate PD events that are practical and effective.

The current study presents many angles for additional research. At its very simplest, the study's findings on the key elements of functionality (users and their needs, purposes for use and benefits to users) offer bases from which to expand. A survey of available PD and the points of view of the student-users would also be valuable. More complex research questions could be drawn from the opportunities for and use of PBE in Windsor-Essex; the affects of climate, native vegetation, and Indigenous history on use of OCs; the use of outdoor spaces that are not designated for learning, as OCs; the crossover in use of OCs among outdoor educators in Windsor-Essex; and the ways that educators are affected by the benefits of teaching and learning in an OC. The author feels that further research about functionality would be most effective using focus groups that represent a spectrum of OC educator-users.

## REFERENCES

- Algozzine, B., & Hancock, D. (2016). *Doing case study research: A practical guide for beginning researchers*. Teachers College Press.
- Alikhani, S. (1986). *The relationship between male and female sixth-graders' attitudes and a multidisciplinary outdoor environmental education experience* (Publication No. 30344630) [Doctoral dissertation, Oklahoma State University]. ProQuest Dissertations and Theses.
- Allen, R. E., & Wiles, J. L. (2016). A rose by any other name: Participants choosing research pseudonyms. *Qualitative Research in Psychology*, 13(2), 149-165.
- Alphonso, C. (2013, September 23). Schools looking outside to inspire students. *The Globe and Mail*. Retrieved from <https://www.theglobeandmail.com/news/national/education/schools-looking-outside-to-inspire-students/article14488735/>
- Andrachuk, H., Edgar, T., Eperjesi, P., Filler, C., Groves, J., Kaknevicius, J., Lahtinen, R., Mason, J., Molyneux, L., Morcom, L., Petrini, G., Piersol, L., Power, M., & Young, J. (2014). *Forest and nature school in Canada: A head, heart, hands approach to outdoor learning*. Forest School Canada. <http://childnature.ca/wp-content/uploads/2017/10/FSC-Guide-1.pdf>
- Anonymous. (2017). Around and around. *The Canadian Architect*, 62(11), 49-51.
- Athman, J. A., & Monroe, M. C. (2001). *Elements of effective environmental education programs* (No. ED 463 936). Eric Document Reproduction Service. [https://www.researchgate.net/publication/254389309\\_Elements\\_of\\_Effective\\_Environmental\\_Education\\_Programs](https://www.researchgate.net/publication/254389309_Elements_of_Effective_Environmental_Education_Programs)

- Aziz, T. (2020, July 6). *Leamington, Kingsville cleared for Stage 2 reopening tomorrow*. CBC.  
<https://www.cbc.ca/news/canada/windsor/leamington-kingsville-stage-2-reopening-july7-1.5639145#:~:text=1-Ontario%20Premier%20Doug%20Ford%20has%20cleared%20the%20last%20region%20in,reopening%20on%20Tuesday%2C%20July%207>
- Bailenson, J. N. (2021). Nonverbal Overload: A Theoretical Argument for the Causes of Zoom Fatigue. *Technology, Mind, and Behavior*, 2(1). <https://doi.org/10.1037/tmb0000030>
- Balkwill, T. L. (1996). *Determinants of teacher participation in outdoor education: A survey of Kent County teachers (Ontario)* (Publication No. 1677) [Doctoral dissertation, University of Windsor]. Retrieved from Electronic Theses and Dissertations.  
<https://scholar.uwindsor.ca/etd/1677>
- Barfod, K., & Bentsen, P. (2018). Don't ask how outdoor education can be integrated into the school curriculum; ask how the school curriculum can be taught outside the classroom. *Curriculum Perspectives*, 38(2), 151-156.
- Barfod, K., Ejbye-Ernst, N., Mygind, L., & Bentsen, P. (2016). Increased provision of *udeskole* in Danish schools: An updated national population survey. *Urban Forestry & Urban Greening*, 20, 277–281. <https://doi.org/10.1016/j.ufug.2016.09.012>
- Barr-Wilson, S. K. & Roberts, N. S. (2016). Adolescent girls and body image: Influence of outdoor adventure on healthy living. *Journal of Outdoor Recreation, Education, and Leadership*, (8)2, 148–164. <https://doi.org/10.18666/JOREL-2016-V8-I2-7693>
- Barrable, A., & Arvanitis, A. (2019). Flourishing in the forest: looking at Forest School through a self-determination theory lens. *Journal of Outdoor and Environmental Education*, 22(1), 39-55. <https://doi.org/10.1007/s42322-018-0018-5>

- Beckford, C. L., Jacobs, C., Williams, N., & Nahdee, R. (2010). Aboriginal environmental wisdom, stewardship, and sustainability: lessons from the Walpole Island First Nations, Ontario, Canada. *The journal of environmental education*, 41(4), 239-248.  
<https://doi.org/10.1080/00958961003676314>
- Bartlett, K. (2021, August 10). SCRD declares Stage 4 water restrictions. *Coast Reporter*.  
<https://www.coastreporter.net/local-news/scrd-declares-stage-4-water-restrictions-4209287>
- Beery, T. (2020). What we can learn from environmental and outdoor education during COVID-19: A lesson in participatory risk management. *Sustainability*, 12(21), 9096.
- Bentsen, P., Ho, S. Gray, T., & Waite, S. (2017). A global view of learning outside the classroom. In Waite, S. (Ed.), *Children learning outside the classroom: From birth to eleven* (2<sup>nd</sup> ed.) (pp. 53-66). London, England: Sage Publications Ltd.
- Bentsen, P., & Jensen, F. S. (2012). The nature of udeskole: outdoor learning theory and practice in Danish schools. *Journal of Adventure Education & Outdoor Learning*, (12)3, 199-219.  
<http://doi.org/10.1080/14729679.2012.699806>
- Bliss, L. C., Strong, W. I., Taylor, R. L., Meidinger, D., Coupland, R. T., Maycock, P. F., Scott, P. J., & Bird, C. J. (2015, March 4). Vegetation Regions. In *The Canadian Encyclopedia*. Retrieved July 26, 2021 from  
<https://www.thecanadianencyclopedia.ca/en/article/vegetation-regions>
- Block, K., Gibbs, L., Staiger, P. K., Gold, L., Johnson, B., Macfarlane, S., Long, C., & Townsend, M. (2012). Growing community: The impact of the Stephanie Alexander Kitchen Garden Program on the social and learning environment in primary



- schools. *Health Education & Behavior*, 39(4), 419–432.
- <https://doi.org/10.1177/1090198111422937>
- Bonikowsky, L. (2016). Extreme weather in Canada. In *The Canadian Encyclopedia*.
- <https://www.thecanadianencyclopedia.ca/en/article/extreme-weather-in-canada-feature>
- Borelli, C., Gigli, A., & Melotti, G. (2020). The impact of COVID-19 pandemic on Italian nature-based programs in the educational, therapeutic, training and leisure áreas [sic]. *Education Sciences*, 10(12), 394.
- Borland, J. (2015). *An historical geography of Ontario school-board-operated outdoor education centres* (Publication No. 5258) [Doctoral dissertation].
- <https://scholar.uwindsor.ca/etd/5258>
- Bouma, G. D., Ling, R., & Wilkinson, R. (2106). *The research process* (3<sup>rd</sup> ed.). Oxford University Press.
- Braun, T., & Dierkes, P. (2017). Connecting students to nature—how intensity of nature experience and student age influence the success of outdoor education programs. *Environmental Education Research*, 23(7), 937-949.
- Brekke, D. T. (1977). *A descriptive survey of outdoor education in Whitehorse, Yukon* (Order No. 302871956) [Doctoral dissertation, University of Alberta]. ProQuest Dissertations and Theses.
- Briggs, M., & Hansen, A. (2012). *Play-Based Learning in the Primary School*. London, England: SAGE Publications.
- <http://doi.org/10.4135/9781446254493.n1>
- Brookes, A. (2004). Astride a long-dead horse: Mainstream outdoor education theory and the central curriculum problem. *Australian Journal of Outdoor Education*, 8(2), 22-35.

- Brown, M., & Heaton, S. (2015). Ko ahau te awa ko te awa ko ahau –I am the river and the river is me. In M. Robertson, R. Lawrence, & G. Heath (Eds.), *Experiencing the Outdoors* (pp. 49-60). Sense Publishers.
- <https://books.scholarsportal.info/en/read?id=/ebooks/ebooks3/springer/2016-03-02/4/9789462099449>
- Burger, K. (2021, February 17). Welcome to Blursday: Why the pandemic has thrown off our sense of time. In *The Star Tribune*. <https://www.startribune.com/the-pandemic-has-thrown-off-our-sense-of-time-here-s-why/600024086/>
- Buxton, R. T., Pearson, A. L., Allou, C., Fristrup, K., & Wittemyer, G. (2021). A synthesis of health benefits of natural sounds and their distribution in national parks. *Proceedings of the National Academy of Sciences*, 118(14).
- Cambridge Academic Content Dictionary. (n.d.). Classroom. In *Cambridge Dictionary*. Retrieved Jul 28, 2021 from <https://dictionary.cambridge.org/dictionary/english/classroom>
- Canadian Freshwater Alliance. (2021). *Lake Erie guardians* [Website]. <https://www.freshwateralliance.ca/lakeerieguardians>
- Canadian Network for the Detection of Atmospheric Change. (n.d.) *CANDAC Student Researchers* [blog]. <http://candacstudentresearchers.blogspot.com/p/about.html>
- Caner, C. (2012). *A review of outdoor learning in British Columbia's public schools* (Order No. 880574949) [Doctoral dissertation, University of British Columbia]. ProQuest Dissertations and Theses.
- Carson, R. (1951). *The Sea Around Us*. Oxford University Press.
- Carson, R. (1962). *Silent Spring*. Houghton Mifflin Company.

- Cavaliere, D. (1987). How zucchini won 5th-grade hearts. *Children Today*, 16(3), 18-21.
- Cégep de la Gaspésie et des Îles. (n.d.). Adventure study. Retrieved July 29, 2021 from <https://www.cegepgim.ca/english-section/o>
- Chambers, J. M., & Radbourne, C. L. (2015). Developing critical literacy skills through using the environment as text. *Language and Literacy*, 17(1), 1-20.
- Chapman, J. T. (2017). *Teaching outside to engage student learning* (No. 4298) [Unpublished master's thesis]. Hamline School of Education, Student Capstone Theses and Dissertations. [https://digitalcommons.hamline.edu/hse\\_all/4298](https://digitalcommons.hamline.edu/hse_all/4298)
- Charles, C. M. (1998). *Introduction to Educational Research*. Addison Wesley Longman.
- City of Windsor. (2017). *Cool Windsor facts*.  
[https://www.citywindsor.ca/residents/Culture/Documents/Windsor%20Facts%20for%20the%20125th%20Anniversary%20\(May%202017\).pdf](https://www.citywindsor.ca/residents/Culture/Documents/Windsor%20Facts%20for%20the%20125th%20Anniversary%20(May%202017).pdf)
- Collins English Dictionary. (n.d.). Classroom. In *Collins*. Retrieved July 28, 2021 from <https://www.collinsdictionary.com/dictionary/english/classroom;>
- Cone, C., Becker, W., Potter, M., & Wagner, S. (2014). *Using art to teach students science outdoors: How creative science instruction influences observation, question formation, and involvement* (Order No. 165059328) [Unpublished master's thesis]. ProQuest Dissertations and Theses.
- Córdoba, T. (2005, Nov 1-3). *Indigenous literacy and education: A wholistic perspective that embraces intergenerational knowledge* [Paper presentation]. 9th Provincial Indigenous Education Conference, Whistler, British Columbia.  
[https://www.cst.ed.ac.uk/2005conference/papers/Cordoba\\_paper.pdf](https://www.cst.ed.ac.uk/2005conference/papers/Cordoba_paper.pdf)
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3<sup>rd</sup> ed.). SAGE Publications Ltd.

- Crider, C. (2020, October 6). Sensory experiences for kids: What they are and activities to try. *Healthline*. Retrieved October 7, 2021 from <https://www.healthline.com/health/sensory-experiences>
- Cross, B. (2021, Nov. 5). Windsor's tree canopy coverage on the upswing. In *Windsor Star*. <https://windsorstar.com/news/local-news/windsors-tree-canopy-coverage-on-the-upswing>
- Csanady, A. (2016, March 22). Teachers call for Wi-Fi ban. *National Post*. <https://www.pressreader.com/canada/national-post-latest-edition/20160322/281500750373879>
- D'Amore, C. (2018). Women's leadership of family nature clubs: Furthering the movement to reconnect people with nature. In T. Gray & D. Mitten (Eds.), *The Palgrave International Handbook of Women and Outdoor Learning* (pp. 595-606). Palgrave Macmillan.
- Diamond, M. (2018, January 3). *BASF's Fighting Island certified gold by Wildlife Habitat Council* [Media release]. <https://www.basf.com/us/en/media/news-releases/2018/01/P-US-18-001.html>
- Dillon, J., Morris, M., O'Donnell, L., Reid, A., Rickinson, M., & Scott, W. (2005). *Engaging and Learning with the Outdoors - The Final Report of the Outdoor Classroom in a Rural Context Action Research Project*. National Foundation for Educational Research.
- Dingcong, S. (2016, November 16). Local knowledge and professional education [Slide presentation]. *Slideshare*. Retrieved November 18, 2021 from <https://www.slideshare.net/sheilalodingcong/local-knowledge-and-professional-education>
- Dutt, I. (2013). Built environments: Green spaces as a silent teacher. In D. Zandvliet (Ed.), *The Ecology of School* (Vol. 4), pp. 85-104. Brill Sense Publishers.

