Outdoor Learning and Teacher Well-Being

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Abstract

Teacher attrition and burnout is a significant problem in North American education (Valtierra, 2016). Meanwhile, humans are increasingly disconnected from the natural world, at a time in our history when it is essential that we understand Nature and our place in it. In hopes of promoting and facilitating outdoor learning as a pedagogy in order to both increase our connection to Nature and improve teacher well-being, this study sought to discover how a teacher’s use of outdoor learning contributes to his or her well-being. I also investigate how outdoor learning aligns with the attributes of new pedagogies.

An explanatory sequential mixed methods design with a participant selection model (Creswell & Plano Clark, 2018) was used to research the questions. 66 Canadian teachers responded to a survey, which revealed significant correlations between teacher well-being and their use of outdoor and Nature-based pedagogy. The Teacher Flourishing Scale was developed for this survey; results from this measure correlated significantly with a teacher’s use of new pedagogies.

Semi-structured interviews with 10 of the 66 respondents revealed three main themes that contribute to an explanation of the quantitative results: 1a) Fulfilment through authentic pedagogies; 1b) Outdoor learning as an authentic pedagogy; 2) Relationships; and 3) Natural spaces and well-being.

The study confirmed that outdoor learning is a “new pedagogy” that contributes to relationship-building, fulfilment, meaning and engagement for teachers. It also allows teachers to connect with Nature, which is an essential contributor to well-being. If adequately supported in schools and through curricula and policy, outdoor learning could be a way to counter teacher attrition and contribute to sustainability education and well-being for all.
Acknowledgements

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Chapter 1: Introduction

Teacher attrition and burnout is a significant problem in North American education. Burnout is known to be a leading factor in teacher turnover (Valtierra, 2016). A small-scale Quebec study, conducted by the provincial teachers’ federation, showed that nearly half of teachers suffer from anxiety and that 23% planned to leave the profession within five years (Fédération Autonome des Enseignants, 2010). Similar statistics reflecting teacher attrition have also been recorded in the United States, Finland, Britain, Europe and New Zealand (Fontaine, Kane, Duquette, & Savoie-Zaje, 2012; Roffey, 2012).

Teachers report that reasons for leaving the profession include lack of support from administration, difficulties with classroom management, unreasonable workloads, and burnout (Fontaine et al., 2012). Burnout is a psychological syndrome affecting workers in helping professions that manifests as exhaustion, cynicism and reduced professional efficacy (Maslach, Jackson, & Leiter, 1996). Contributing factors to burnout include unrealistic job demands and insufficient resources (Hakanen, Bakker, & Schaufeli, 2006).

In Canada, mandated curriculum expectations contribute to feelings of stress, when teachers feel these are unrealistic. I have heard many teachers say that they don’t have time for “extras” like outdoor learning because they have to “get through” the curriculum. In North America, Great Britain, Australia, and New Zealand, the focus on standardized testing means that teachers are abandoning student-centred, experiential and context-based learning in favour of instructional models involving drills, memorization, and lectures (James & Williams, 2017; Sahlberg, 2015) that may appear to be more time-efficient. This may also contribute to a perceived or real lack of autonomy in the classroom, and less room or time for creativity, innovation, and initiative; these factors have both been identified as important resources in the
teaching profession, a lack of which can contribute to burnout (Hakanen, Bakker, & Schaufeli, 2006). Even in countries where test scores do not impact teacher evaluation, salaries, promotion, and retention, teachers feel pressure to spend more time on tested subjects such as math, literacy and science (Sahlberg, 2015; Zhao, 2012). Gallup polls in the U.S. in 2012 of 7,200 teachers showed that 56% of teachers were “not engaged” at work (Blad, 2014) suggesting that even if teachers are not “burning out”, their mental, physical, and emotional well-being can be difficult to maintain in the school environment. A 2013 poll of 600,000 students showed that 45% of 6-12th grade students were disengaged in school-based learning (Blad, 2014).

At the same time, people around the world are disconnected from the natural world (Nisbet & Zelenski, 2011), at a time in our history when it is more important than ever that we understand Nature\(^1\) and our place in it.

This study seeks to explore if and how a teacher’s use of outdoor learning might contribute to his or her well-being. I also investigate how outdoor learning aligns with the attributes of “new pedagogies\(^2\)”. This requires an in-depth discussion of teacher and student well-being, healthy schools, and outdoor learning. Additionally, we need to consider how outdoor learning pertains to well-being and new pedagogies. The role of Nature in outdoor learning and as a contributor to well-being is well researched. However, there is less literature regarding the relationship among outdoor learning, Nature connection and the impact on teacher well-being.

\(^{1}\) This paper follows the recommendation of the Earthvalues Institute to capitalize the word Nature in order to honour, respect, and show admiration for Nature and all that it provides. (http://www.earthvalues.org/en/programs/capital-n)

\(^{2}\) The “new pedagogies” are presented by Fullan & Langworthy (2014) as “a new model of learning partnerships among students and teachers, aiming towards deep learning goals and enabled by pervasive digital access” (p. 2) and will be defined in greater detail in a subsequent section.
Furthermore, the literature pertaining to new pedagogies addresses neither outdoor learning or teacher well-being. The following discussion will provide an overview of how these topics are interconnected.

**Teacher and Student Well-Being**

The well-being of students is a major focus in educational psychology today (Carney, 2015; Seligman, Ernst, Gillham, Reivich, & Linkins, 2009; Seligman, 2011; World Health Organization, 2009) and this has been accelerated by the introduction of positive psychology. Teacher well-being is not as frequently or explicitly addressed but bears serious consideration (Carney, 2015). It has been shown that teacher well-being has a significant effect on student well-being and learning outcomes (Roffey, 2012).

Additionally, threats to teacher well-being that lead to burnout are a significant problem for schools, students and teachers alike. Teacher attrition, whether it involves teachers changing schools or leaving the profession entirely, has negative consequences for students, schools, and society. Students and schools suffer from a high turnover rate which results in lack of teacher leadership and expertise. Societies invest significantly in teacher education and professional development, only to have teachers leave the teaching profession after just a few years. Student learning is negatively affected through a lack of constancy and expertise (Fontaine et al., 2012).

The Health Promoting Schools movement, (also referred to as “healthy school community” or “comprehensive school health”), is addressing the health and well-being of students, school staff, and the community through a holistic model of physical, mental, social and environmental health (Bassett-Gunter, Yessis, Manske, & Stockton, 2012; O'Brien, 2016), thereby making well-being education more explicit as a goal (Falkenberg, 2014).
Additionally, positive psychology is making inroads into education and schools: the concept of “positive education” is defined as “education for both traditional skills and for happiness” (Seligman et al., 2009). Well-being models such as that proposed by Martin Seligman (2011) are influencing the conception of well-being models for schools such as that developed by Patrick Carney (2015). O’Brien (2010; 2012; 2016) draws on these models in her work on sustainable happiness and well-being for all, which is defined as “happiness that contributes to individual, community, or global well-being without exploiting other people, the environment, or future generations” (O'Brien, 2016, p. 9). Sustainable happiness integrates principles from positive psychology and sustainability and has linked this concept to education in conceptualizing the Living School³ (O'Brien & Howard, 2016).

Nature, Well-Being, and Healthy Schools

It is important to consider the link between our well-being and our connection to the natural world (Nisbet, Zelenski, & Murphy, 2011). Growing up in cities, living in built environments, fear of the outdoors, helicopter parenting, and decreased access to natural environments make it difficult for young people to forge a connection with Nature. This affects human well-being (Lou, 2008; Nisbet, Zelenski, & Murphy, 2011) and also has serious implications for the planet. People who lack a connection to Nature are less inclined to act responsibly towards the environment (Nisbet et al., 2009; Zhang, Goodale, & Chen, 2014;  

³ A Living School is a school incorporating, through an integrated curriculum, “sustainability, creativity, innovation, entrepreneurship, sustainable happiness, social and emotional learning, and connecting with Nature. The Living School’s approaches to learning assist students and teachers in making meaningful choices and changes. “It espouses interconnectedness rooted in …community” composed of human and other living systems and is founded on an education vision of well-being for all, sustainably (O'Brien & Howard, 2016, p. 120).
Zylstra, Knight, Esler, & Le Grange, 2014). Kids who grow up with a connection to Nature and an ethos of sustainability have the potential to make choices that positively impact the Earth. Richard Louv (2008) identified the perils associated with a lack of Nature connection and has made a strong case for the benefits of cultivating this connection in childhood. The case has been made time and again for children and adults alike: Nature contact speeds healing (Raanaas, Patil, & Hartig, 2011), reduces depression (Maas, J., et al., 2009), improves concentration and attention (Faber Taylor & Kuo, 2009), reduces stress (Kaplan, 1992) and anxiety, and increases memory and cognitive function (Bratman, Daily, Levy, & Gross, 2015). Kaplan (1995), expanding on Ulrich’s work regarding Biophilia, Nature, and stress reduction (Ulrich et al., 1991), describes the restorative effects of Nature. Wilson’s (1984) Biophilia hypothesis influenced much of this body of work, through the contention that humans have an innate need to connect with natural life. These seminal works are as relevant today as they were when they were first published.