- Edwards, C., Gandini, L., & Forman, G. (Eds.) (2<sup>nd</sup> Ed.). (1998). *The hundred languages of children: The Reggio Emilia approach--advanced reflections*. Ablex.
- Elementary Teachers' Federation of Ontario (2020). *Phase 5 strike protocol*. Retrieved February 2, 2020, from <https://etfocb.ca/phase-5-strike-protocol/>
- Elliot, E., Ten Eycke, K., Chan, S., & Müller, U. (2014). Taking kindergartners outdoors: Documenting their explorations and assessing the impact on their ecological awareness. *Children Youth and Environments*, 24(2), 102-122.
- Environment Canada. (2012, November 27). The “Weather Winners” highlights. In *National Climate Data and Information Archive* [Website].  
[https://web.archive.org/web/20121127183922/http://www.climate.weatheroffice.gc.ca/winners/winners\\_e.html](https://web.archive.org/web/20121127183922/http://www.climate.weatheroffice.gc.ca/winners/winners_e.html)
- ERCA Geomatics. (2011, March 02). ERCA subwatersheds [Map].  
<https://essexregionconservation.ca/wp-content/uploads/2018/03/ERCA-Subwatersheds-11x17-20110203.pdf>
- Essex Region Conservation Authority. (n.d.-a). *Agricultural stewardship: Protecting soil health and water quality*. Retrieved November 6, 2021 from  
<https://essexregionconservation.ca/stewardships-grants/agricultural-stewardship/>
- Essex Region Conservation Authority. (n.d.-b). *Watershed health*.  
<https://essexregionconservation.ca/watershed-health/>
- Essex Region Conservation Authority. (2009). *ERCA subwatersheds* [Map].  
<https://essexregionconservation.ca/wp-content/uploads/2018/03/ERCA-Subwatersheds-11x17-20110203.pdf>

Essex Region Conservation Authority. (2018). Essex region watershed report card 2018.

[https://essexregionconservation.ca/wp-content/uploads/2018/03/ERCA\\_WRC\\_2018\\_11x17\\_Final\\_WEB.pdf](https://essexregionconservation.ca/wp-content/uploads/2018/03/ERCA_WRC_2018_11x17_Final_WEB.pdf)

Evans, V. (2013). Factors influencing national systems [sic] of education [Blog post]. Retrieved January 26, 2019 from <http://camponotes.blogspot.com/2013/01/factors-influencing-national-systems.html>

Fernández-Río, J., & Suarez, C. (2016). Feasibility and students' preliminary views on parkour in a group of primary school children. *Physical Education and Sport Pedagogy*, 21(3), 281–294. <https://doi.org/10.1080/17408989.2014.946008>

Fjørtoft, I. (2004). Landscape as playscape: The effects of natural environments on children's play and motor development. *Children Youth and Environments*, 14(2), 21-44.

Forani, J. (2021, February 24). *Feeling exhausted after video chats? There's a reason for that*. CTV News. <https://www.ctvnews.ca/sci-tech/feeling-exhausted-after-video-chats-there-s-a-reason-for-that-1.5322587>

Fraser, K. (2020, August 10). *Windsor-Essex, last Ontario region in Stage 2, finally moving to Stage 3 of reopening*. CBC. <https://www.cbc.ca/news/canada/windsor/windsor-essex-stage3-reopening-1.5680417#:~:text=Windsor-,Windsor%2DEssex%2C%20last%20Ontario%20region%20in%20Stage%20%2C%20finally,3%20of%20reopening%20on%20Wednesday>

Gail Perry Group. (n.d.). Strengthen your fundraising appeal with the “IPM” formula [Blog entry]. *Gail Perry Group Blog*. <https://gailperrygroup.com/strengthen-fundraising-appeal-mpi-formula/>

- Garrick, R. (2020, July 13). New trauma-informed land-based program launched to support Indigenous youth mental health during pandemic. *Anishinabek News.ca*.  
<http://anishinabeknews.ca/2020/07/13/new-trauma-informed-land-based-program-launched-to-support-indigenous-youth-mental-health-during-pandemic/>
- Garton, R. (2021, August 9). *City of Windsor and feds ink 'collaboration' deal to designate Ojibway as national urban park*. CTV News. <https://windsor.ctvnews.ca/city-of-windsor-and-feds-ink-collaboration-deal-to-designate-ojibway-as-national-urban-park-1.5540195>
- Gelter, H. (2000). *Friluftsliv: The Scandinavian philosophy of outdoor life*. *Canadian Journal of Environmental Education (CJEE)*, 5(1), 77-92.
- General Vanier Elementary School [General\_Vanier]. (2018, October 10). *Tweets* [Twitter profile]. Retrieved November 27, 2021 from  
[https://twitter.com/General\\_Vanier/status/1050139449961697281/photo/1](https://twitter.com/General_Vanier/status/1050139449961697281/photo/1)
- Gibson, J. J. (1986). *The ecological approach to visual perception*. Lawrence Erlbaum Associates.
- Girl Guides of Canada-Guides du Canada. (n.d.). *Mission vision promise and law*.  
[https://girlguides.ca/web/GGC/Parents/Who\\_We\\_Are/Mission\\_Vision\\_Promise\\_and\\_Law/GGC/Parents/Who\\_We\\_Are/Mission\\_Vision\\_Promise\\_and\\_Law.aspx?hkey=f333c929-bd80-4396-a8d9-2aca2d81a5fa](https://girlguides.ca/web/GGC/Parents/Who_We_Are/Mission_Vision_Promise_and_Law/GGC/Parents/Who_We_Are/Mission_Vision_Promise_and_Law.aspx?hkey=f333c929-bd80-4396-a8d9-2aca2d81a5fa)
- Girl Guides of Canada-Ontario Council. (n.d.). *Introducing a new era of Guiding outdoor experiences*.  
[https://www.girlguides.ca/web/on/News/Introducing\\_a\\_new\\_era\\_of\\_Guiding\\_outdoor\\_experiences.aspx](https://www.girlguides.ca/web/on/News/Introducing_a_new_era_of_Guiding_outdoor_experiences.aspx)

Gladwell, V. F., Brown, D. K., Wood, C., Sandercock, G. R., & Barton, J. L. (2013). The great outdoors: how a green exercise environment can benefit all. *Extreme physiology & medicine*, 2(1), 3.

Glithero, L. (2004). *In Search of an Alternative: Education for Socio-ecological Consciousness* (Order No. 305114998) [Unpublished master's thesis]. ProQuest Dissertations and Theses.

Goldstein, R. D., Wampler, N. S., & Wise, P. H. (1997, November). War experiences and distress symptoms of Bosnian children. *Pediatrics*, 100(5), 873-878.

<http://link.galegroup.com.ezproxy.uwindsor.ca/apps/doc/A20050716/AONE?u=wind05901&sid=AONE&xid=223a0ee8>

Google. (n.d.). Classroom. In *Google dictionary online*. Retrieved July 28, 2021 from

[https://www.google.com/search?q=google+dictionary+online&rlz=1C1CHBD\\_enCA827CA827&ei=KlgEYZnEKeOJggew4J-  
QBg&oq=google+dictionary&gs\\_lcp=Cgdn d3Mtd2l6EAEYADIHCAAQRxCwAzIHCA  
AQRxCwAzIHCAAQRxCwAzIHCAAQRxCwAzIHCAAQRxCwAzIHCAAQRxCwAzI  
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gws-wiz#dobs=classroom\)](https://www.google.com/search?q=google+dictionary+online&rlz=1C1CHBD_enCA827CA827&ei=KlgEYZnEKeOJggew4J-<br/>QBg&oq=google+dictionary&gs_lcp=Cgdn d3Mtd2l6EAEYADIHCAAQRxCwAzIHCA<br/>AQRxCwAzIHCAAQRxCwAzIHCAAQRxCwAzIHCAAQRxCwAzIHCAAQRxCwAzI<br/>HCAAQRxCwAzIHCAAQsAMQQzIHCAAQsAMQQzIHCAAQsAMQQOoECEEYAF<br/>AAWABgkI8DaAFwAngAgAGYAYgBmAGSAQMwLjGYAQDIAQrAAQE&sclient=<br/>gws-wiz#dobs=classroom))

Gough, N. (2009). How do places become 'pedagogical'? In J. M. Somerville, K. Power, & P. de Carteret (Eds.), *Landscapes and learning: Place studies for a global world* (pp. 155-173). Rotterdam, Netherlands: Sense Publishers.

Government of Canada. (1998). *Parks Canada Agency act* (S. C. 1998, c.31) [Statute of Canada]. <https://laws-lois.justice.gc.ca/eng/acts/n-14.01/page-1.html#h-360258>



- Government of Canada. (2002). Canada national marine areas conservation act [Statute of Canada]. <https://laws-lois.justice.gc.ca/eng/acts/c-7.3/page-1.html#h-152000>)
- Government of Canada. Department of National Defence. (n.d.). About the Cadet program. <https://www.canada.ca/en/department-national-defence/services/cadets-junior-canadian-rangers/cadets/about.html>
- Government of Ontario. (2021a). Conservation authorities act (R.S.O. 1990, c. C.27) [Revised statute of Ontario]. <https://www.ontario.ca/laws/statute/90c27>
- Government of Ontario. (2021b). Provincial parks and conservation reserves act 2006 (S.O. 2006, c. 12) [Statute of Ontario]. <https://www.ontario.ca/laws/statute/06p12>
- Government of Nunavut. (n.d.) Curriculum. <https://www.gov.nu.ca/in/node/26245>
- Graham, K., & Yarhi, E. (2017). Territorial government in Canada. *The Canadian Encyclopedia*. <https://www.thecanadianencyclopedia.ca/en/article/territorial-government>
- Gray, T., & Mitten, D. S. (Eds.). (2018). *The Palgrave international handbook of women and outdoor learning*. Palgrave Macmillan.
- Harris, F. (2018). Outdoor learning spaces: The case of forest school. *Area*. 50, 222–231. <https://doi.org/10.1111/area.12360>
- Henderson, B., & Potter, T. G. (2001). Outdoor adventure education in Canada: Seeking the country way in. *Canadian Journal of Environmental Education*, 6, 225-242.
- Hennig, C., & Paetkau, J. (2018, September 5). *Vancouver Island school children get their hands dirty learning SENĆOTEN language*. CBC. <https://www.cbc.ca/news/canada/british-columbia/beyond-beads-and-bannock-sen%C4%87o%C5%A7en-gardening-class-1.4805436>
- Henry, G. T. (1990). *Practical sampling* (Vol. 21). Sage Publications.

- Ho, S. (2014). The purposes outdoor education does, could and should serve in Singapore. *Journal of Adventure Education and Outdoor Learning*, 14(2), 153-171.
- Hoad, C. (2015). Affordances of an ocean walk. In M. Robertson, R. Lawrence, & G. Heath (Eds.), *Experiencing the Outdoors* (pp. 147-163). Sense Publishers.  
<https://books.scholarsportal.info/en/read?id=/ebooks/ebooks3/springer/2016-03-02/4/9789462099449>
- Hoven, C. W., Duarte, C. S., Lucas, C. P., Wu, P., Mandell, D. J., Goodwin, R. C., Cohen, M., Balaban, V., Woodruff, B. A., Bin, F., Musa, G. J., Mei, L., Cantor, P. A., Aber, J. L., Cohen, P., & Susser, E. (2005). Psychopathology among New York City public school children 6 months after September 11. *Archives of General Psychiatry*, 62(5), 545-552.  
<https://doi.org/10.1001/archpsyc.62.5.545>
- Intergovernmental Panel on Climate Change. (2018). Summary for policymakers (No. IPCC-SR1.5). Retrieved November 10, 2018, from  
[http://report.ipcc.ch/sr15/pdf/sr15\\_spm\\_final.pdf](http://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf)
- Jaeger, R. M. (1990). *Complementary methods for research in education*. American Educational Research Association.
- Janus, A. (2014, July 10). *Wireless radiation exposure code 'fails to protect Canadians'*. CTV News. <https://www.ctvnews.ca/canada/wireless-radiation-exposure-code-fails-to-protect-canadians-1.1906165>
- Johnson, K. (2014). Creative connecting: Early childhood nature journaling sparks wonder and develops ecological literacy. *International Journal of Early Childhood Environmental Education*, 2(1), 126-139.

- Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33(7), 14-26.
- Jolly, L. (2012). Farm-school cooperation for sustainable learning. In B. Berget, L. Lidfors, A. M. Pálsdóttir, K. Soini, & K. Thodberg (Eds.) *Green Care in the Nordic countries – a research field in progress. Report from the Nordic research workshop on Green Care in Trondheim, June 2012* (pp. 33-34). Ås, Norway: Norwegian University of Life Sciences.  
[https://www.matmerk.no/cms/files/776/rapport\\_green\\_care](https://www.matmerk.no/cms/files/776/rapport_green_care)
- Jolly, L., & Krogh, E. (2010). School-farm cooperation in Norway: Background and recent research. *Wissenschaftliche Fundierung des Lernens auf dem Bauernhof [Scientific Foundation of Learning on the Farm]*, 1, 3-18.
- Jolly, L., & Sandberg, S. (2018). From the classroom to the cow: What we have learnt about learning through school-farm cooperation in Norway. In T. Gray & D. Mitten (Eds.), *The Palgrave International Handbook of Women and Outdoor Learning* (pp. 649-659). Palgrave Macmillan.
- Kabatay, J. (2021, March 19). *After 230-year fight, Caldwell First Nation has reserve status; begins to build a new community*. CBC.  
<https://www.cbc.ca/news/canada/windsor/caldwell-first-nation-land-reserve-status-1.5814732>
- Kallio, H., Pietilä, A. M., Johnson, M., & Kangasniemi, M. (2016). Systematic methodological review: developing a framework for a qualitative semi-structured interview guide. *Journal of advanced nursing*, 72(12), 2954-2965.
- Kershner, S. M. (2017). Worship in the wilderness: Experiments in liturgy and ecology. *Liturgy*, 32(4), 40-46.

- Khan, M., McGeown, S. P., & Islam M. Z. (2018) 'There is no better way to study science than to collect and analyse data in your own yard': Outdoor classrooms and primary school children in Bangladesh. *Children's Geographies*, 16(7), 1-14.  
<https://doi.org/10.1080/14733285.2018.1490007>
- Khoza, S. B. (2016). Is teaching without understanding curriculum visions and goals a high risk? *South African Journal of Higher Education*, 30(5), 104-119.
- Kingsley, J., & Townsend, M. (2006) 'Dig in' to social apital: Communcity gardens as mechanisms for growing urban social connectedness. *Urban policy and research*, 24(4), 525-537. <https://doi.org/10.1080/08111140601035200>
- Korr, M. (2016). Fighting TB with Fresh-Air Schools. *Rhode Island Medical Journal*, 99(9), 75-76.
- Kyriakides, L., Creemers, B. P., Antoniou, P., Demetriou, D., & Charalambous, C. Y. (2015). The impact of school policy and stakeholders' actions on student learning: A longitudinal study. *Learning and Instruction*, 36, 113-124.
- Lange, E., Vogels, P., & Jamal, Z. (2011). *Learning a language, learning the land: Newcomers, parks, and language learning. Research and evaluation report* [Report]. Retrieved November 15, 2018, from [https://www.albertaparks.ca/media/3813539/learning\\_a\\_language\\_learning\\_the\\_land\\_-\\_newcomers\\_parks\\_language\\_learning.pdf](https://www.albertaparks.ca/media/3813539/learning_a_language_learning_the_land_-_newcomers_parks_language_learning.pdf)
- Langille, P. (2017, October 18). Solar powered outdoor classroom near completion. *iHeartRADIO*. <https://www.iheartradio.ca/am800/news/solar-powered-outdoor-classrooms-near-completion-1.3369503>

- Learning and Teaching Scotland. (2010). *Curriculum for excellence through outdoor learning* [Resource manual]. <https://education.gov.scot/Documents/cfe-through-outdoor-learning.pdf>
- Leather, M. (2018). A critique of “Forest School” or something lost in translation. *Journal of Outdoor and Environmental Education* 21(5), 5-18. <https://doi.org/10.1007/s42322-017-0006-1>
- Lebak, K. (2005). *Connecting outdoor field experiences to classroom learning: A qualitative study of the participation of students and teachers in learning science* (Publication no. AAI3168031) [Doctoral dissertation, University of Pennsylvania]. <https://repository.upenn.edu/dissertations/AAI3168031/>
- Leeming, F. C., Porter, B. E., Dwyer, W. O., Cobern, M. K., & Oliver, D. P. (1997). Effects of participation in class activities on children's environmental attitudes and knowledge. *The Journal of Environmental Education*, 28(2), 33-42. <https://doi.org/10.1080/00958964.1997.9942821>
- Legge, M. (2018). A Pākehā woman’s journey towards bicultural responsibility in outdoor education. In T. Gray & D. Mitten (Eds.), *The Palgrave International Handbook of Women and Outdoor Learning* (pp. 837-850). Palgrave Macmillan.
- Lichtman, M. (2012). *Qualitative research in education: A user's guide* (2<sup>nd</sup> ed.). Sage Publications.
- Lindemann-Matthies, P., & Knecht, S. (2011). Swiss elementary school teachers’ attitudes toward forest education. *The Journal of Environmental Education*, (42)3, 152-167. <https://doi.org/10.1080/00958964.2010.523737>

- Lisle, C. (2018). Turning inside out: Learning through local phenomena and lived experience. In T. Gray, & D. Mitten, (Eds.), *The Palgrave International Handbook of Women and Outdoor Learning* (pp. 691-703). New York, NY: Palgrave Macmillan. doi:10.1007/978-3-319-53550-0\_47
- Lloyd, A. M. (2016). *Place-based outdoor learning enriching curriculum: A case study in an Australian primary school* (Publication no. 38701) [Doctoral dissertation, Western Sydney University, Australia].  
<https://researchdirect.westernsydney.edu.au/islandora/object/uws:38701>
- Louv, R. (2008). *Last child in the woods: Saving our children from nature-deficit disorder*. Algonquin Books.
- Louv, R. (2009, January 28). No more "Nature-Deficit Disorder:" The "No Child Left Inside" movement. *Psychology Today* [Blog]. <https://www.psychologytoday.com/ca/blog/people-in-nature/200901/no-more-nature-deficit-disorder>
- Lyne Strachan, A., Lim, E., Yip, H. Y., & Lum, G. (2017). Early Childhood Educator perspectives on the first year of implementing an outdoor learning environment in Singapore. *Learning: Research and Practice*, 3(2), 85-97.
- MacDonald, N. S. (1918). *Open-air schools*. McClelland, Goodchild & Stewart.
- MacEachren, Z. (2013). The Canadian forest school movement. *Learning Landscapes*, 7(1), 219-233.
- Marques de Miranda, D., da Silva Athanasio, B., Sena Oliveira, A. C., & Simoes-E-Silva, A. C. (2020). How is COVID-19 pandemic impacting mental health of children and adolescents? *International journal of disaster risk reduction : IJDRR*, 51, 101845.  
<https://doi.org/10.1016/j.ijdr.2020.101845>

- Maynard, T., & Waters, J. (2007) Learning in the outdoor environment: a missed opportunity? *Early Years*, 27(3), 255-265. <https://doi.org/10.1080/09575140701594400>
- Maynard, T., Waters, J., & Clement, J. (2013). Child-initiated learning, the outdoor environment and the 'underachieving' child. *Early Years*, 33(3), 212-225.
- McDonnell, L. (2013). *Playful by nature: transforming the ecological imagination through play and narrative learning: the case of the Swedish "Rain or shine (I ur och skur)" pedagogy* [Unpublished master's thesis, Norwegian University of Life Sciences].  
<http://hdl.handle.net/11250/187925>
- Merriam-Webster. (n.d.). Classroom. In *Merriam-Webster.com dictionary*. Retrieved July 28, 2021, from <https://www.merriam-webster.com/dictionary/classroom>
- Minero, E. (2018, March 02). The architecture of ideal learning environments. *Edutopia*. Retrieved October 9, 2021 from <https://www.edutopia.org/article/architecture-ideal-learning-environments>
- Mueller, A., & Welch, M. (2006). Classroom-based professional development: Teachers' reflections on learning alongside students. *Alberta Journal of Educational Research*, 52(2), 143-157.
- Nedovic, S., & Morrissey, A. (2013). Calm active and focused: Children's responses to an organic outdoor learning environment. *Learning Environments Research*, 16(2), 281-295.  
<https://doi.org/10.1007/s10984-013-9127-9>
- Neill, J. (2018). Loose parts play creating opportunities for outdoor education and sustainability in early childhood. In T. Gray & D. Mitten (Eds.), *The Palgrave International Handbook of Women and Outdoor Learning* (pp. 623-635). Palgrave Macmillan.

- Nel, A., Joubert, I., & Hartell, C. (2017). Teachers' perceptions on the design and use of an outdoor learning environment for sensory and motor stimulation. *South African Journal of Childhood Education*, 7(1), 1-11. <https://doi.org/10.4102/sajce.v7i1.482>
- Nguyen, L. (2011, December 18). WiFi foes fight to rid schools of wireless Internet. *National Post*. <https://nationalpost.com/news/canada/wifi-foes-bring-fight-to-schools>
- NYC. (2020, August 24). *Mayor de Blasio and Chancellor Carranza announce "Outdoor Learning" initiative* [Media release]. <https://www1.nyc.gov/>
- Omrania. (2018, August 7). *The multiple meanings of function in architecture*. <https://omrania.com/insights/the-multiple-meanings-of-function-in-architecture/>
- Ontario Camps Association. (n.d.). Join now – Camps and outdoor education centres [website]. <https://ontariocampsassociation.ca/join-oca/join-now-camps/>
- Ontario Ministry of Education. (2007b). *The Ontario curriculum, grades 1-8: Science and technology, 2007 (revised)*. (No. 07-008). Ottawa, ON: Queen's Printer for Ontario. Retrieved June 8, 2018 from <http://www.edu.gov.on.ca/eng/curriculum/elementary/Scientec18currb.pdf>
- Ontario Ministry of Education. (2008). *Standards for environmental education in the curriculum*. (No. 08-161). Ottawa, ON: Queen's Printer for Ontario. Retrieved June 8, 2018 from [http://www.edu.gov.on.ca/curriculumcouncil/Env\\_Ed\\_Standards.pdf](http://www.edu.gov.on.ca/curriculumcouncil/Env_Ed_Standards.pdf)
- Ontario Ministry of Education. (2009a). *Acting today, shaping tomorrow: A policy framework for environmental education in Ontario schools*. (No. 08-324). Ottawa, ON: Queen's Printer for Ontario. Retrieved June 8, 2018 from <http://www.edu.gov.on.ca/curriculumcouncil/>



- Ontario Ministry of Education. (2009b). *The Ontario curriculum, grades 1-8: The arts, 2009 (revised)*. (No. 08-023). Ottawa, ON: Queen's Printer for Ontario. Retrieved June 8, 2018 from <http://www.edu.gov.on.ca/eng/curriculum/elementary/arts18b09curr.pdf>
- Ontario Ministry of Education. (2013). *The Ontario curriculum: French as a second language: Core French, grades 4-8; Extended French, grades 4-8; French immersion, grades 1-8, 2013 (revised)*. (No. 13-047). Ottawa, ON: Queen's Printer for Ontario. Retrieved June 8, 2018 from <http://www.edu.gov.on.ca/eng/curriculum/elementary/fsl18-2013curr.pdf>
- Ontario Ministry of Education. (2015). *The Ontario curriculum, grades 1-8: Health and physical education, 2015 (revised)*. (No. 14-058). Toronto, ON: Queen's Printer for Ontario. Retrieved June 8, 2018 from <http://www.edu.gov.on.ca/eng/curriculum/elementary/health1to8.pdf>
- Ontario Ministry of Education. (2016a). *Community-connected experiential learning: A policy framework for Ontario schools, kindergarten to grade 12: Draft for consultation*. (15-091). Toronto, ON: Queen's Printer for Ontario. Retrieved February 17, 2019 from [http://www.edu.gov.on.ca/eng/general/elemsec/job/passport/CommunityConnected\\_ExperientialLearningEng.pdf](http://www.edu.gov.on.ca/eng/general/elemsec/job/passport/CommunityConnected_ExperientialLearningEng.pdf)
- Ontario Ministry of Education. (2016b). *The kindergarten program, 2016*. (No. 16-049). Toronto, ON: Queen's Printer for Ontario. Retrieved June 8, 2018 from [https://files.ontario.ca/books/edu\\_the\\_kindergarten\\_program\\_english\\_aoda\\_web\\_oct7.pdf](https://files.ontario.ca/books/edu_the_kindergarten_program_english_aoda_web_oct7.pdf)
- Ontario Ministry of Education. (2017). *Environmental education: Scope and sequence of expectations (2017)*. (No. 16-068). Toronto, ON: Queen's Printer for Ontario. Retrieved June 8, 2018 from <http://www.edu.gov.on.ca/eng/curriculum/elementary/environment.html>

Ontario Ministry of Education. (2018a). Education in Ontario [Website]. [Retrieved September 23, 2018 from https://www.ontario.ca/page/education-ontario](https://www.ontario.ca/page/education-ontario)

Ontario Ministry of Education. (2018b). *Find a school board* [Website]. Retrieved from <http://www.edu.gov.on.ca/eng/sbinfo/boardList.html>

Ontario Ministry of Education. (2018c). Private elementary and secondary schools [Website]. Retrieved September 24, 2018 from <http://www.edu.gov.on.ca/eng/general/elemsec/privschr/>

Ontario Ministry of Education. (2018d). *The Ontario curriculum: Social studies, grades 1-6; History and geography, grades 7 and 8, 2018 (revised)*. (No. 17-060). Ottawa, ON: Queen's Printer for Ontario. Retrieved June 8, 2018 from <http://www.edu.gov.on.ca/eng/curriculum/elementary/social-studies-history-geography-2018.pdf>

Ontario Ministry of Education. (2019). *First Nations, Métis and Inuit studies curriculum* [website]. <http://www.edu.gov.on.ca/eng/aboriginal/curricNSNL.html>

Ontario Ministry of Education. (2019, April 1). Who we are [Website]. <http://www.edu.gov.on.ca/eng/about/whoweare.html>

Ontario Ministry of Education Field Service Branch. (2013a). Private Schools Policy and Procedures Manual. [http://www.edu.gov.on.ca/eng/general/elemsec/privschr/PrivateSchools\\_PolicyManual.pdf](http://www.edu.gov.on.ca/eng/general/elemsec/privschr/PrivateSchools_PolicyManual.pdf)

Ontario Ministry of Education. The Working Group on Environmental Education. (2007). *Shaping our schools, shaping our future: Environmental education in Ontario schools*.