O’Brien’s (2016) work regarding sustainable well-being recognizes that a connection with Nature is important, if not essential, to our well-being, and discusses how the use of outdoor learning and school gardens can be beneficial to students. However, while teachers may find helpful direction for their own well-being in Seligman’s (2011) and Carney’s (2015) models, there is nothing in those to suggest that Nature-based teaching and outdoor learning might have a positive impact on their happiness and well-being.

Likewise, while the health-promoting school models discussed previously consider the physical environment (buildings, spaces, lighting, design) as a component of comprehensive school health, little attention has been paid to the natural environment and its impact on well-being (Bassett-Gunter et al., 2012; World Health Organization, 2009).
Outdoor Learning and New Pedagogies

How, then, can we create an environment wherein students are engaged and teachers are fulfilled? Fullan and Langworthy (2014) put forward “new pedagogies” as a way to re-engage students and revitalize teaching through deep learning, defining the term as “a new model of learning partnerships among students and teachers, aiming towards deep learning goals and enabled by pervasive digital access” (Fullan & Langworthy, 2014, p. 2). O’Brien (2016) describes the new pedagogies as engaging students and teachers in “learning in ways far beyond meeting basic competencies and skills” (p.170). However, to date there is little in the way of recommendations for using outdoor and Nature-based learning to achieve these same goals (O’Brien, 2016). This thesis takes the position that outdoor learning fits the criteria for new pedagogies since it encourages learning partnerships between teacher and students, uses real-world, context based learning, and allows students to become “creative, connected, and collaborative life-long problem-solvers and to be healthy, holistic human beings who not only contribute to but also create the common good” (Fullan & Langworthy, 2014, p. 2).

As we are seeing, there is a marked gap in the research regarding outdoor learning as it applies to new pedagogies and health-promoting schools. Furthermore, none of these concepts makes an explicit connection to the role that Nature-based learning could play in enhancing their efficacy. Nevertheless, research shows that outdoor learning has been associated with increased test scores and reductions in discipline issues and classroom management difficulties (James & Williams, 2017). Outdoor learning holds high emotional engagement for students, and thus motivation for learning (James & Williams, 2017); likewise, when teachers perceive students to be motivated and engaged, their enjoyment of and confidence in teaching is increased (Martin, 2006). In a study of the use of green school grounds in the Toronto District School Board,
Dyment (2003) found that students are more civil, less aggressive, and display better communication skills when they are regularly learning outdoors. In parallel, compared to teaching primarily indoors, teachers’ motivation for their work increased as did their willingness to use innovative teaching strategies. O’Brien and Howard (2016), in their conception of the Living School, recognize the value that Nature has in learning and sustainable well-being (Howard & O’Brien, 2017). They see Nature and outdoor learning as key to bringing life to schools and schools to life (O’Brien & Howard, 2016).

There is little doubt that Nature contact benefits the physical, mental, and emotional well-being of children and adults alike. However, little is known about what happens to teachers’ well-being when they use the outdoors as a learning space and when they connect to Nature through their teaching. This thesis will explore the research question how can outdoor learning, when viewed as a new pedagogy, contribute to well-being for teachers? A sub-question, how does outdoor learning align with the attributes of “new pedagogies”? will also be investigated.

**Implications for this Research**

By exploring the ways that outdoor and Nature-based learning can affect teacher well-being, teachers may benefit from knowing how to use these pedagogies in order to support their own well-being. Students, in turn, could benefit from teachers who are happier and more engaged in their jobs and of course, from increased time outside and more engaging pedagogy. School administrators may be better able to justify supporting the use of these pedagogies in their schools.

This research could also be beneficial to teacher education programs seeking to prepare teacher candidates for the stressors present in the profession and for the use of outdoor learning.
Additionally, this research contributes to the extension of research related to multiple related themes which include:

1) The relationships between outdoor learning, connection with Nature and teacher well-being;

2) How outdoor learning aligns with new pedagogies; and

3) The potential for outdoor learning, viewed as a new pedagogy, to contribute to teacher well-being, reinforcing the vital need to incorporate outdoor and Nature-based learning in schools.

Last, but not least, a beneficiary of this work may be Nature herself, through the caring attitudes and responsible behaviour demonstrated by those individuals and professionals making connections with Nature.

Chapter 2: Review of the Literature

This section presents pertinent literature related to the research question: how might outdoor learning, viewed as a new pedagogy, contribute to well-being for teachers; and how does outdoor learning align with the attributes of new pedagogies? In order to adequately review the literature for this study and to provide context for the research questions, three main focus areas merit in-depth review: 1) Outdoor learning; 2) New pedagogies; and 3) Well-being in a school context, with specific attention to teacher well-being. As noted earlier, these three areas have not been previously been discussed together in the literature. More specifically, neither outdoor learning nor teacher well-being is discussed in the new pedagogies literature; nor is teacher well-being discussed in the outdoor learning literature. In order to understand how these areas might be interrelated, a considerable discussion is required of all three.
A first section on outdoor learning will establish a definition for the term and discuss how garden-based and place-based learning (both examples of outdoor learning that can happen close to school) can contribute to the objectives of outdoor learning. This leads into a discussion of “new pedagogies” and 21st century learning and how outdoor learning aligns with the characteristics of these. Finally, an in-depth discussion of well-being and sustainability will review how a connection with Nature is essential to our well-being and happiness, and how outdoor learning as a new pedagogy can contribute to this.

Outdoor Learning

Many terms exist to describe intentional and educational outdoor experiences. “Adventure education”, “outdoor education”, and “environmental education” can be found alongside “outdoor learning” and “Nature-based learning”. A classic, and early definition of “outdoor education (OE)” is Donaldson and Donaldson’s 1958 definition: “Education in, about, and for the outdoors” (Adkins & Simmons, 2002, p. 2). Priest (1986) criticized this definition as being incomplete in that it fails to recognize that 1) OE can happen indoors; 2) OE is about the personal as much as it is about the physical environment; and 3) the purpose of OE is primarily to promote learning, free-thinking and problem-solving. Nevertheless, it is still regarded as a foundational definition of outdoor education. Others have defined OE more broadly as “education which takes place in the outdoors” (Adkins & Simmons, 2002, p. 2). Outdoor teaching/learning has been identified as a form of outdoor education, along with environmental education and outdoor leisure education (Lugg, 1999). For the purposes of this paper, and to differentiate it from “outdoor education”, the term “outdoor learning” will be used as an inclusive term that encompasses the above-mentioned terms. Additionally, and importantly, it describes a pedagogy wherein “practical and experiential learning experiences are free or
relatively affordable for the vast majority of pupils in mainstream schools, and which take place for the most part in or close to school grounds” (Thorburn & Allison, 2017, p. 105). This definition is therefore not limited to adventure-based, camping-based, or wilderness-based activities. Thus, outdoor learning means any learning that takes place outdoors, be it on the school grounds, in the community, or in a wild place. In the following paragraphs, I will explore some key characteristics of outdoor learning, as well as some pedagogies that will help to frame the subsequent sections.

Outdoor learning, like outdoor and experiential education, is strongly anchored in experiences that are relevant to the learner. John Dewey’s perspective was that learning should remain relevant to learners and that “subject knowledge has clear logical connections with the lives and previous experiences of pupils” (Thorburn & Allison, 2017, p. 106). As Priest (1986) contends in his influential re-definition of outdoor education, experiential outdoor learning “requires full use of the six senses (sight, sound, taste, touch, smell, and intuition) and involves the three domains (cognitive, affective, and motoric) of learning” (p. 14). Priest (1986) further asserts that outdoor education is interdisciplinary in its approach to learning. Likewise, learning in the outdoors allows for and encourages curricular integration across subjects, and real-life, relevant, context-based learning.