- (No. 07-199). Ottawa, ON: Queen's Printer for Ontario. Retrieved 8 June, 2018 from <http://www.edu.gov.on.ca/eng/teachers/enviroed/shapingSchools.pdf>
- Ontario Ministry of Finance. (2017, November 21). 2016 Census highlights: Factsheet 8. Retrieved from <https://www.fin.gov.on.ca/en/economy/demographics/census/cenhi16-8.html>
- Ontario Ministry of the Environment, Conservation and Parks. (n.d.). Ojibway Prairie. In *Ontario Parks*. <https://www.ontarioparks.com/park/ojibwayprairie>
- Ontario Office of the Premier. (2021a, February 8). Ontario extending stay-at-home order across most of the province to save lives [Media release]. <https://news.ontario.ca/en/release/60261/ontario-extending-stay-at-home-order-across-most-of-the-province-to-save-lives>
- Ontario Office of the Premier. (2021b, April 12). Ontario moves schools to remote learning following spring break: Continued rise in COVID-19 cases demands shift to protect students and staff and slow community spread [Media release]. <https://news.ontario.ca/en/release/61106/ontario-moves-schools-to-remote-learning-following-spring-break>
- Organisation for Economic Co-operation and Development. (2013). Teaching and Learning International Survey (TALIS): 2013 complete database. [http://stats.oecd.org/index.aspx?datasetcode=talis\\_2013%20](http://stats.oecd.org/index.aspx?datasetcode=talis_2013%20)
- Outward Bound Canada. (n.d.). High school credit [Website]. Retrieved July 28, 2021 from <https://www.outwardbound.ca/program/high-school-credit/>
- Outward Bound International. (2007, November 10). *The birth of Outward Bound*. [website]. In *The Wayback Machine*. Retrieved July 30, 2021 from

<https://web.archive.org/web/20071110062628/http://www.outwardbound.net/about/history/ob-birth.html>

Oxford Learner's Dictionary. (n.d.) Functionality. In *Oxford learner's dictionaries*. Retrieved from <https://www.oxfordlearnersdictionaries.com/definition/english/functionality>

Pan, C., Tsai, C., & Hsieh, K. (2011). Physical activity correlates for children with autism spectrum disorders in middle school physical education. *Research Quarterly for Exercise and Sport*, 82(3), 491-498.

Parks Canada. (2002). *The Parks Canada charter*. <https://www.pc.gc.ca/en/agency-agency/mandat-mandate>

Parks Canada. (2019). *Framework for history and commemoration: National historic sites system plan 2019*. <https://www.pc.gc.ca/en/lhn-nhs/plan/cadre-framework>

Parks Canada. Aboriginal Affairs Secretariat. (2015). The land is our teacher: Reflections and stories on working with Aboriginal knowledge holders to manage Parks Canada's heritage places. Retrieved July 21, 2021 from George Wright Society [http://www.georgewright.org/The%20Land%20is%20Our%20Teacher\\_ATK\\_email%20version\\_EN.pdf](http://www.georgewright.org/The%20Land%20is%20Our%20Teacher_ATK_email%20version_EN.pdf)

Passmore, J. (1972). *Outdoor education in Canada - 1972; an overview of current developments in outdoor education and environmental studies*. Toronto, ON: Canadian Education Association.

PbeacockL. (2016, October 29). "I am in Springwater Park at "Hands in the Dirt" where many @SCDSB\_Schools Teachers and Principals are learning" [Twitter Post]. Retrieved from <https://twitter.com/PbeacockL/status/792377010731515905>

- Pedretti, E., & Nazir, J. (2014). Tensions and opportunities: A baseline study of teachers' views of environmental education. *International Journal of Environmental and Science Education*, 9(3), 265-283.
- Peel, M. C., Finlayson, B. L., & McMahon, T. A. (Cartographers). (2007). Updated world map of the Köppen-Geiger climate classification [Online map]. Referenced online from *Hydrology and Earth System Sciences*, 11, 1633-1644. Retrieved September 17, 2018 from [https://commons.wikimedia.org/wiki/File:World\\_K%C3%B6ppen\\_Map.png](https://commons.wikimedia.org/wiki/File:World_K%C3%B6ppen_Map.png)
- Peredun, L. (2018). Insights from a Canadian woman: Place-based relationships and narratives in outdoor education. In T. Gray & D. Mitten (Eds.), *The Palgrave International Handbook of Women and Outdoor Learning* (pp. 765-776). New York, NY: Palgrave Macmillan. doi:10.1007/978-3-319-53550-0\_52
- Piaget, J. (1963). The origins of intelligence in children (M. Cook, trans.). W. W. Norton & Co. (Original work published 1952).
- Quay, J., Gray, T., Thomas, G., Allen-Craig, S., Asfeldt, M., Andkjaer, S., Beames, S., Cosgriff, M., Dymont, J., Higgins, P., Ho, S., Leather, M., Mitten, D., Morse, M., Neill, J., North, C., Passy, R., Pedersen-Gurholt, K., Polley, S., ... Foley, D. (2020). What future/s for outdoor and environmental education in a world that has contended with COVID-19? *Journal of Outdoor and Environmental Education*, 23(2), 93–117. <https://doi.org/10.1007/s42322-020-00059-2>
- Random House Unabridged Dictionary. (n.d.). Classroom. In *Dictionary.com*. Retrieved July 28, 2021 from <https://www.dictionary.com/browse/classroom>
- Rasmussen, K. (2004). Places for children—children's places. *Childhood*, 11, 155–173

Rent the Chicken. (2019). Hatching rentals. Retrieved February 10, 2020, from

[http://www.rentthechicken.com/p/blog-page\\_28.html](http://www.rentthechicken.com/p/blog-page_28.html)

Robertson, M., Lawrence, R., & Heath, G. (Eds.). (2015). *Experiencing the outdoors*.

Sense Publishers. Retrieved from

<https://books.scholarsportal.info/en/read?id=/ebooks/ebooks3/springer/2016-03-02/4/9789462099449>

Rogers, E. M., & Shoemaker, F. F. (1971) *Communication of innovations: A cross-cultural approach* (2<sup>nd</sup> ed.) New York, NY: The Free Press.

Root, E. (2016). Dis-placing myself: Decolonizing a settler outdoor environmental

educator [abstract]. In P. Maher, M. Asfeldt, & C. Belalcázar (Eds.), *7th*

*International Outdoor Education Research Conference book of abstracts* (pp 52-

53). Cape Breton Island, NS: Nova Scotia University. Retrieved from

[https://marjon.repository.guldhe.ac.uk/10210/1/IOERC7-Book-of-Abstracts\\_Final-1.pdf](https://marjon.repository.guldhe.ac.uk/10210/1/IOERC7-Book-of-Abstracts_Final-1.pdf)

Root, E., Snow, K., Belalcazar, C., & Callary, B. (2017). Playing naturally: A case study of schoolyard naturalization in Cape Breton. *Research in Outdoor Education*, 15, 1-20.

Rothe, E., Holt, C., Kuhn, C., McAteer, T., Askari, I., O'Meara, M., Sharif, A., & Dexter, W. (2010). Barriers to outdoor physical activity in wintertime among Somali youth. *Journal of Immigrant and Minority Health*, 12(5), 726-736.

Royal Architectural Institute of Canada. (2019). About the prize. Retrieved 2019, January 31 from <http://moriyama.raic.org/about-prize>

- Russell, C., Cameron, E., Socha, T., & McNinch, H. (2013). "Fatties Cause Global Warming": Fat pedagogy and environmental education. *Canadian Journal of Environmental Education*, 18, 27-45.
- Salama, A. M. (2008). When good design intentions do not meet users [sic] expectations: Exploring Qatar University campus outdoor spaces. *ArchNet-IJAR: International Journal of Architectural Research*, 2(2), 57-77.
- Salari, N. Hosseinian-Far, A., Jalali, R., Vaisi-Raygani, A., Rasoulpoor, S., Mohammadi, M., Rasoulpoor, S., & Kyaledi-Paveh, B. (2020). Prevalence of stress, anxiety, depression among the general population during the COVID-19 pandemic: A systematic review and meta-analysis. *Globalization and Health*, 16(57). <https://doi.org/10.1186/s12992-020-00589-w>
- Schiffer, J., Birken, C. S., et al. (2021, May 31). Let the children play: Getting children and youth outdoors now for an active recovery [Report]. [https://www.sickkids.ca/siteassets/news/news-archive/2021/let-the-children-play\\_may-31-2021.pdf](https://www.sickkids.ca/siteassets/news/news-archive/2021/let-the-children-play_may-31-2021.pdf)
- Schleicher, A. (2011). Teacher development, support, employment conditions and careers. In *Building a High-Quality Teaching Profession: Lessons from around the World* (chpt. 2, pp. 23-38). OECD Publishing, Paris. doi:10.1787/9789264113046-4-en
- Schwartz, M. (2012). *Best practices in experiential learning*. Toronto, ON: Ryerson University. Retrieved from <https://www.ryerson.ca/content/dam/lt/resources/handouts/ExperientialLearningReport.pdf>
- Scouts Canada. (n.d.). Canadian Path: Overview. <https://www.scouts.ca/programs/canadian-path/overview.html>

- Seeland, K., Dübendorfer, S., & Hansmann, R. (2009). Making friends in Zurich's urban forests and parks: The role of public green space for social inclusion of youths from different cultures. *Forest Policy and Economics*, 11, 10–17.
- Shih-Chung, L. (1998). A study of the design and functionality of multimedia classroom. *International Journal of Instructional Media*, 25(3), 301.
- Shivers, J. (2011). *Programming recreational services*. Jones & Bartlett Learning.
- Simcoe County District School Board. (2017, November 06). Hands in the Dirt outdoor education conference [Video]. *YouTube.com*.  
<https://www.youtube.com/watch?v=yIgOlwWyA8s>
- Simcoe County District School Board. (2018). Report to the community, 2017-18 [online slide presentation]. Retrieved November 3, 2021 from  
<https://spark.adobe.com/page/ykCzD6smINr2M/>
- Simcoe County District School Board. (2019a, January 10). Educators prepare for annual ‘Mittens in the Snow’ conference [Media release].  
[https://www.scdsb.on.ca/news/current\\_news/2019\\_Mittens\\_in\\_the\\_Snow](https://www.scdsb.on.ca/news/current_news/2019_Mittens_in_the_Snow)
- Simcoe County District School Board. (2019b, April 09). Singing in the Rain 2019: Educators experience the benefits of outdoor learning and teaching at ‘Singing in the Rain’ [Media release]. [https://www.scdsb.on.ca/news/current\\_news/singing\\_in\\_the\\_rain\\_2019](https://www.scdsb.on.ca/news/current_news/singing_in_the_rain_2019)
- Smith, G. A. (2002). Place-based education: Learning to be where we are. *Phi delta kappan*, 83(8), 584-594.
- Smith, G., & Sobel, D. (2010). Bring it on home. *Educational Leadership*, 68(1), 38-43.
- [Snapon Tools Africa]. (n.d.). *Snap-on Multi-position Ratcheting Screwdriver* [Video file]. Retrieved February 2, 2020 from <https://www.youtube.com/watch?v=ekWIFMt9CUU>



- Sobel, D. T. (2008). *Childhood and nature: Design principles for educators*. Stenhouse Publishers.
- Sparks, D. (1994). A paradigm shift in staff development. *Journal of Staff Development*, 15(4), 26-29.
- Son, J. S., Mackenzie, S. H., Eitel, K., & Luvaas, E. (2017). Engaging youth in physical activity and STEM subjects through outdoor adventure education. *Journal of Outdoor and Environmental Education*, 20(2), 32-44.
- Stan, I. (2010). Control as an educational tool and its impact on the outdoor educational process. *Australian Journal of Outdoor Education*, 14(2), 12-20.
- Stapp, W. B. (1970). The concept of environmental education. *The American Biology Teacher*, 32(1), 14-15. doi:10.2307/4442877
- Statistics Canada. (2010, February 22). Weather records. Highest maximum air pressure: Canada. Retrieved from [https://web.archive.org/web/20110726143617/http://www.statcan.gc.ca/kits-trousses/cyb-adc1999/ecozone/edu04\\_0092f-eng.htm](https://web.archive.org/web/20110726143617/http://www.statcan.gc.ca/kits-trousses/cyb-adc1999/ecozone/edu04_0092f-eng.htm)
- Statistics Canada. (2019a, February 15). *Peel, RM [Census division], Ontario and Ontario [Province]. Census profile. 2016 Census*. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. Retrieved February 23, 2019 from <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CD&Code1=3521&Geo2=PR&Code2=35&SearchText=Peel&SearchType=Begin&SearchPR=01&B1=All&TABID=1&type=0>
- Statistics Canada. (2019b, February 15). *Simcoe, CTY [Census division], Ontario and Ontario [Province]. Census Profile. 2016 Census*. Statistics Canada Catalogue no. 98-316-

- X2016001. Ottawa. Released November 29, 2017. Retrieved February 23, 2019 from <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E>
- Statistics Canada. (2020a, April 21). *Census Profile, 2016 Census: Charts (using rates): Windsor [Census metropolitan area], Ontario and Saskatchewan [Province]: Immigration and citizenship*. [https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page\\_figures.cfm?LANG=E&Geo1=CMACA&Code1=559&Geo2=PR&Code2=47&SearchText=Windsor&TABID=1&type=1&B1=Immigration+and+citizenship&sx=TOTAL](https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page_figures.cfm?LANG=E&Geo1=CMACA&Code1=559&Geo2=PR&Code2=47&SearchText=Windsor&TABID=1&type=1&B1=Immigration+and+citizenship&sx=TOTAL)
- Statistics Canada. (2020b, April 21). *Census Profile, 2016 Census: Charts (using rates): Windsor [Census metropolitan area], Ontario and Saskatchewan [Province]: Labour*. [https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page\\_Figures.cfm?Lang=E&Tab=1&Geo1=CMACA&Code1=559&Geo2=PR&Code2=47&SearchText=Windsor&SearchType=Begins&SearchPR=01&B1=Labour&TABID=1&type=1](https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page_Figures.cfm?Lang=E&Tab=1&Geo1=CMACA&Code1=559&Geo2=PR&Code2=47&SearchText=Windsor&SearchType=Begins&SearchPR=01&B1=Labour&TABID=1&type=1)
- Statistics Canada. Social and Aboriginal Statistics Division. (2019, February 20). Ethnic and cultural origins of Canadians: Portrait of a rich heritage. Retrieved February 23, 2019 from <https://www12.statcan.gc.ca/census-recensement/2016/as-sa/98-200-x/2016016/98-200-x2016016-eng.cfm>
- Stewart, A. (2003). Reinvigorating our love of our home range: Exploring the connections between sense of place and outdoor education. *Journal of Outdoor and Environmental Education*, 7(2), 19-24.
- Stewart, V. (2011). Improving teacher quality around the world. *Phi Delta Kappan Magazine*, 92(8), 93-94.

- Stiegelbauer, S. M. (1996). What is an Elder? What do Elders do? First Nations Elders as teachers in culture-based urban organizations. *Canadian Journal of Native Studies*, 16(1), 37-66.
- Strong-Wilson, T. & Ellis, J. (2007) Children and place: Reggio Emilia's environment as third teacher. *Theory Into Practice*, 46(1), 40-47. <https://doi.org/10.1080/00405840709336547>
- TED. (2015, April 14). *The best kindergarten you've ever seen: Takaharu Tezuka* [Video file]. Retrieved from <https://www.youtube.com/watch?v=J5jwEyDaR-0>
- The Ministry of Education [Denmark]. (2003, October 21). The folkeskole (consolidation) act [translated]. Retrieved January 23, 2019 from <http://www.unesco.org/education/edurights/media/docs/db4e18f1f260d4ef8ea9ca6e1d4e08d4532fc083.pdf>
- Thomas, G., & Munge, B. (2015). Best practice in outdoor environmental educational fieldwork: Pedagogies to improve student learning. In M. Robertson, R. Lawrence, & G. Heath (Eds.), *Experiencing the Outdoors* (chpt. 14, pp. 165-176). Sense Publishers. Retrieved from <https://books.scholarsportal.info/en/read?id=/ebooks/ebooks3/springer/2016-03-02/4/9789462099449>
- Thomson, A. (2016, September 9). 'A lot of excitement:' Canadian schools increasingly embrace outdoor classrooms. CTV News. <https://www.ctvnews.ca/lifestyle/canadian-schools-increasingly-embrace-outdoor-classrooms-1.3065334>
- Thomson, G., Hoffman, J., & Staniforth, S. (2003). *Measuring the success of environmental education programs* [PDF file]. Ottawa, ON: Canadian Parks and Wilderness Society and Sierra Club of Canada. Retrieved from [https://secure.abcee.org/sites/default/files/cms/wp-content/uploads/2010/10/Measuring\\_the\\_Success\\_Sept\\_7\\_2010-1.pdf](https://secure.abcee.org/sites/default/files/cms/wp-content/uploads/2010/10/Measuring_the_Success_Sept_7_2010-1.pdf)

- Treagust, D. F., & Fraser, B. J. (1984). *Looking into Classrooms. Monograph in the Faculty of Education Research Seminar and Workshop Series*. Perth, Australia: Faculty of Education, Curtin University of Technology.
- Truong, S., Gray, T., & Ward, K. (2016). “Sowing and Growing” life skills through garden-based learning to reengage disengaged youth. *LEARNing Landscapes*, (10)1, 361-385.
- Truth and Reconciliation Commission of Canada. (2015). *Truth and Reconciliation Commission of Canada: Calls to action*. Winnipeg: Truth and Reconciliation Commission of Canada.
- Twohig-Bennett, C., & Jones, A. (2018). The health benefits of the great outdoors: A systematic review and meta-analysis of greenspace exposure and health outcomes. *Environmental Research*, 166, 628-637.
- United Nations. (n.d.). About the sustainable development goals. Retrieved from <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>
- United Nations Educational, Scientific and Cultural Organization. (n.d.). Teachers [Website]. Retrieved August 3, 2021 from <https://en.unesco.org/themes/teachers>
- Vaillancourt, T., Brittain, H., Bennett, L., Arnocky, S., McDougall, P., Hymel, S., Short, K., Sunderani, S., Scott, C., Mackenzie, M., & Cunningham, L. (2010). Places to avoid: Population-based study of student reports of unsafe and high bullying areas at school. *Canadian Journal of School Psychology*, 25(1), 40-54. <https://doi.org/10.1177/0829573509358686>
- Ward, K. (2018). Singing in the forest: Outdoor education as early childhood curriculum. In T. Gray, D. Mitten (Eds.), *The Palgrave international handbook of women and outdoor*

- learning* (pp. 607-621). New York, NY: Palgrave Macmillan. doi:10.1007/978-3-319-53550-0\_41
- Wattchow, B., & Brown, M. (2011). The emergence of place in outdoor education. In B. Wattchow and M. Brown (Eds.), *A pedagogy of place: Outdoor education for a changing world* (pp. 77–105). Melbourne, AU: Monash University Publishing.
- Wattchow, B., & Higgins, P. (2013). Through outdoor education: A sense of place on Scotland's River Spey. In A. Cutter-Mackenzie, L. Alfrey, J. O'Connor, B. Wattchow, & R. Jeanes (Eds.), *The socioecological educator: A 21st Century renewal of physical, health, environment and outdoor education*. Dordrecht, Netherlands: Springer. Retrieved from <https://books.scholarsportal.info/en/readid=/ebooks/ebooks3/springer/2014-04-01/1/9789400771673>
- Wax, D. M. (2008, August 5). 7 essential guidelines for functional design. From *Smashing Magazine* [Website]. Retrieved from <https://www.smashingmagazine.com/2008/08/7-essential-guidelines-for-functional-design/>
- WE-tech Alliance. (2021, January 5). Welcome to the automobility capital of Canada [Blog entry]. <https://www.wetech-alliance.com/2021/01/05/welcome-to-the-automobility-capital-of-canada/>
- Westervelt, M. (2007). Schoolyard inquiry for English language learners. *The Science Teacher*, 74(3), 47-51.
- Westwood, R. (2013, June 18). Early education: This is not a field trip. *Maclean's*. <https://www.macleans.ca/society/life/this-is-not-a-field-trip/#gallery/nature-kindergarten/slide-3>
- Whittington, A. (2006). Challenging girls' constructions of femininity in the outdoors. *Journal*

- of Experiential Education*, (28), 205–221. doi:10.1177/105382590602800304
- Whittington, A., Nixon Mack, E., Budbill, N. W., & McKenney, P. (2011). All-girls adventure programmes: What are the benefits? *Journal of Adventure Education and Outdoor Learning* (11)1, 1–14. doi:10.1080/14729679.2010.505817
- Williams, D. R., & Taylor, S. (1999). From margin to center: Initiation and development of an environmental school from the ground up. In, G. Smith and D. Williams (Eds.), *Ecological education in action: On weaving education, culture, and the environment* (pp. 79-102). New York, NY: State University of New York Press.
- Willis, T. (2001). *Using school grounds for nature studies: An exploratory study of elementary teachers' experiences* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses. ([304732490](#))
- Wood, A. (2021, March 25). Using the sounds we miss to find comfort and community during a pandemic [Article]. In *CNN*. Retrieved from <https://www.cnn.com/2021/03/25/health/virtual-sounds-we-miss-wellness/index.html> I
- Wood, C. (2015, March 1). NEST program gaining attention and popularity. *Coast Reporter*. Retrieved from <https://www.coastreporter.net/news/local-news/nest-program-gaining-attention-and-popularity-1.1775524>
- Wood, K. (2006). The Field of Dreams (and Other Outdoor Classroom Myths). *Green Teacher*, (79), 35-39.
- Woodroffe, S. (2019, January 21). Creek pavilion project moves to garden stage. In *The Coast Reporter*. <https://www.coastreporter.net/local-news/creek-pavilion-project-moves-to-garden-stage-3410024>

- World Organization of the Scout Movement. (n.d.). 57 million Scouts making the world's largest coordinated youth contribution to the SDGs. <https://sdgs.scout.org/>
- Yaman, M. (2005). *The open-air classroom: A preliminary study of outdoor classrooms for primary schools in Malaysia* (Doctoral dissertation, University of Tasmania Schools of Architecture and Education). Retrieved November 1, 2018 from [https://eprints.utas.edu.au/22166/1/whole\\_YamanMaheran2005\\_thesis.pdf](https://eprints.utas.edu.au/22166/1/whole_YamanMaheran2005_thesis.pdf)
- Yeboah, A. (2005, February 14-19). *Education among Native Americans in the periods before and after contact with Europeans: An overview*. Paper presented at The Annual National Association of Native American Studies Conference, Houston, Texas. Retrieved from [https://www2.ed.gov/rschstat/research/pubs/oieresearch/conference/yeboah\\_200502.pdf](https://www2.ed.gov/rschstat/research/pubs/oieresearch/conference/yeboah_200502.pdf)
- Zhou, Q., Mao, J. Y., & Tang, F. (2020). Don't be afraid to fail because you can learn from it! How intrinsic motivation leads to enhanced self-development and benevolent leadership as a boundary condition. *Frontiers in Psychology*. DOI:10.3389/fpsyg.2020.00699
- Zola, G.P. (2006). Jewish camping and its relationship to the organized camping movement in America. In M. M. Lorge and G. P. Zola (Eds.), *A place of our own: The rise of Reform Jewish camping* (pp. 1-26). University of Alabama Press.

## APPENDICES

### Appendix A On-line Questionnaire for Educators



University  
of Windsor

PLEASE READ AND SIGN THIS CONSENT TO PARTICIPATE IN RESEARCH:

**Title of Study:** Teach a Person to Fish: An Examination of the Functionalities of Outdoor Classrooms in Windsor-Essex County

You are asked to participate in a research study conducted by Loretta Sbrocca and Dr. Clinton Beckford from the Faculty of Education at the University of Windsor. Results will be contributed to Loretta Sbrocca's Master of Education thesis. If you have any questions or concerns about the research, please feel free to contact Loretta Sbrocca, Investigator, at [sbrocc1@uwindsor.ca](mailto:sbrocc1@uwindsor.ca), or Dr. Clinton Beckford, Faculty Advisor, at 519-253-3000 Ext. 3804 or [clinton@uwindsor.ca](mailto:clinton@uwindsor.ca).

**ELIGIBILITY TO PARTICIPATE:** Participant must be an adult (18 years or older) educator who has taught activities/lessons/explorations in an outdoor classroom (known hereafter as an "OC") to students/youth aged 4-13 over the past three years with some degree of success, as per the following definitions:

"Educators" are adults (18 years or older) who have earned certification, accreditation and/or formal education that will afford them a professional or expert viewpoint of teaching and learning in the OC based on an alignment to their organization's missions/visions/goals/curriculum.

"Students/youth" are youth aged 4-13 who are under your direction as an educator. They may include classroom students, students on a field trip, visitors to a national park or similar, members of Scouting, Guiding, 4-H and other clubs, youth in a church group, and more.

"Outdoor Classrooms (OCs)" are designated outdoor teaching and learning spaces that include a gathering area (such as but not limited to tree stumps, logs, rocks or benches) such that discussions, lectures and exchanges of ideas can take place in a group setting. OCs may or may not also consist of features such as rain barrels and bird boxes. They may also include natural areas such as a field or a grove or trees, or built-to-appear-natural areas such as ditches, hills, a pond and more.

"Activities/lessons/explorations in the OC" must be based on at least one of the following:



- Curriculum (e.g. school-based, faith-based);
- Formal missions/visions/priorities (e.g. anti-bullying, community partnership, wellbeing, growth mindset);
- Personal development goals (e.g. organizational skills, co-operation, leadership development, building self-esteem).

"Some degree of success" is defined as having led activities/lessons/explorations in an OC about which the educator can say at least one of the following:

- It was as successful as I thought it would be;
- It was more successful than I thought it would be;
- It was less successful than I thought it would be, but I can see it has potential and I will make appropriate changes and try again;
- It yielded successes in ways I did not foresee.

**PURPOSE OF THE STUDY:** This study is designed to:

- Examine the functionalities of outdoor classrooms, that is their natural and structural features, who is using them, for what purposes and to what benefits;
- Encourage thoughtful analysis of functionality, and how this can be used to better the outdoor classroom experience for educators and students, and
- Be useful as a resource and inspiration for policy-makers, administrators and educators across the province.

**PROCEDURES:** If you volunteer to participate in this study, you will be asked to participate in a 20-minute online questionnaire. Participants may withdraw at any time up to the point of final submission. Those who withdraw will have the choice to determine whether questions completed are discarded or used by the Investigator, by sending the Investigator an email at [sbrocc1@uwindsor.ca](mailto:sbrocc1@uwindsor.ca). Those who complete the questionnaire will be asked if they would like to be considered for a follow-up interview by phone, at their convenience and no cost to themselves. They may do this by providing an e-mail address.

**POTENTIAL RISKS AND DISCOMFORTS:** Data Security risk is deemed to be medium for those participants who provide their e-mail address to indicate willingness to be considered for a follow-up interview. Ten days after completion of all follow-up interviews, email addresses will be deleted from those participants' questionnaires, thus de-identifying the questionnaires. There is deemed to be no data security risk for those participants who do not provide their e-mail address to indicate willingness to be considered for a follow-up interview.