Finally, and notably, Priest (1986) contends that outdoor education is primarily about relationships. Four types of relationships are nurtured through outdoor education: The interpersonal, the intrapersonal, the ecosystemic (the dynamic among all parts of the ecosystem) and the ekistic, or the interaction between people and their surroundings (Priest, 1986). Outdoor learning also nurtures these relationships. Garden-based and place-based learning are two outdoor-oriented pedagogies that can help to meet the objectives described above.
Garden-based learning and interconnectedness. A compelling example of how schools are integrating outdoor learning within the curriculum and nurturing the four types of relationships is the increasingly popular school garden.

Williams and Brown (2012) discuss interconnectedness as relationships and as a defining characteristic of Nature. The understanding of ecosystemic relationships developed in the garden, they suggest, can have positive impacts on our interpersonal relationships. Our relationships with our surroundings are also nurtured through these learnings in the garden. Williams and Brown (2012) use living soil as a metaphor, bringing “attention to relationship as a central feature of education: relationship among students, teachers, subject matter, school and community, school and Nature, etc.” (p. 139).

This ecological perspective becomes “a way of thinking which…challenges the hegemony of dominant worldviews that perpetuate disconnected mechanistic perspectives” (Williams & Brown, 2012, p. 136). As such, the learning garden can become a place for ecological and social justice education, with life as the central focus. It can thus be transformational for students and teachers.

Additionally, the garden is a catalyst for interdisciplinary learning across the curriculum. Teachers use it to reach academic, social, recreational and therapeutic goals and to enhance learning in science, math, language arts, health, ethics, and social studies (Blair, 2009).

Outdoor learning and sense of place. Priest’s definition of outdoor education has been criticized as “grandiose” (Wattchow & Brown, 2011, p. 4), and a shift in the discourse led to a vision of outdoor education as “educating for an environmentally sustainable future” (Wattchow & Brown, 2011, p. 4). This is in line with current perspectives on both environmental education
and education for sustainability⁴. Wattchow and Brown (2011) contend that outdoor education, through its many branches, interpretations, pedagogic approaches, and regional differences, is at risk of losing sight of the significance of local outdoor places, and that “place has the potential to provide a renewed philosophical and pedagogical basis for outdoor education” (p. 15).

Place-based education, or place-conscious education (Gruenewald, 2003) is strongly associated with outdoor learning and environmental education. Hensley (2011) uses the term *bioregional education* interchangeably with place-based education and emphasizes an eco-curriculum, however, place-based education is not only about the environment. Gruenewald (2003) identifies five dimensions of place including the perceptual, sociological, ideological, political and ecological. Place-based education is thus truly interdisciplinary and relevant. David Sobel’s (2004) comprehensive definition emphasizes that place-based education uses the local community and environment as a way to integrate relevant learning across subjects.

Place-based education also contributes to education for sustainability, through engagement with local settings and by strengthening the connections between education and the places we live (Gruenewald, 2003). In his discussion of place-based education, Hensley (2011) refers to the “ecological text” (p. 137) as a basis for learning: a text that is found in the Nature, culture, topography and community around us and that makes permeable the membrane between

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⁴ “Education for Sustainable Development (ESD) allows every human being to acquire the knowledge, skills, attitudes and values necessary to shape a sustainable future. Key sustainable development issues are thus included in teaching and learning; for example, climate change, disaster risk reduction, biodiversity, poverty reduction, and sustainable consumption. It requires participatory teaching and learning methods that motivate and empower learners to change their behaviour and take action for sustainable development. ESD consequently promotes competencies like critical thinking, imagining future scenarios and making decisions in a collaborative way.” (Learning for a Sustainable Future, n.d.; UNESCO, 2018).
school and community. Local settings are used to make ecological, social, and political issues seem less abstract, as we interact with and examine the local ecology (Gruenewald, 2003). Gruenewald and Smith note that a place-based approach demands a “creative interaction between learners and the possibilities and requirements of specific places” (in Hensley, 2011, p. 143). Relationships are thus created among learners, teachers, and the places they inhabit.

Outdoor learning, then, is both simple and complex to define. It is not merely “going outside”, for there must be educational intention for learning. In order to frame outdoor learning for the purposes of this paper, we will agree that outdoor learning is any learning that takes place outdoors, be it on the school grounds, in the community, or in a wild place, with the understanding that outdoor learning nurtures relationships, provides relevant learning experiences, and integrates learning across subjects. In the following paragraphs, I will review the current literature pertaining to new pedagogies and 21st century learning, and will thus build an argument that outdoor learning is a ‘new’ pedagogy that can help students develop 21st century skills. Subsequently, I will discuss well-being from an outdoor learning perspective.

**Outdoor Learning as a New Pedagogy**

Fullan and Langworthy (2014) define “the new pedagogies” as “a new model of learning partnerships between and among students and teachers, aiming towards deep learning goals and enabled by pervasive digital access” (p. 2). Drawing on the strategies espoused by Piaget, Dewey, Montessori and Vygotsky, they are perhaps not “new” pedagogies per se, but ones being rearticulated and revitalized more precisely and powerfully, especially through the use of partnerships between teachers and students, and the ubiquity of digital technology (Fullan & Langworthy, 2014). New Pedagogies for Deep Learning (NPDL) as put forward by Fullan and Langworthy (2014) focus on “the learning process, developing students’ ability to lead their own
learning and to do things with their learning. Teachers are partners with students in deep learning
tasks characterized by *exploration, connectedness, and broader, real-world purposes*” (italics
mine, p. 7).

The role of the teacher in NPDL represents a significant shift from traditional pedagogy. Teachers are learning alongside their students and creating partnerships with them. Teachers collaborate with both their students and with other teachers and school leaders to provide challenging and relevant learning tasks, and encourage knowledge creation by students: “In the new pedagogies, the entire learning experience is deeply embedded in these relationships” (Fullan & Langworthy, 2014, p. 14).

New pedagogies contribute to the development of “21st century skills”. Fullan (2013) describes the 6 key future skills to be developed through NPDL, or the 6 Cs:

- **Character education** – honesty, self-regulation and responsibility, hard work, perseverance, empathy for contributing to the safety and benefit of others, self-confidence, personal health and well-being, career and life skills.

- **Citizenship** – global knowledge, sensitivity to and respect for other cultures, active involvement in addressing issues of human and environmental sustainability.

- **Communication** – Communicate effectively orally, in writing and with a variety of digital tools; listening skills.

- **Critical thinking and problem solving** – think critically to design and manage projects, solve problems, make effective decisions using a variety of digital tools and resources.

- **Collaboration** – work in teams, learn from and contribute to the learning of others, social networking skills, empathy in working with diverse others.
• **Creativity and imagination** – economic and social entrepreneurialism, considering and pursuing novel ideas, and leadership for action.

Around the same time that Fullan put forward the 6 Cs, *Canadians for 21st Century Learning & Innovation* (C21) as well as the US-based *Partnership for 21st Century learning* (P21) were developing similar frameworks addressing the needs of students today. “21st century learning” is a transformative view of education that seeks to prepare students for the challenges of the 21st century (Milton, 2015) through learning partnerships and supported by digital technologies (C21 Canada, 2012). It espouses a NPDL approach to learning and its 7 “21st century competencies” are almost identical to Fullan’s 6 Cs (C21 Canada, 2012; Partnership for 21st Century Learning, 2015) (See Table 1). In each framework, the competencies are supported by pedagogy, technology, and knowledge creation.

*Table 1: Comparison of NDPL, C21 and P21 competencies*

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<tr>
<td>Character</td>
<td>Character</td>
<td>Life and career skills</td>
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<tr>
<td>Citizenship</td>
<td>Culture and ethical citizenship</td>
<td>Interdisciplinary themes including civics, health, environmental literacy</td>
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<tr>
<td>Communication</td>
<td>Communication</td>
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<tr>
<td>Critical thinking</td>
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<tr>
<td>Collaboration</td>
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<td>Creativity and imagination</td>
<td>Creativity, innovation and entrepreneurship</td>
<td>Creativity and innovation</td>
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<tr>
<td>(Development of competencies enabled through) pervasive digital access</td>
<td>Computer and digital technology</td>
<td>Information, media and technology skills</td>
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Clearly, there is consensus regarding the competencies today’s students need to succeed. The emphasis on relationship building, partnerships, and real-world, context-based learning in NPDL is brought to life naturally through outdoor learning, which also develops the 6 Cs / 21st century
competencies through place, collaboration and cross-curricular study. Digital technology may seem antithetic to the goals of outdoor learning, but as we will see, integrating the two can enhance both. Despite its significant history, outdoor learning is thus presented as a “new pedagogy” that can help students develop the competencies required for success in the 21st century.

**Digital technology and new pedagogies.** Digital technology is an intrinsic component of new pedagogies. How, then, can we reconcile this with outdoor learning, which would seem to be the antithesis of digital technology? Certainly, and as we will see in the following section, one of the most obvious benefits of learning outdoors is developing a connection with Nature and getting away from the ubiquitous screen. Fullan asserts that although technology is a key component of educational transformation, it must not stand alone (O'Brien, 2016). O’Brien (2016) adds that technology, when appropriately connected to pedagogy, can indeed lead to deep learning outcomes. Collaborating in the creation of digital content, communicating through it and sharing it, students can use digital technology in concert with outdoor learning to hone 21st century skills. Connections with people in other parts of the world, or even across town, are facilitated through digital technology as well. An example from my own teaching started with a rafting trip on the Magpie river in northern Quebec. The river is under threat of being dammed for a hydroelectricity project. Students filmed footage of their trip and then learned to use a video editing software. By collaborating with the local radio station, they recorded audio for their film. They made their film in English and French and screened it to an audience at their college, taking questions afterwards about the impact of hydroelectric damming, the reality of hydroelectricity in Quebec, and other options for economic development that could replace hydroelectric projects. Then they partnered with environmental organizations such as the Canadian Parks and
Wilderness Society (CPAWS) to disseminate their videos through social media. While this example uses a less accessible, expedition/adventure-based form of outdoor learning as its seed, it illustrates how developing a connection with Nature made a topic relevant for these students and sustained their drive to complete their project, which allowed them to develop all of the 6 Cs of NPDL. It also shows how digital technology and outdoor learning were each enhanced by the other, and allowed for deep learning and engagement.

O’Brien and Murray (2015) recognize the inherent value in new pedagogies in stimulating innovation and creativity, but argue that two key perspectives are often missing from the 21st century learning literature: sustainability and well-being. They posit that innovation in education can help people to be more fulfilled and discover a sense of purpose, and suggest that project-based learning (PBL) and flipped learning are pedagogies that can contribute to well-being through increased creativity and innovation (O’Brien & Murray, 2015). In the following paragraphs, I will review the literature on well-being, sustainability education, and happiness and how outdoor learning might connect these concepts.

**Well-being, Sustainability, and Happiness**

Aristotle differentiated between eudaimonic and hedonic enjoyment, wherein eudaimonia is living a fulfilled life in accordance with one’s life purpose and hedonic happiness is associated with pleasure, getting what one wants, and feeling good (Waterman, 1993). Seligman (2011) builds on these concepts in his model of authentic happiness and subsequently, well-being. Happiness, according to Seligman (2011), involves positive emotion (hedonic), engagement/flow, and meaning (eudaimonic). “The Meaningful Life consists in belonging to and serving something that you believe is bigger than the self” (Seligman, 2011, p. 12). His Authentic Happiness Theory (Seligman, 2002) centres on the goal of increasing life satisfaction.
Later, Seligman (2011) further developed his positive psychology perspective on happiness, putting forward a theory of well-being that comprises five elements: Positive emotion, engagement, meaning, positive relationships, and accomplishment, using the acronym PERMA for all five elements. The goal of well-being theory is to promote flourishing by increasing the five elements of PERMA. He asserts that each of these is an element that contributes to, but does not define, well-being: “Well-being is a combination of feeling good as well as actually having meaning, good relationships, and accomplishment” (Seligman, 2011, p. 25).

Carney (2015) builds on Seligman’s well-being theory and applies it to positive mental health in an education context. His model for well-being in students is built on three “foundational blocks”: 1) a whole-school, whole-community approach; 2) a social emotional learning approach; and 3) a strengths-based approach (Carney, 2015). According to Carney (2015), resilience, being active, and flourishing are the key elements of positive mental health, and he places strong, caring relationships at their intersection (see Figure 1). For teachers, Carney (2015) adds that it is important that teachers foster self-awareness in order to recognize and respond to their and their students’ feelings, and that teachers must be able to focus on their own and their students’ mental health and well-being.
Unlike all of us, teachers seek fulfilment (flourishing), hope to make a difference in the lives of young people, and expect to find meaning and engagement through their work. Manuel and Hughes (2006) found that pre-service teachers choose teaching as a profession for personal fulfilment and purpose, and in the hopes of making a difference to society and to children’s lives. Drawing on the writing of Palmer (1998), they argue that “teaching is, at its core, about identity, integrity and seeking connectedness” (p. 11), and posit that the appeal of teaching is anchored in the individual teachers’ search for meaning (Manuel & Hughes, 2006). It is fair to say, then, that pre-service teachers believe or hope that they will flourish as teachers through positive emotion,
engagement, positive relationships, meaning, and accomplishment in their work. Unfortunately, none of the discourse on flourishing, related to teachers or students, considers the role that Nature plays in human well-being.

**Biophilia and well-being.** Edward O. Wilson’s Biophilia hypothesis (1984) holds that because humans evolved in natural environments for the majority of human history, we have an “innate tendency to focus on life and lifelike processes” (p.1) and to affiliate with living things. He argues that “the natural environment is as central to human history as social behaviour itself” (Gullone, 2000, p. 294). The Biophilia hypothesis has spurred other research looking at the restorative impact of Nature (Kaplan, 1992; 1995), the effect of Nature on stress recovery (Ulrich, et al., 1991), and the role of Nature and certain natural landscapes in promoting physical well-being (Ulrich, 1993). The evolutionary and genetic basis for our biophilia is used to explain why Nature contact has a positive effect on our well-being.

More recently, biophilia has been linked with positive attitudes toward environmental conservation (Zhang et al., 2014). Zhang et al (2014) showed that a connection with Nature positively affects childrens’ biophilia and in turn, their willingness to conserve Nature. Connection with Nature (Zylstra et al, 2014) and Nature relatedness (Nisbet, Zelenski, & Murphy, 2009) have been positively linked to environmentally responsible behaviour. The Connection to Nature scale, designed by Mayer and Frantz (2004) to “tap an individual’s affective, experiential connection to Nature” (p.504) suggests that such a connection is associated with eco-friendly actions as well as with feelings of life satisfaction.

The effect of Nature connectedness on happiness and well-being has been explored extensively by Nisbet, Zelenski and Murphy (2009; 2011; Zelenski & Nisbet, 2014). Nature relatedness is associated with autonomy, personal growth, and purpose in life, and is put forward
as a “significant and under-studied potential contributor to well-being” (Nisbet et al., 2011, p. 306). Zelenski and Nisbet (2014) show us that nearby Nature and Nature walks can positively affect a person’s connection with Nature, in turn fostering happiness. However, despite our innate attraction to Nature, our increasing disconnection from it prevents us from recognizing its benefits on our happiness (Nisbet & Zelenski, 2011). Passmore and Howell (2014) found that hedonic and eudaimonic well-being were positively affected by time spent in nearby Nature, and that Nature involvement was beneficial to well-being regardless of levels of Nature connection, suggesting that people do not have to develop or possess high levels of Nature connection to experience the benefits of Nature involvement on their well-being. Importantly, nearby Nature is an effective way of fostering happiness and well-being (Passmore & Howell, 2014; Zelenski & Nisbet, 2014), meaning that we do not have to seek out inaccessible and remote wilderness areas in order to benefit from Nature contact.

Despite the knowledge described above, connection with Nature is largely missing from well-being education discourse, with the exception of references to Indigenous perspectives on well-being. While models of well-being and health-promoting schools emphasize positive relationships, being active, and “flourishing” through making connections and meaning (Bassett-Gunter et al, 2012; Carney, 2015), rarely is Nature recognized as a catalyst for these connections. When we turn to Indigenous perspectives, we are reminded that connection with Nature is at the heart of well-being. Nicole Bell (2016) brings forward the Anishinaabe concept of well-being or mino-biwaadziwin, which means “living life in a good way”. Mino-biwaadziwin recognizes the interconnectedness of all living things, and teaches that “everything is alive and that everything is related….As a people, we are of the land, the four winds, the directions, the seasons, and the
great circle of life” (Bell, 2016, p. 9). The relationships we develop include that which we maintain with the Earth.