**POTENTIAL BENEFITS TO PARTICIPANTS AND/OR SOCIETY:** Participants will benefit from taking inventory of the purposes, benefits and functionalities associated with their use of outdoor classrooms. They may develop a better understanding of functionality and be able to use that to plan new or more beneficial ways to use outdoor classrooms. This will then be information that they can share with colleagues, administration, employers and directors. Educators across Ontario will potentially benefit from new knowledge of how, when and why to use outdoor classrooms. Administration at schools, school boards, churches and other organizations will potentially benefit from knowing more about how, when and why outdoor classrooms are being used, as well as new knowledge about the functionalities of

outdoor classrooms. Directors of Teacher Education programs across Ontario will potentially benefit from new knowledge that will improve how they train pre-service teachers in cross-curricular outdoor classroom use and incorporating Environmental Education into all subjects.

**COMPENSATION FOR PARTICIPATION:** Participants who complete the questionnaire will be eligible to enter a draw for a \$20 Indigo e-gift card. Each participant has the choice to indicate their interest in doing so by providing an e-mail address for contact in the event they win. Entering the draw is voluntary. Only those who provide an e-mail address can be contacted in the event they win. One entry per person. Multiple entries from the same person will result in their disqualification from the prize draw. All e-mail addresses will be deleted from collected data upon the winner's receipt of the e-gift card.

**CONFIDENTIALITY:** This research has been cleared by the University of Windsor Research Ethics Board. You are under no obligation to provide the name of your employer or the organization for which you teach, and the Investigator will not request this information. If you wish to discuss your employer or organization in a text answer, the use of phrases such as "my school," "my church" or "the park" is recommended. In the event of accidental naming of your employer or organization, this information will remain confidential. Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission. Questionnaire data will be maintained in the Investigator's password-protected Qualtrics account (Qualtrics being the University of Windsor's approved survey platform) until the questionnaire closes, then deleted from Qualtrics within three days. Questionnaire data will thereafter be maintained on a portable hard drive stored in the Investigator's flood-and fire-proof, password-protected safe for the duration of time the Investigator is using the data, then deleted from said hard-drive. E-mail addresses of those who enter the draw will be deleted upon the winner's receipt of the e-gift card. E-mail addresses of those who indicate willingness to be contacted for a follow-up interview will be deleted from the data ten days after all interviews are completed.

**PARTICIPATION AND WITHDRAWAL:** Participation is voluntary. Participants may leave the questionnaire by closing their browser, but can only return by using the same computer. Participants may withdraw from the questionnaire at any time and indicate whether questions completed are discarded or may be used by the Investigator by emailing the Investigator at [sbrocc1@uwindsor.ca](mailto:sbrocc1@uwindsor.ca). Participants who do not provide their email address to be considered for a follow up interview cannot withdraw their data once they have submitted their questionnaire, as their questionnaire will not be identifiable. Participants who provide their email address to be considered for a follow up interview cannot withdraw their data once the Investigator has removed their email address from their questionnaire (ten days after all interviews have been completed). The Investigator may withdraw you from this research if circumstances arise which warrant doing so.

**FEEDBACK OF THE RESULTS OF THIS STUDY TO THE PARTICIPANTS:** A digital summary of results of this study will be distributed to the Directors of Education of all four local school boards (English Catholic, English public, French Catholic and French public). The summary will be posted on the project Facebook page. The summary will also be sent to administrators of any and all organizations that were involved in recruitment, and other

appropriate organizations that may potentially benefit, such as Point Pelee National Park, Girl Guides Canada, private schools, the Essex Region Conservation Authority, etc. Results from this study will also be available on the University of Windsor Research Ethics Board website: <https://scholar.uwindsor.ca/research-result-summaries/>, and the completed thesis will be available at the Leddy Library Electronic Theses and Dissertations site: [https://scholar.uwindsor.ca/education\\_etd/](https://scholar.uwindsor.ca/education_etd/).

**SUBSEQUENT USE OF DATA:** These data may be used in subsequent studies, in publications and in presentations.

**RIGHTS OF RESEARCH PARTICIPANTS:** If you have questions regarding your rights as a research participant, contact: Research Ethics Coordinator, University of Windsor, Windsor, Ontario, N9B 3P4; Telephone: 519-253-3000, ext. 3948; email: [ethics@uwindsor.ca](mailto:ethics@uwindsor.ca)

**SIGNATURE OF RESEARCH INVESTIGATOR:**

These are the conditions under which I will conduct this research.

Investigator's Name : LORETTA SBROCCA

## Q2 SIGNATURE OF RESEARCH PARTICIPANT

I understand the information provided for the study “Teach a Person to Fish: An Examination of the Functionalities of Outdoor Classrooms in Windsor-Essex County” as described herein. My questions have been answered to my satisfaction, and I agree to participate in this study.

By selecting “I agree,” you are consenting to the conditions described above and agree to participate in this questionnaire.

- ☐ I agree
- ☐ I disagree

Q3 What is your experience teaching in an OC? Check all that apply.  
(Laptop users may hover over blue text to review the definition).

- ☐ Publicly-funded school
- ☐ Private School
- ☐ Reserve School
- ☐ Church or Faith-based Organization
- ☐ Environmental Organization or Site
- ☐ Youth Development Organization (Scouts, Guides, 4-H, Junior Achievement, etc.)
- ☐ Historic Organization or Site
- ☐ Agricultural Organization
- ☐ Language Instruction or Tutoring
- ☐ Library
- ☐ Other \_\_\_\_\_

Q4 Have you participated in any teacher training or professional development regarding using OCs?

- ☐ Yes (Brief description) \_\_\_\_\_
- ☐ No
- ☐ Unsure

Q5 THE FOLLOWING QUESTIONS ARE ABOUT **FEATURES** OF THE OC IN WHICH YOU'VE TAUGHT\*.

\*If you've taught with success at more than one OC in the last three years, please choose **only one OC** to reference for this entire questionnaire.

Does this OC contain any of the following features? Check all that apply:

- ☐ Larger infrastructure (large stationary rocks, pavilion, sandbox, box garden, chalkboard, etc.)
- ☐ Smaller infrastructure (bird house, bat house, rain barrel, etc.)
- ☐ Items that can be re-positioned (picnic tables, tree stumps, logs, carts, etc.)
- ☐ Green Space to use along with the OC (trees, field, forest, butterfly garden, etc.)
- ☐ Blue Space to use along with the OC (pond, marsh, etc.)
- ☐ Brown space to use along with the OC (garden in the ground, rooftop garden, trail, dirt or gravel area)
- ☐ Permanent Technology (solar panels, wifi, wind turbine, etc.)

Q6 You indicated LARGER INFRASTRUCTURE. Please check all that apply.

- ☐ Large, stationary rocks
- ☐ Pergola/Pavilion/Picnic Shelter
- ☐ Bleacher- or auditorium-style seating
- ☐ Sandbox
- ☐ Chalkboard/Whiteboard
- ☐ Greenhouse
- ☐ Box garden
- ☐ Rooftop Garden
- ☐ Other \_\_\_\_\_

Q7 You indicated SMALLER INFRASTRUCTURE. Please check all that apply.

- ☐ Rocks to play with
- ☐ Wood chips to play with
- ☐ Bird house(s)
- ☐ Bat house(s)
- ☐ Other(s) \_\_\_\_\_

Q8 You indicated ITEMS THAT CAN BE RE-POSITIONED. Please check all that apply:

- ☐ Tables
- ☐ Easels
- ☐ Bicycles
- ☐ Carts
- ☐ Tree stumps
- ☐ Other(s) \_\_\_\_\_

Q9 You indicated GREEN SPACE TO USE ALONG WITH THE OC. Please check all that apply:

- ☐ Grass/Field (mown)
- ☐ Ornamental grasses (not mown)
- ☐ Trees (planted)
- ☐ Forested area: a large area of trees and bushes in various stages of growth, inhabited by small animals, typically left to grow on its own without pruning
- ☐ Meadow: field of long grasses and wildflowers, not mown, perhaps near water, inhabited by small animals and birds
- ☐ Others(s) \_\_\_\_\_

Q10 You indicated BLUE SPACE TO USE ALONG WITH THE OC. Please check all that apply:

- ☐ Pond: small, enclosed, made of mostly water
- ☐ Swamp: poorly drained area, continuously wet, sustains trees and woody plants
- ☐ Marsh: low-lying wetland, sustains grasses, reeds and cattails
- ☐ Stream, creek, river, ditch
- ☐ Lake
- ☐ Other(s) \_\_\_\_\_

Q11 You indicated BROWN SPACE TO USE ALONG WITH THE OC. Please check all that apply:

- ☐ Garden in the ground (Vegetable, herb, flower?)  
\_\_\_\_\_
- ☐ Trail
- ☐ Dirt patch
- ☐ Gravel patch
- ☐ Wood Chip patch
- ☐ Other \_\_\_\_\_

Q12 You indicated PERMANENT TECHNOLOGY. Please check all that apply:

- ☐ Solar panel(s)
- ☐ Outlet(s)
- ☐ Wi-fi access
- ☐ Wind turbine(s)
- ☐ Other(s) \_\_\_\_\_

Q13 Does this OC contain any other features you'd like to mention?

---

Q14 In which season(s) do/did you typically use this OC for teaching? Check all that apply:

Summer: (June – September)  
Fall: (September – December)  
Winter (December – March)  
Spring: (March – June)

Q15 THE FOLLOWING QUESTIONS ARE ABOUT YOUR **PURPOSES** FOR TEACHING IN AN OC.

Have you engaged your students in **play-based learning** in this OC?

Yes

No

Unsure

Q16 Have you engaged your students in **place-based education** in this OC?

Yes

No

Unsure

Q17 Have you engaged your students in **health-based** activities in this OC? Check all that apply or leave blank if none apply:

- ☐ Nutrition
- ☐ Healthy Lifestyle
- ☐ Learning to dress for the weather
- ☐ Body-knowledge (heart rate, body temperature, function of body parts, etc.)
- ☐ Body Confidence Development
- ☐ Spiritual Health
- ☐ Mental Health
- ☐ Other(s) \_\_\_\_\_

Q18 Have you engaged your students in **physical development** activities in this OC? Check all that apply or leave blank if none apply:

- ☐ Phys Ed Class (must include OC features, e.g. obstacle course using logs, chin-ups on a tree branch, trail-running, running down a hill, etc.)
- ☐ Gross Motor Skills Development (using larger muscles in arms, legs and torso)
- ☐ Fine Motor Skills Development (using small muscles in hands, fingers and thumbs)
- ☐ Warm Weather Physical Activities (e.g. yoga, digging a garden)
- ☐ Cold Weather Physical Activities (e.g. using toboggans, building a lean-to)
- ☐ Stamina Activities
- ☐ Development of Balance
- ☐ Other(s) \_\_\_\_\_

Q19 Have you engaged your students in **language-based** activities in this OC? Check all that apply or leave blank if none apply:

- ☐ Literacy
- ☐ Reading
- ☐ Writing
- ☐ Storytelling
- ☐ Journaling
- ☐ Singing Songs for Recreation
- ☐ Other(s) \_\_\_\_\_

Q20 Have you engaged your students in **math-based** activities in this OC? Check all that apply or leave blank if none apply:

- ☐ Numeracy (learning to understand and work with numbers)
- ☐ Collecting Data
- ☐ Mathematical Problem-solving
- ☐ Geometry (incl. area and perimeter)
- ☐ Structural Engineering
- ☐ Other(s) \_\_\_\_\_

Q21 Have you engaged your students in **Arts-based** activities in this OC? Check all that apply or leave blank if none apply:

- ☐ Sketching
- ☐ Painting
- ☐ Creating art with natural objects
- ☐ Making music w/ instruments
- ☐ Making music w/ natural objects
- ☐ Crafts
- ☐ Drama
- ☐ Dancing
- ☐ Sculpture, Clay
- ☐ Weaving
- ☐ Photography
- ☐ Other(s) \_\_\_\_\_

Q22 Have you engaged your students in **science-based** activities in this OC? Check all that apply or leave blank if none apply:

- ☐ Exploration
- ☐ Field Study, including sampling,collecting



- ☐ Learning to use scientific equipment
- ☐ Environmental Science/Sustainability
- ☐ Gardening
- ☐ Physical science (e.g. properties of matter, chemistry experiments, etc.)
- ☐ Life sciences (biology, botony, ecology)
- ☐ Agriculture/Food Science
- ☐ Astronomy
- ☐ Other(s) \_\_\_\_\_

Q23 Have you engaged your students in **geograpahy/history/social science** activities in this OC? Check all that apply or leave blank if none apply:

- ☐ Rock Study
- ☐ Soil Study
- ☐ Water study
- ☐ Environmental/Sustainability Education
- ☐ Community Project (e.g. cleanup, erosion control, neighbourhood garage sale, creating neighbourhood history book)
- ☐ Storytelling
- ☐ Activity with a Community Partner or Elder
- ☐ Learning About/Engaging in Historical Activities (e.g. collecting sap, weaving, harvesting)
- ☐ Social Justice Education/Activism
- ☐ Disability Education/Activism
- ☐ Other(s) \_\_\_\_\_

Q24 Have you engaged your students in **second/additional languages** activities in this OC? Check all that apply or leave blank if none apply:

- ☐ Structured French Lessons
- ☐ Games for Learning French
- ☐ Casual or Incidental French conversation
- ☐ Structured English Lessons
- ☐ Games for Learning English
- ☐ Casual or Incidental English Conversation
- ☐ Structured Lessons for Other Language(s) (List)
- \_\_\_\_\_
- ☐ Games for Learning Other Language(s) (List)
- \_\_\_\_\_
- ☐ Casual or Incidental Conversation in Other Language(s) (List)
- \_\_\_\_\_
- ☐ Other Activity/Activities \_\_\_\_\_

Q25 Have you engaged your student in First Nations **Métis** Inuit activities in this OC? Check all that apply or leave blank if none apply:

- ☐ Storytelling
- ☐ Principles of Learning
- ☐ Traditional Artistry
- ☐ Traditional Music
- ☐ Spiritual Values
- ☐ Environmental Values
- ☐ Learning a language(s) (please list) \_\_\_\_\_
- ☐ Other(s) \_\_\_\_\_

Q26 Have you engaged your students in **personal development** activities in this OC? Check all that apply or leave blank if none apply:

- ☐ Developing Self-esteem
- ☐ Developing Self-regulation Skills
- ☐ Developing Positive Body-image
- ☐ Developing a Growth Mind-set
- ☐ Developing Social Skills
- ☐ Developing Leadership Skills
- ☐ Developing Trust
- ☐ Increasing Social Justice Awareness
- ☐ Anti-Bullying Education
- ☐ Developing Compassion
- ☐ Developing Empathy
- ☐ Developing Confidence
- ☐ Improving Relations Among Students
- ☐ Yoga or Tai-chi
- ☐ Meditating/Mindfulness
- ☐ Other(s) \_\_\_\_\_

Q27 Have you engaged your students in learning **life skills** activities in this OC? Check all that apply or leave blank if none apply.