Bell (2016) describes Anishinaabe knowledge as “ecological” where the “knowledge is contained within the land of the geographic location of the nation” (p. 17). Knowledge comes from a nation’s people and “each nation culturally determines for itself how it knows what it knows” (Bell, p. 17). Others have described such importance of place to Indigenous education, identity, and well-being (Deer & Falkenberg, 2016). Without this knowledge of place, we sacrifice the sense of meaning that comes from deep experience and place attachment (Wattchow & Brown, 2011). This attachment to, and understanding of, place is crucial to Indigenous well-being education, and is also recognized by Western place-based educators as being an essential element of education for all (Gruenewald, 2003; Hensley, 2011; Wattchow & Brown, 2011). Attachment to place and to the natural environment have been shown to strengthen sense of community, which includes feelings of belonging, integration, having influence, having needs met, and sharing an emotional connection with others (Bow & Buys, 2003). The link between the Earth and ourselves is central also to sustainability education and sustainable well-being.

**Sustainable well-being.** The link between environmental well-being and our own has been explored in depth by O’Brien (2010; 2013; 2016) in her work on sustainable happiness and well-being for all. “Sustainable happiness invites opportunities to enhance our quality of life *and* contribute to individual, community, and global well-being” (O’Brien, 2013, p. 233). O’Brien (2013) differentiates between happiness and sustainable happiness by considering the social or environmental costs associated with something that brings us pleasure or contributes to our experience of well-being.
Nisbet and Zelenski (2011) suggest that since it fosters both happiness and an environmentally responsible attitude, contact with nearby Nature can be a “happy path to sustainability” (p. 1104). Drawing on O’Brien’s (2010) concept of sustainable happiness, they link sustainable behaviour with happiness and suggest that Nature relatedness might mean that “rather than experiencing guilt or sacrifice when contemplating sustainable behaviors, people might instead develop a sense of connection with Nature that promotes environmental sustainability and individual happiness” (Zelenski & Nisbet, 2014, p. 6).

These ideas are also being adopted globally and within Canada. On a global scale, the United Nations publishes annually *The World Happiness Report*, which ranks countries by their happiness levels (Layard, Sachs, & Helliwell, 2018). This report considers factors such as Gross Domestic Product (GDP) per capita, social support, life expectancy, trust, perceived freedom to make choices, and generosity. The annual publication of this report since 2012, and the media attention it receives, shows that happiness is now broadly considered a measure of social progress.

The Canadian Index of Wellbeing (Canadian Index of Wellbeing, 2016) takes a look at well-being from a Canadian perspective and considers the widening gap between economic success and well-being. This index considers education and the environment, among others, to be key leverage points that positively influence well-being. In an important step towards recognizing the interconnection between GDP, health, and environment, the Index asks if our GDP is increasing at the expense of our environment, health and education.

The Happy Planet Index (HPI) (Jeffrey, Wheatley, & Abdallah, 2016), by considering the ecological footprint of a nation in its rankings, measures sustainable well-being for all. Sustainable well-being is not only about ‘sustaining’ well-being but also about understanding
well-being through a sustainability lens. Therefore, the HPI emphasizes the interconnection between human and environmental well-being. The rankings of countries are surprising when compared to the World Happiness Report, and demonstrate the extent to which the environmental degradation so often associated with economic growth has an important negative impact on national happiness and well-being. For example, Canada is ranked 7th in the World Happiness Report, but 85th in the HPI. This is largely due to the amount of resources we consume in Canada, that contribute to our ecological footprint. Around the world, we can no longer deny that our well-being is inextricably linked to that of the planet that sustains us.

**Outdoor learning and well-being.** In the previous sections we have seen how outdoor learning is connected to place, relationships, new pedagogies, and healthy schools. As well, we have explored the relationships between our innate biophilia and our well-being through a connection with Nature. It follows, then, that a teacher’s well-being would likely be positively affected by activities that build connection to Nature, outdoors and indoors.

O’Brien and Murray (2015) propose project-based learning and flipped learning as new pedagogies that can contribute to well-being through increased creativity and innovation; I would add that Nature-based outdoor or indoor learning can significantly contribute to well-being due to the significant positive impact that spending time in Natural spaces has on humans.

There is, indeed, much evidence for the benefits of outdoor learning for students (Malone, 2008; Malone & Waite, 2016). These include health benefits, learning benefits, improvements in social and emotional skills, and the development of pro-environmental behaviour and sense of place (Malone & Waite, 2016). Additionally, the benefits of Nature contact on children have been well-documented (Coe, 2016; Gill, 2011).
Gardening, a common outdoor-based pedagogy, has been shown to reduce anxiety, depression, and body mass index, and to increase life satisfaction, quality of life, and sense of community (Soga, Gaston, & Yamamura, 2017). In Blair’s (2009) extensive review, the benefits of school gardening were shown to increase school pride, motivation and enthusiasm, build community and relationships, and positively impact fruit and vegetable consumption among students (Blair, 2009).

However, while teachers generally recognized the benefits of gardening on student achievement and social outcomes, their use of school gardening was limited to their skill and knowledge of gardening, as well as their available time (Blair, 2009). To prevent gardening (or any new pedagogy) from becoming an additional source of stress for teachers, Blair (2009) suggests that schools build in support structures (e.g., principal’s support, expert staff, in-service training) when introducing garden programs. Gulwadi (2006) submits that teacher stress is caused in part by working in isolation from peers most of the day, with little respite. She posits that teachers might reap some of the same restorative benefits as students do in a green schoolyard, while the school garden (or other outdoor pedagogies) would provide opportunities for team teaching and learning communities, thereby reducing teacher isolation (Gulwadi, 2006).

In summary, our innate biophilia and need for Nature connection and relationships can be fulfilled through Nature- and outdoor-based pedagogies that also help to develop 21st century skills. Using new pedagogies and encouraging real-world, context-based learning is inherent to outdoor learning and might contribute to teacher well-being through feelings of accomplishment and meaning.

The literature supports the notion that connection with Nature can improve well-being, and that outdoor learning, such as garden-based and place-based learning, is a way to build 21st
century skills, relationships and community. To that end, outdoor learning could be considered a “new” pedagogy that could have a positive impact on students and teachers, through positive education, enhanced sense of place, connection with Nature, and education for sustainable development. By exploring how a teacher’s use of outdoor learning might positively impact their well-being, this study will add to existing knowledge in three areas: outdoor learning, new pedagogies, and teacher well-being.

Chapter 3: Methodology

Ethics

The study was approved by the Research Ethics Board of Cape Breton University. This study posed no known risk to participants or to the researcher. Nevertheless, all documents, recordings, transcripts, surveys and files were kept confidential at all times. The internet-based transcription software Transcribe does not store data on its servers; all of the audio and typed data is stored only on my personal computer.

Participants were fully informed of the purpose of the study, their participation was voluntary, and their informed consent was sought with a letter outlining the research and a consent form. Participants had the option to revoke their consent to participate at any time during the study.

Participants’ identities have been protected in this report through the use of pseudonyms.

Benefits to participants. The benefits to the participants include the direct and indirect benefits of exploring their own well-being as it pertains to their work environment and professional practice. Several interviewees mentioned that the interview itself helped them to renew their perspective on their practice and their well-being. As well, the study contributes to
the advancement of knowledge in the fields of education, sustainability and well-being.

Interview participants will be sent a copy of the final report.

**Research Design**

Following ethics approval, I used an explanatory sequential mixed methods approach with a participant selection model (Creswell & Plano Clark, 2018) to research the question “How can outdoor learning, when viewed as a new pedagogy, contribute to teacher well-being?”. In this approach, quantitative results guide the selection of participants for the qualitative phase, which then helps to explain the quantitative results (Creswell & Plano Clark, 2018). In this two-phase sequential model, the emphasis is on the qualitative phase of research (figure 2). The intent of the design was twofold: first, the quantitative results provided a basis for purposeful sampling of participants for the qualitative phase. Second, the qualitative phase helped explain the quantitative results.

*Figure 2: Explanatory sequential design: Participant selection model*

(Creswell & Plano Clark, 2018)

**Philosophical assumptions.** Consistent with many mixed-methods researchers (Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 2003) a pragmatist worldview informed my approach to this study. Pragmatism focuses primarily on the research question under investigation and the best ways to answer that question, allowing for biased and unbiased

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5 Mixed-methods flowcharts use capitalized abbreviations for the qualitative or quantitative part of the research that is emphasized. In this case, the qualitative (QUAL) research is emphasized and informed by the quantitative (quan) data (Creswell & Plano Clark, 2018).
perspectives and the collection of quantitative and qualitative data (Creswell & Plano Clark, 2018). Pragmatism also considers the values of the researcher to be central to the choice of research topic and the interpretation of the results (Tashakkori & Teddlie, 2003). Within this worldview, I approached the research primarily qualitatively and with a constructivist perspective, seeking to construct meaning and answer the research question through in-depth interviews with multiple and varied participants.

**Design Phase I – Survey.** Quantitative data was collected via survey using a questionnaire (appendix A), created by me, based on the theory and research discussed in the literature review: New pedagogy theory, Nature connectedness, and well-being theory. The survey was intended to a) reach a broad sample of Canadian teachers who are using outdoor learning to some extent; b) collect data on the types and amount of outdoor learning and other new pedagogies that are being used by these teachers; c) collect data on teacher well-being through different validated and non-validated instruments; d) identify potential interviewees.

Since well-being is a complex construct with many dimensions, it is difficult to measure it with a single assessment (Hone, Jarden, & Schofield, 2014). For this study, I wanted to assess overall well-being as well as ask questions that pertained specifically to the teaching profession and to flourishing in teachers. As such, the well-being section of the questionnaire was extensive and used three different, validated well-being measures:

1) the Teacher Well-Being Scale (TWBS) (Collie, Shapka, Perry, & Martin, 2015), selected for its relevance to the teaching profession, and in response to Diener’s (2009) call to advance research on work-related well-being;

2) the Scale of Positive and Negative Experience (SPANE-B) (Diener, et al., 2010); this scale was selected to capture emotions in a general way and without cultural bias;
3) an overall self-rating of stress which was a single question: “in general, how stressful do you find being a teacher?” (Boyle, Borg, Falzon, & Baglioni, 1995). This question was selected to reflect that stress is an external construct highly prevalent among teachers (Boyle et al., 1995; Collie et al., 2015).

I created a fourth scale, called the Teacher Flourishing Scale (TFS) (appendix B), for the purpose of this study. The scale attempts to measure flourishing specifically in the teaching profession by combining elements of other scales meant to measure flourishing and well-being in a work environment. The TFS was inspired by Diener et al.’s Flourishing Scale (2010), included questions on job satisfaction (Caprara, Barbaranelli, Borgogni, & Staca, 2003), and integrated elements of O’Brien’s “Professional Well-being Assessment” (2016, p. 104), a scale that itself has not been validated but that nevertheless incorporates many aspects of flourishing in a professional teaching context and that is based on Seligman’s (2011) PERMA model.

These well-being measures were presented on the questionnaire as 5- or 7-point Likert scales.

Questions on pedagogy pertained to a teacher’s frequency of use of various pedagogies. Respondents were asked how frequently they use different pedagogies other than outdoor learning, such as project-based learning, inquiry-based learning, flipped learning\(^6\), genius hour\(^7\) and direct instruction. A limitation of the questionnaire was that it is often difficult to separate these new pedagogies – for example, outdoor learning is often inquiry-based, so a teacher may

\(^6\) Flipped learning reverses the traditional learning environment by delivering instructional content, often online, outside of the classroom. Contact time with students is used for learning activities (Bergmann & Sams, 2014).

\(^7\) Genius Hour (also known as 20% time or Passion Projects) is time set aside each week for students to spend time on a project that interests them (Juliani, 2018).
have difficulty deciding if that time was “outdoor learning” or “inquiry-based learning”. As well, teachers had to estimate the amount of time they use these pedagogies; their answers are not exact and their reports may reflect their visions of themselves as teachers rather than what they actually do. However, it was the most effective way to assess this information in this case.

Further questions on outdoor learning explored the spaces available to the teacher, the frequency of outdoor learning experiences, and the degree to which Nature plays a role in indoor and in outdoor teaching.

A final question asked if the respondent was willing to participate in the interview phase of the study.

The questionnaire was developed in English; I subsequently translated it into French in order to sample Quebecois teachers. The translation was verified by a native French speaker. The questionnaire was created and distributed using Google Forms.

Participants - Phase I. In seeking out participants (teachers) who use outdoor learning, some of the initial participants in the survey were personal acquaintances, colleagues or friends who share, to various degrees, my values and pedagogical philosophies. As an outdoor educator, I am also personally invested in this research, and have my own views and experiences regarding the research question. While I have attempted to reduce bias in Phase I through my methodology, I recognize that all research is interpretive (Creswell, 2012) and my interpretation of the results will be influenced by my experience as an outdoor educator and by my personal connection with and concern for Nature. In addition, the constructivist approach assumes that inherent bias exists in the qualitative phase of the research (Creswell & Plano Clark, 2018).

In order to expand the survey’s reach across Canada, it was sent out to personal and professional contacts, in English or in French. Primary contacts were asked to pass the survey on
within their own networks (Creswell, 2012). In addition, social media platforms were used to cast the net wider. The survey was posted on the Learning for a Sustainable Future (LSF) Twitter feed and shared through relevant groups on Facebook. As well, it was shared with students in all three cohorts of the M.Ed (Sustainability, Creativity & Innovation) program at Cape Breton University. I received completed questionnaires from over sixty respondents, from all over Canada. Most of those respondents were not previously known to me.

Criteria for inclusion in the study included identifying as a practicing teacher (full or part-time) in a Canadian educational setting, including preschool, primary and secondary schools, outdoor centres, colleges and universities. I hoped for a minimum of 50 responses; I received 67 responses in total, of which 66 met the inclusion criteria.

The quantitative data from the survey was collected and analyzed in order to guide participant selection for interviews.

Design Phase II – Semi-structured interviews. Phase two of the study involved one-on-one, semi-structured interviews with 10 purposefully sampled participants. Consistent with a constructivist perspective, semi-structured interviews allow the researcher and the participant to jointly create meaning (Esterberg, 2002). The semi-structured style permits the participant to express ideas and feelings in his or her own words, and the researcher to follow lines of thought more spontaneously (Esterberg, 2002). While a larger sample size would provide greater breadth, the time required to conduct, transcribe, and analyze interviews was a limiting factor.

The purpose of the interview was to probe more deeply into the connection between a teacher’s use of outdoor learning as a new pedagogy and their well-being as teachers.
Participants who consented to be interviewed were given the definition of “new pedagogies” used in this study, and were reminded of the research question prior to beginning the interview.

Interviewees were given the basic interview plan prior to the meeting, in the hopes that they would be able to reflect on the questions beforehand and, as such, more thought-out responses would be elicited. The interview protocol (appendix C) was used to structure the interview and to ensure consistency between interviews; probing questions were used to allow for more unplanned responses and conversation (Esterberg, 2002).

The interview protocol was pilot-tested on one participant, and minor revisions were made, specifically to probing questions, subsequent to this pilot test.

The interviews were conducted in English or French, according to the mother tongue of the interviewee. They were conducted over Skype and recorded using Camm Call Recorder. To facilitate analysis, I translated French interviews into English and transcribed them verbatim. The English translations were used in the analysis.

**Participants - Phase II.** The questionnaire’s final question asked if the respondent would be willing to participate in a one-on-one interview. Of those who responded positively, theory or concept sampling was used to select individuals who could provide both broad and deep insight into the research question and help to uncover specific concepts related to the research question (Creswell, 2012). Participant scores on their use of outdoor learning and on their well-being were used to purposefully select interviewees. To a lesser degree, the teachers’ use of new

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8 For the purposes of the study, new pedagogies were defined as: pedagogy that encourages learning partnerships between teacher and students, uses real-world, context based learning, and allows students to become “creative, connected, and collaborative life-long problem-solvers and to be healthy, holistic human beings who not only contribute to but also create the common good” (Fullan & Langworthy, 2014, p. 2).
pedagogies also guided the sampling. An attempt was made to include interviewees from different educational levels (pre-school through university), as well as to have male and female teachers. Of particular interest were participants with discordant scores on outdoor learning and well-being; for example, someone who used a great deal of outdoor pedagogy but whose well-being assessments were low, or vice-versa. It was hoped that the interviews would help to explain these results.

Eight (8) interviewees were selected from survey respondents as described above, and two (2) were referred by other interviewees, because of the unique perspectives they had to share. This sampling technique allowed for identification of information-rich sources that permitted an in-depth exploration of the topic (Mertens, 2014). Three of the interviewees were known to me personally. This could have decreased the objectivity of the interview, however, was beneficial in terms of eliciting full responses and ease of communication.