- ☐ Building a Fire
- ☐ Cooking
- ☐ Swimming
- ☐ Decision Making
- ☐ Problem Solving
- ☐ First Aid/CPR
- ☐ Using Technology (GIS, Apps)
- ☐ Map-Reading

☐ Other(s) \_\_\_\_\_

**Q28 THE FOLLOWING QUESTIONS ARE ABOUT BENEFITS OF TEACHING AND LEARNING IN THE OC.** You are still referencing your one chosen OC in which you've experienced some degree of success in the last three years.

Have you perceived any of the following **benefits to learning** in your students of the last three years, as a result of time spent in this OC under your instruction? Check all that apply:

- ☐ Understood topic better
- ☐ Learned more about the topic
- ☐ Improved learning skills
- ☐ Increased communication skills
- ☐ Improved co-operation skills
- ☐ Increased creativity
- ☐ Improved language skills
- ☐ Improved gross or fine motor skills
- ☐ Increased physical activity

**Q29** Have you perceived any of the following **benefits to personal development** in your students of the last three years, as a result of time spent in this OC under your instruction? Check all that apply:

Calmness, peacefulness, ability to relax

- ☐ Growth mindset
- ☐ Better student-teacher rapport
- ☐ More appreciative
- ☐ Decrease in bullying behaviour
- ☐ Increase in anti-bullying behaviour
- ☐ Improved social skills
- ☐ Improved self-esteem, body image
- ☐ Improved leadership skills

**Q30** Have you perceived other benefits to students not listed above?

---

**Q31** Have you yourself experienced any benefits as a result of your time spent teaching in this OC in the last three years? Check all that apply:

- ☐ Improved teaching skills
- ☐ Feeling more calm, relaxed, peaceful
- ☐ Better rapport with students
- ☐ Better rapport with colleague(s), administrator(s)
- ☐ Willing to give a student a 'clean slate'
- ☐ Growth mindset about new experiences
- ☐ Improved self-esteem, self-awareness, body image
- ☐ Happier
- ☐ Increased or improved physical activity
- ☐ Improved creativity
- ☐ Other(s) \_\_\_\_\_

Q32 How do benefits to yourself and your students impact you as an educator?

---

Q33 THE FOLLOWING QUESTIONS ARE ABOUT FUNCTIONALITY (that is, how the OC is well-suited to serve its purposes and meet the needs of its users).

Which of the following contribute to the functionality of your chosen OC? That is, how is the OC well-suited to serve its purposes, meet your needs and the needs of your students? Check all that apply:

- ☐ Provides more space than indoor classroom
- ☐ Sound is transmitted differently than indoors
- ☐ Different lighting and/or shadows than indoors
- ☐ Better air flow than indoors
- ☐ Distant from indoor classrooms
- ☐ Close to indoor classrooms
- ☐ Includes variety of textures ☐
- ☐ Lack of walls
- ☐ Built on geographically, historically or culturally significant location
- ☐ Includes calming features
- ☐ Contains living things
- ☐ Sheltered from the wind
- ☐ Allows us to experience the wind
- ☐ Includes variety of sights/sounds/smells of nature
- ☐ Presence of green space, blue space (e.g. pond) and/or brown space (e.g. soil, rocks)
- ☐ Features of OC are moveable, adaptable
- ☐ Gives access to changing seasons
- ☐ Gives access to changing surroundings
- ☐ It is pedagogically relevant
- ☐ It is relevant to my school's/organization's priorities
- ☐ It helps create spiritual connections
- ☐ It helps create social connections
- ☐ It helps enhance mental health

☐ Other(s) \_\_\_\_\_

Q34 How often do you consider functionality when planning activities/lessons/explorations in any OC?

- ☐ Never
- ☐ Sometimes
- ☐ About half the time
- ☐ Most of the time
- ☐ Always
- ☐ Unsure

Q35 How does functionality impact your use of OCs?

Q36 Is there anything else you have to add about OCs in general?

[Q37-39 verify respondents' interest/non-interest in being part of the follow-up interview, and collect and verify e-mail address if respondent is interested. These questions and responses have been deleted from the questionnaire as per de-identifying procedures.]

Q40 Final question... What is the likelihood that you will consider **functionality** when planning OC activities/lessons/explorations now that you've participated in this questionnaire?

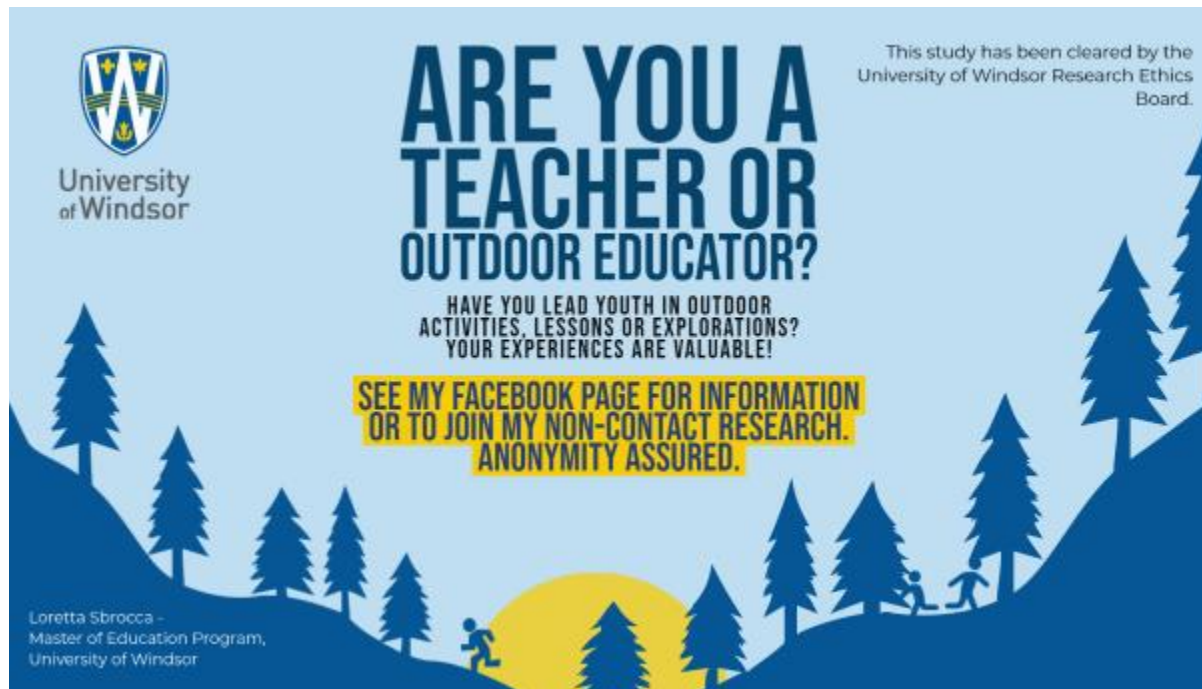
- ☐ Extremely likely
- ☐ Somewhat likely
- ☐ Neither likely nor unlikely
- ☐ Somewhat unlikely
- ☐ Extremely unlikely

Q41 Thank you for completing this survey. Would you like to enter a draw for a \$20 Indigo e-gift card? Your email address will remain private and be deleted once the prize is awarded.

To enter the draw, open this [LINK](#).

OR, click SUBMIT to end this questionnaire.

## Appendix B Basic Recruitment Poster



## Appendix C List of Places I Contacted to Promote and Invite to Join My Research

NAME	SCH/ORG		PROJ EMAIL	LINKED IN	PROJ FB	OTHER
Amherstburg Freedom Museum		✓	✓			
Caldwell First Nations		✓		✓	✓	
Canadian Historical Aircraft Museum		✓	✓			
Canadian Museums Association		✓	✓	✓		
Canadian Transportation Museum and Heritage Village		✓	✓			
Centre for English Language Development, University of Windsor		✓				✓
Chimczuk Museum		✓	✓			
Essex County 4H Association		✓			✓	
Essex Region Conservation Authority		✓	✓	✓		✓
Essex Steam Engine Museum		✓	✓			
Fort Malden National Historic Site		✓	✓			
Friends of Ojibway Prairie		✓		✓		
Multicultural Council Windsor		✓		✓		
Park House Museum		✓	✓			
Pelee Island Bird Observatory		✓	✓	✓		
Point Pelee National Park		✓		✓		✓
South Essex Community Council for Language Instructors		✓				✓
Turtle Island, University of Windsor		✓				✓
WE-SPARK Health		✓				✓
Académie Ste Cécile	✓				✓	
Al Hijra Academy	✓			✓		
Al-Sadeq Academy	✓				✓	
An-Noor Private School	✓				✓	
Educators at Greater Essex County District School Board*	✓					✓
Educators at Windsor Essex Catholic District School Board*	✓					✓
Lakeview Montessori School	✓			✓		
Maranatha Christian Academy Windsor	✓				✓	
Montessori Academy of Windsor	✓				✓	
South Windsor School of Music	✓				✓	

St. Peter's ACHS College School	✓		✓			
University of Windsor Faculty of Education	✓					✓

\*These contacts and promotions were based on people I knew to be educators at these boards, who approached me first.



## **Appendix D List of Places I Contacted to Promote and Invite to Join My Research**

Subject Line: Seeking Educators for Thesis Research

Dear [full name]:

I'm a Master of Education student at the University of Windsor, researching outdoor classrooms in Windsor-Essex County.

I'm currently recruiting educators of all kinds (including teachers, curators, historians, environmental educators, faith leaders, Elders, youth development organization leaders and the like) who have lead youth in activities and explorations in the outdoors to take a 20-minute questionnaire about their experiences.

If you, your colleagues or volunteers at the [location] would like to participate in my study, I invite you to check out the details on my Facebook page (<https://facebook.com/OutdoorClassStudy>) or reply to this email address for more information.

Feel free to share this email with other educators who have taught youth in the outdoors who may be interested.

Thank you for your consideration.

Sincerely,

Loretta Sbrocca

University of Windsor

## Appendix E Letter to Educator Who Has Expressed Interest in Participating in the Questionnaire

Dear Educator,

Thank you for your interest in participating in “Teach a Person to Fish: An Examination of the Functionalities of Outdoor Classrooms in Windsor-Essex County.” This research is being conducted by Loretta Sbrocca and Dr. Clinton Beckford from the Faculty of Education at the University of Windsor. Results will contribute to Loretta Sbrocca’s Master of Education thesis.

This study is designed to:

- Examine the functionalities of outdoor classrooms, that is their natural and structural features, who is using them, for what purposes and to what benefits;
- Encourage thoughtful analysis of functionality, and how this can be used to better understand the outdoor classroom experience for educators and students; and
- Be useful as a resource and inspiration for policy-makers, administrators and educators across the province.

**PLEASE READ THE FOLLOWING STATEMENT AND DEFINITIONS CAREFULLY TO DETERMINE IF YOU ARE ELIGIBLE TO PARTICIPATE:**

*Participant must be an adult (18 years or older) educator who has taught activities/lessons/explorations in an outdoor classroom (known hereafter as an “OC”) to students/youth aged 4-13 within the past three years with some degree of success, as per the following definitions:*

*"Educators" are adults (18 years or older) who have earned certification, accreditation and/or formal education that will afford them a professional or expert viewpoint of teaching and learning in the OC based on an alignment to their organization's missions/visions/goals/curriculum. This could include classroom teachers, Parks Canada or Ontario Parks educators, museum curators, leaders of Scouting, Guiding or 4-H groups, pastors, elders and more.*

*"Students/youth" are youth aged 4-13 who are under your direction as an educator. They may include classroom students, students on a field trip, visitors to a national park or similar, members of Scouting, Guiding, 4-H and other clubs, youth in a church group, and more.*

*"Outdoor Classrooms (OCs)" are designated outdoor teaching and learning spaces that include a gathering area (such as but not limited to tree stumps, logs, rocks or benches) such that discussions, lectures and exchanges of ideas can take place in a group setting. OCs may or may not also consist of features such as rain barrels and bird boxes. They may also include natural areas such as a field or a grove or trees, or built-to-appear-natural areas such as ditches, hills, a pond and more.*

*"Activities/lessons/explorations in the OC" must be based on at least one of the following:*

- *curriculum (e.g. school-based, faith-based);*
- *formal missions/visions/priorities (e.g. anti-bullying, community partnership, wellbeing, growth mindset);*
- *personal development goals (e.g. organizational skills, co-operation, leadership development, building self-esteem).*

*"Some degree of success" is defined as having led activities/lessons/explorations in an OC about which the educator can say at least one of the following:*

- *It was as successful as I thought it would be;*
- *It was more successful than I thought it would be;*
- *It was less successful than I thought it would be, but I can see it has potential and I will make appropriate changes and try again;*
- *It yielded successes in ways I did not foresee.*

If you have determined that you're eligible to participate and wish to receive the link for the questionnaire, please REPLY to this email with the statement "YES I'M ELIGIBLE TO PARTICIPATE" as your first line of text.