The two referred interviewees did not complete the questionnaire. This was an oversight: in retrospect, it likely would have been simple to have them complete it, if only to have well-being, outdoor and new pedagogies scores for them. However, I do not believe that this oversight affects the findings to a significant degree.

A brief description of the two referred interviewees will help justify their inclusion in the study. Participant 6, “Louise”, is an early-childhood educator who ran her own small daycare at the time of the interview, and was basing her program to a large extent on forest school pedagogy. However, she had decided to close her daycare and explore a different line of work, and I was curious to discover why, since I knew her to be passionate about both children/ child care and the natural world. While she did not complete the questionnaire, I would have expected her to have both a high outdoor score and a lower well-being score due to her decision to close
her daycare. I was therefore interested in exploring with her why, despite her autonomy, her use of the outdoors and Nature in her teaching, she was not only shutting down her small business, but also considering a career change.

Participant 10, “Nikki”, was referred to me by another interviewee, whose son was in Nikki’s kindergarten class. She was a relatively recent “convert” to outdoor learning, having only begun using it the year before, taking her class outside for a full day once a week. However, she seemed to have rapidly experienced positive results in her classroom and I was curious to know how it impacted her well-being and her ability to use new pedagogies, despite the barriers she faced in her school when trying to implement it.

It is likely that teachers who are biased toward outdoor learning would be more willing to be interviewed. My interview sample, therefore, could be inherently biased toward outdoor learning as an effective pedagogy. Including some interviewees with less outdoor experience or lower outdoor scores was an attempt to counter this potential bias. I thus attempted to include a wide range of interviewees in order to come away with a broad and diverse perspective on how outdoor learning can contribute to well-being in teachers at all levels of education.

Analysis

**Phase I: Survey analysis.** The questionnaire (appendix A) asked for demographic information as well as detail on respondents’ use of outdoor learning and other new pedagogies, the importance of the natural world to the individual’s teaching, and different aspects of their well-being.

**Well-being score.** Four well-being measures were employed to gauge participants’ professional well-being, as noted previously (see Research design – Phase I). These were 1) the Teacher Well-Being Scale (TWBS) (Collie et al., 2015); 2) the Scale of Positive and Negative
Experience (SPANE-B) (Diener, et al., 2010); 3) an overall self-rating of stress which was a single question: “in general, how stressful do you find being a teacher?” (Boyle, Borg, Falzon, & Baglioni, 1995); and 4) the Teacher Flourishing Scale (TFS), developed for the purposes of this study (appendix B). As described previously, these four measures were used since I wanted to assess different aspects of well-being, specifically including well-being and flourishing in the teaching profession. The assessments were each scored using 5- or 7-point Likert scales in which a higher number indicated a more positive response. The question “in general, how stressful do you find being a teacher?” (Boyle et al, 1995) was reverse-scored so that a lower degree of reported stress was given a higher score (e.g., “not at all stressful” = 4 and “very stressful” = 0).

In order to determine if it could be a valid way to measure teacher flourishing, the TFS was tested for inter-item reliability using Chronbach’s alpha. The TFS was found to be highly internally reliable (8 items, $\alpha = 0.913$). Since the TFS uses specific language related to flourishing (Seligman, 2011) and to the teaching profession, correlates positively with the other well-being scales (Table 2), and was inspired by both existing, validated scales and the current literature on flourishing (Diener, et al., 2010; O'Brien, 2016; Seligman, 2011), I included the results of the TFS as part of the well-being assessment.

Table 2: Correlations among different well-being measures

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<th>SPANE-B</th>
<th>TWBS</th>
<th>General stress</th>
<th>TFS</th>
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<tbody>
<tr>
<td>Scale of positive and</td>
<td>Pearson's r: 0.453, ** &lt;.001</td>
<td>** 0.437</td>
<td>** 0.309</td>
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<tr>
<td>Teacher Well-being</td>
<td>p-value: &lt;.001</td>
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<td>Scale (TWBS)</td>
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<td>General stress</td>
<td>Pearson's r: 0.499, ** &lt;.001</td>
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</tr>
<tr>
<td>“How stressful do you</td>
<td>p-value: &lt;.001</td>
<td>&lt;.001</td>
<td>0.012</td>
<td>—</td>
</tr>
<tr>
<td>find Being a teacher? ”</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher Flourishing</td>
<td>Pearson's r: 0.530, ** &lt;.001</td>
<td>** 0.462</td>
<td>** 0.309</td>
<td>* —</td>
</tr>
<tr>
<td>Scale (TFS)</td>
<td>p-value: &lt;.001</td>
<td>&lt;.001</td>
<td>0.012</td>
<td>—</td>
</tr>
</tbody>
</table>

* $p < .05$, ** $p < .01$, *** $p < .001$
The scores on the four well-being measures, including the TFS, were converted into points (more points = greater well-being) and added together to create a single “well-being score”. The combined well-being score was out of a possible 196 points. This overall well-being score was then compared to other scores as outlined below.

**Outdoor score.** The teachers’ use of outdoor learning, as well as the degree to which they incorporate the natural world into their indoor and outdoor teaching, were self-reported. In order to determine and compare a teachers’ use of the outdoors and Nature, the scores from four questions were combined to give an overall “outdoor score” for each participant. These specific questions, and their scoring, are presented in Table 3.

Questions 1 and 2 were included in the outdoor score because they indicated how much time and how often teachers report using the outdoors as a teaching space or tool. Questions 3 and 4 were included in the outdoor score because they may indicate whether the natural world is a valued aspect to the teacher, and speaks to that teacher’s Nature connectedness, which may have an impact on well-being. This is also of interest because not all outdoor learning is connected to Nature, and not all Nature-based learning takes place outdoors: for example, a physical education class may take place outside with no connection to the natural world; likewise, a class may take place entirely indoors with great connection to Nature.
Table 3: Outdoor score

<table>
<thead>
<tr>
<th>Question</th>
<th>Response choices</th>
<th>Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Please indicate the average amount of time spent using outdoor learning in your classroom over the span of a typical year.</td>
<td>Never, About 10% of my class time, About 20% of my class time, About 30% of my class time, More than 30% of my class time, More than 50% of my class time</td>
<td>0 1 2 3 4 5</td>
</tr>
<tr>
<td>2. In general, or on average, how often do you take your class outside for a learning activity?</td>
<td>Never, Once or twice a year, Once a month, Once or twice a week, 3-5 times a week, More than 5 times a week</td>
<td>0 1 2 3 4 5</td>
</tr>
<tr>
<td>3. What role does Nature play in your teaching indoors?</td>
<td>Nature does not play a role in my teaching indoors/outdoors, I sometimes incorporate Nature into my classroom teaching.</td>
<td>0 1</td>
</tr>
<tr>
<td></td>
<td>I often incorporate Nature into my classroom/outdoor teaching.</td>
<td>2</td>
</tr>
<tr>
<td>4. What role does Nature play in your teaching outdoors?</td>
<td>Nature plays an important role in my classroom/outdoor teaching.</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Nature is the central element to my classroom/outdoor teaching.</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Lowest possible outdoor score, Highest possible outdoor score</td>
<td>0 18</td>
</tr>
</tbody>
</table>

**New pedagogies score.** Teachers’ use of new pedagogies (NP) was calculated. The “new pedagogies score” was the sum of scores relating to questions that asked for an estimated percentage of teaching time devoted to project-based learning, inquiry-based learning, flipped learning, outdoor learning and genius hour.

**Correlations.** In order to determine if relationships exist between a teachers’ use of the outdoors and Nature in their teaching (outdoor score), their use of new pedagogies (new pedagogies score), and their well-being (well-being score), analysis of the survey was comprised mainly of tests for correlations among different scores and measures, using Pearson’s correlation coefficient. Correlations were tested among:
• Overall outdoor score and overall well-being score;
• The four individual questions comprising the outdoor score and the well-being score;
• The new pedagogy score and the well-being score;
• The new pedagogy score and the four individual well-being measures.

The analysis of the survey produced scores (well-being score, outdoor score, new pedagogies score) and results that were then used to inform the interview phase of the study, through the design of the interview questions and identification of interviewees. The interview guide, which had been submitted to the Ethics Review Committee, was revisited in order to ensure that the interview would indeed help to uncover explanations to the results of the survey (Creswell & Plano Clark, 2018).

**Phase II: Semi-structured interview analysis.** I transcribed all the interview recordings using the internet-based platform Transcribe. In order to facilitate analysis, I translated the two French interviews into English subsequent to transcription.