Those who complete the questionnaire may decide to enter a random draw for a \$20 e-gift card from Indigo.

If you have any questions or are unsure if you meet the criteria, please REPLY to this email with your questions and I'll get back to you within 48 hours (check your Spam/Junk Mail or send your question again if you don't receive a reply within that time).

Thank you again for your interest! Your experiences as an educator are valuable! This questionnaire will be open until April 11, 2021.

Sincerely,

Loretta Sbrocca

Master of Education Candidate,  
University of Windsor

N.B. When necessary, I embedded the link in this email in order to save the number of steps required to secure the participant (due to online fatigue based on COVID restrictions), by replacing this paragraph...

"If you have determined that you're eligible to participate and wish to receive the link for the questionnaire, please REPLY to this email with the statement "YES I'M ELIGIBLE TO PARTICIPATE" as your first line of text."

...with this paragraph:

“If you're eligible to participate in the questionnaire, the link is [https://uwindsor.ca1.qualtrics.com/jfe/form/SV\\_a2BtTXc6m6i71pX](https://uwindsor.ca1.qualtrics.com/jfe/form/SV_a2BtTXc6m6i71pX)”

## **Appendix F Generic Correspondence Revealing Questionnaire Link To Educators Who Indicated Qualification to Participate**

Subject Line: Re: I'd like to participate

Thank you so much!

Here's the link: [https://uwindsor.ca1.qualtrics.com/jfe/form/SV\\_a2BtTXc6m6i71pX](https://uwindsor.ca1.qualtrics.com/jfe/form/SV_a2BtTXc6m6i71pX)

If you know others in Windsor-Essex County who may qualify and be interested, please feel free to share this email with them.

If you have any questions, please don't hesitate to contact me at this address or the at the contact information provided in the Letter of Consent (the first question in the questionnaire).

This questionnaire is open until April 11, 2021. The e-gift card will be awarded after the closing of the questionnaire.

Sincerely,

Loretta

## **Appendix G Letter to Set Up Follow-Up Phone Interview**

Subject Line: Outdoor Classroom Research Study

Dear (name),

Thank you for filling out the Questionnaire portion of “Teach a Person to Fish: An Examination of the Functionalities of Outdoor Classrooms in Windsor-Essex.” You have been selected to be an interview participant based on your indicated willingness to participate and my interest in the following:

- (Example: Your indicated use of the outdoor classroom throughout the winter months)
- (Example: Your comment that you have “always considered functionality above all else”)

Attached please find the Letter of Consent. Please read it and make sure you understand it. Take the time you need to get any questions you may have answered, then please send me a digital copy of the signed Letter of Consent. This can be done by scanning the Letter or taking a clear, legible photo of all the pages of the Letter of Consent and sending them to me. If none of these options are available, I can ask you for your agreement to the conditions of the Letter of Consent at the commencement of the interview, and your response will be audio-recorded.

You will also need to reply to me with your availability in the next week for an interview. I’ll e-mail you to finalize an interview date and time, and obtain your phone number to call you with my landline phone. Phone numbers will not be recorded by the audio-recording device, as the device is not attached to my phone. Phone numbers will be deleted from my phone after completing the interview. I invite you to choose a pseudonym for yourself, which I’ll ask for before audio-recording begins. I will choose a colour-based pseudonym for your school or organization and tell you before the recording begins, so you can use it during the interview.

Thank you again for your time and assistance in completing this study.

Kindest Regards,

Loretta Sbrocca

Master of Education Candidate

University of Windsor

## **Appendix H Generic Letter to Questionnaire Participants Not Chosen for Follow-Up Interview**

Dear Educator,

Thank you for participating in the questionnaire portion of this study and for your indicated willingness to participate in a follow-up interview. At this time, you have not been selected to participate in the interview, but your e-mail address will be kept on file until the completion of the study should there be need for additional interview participants.

Kindest Regards,

Loretta Sbrocca  
Master of Education Candidate  
Faculty of Education  
University of Windsor

## **Appendix I Letter of Consent to Participate in Follow-Up Phone Interview**



University  
of Windsor

### **CONSENT TO PARTICIPATE IN RESEARCH**

**TITLE OF STUDY:** “Teach a Person to Fish: An Examination of the Functionalities of Outdoor Classrooms in Windsor-Essex County”

You are asked to participate in a research study conducted by Loretta Sbrocca and Dr. Clinton Beckford from the Faculty of Education at the University of Windsor. The results of this study will contribute to the completion of Loretta Sbrocca’s Master of Education thesis. If you have any questions or concerns about the research, please feel free to contact Loretta Sbrocca at [sbrocc1@uwindsor.ca](mailto:sbrocc1@uwindsor.ca), or Dr. Clinton Beckford (Faculty Advisor) at 519-253-3000 Ext. 3804, or by email at [clinton@uwindsor.ca](mailto:clinton@uwindsor.ca).

### **PURPOSE OF THE STUDY**

This study is designed to:

- a. Examine the functionalities of outdoor classrooms in Windsor-Essex County, that is how their design and features help them serve their purposes;
- b. encourage thoughtful analysis of functionality, and how this can be used to better the outdoor classroom experience for educators and students, and;
- c. be useful as a resource and inspiration for policy-makers, administrators and educators across the province.

### **PROCEDURES**

If you volunteer to participate in this study, you will be asked to complete a 20-30 minute phone interview with the Investigator, at your convenience and at no cost to you. Scheduling will take place by e-mail. The majority of the phone interview will be audio-recorded to facilitate transcription of the interview. The interview will be directly based on your questionnaire responses. You will be asked to come up with a pseudonym for yourself to use for the interview and in text. Following the interview, the Investigator may contact you by e-mail only to clarify words that didn’t come through clearly on the audio recording, but for no other reason.

### **POTENTIAL RISKS AND DISCOMFORTS**

There is deemed to be a low risk of dual/multiple relationships between interview participants and the Investigator due to the Investigator’s employment and volunteer history in the broad field of education. There is deemed to be a low risk of Data Exposure, as the original audio recording is not password protected and voices may be recognizable. To address this, the original audio recording will be downloaded to a password protected file and deleted from the audio-recording device. Once it is transcribed and unclear words have been clarified, the password protected



audio recording will be deleted and the transcriptions will be maintained under password protection. Also, pseudonyms are used for names of participants and their affiliations during the recorded portion of the interview.. The Investigator will delete the participant's real name from the master pseudonyms-to-names list ten days after the completion of each participant's interview.

### **POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY**

The potential benefit to participants in this interview is an opportunity for guided reflection regarding successful teaching experiences in outdoor classrooms. Participants may also develop a better understanding of functionality and be able to use that to plan new or more beneficial ways to use outdoor classrooms. This will then be information that they can share with colleagues, administration, employers and directors.

Educators across Ontario will potentially benefit from new knowledge of how, when and why to use outdoor classrooms. Administration at schools, school boards, churches and other organizations will potentially benefit from knowing more about how, when and why outdoor classrooms are being used, as well as new knowledge about the functionalities of outdoor classrooms. Directors of Teacher Education programs across Ontario will potentially benefit from new knowledge that will improve how they train pre-service teachers in cross-curricular outdoor classroom use and incorporating environmental Education into all subjects.

### **COMPENSATION FOR PARTICIPATION**

Participants who complete the interview will be asked if they would like to enter a draw for a \$20 Indigo e-gift card. Chances of winning depend on number of participants. The winner will be notified by e-mail.

### **CONSENT FOR AUDIO-RECORDING**

I consent to the audio-recording of this interview. I understand these are voluntary procedures and I am free to withdraw at any time by requesting verbally that the recording be stopped. I also understand that my name will not be revealed to anyone and that a pseudonym of my choosing will be used in all written and audio-recorded spoken material.

After the completion of the interview, the original audio-recording will be saved as a file by pseudonym only and stored on a password-protected computer. The original audio-recording will then be deleted. The audio-file will be kept confidential and deleted after transcription, including clarification by e-mail of any words that didn't come through clearly. The transcript of the recording will be kept confidential and maintained in a password-protected folder.

After the audio-recording has finished, the Investigator will delete my phone number from her phone, and I will delete her phone number from my phone. Any additional contact for clarification of unclear words will be done by e-mail.

### **CONFIDENTIALITY**

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission. You will not be asked to identify yourself, your school, the organization for which you teach or your students in the

audio-recording. Apseudonym of your choosing will be used in all audio-recorded and published material.

All audio and digital files will be maintained by password protection. Audio-files will be deleted after transcription and clarification. The e-mail addresses of those participants who do not wish to enter the gift card draw will be deleted after transcription and clarification. The e-mail addresses of those participants who enter the gift card draw will be deleted after the prize has been successfully delivered. Transcriptions will be maintained by password protection for ten years, then destroyed. Any written transcriptions will be maintained in a locked file box for ten years, then shredded.

### **PARTICIPATION AND WITHDRAWAL**

Participation in this interview is voluntary. You have the right to withdraw from this interview at any point during the interview. You have the right to decide if any data collected is used by the investigator as planned or deleted. You have the right to withdraw data collected from this interview for ten days following the end of the interview. The investigator may withdraw you from this research if circumstances arise which warrant doing so. Only those who complete the interview will have the option to be entered into the draw for the \$20 Indigo egift card.

### **FEEDBACK ON THE RESULTS OF THIS STUDY TO THE PARTICIPANTS**

A summary of results of this study will be sent to the principals of all elementary schools within the Simcoe County District School Board and to the SCDSB Director of Education for circulation to all SCDSB staff; no names, email addresses or personal identifiers will be included. Principals will be instructed not to assume that any of their staff has or has not participated based on their receiving the summary. Results from this study will also be available on the University of Windsor Research Ethics Board website:

<https://scholar.uwindsor.ca/research-result-summaries/>. \*

### **SUBSEQUENT USE OF DATA**

These data may be used in subsequent studies, in publications and in presentations.

### **RIGHTS OF RESEARCH PARTICIPANTS**

If you have questions regarding your rights as a research participant, contact: Research Ethics Coordinator, University of Windsor, Windsor, Ontario, N9B 3P4; Telephone: 519-253-3000, ext. 3948; email: [ethics@uwindsor.ca](mailto:ethics@uwindsor.ca)

### **SIGNATURE OF RESEARCH PARTICIPANT/LEGAL REPRESENTATIVE**

I understand the information provided for the study “TEACH A PERSON TO FISH: AN EXAMINATION OF THE FUNCTIONALITIES OF OUTDOOR CLASSROOMS IN WINDSOR-ESSEX COUNTY” as described herein. My questions have been answered to my satisfaction, and I agree to participate in this study.

I agree to delete the Investigator’s phone number from my phone as soon as the audio-recorded interview has ended.

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Name of Participant

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Signature of Participant

---

Date

These are the conditions under which I will conduct this research

\*NB: In error, I neglected to revise the text for the “FEEDBACK ON THE RESULTS OF THIS STUDY TO THE PARTICIPANTS” section from the earliest version of this consent form (targeted at teachers working in the Simcoe County District School Board). This section *should have* read the same as it read in the Consent to Participate in the Questionnaire, which is thus:

“A digital summary of results of this study will be distributed to the Directors of Education of all four local school boards (English Catholic, English public, French Catholic and French public). The summary will be posted on the project Facebook page. The summary will also be sent to administrators of any and all organizations that were involved in recruitment, and other appropriate organizations that may potentially benefit, such as Point Pelee National Park, Girl Guides Canada, private schools, the Essex Region Conservation Authority, etc. Results from this study will also be available on the University of Windsor Research Ethics Board website: <https://scholar.uwindsor.ca/research-result-summaries/>, and the completed thesis will be available at the Leddy Library Electronic Theses and Dissertations site: [https://scholar.uwindsor.ca/education\\_etd/](https://scholar.uwindsor.ca/education_etd/).”

There were no questions from participants regarding the mix-up.

## Appendix J Generic Letter to Accompany Two-Page Infographic

Dear [full name],

Having recently completed my Master of Education thesis for the University of Windsor Faculty of Education on the functionality of **outdoor classrooms**, I thought you might appreciate and benefit from this two-page infographic (attached) explaining the highlights of my findings.

In this primary research, outdoor classrooms are not limited to schoolyard structures, but include any designated outdoor learning space that includes a gathering location for instruction and discussion to take place—meaning that parks, environmental or historic sites, museums, galleries, reserves, places of worship and other non-school settings may contain outdoor classrooms.

I invite you to share this infographic with your educators, administrators and staff. It is my goal to communicate experiences and the concept of functionality, to promote use and development of outdoor classrooms across the province, and to encourage teacher training programs to consider outdoor education in their curricula.

Please note that your having received this infographic is in no way is meant to suggest that an employee or volunteer of your organization took part in the research.

To see my full thesis, please check the University of Windsor repository for Education Theses, Dissertations and Major Papers at [https://scholar.uwindsor.ca/education\\_etd/](https://scholar.uwindsor.ca/education_etd/). If you wish to contact me, feel free to write me at my University of Windsor email ([sbrocc1@uwindsor.ca](mailto:sbrocc1@uwindsor.ca)) or contact my adviser, Dr. Clinton Beckford, at [clinton@uwindsor.ca](mailto:clinton@uwindsor.ca).

Thank you for your time, and happy reading!

Loretta Sbrocca, B.A., B.Ed., M.Ed  
University of Windsor

## VITA AUCTORIS

NAME: Loretta M. Sbrocca

PLACE OF BIRTH: Windsor, ON

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