I used the qualitative analysis software Atlas.ti to code and analyze the interview data. In keeping with a constructivist approach to research, I used inductive procedures of initial coding (Charmaz, 2006; Saldaña, 2009) in order to achieve thematic analysis of interviews; this allowed insights and interpretations to emerge from the data. As the interviews were transcribed, they were coded one at a time. The first interviews were coded using initial coding (Charmaz, 2006; Saldaña, 2009) and preliminary codes were established. Subsequent coding of later interviews allowed for more refined coding: Similar codes were merged, some codes were deleted or renamed, and analytic memos were written to focus my thinking about the codes and their meaning (Saldaña, 2009).
A second round of focused coding consisted of analyzing the memos and searching the code list for the most significant initial codes in order to develop principal categories (Charmaz, 2006; Saldaña, 2009).

Throughout both stages of the coding process, analytic memoranda were written to reflect and elaborate on ideas about the data generated through the coding process (Creswell, 2012; Saldaña, 2009). Quotations were sometimes re-coded when meaning or speaker’s intention required it. The later interviews, including the two referred interviewees, were coded mostly using codes established previously, although new codes continued to emerge as data were collected.

As categories were formed of groups of codes, so themes emerged from the categories and memoranda. Validation of the themes that emerged was achieved by comparing participants’ responses with those of other participants, attempting to ensure that a strong category emerged through multiple perspectives or participants (rather than one participant who spoke at length about a particular topic), and through member-checking (Creswell & Plano Clark, 2018). Member checking involved validating my interpretations of the data with the participants in the study; this was done during interviews as well as at the end of analysis when the main themes had emerged. A short document describing the themes and including relevant quotations was sent to the interviewees by email, and they were asked to respond. The response received was positive and indicated agreement with my interpretation of the data.

**Chapter 4: Findings**

Findings from the survey provided demographic data as well as scores for use of the outdoors, well-being, and use of new pedagogies. These results also facilitated selection of interview participants.
From the qualitative response, in the form of interviews, I conceptualized main themes that help to explain the results of the survey and to answer the research question, *How can outdoor learning, when viewed as a new pedagogy, contribute to well-being for teachers?* The findings for both phases of the study will be presented here.

**Demographics**

Of the sixty-seven responses received, sixty-six responses to the survey met the inclusion criteria and were accepted. 42% of respondents identified as male and 58% identified as female.

The age range of the respondents fell into four categories: 11% of respondents were 20-30 years old, 42% were 31-40 years old, 32% were 41-50 years old and 15% were 51-60.

The teaching level was evenly distributed through the pre-school/primary (29%), secondary (35%) and post-secondary (36%) levels. Teachers identified their milieu as “urban” (47%), “rural” (35%) or “suburban” (18%).

The experience level of the group was quite high, with 66% of respondents having more than 10 years of teaching experience, 18% having 5-10 years of experience, and 15% having less than 5 years of experience.

**Outdoor scores and well-being scores**

In order to compare a teacher’s overall reported well-being (WB) with their general use of the outdoors and the natural world in their teaching, a combined well-being score and a combined outdoor score were used as described in chapter 3 (see Methodology – Analysis – Phase I: Well-being score/outdoor score). The *outdoor score* was the sum of the scores on four (4) questions pertaining to outdoor or Nature-based learning, as shown in Table 3.

I established a baseline for time spent teaching outdoors or using Nature by using the outdoor score. A score of 0 meant that a teacher neither goes outside with their classes, nor uses
Nature in their indoor teaching. A score of 18 was the highest possible outdoor score, and would indicate that a teacher goes outside often with their class and frequently uses Nature in their indoor teaching. Scores in my sample ranged from 0 to 18, indicating that within the survey sample, there was a wide range in teachers’ use of the outdoors and Nature.

Using Pearson’s correlation coefficient, I tested the Teacher Flourishing Scale (TFS) for correlation with the other three WB scores to determine if there is a relationship between the TFS and the other WB measures. A significant positive correlation \((p<.001)\) exists among the TFS, the TWBS, and the SPANE; the correlation is also significant \((p<.05)\) with the results of the general stress question. These results, along with the internal reliability of the questions on the scale (8 items, \(\alpha = 0.913\)) indicated to me that including the TFS in the WB score was appropriate.

<table>
<thead>
<tr>
<th>Table 4: Outdoor and well-being scores descriptive statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outdoor score</strong> /18</td>
</tr>
<tr>
<td>Valid</td>
</tr>
<tr>
<td>Missing</td>
</tr>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>Median</td>
</tr>
<tr>
<td>Minimum</td>
</tr>
<tr>
<td>Maximum</td>
</tr>
<tr>
<td>Std. Deviation</td>
</tr>
</tbody>
</table>

Well-being scores in the survey sample \((n=66)\) ranged from 70 to 179, out of a possible 196 (very high reported well-being). The scores were normally distributed, indicating that my sample is not skewed towards either high or low WB (see Table 4).

Since they were informed of the research purpose, teachers who use outdoor learning might have been inclined to rate their well-being higher than they would have if the research purpose had been kept from them. However, since the purpose of the research was to determine
not if, but *how* outdoor learning contributes to well-being, I feel that this is an acceptable limitation to the study.

**Outdoor score and well-being score correlations**

In order to investigate the relationship between a teacher’s overall well-being and their use of the outdoors and Nature, Pearson’s correlation coefficient was calculated between the overall WB score and the outdoor score for all respondents (n=66). Using a significance threshold of *p*<.05, I found a significant positive correlation between these two scores (*r*(64)=0.283, *p*<.05), indicating that there is a direct relationship between reported use of outdoor learning and reported well-being among teachers (Table 5).

*Table 5: Well-being score correlations with separate components of outdoor score*

<table>
<thead>
<tr>
<th>Components of outdoor score</th>
<th>Overall Outdoor Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of outdoor learning (%)</td>
<td></td>
</tr>
<tr>
<td>Frequency teaching outdoors</td>
<td></td>
</tr>
<tr>
<td>Role of Nature (indoor teaching)</td>
<td></td>
</tr>
<tr>
<td>Role of Nature (outdoor teaching)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component of outdoor score</th>
<th>Pearson's r</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of outdoor learning (%) of teaching time</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Frequency teaching outdoors</td>
<td>0.496***</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Role of Nature (indoor teaching)</td>
<td>0.169</td>
<td>0.415***</td>
</tr>
<tr>
<td>Role of Nature (outdoor teaching)</td>
<td>0.392**</td>
<td>0.584***</td>
</tr>
<tr>
<td>Overall Outdoor Score</td>
<td>0.714***</td>
<td>0.820***</td>
</tr>
<tr>
<td>Well-being score</td>
<td>0.168</td>
<td>0.150</td>
</tr>
</tbody>
</table>

*p < .05, ** p < .01, *** p < .001*

While the outdoor score was used as an overall measure of a teacher’s use of the outdoors and Nature in their teaching, both indoors and out, I was also interested to know how each separate component of the outdoor score (1 - amount of outdoor learning; 2 - frequency...
outdoors; 3 - the role Nature plays in indoor teaching; 4 - the role Nature plays in outdoor
teaching) contributed to well-being. Therefore, correlations were computed between the overall
WB score and each of the four components of the outdoor score. A significant positive
correlation was found between the overall WB score and the role that Nature plays in a teacher’s
indoor teaching ($r(64)=0.326, p<.01$), suggesting that a teacher’s connection with Nature in
general and how they use it in their teaching is more strongly related to their well-being than
how often they actually go outside with their students. Positive but non-significant correlations
were found between the well-being score and the other three components of the outdoor score.
See Table 5.

**New pedagogies score and well-being score correlations**

It was of interest whether a relationship exists between a teacher’s use of new pedagogies
and their reported well-being and flourishing. Teachers’ reported use of new pedagogies $^9$ was not
correlated to a significant degree with their overall well-being scores ($r(64)=0.194, p= ns$), nor
was it significantly correlated with any of the individual well-being measures, except for the
Teacher Flourishing Scale ($r(64)=0.253, p<.05$) (Table 6). This could indicate that the benefits
of using new pedagogies include elements of flourishing such as engagement, purpose, meaning,
and relationships. These elements of flourishing are captured by the TFS but not by the other
well-being measures employed in the study.

---

$^9$ Teachers’ New Pedagogies score was the sum of scores relating to questions that asked for an
estimated percentage of teaching time devoted to project-based learning, inquiry-based learning,
flipped learning, outdoor learning and genius hour.
Table 6: New pedagogies scores and well-being measures correlation matrix

<table>
<thead>
<tr>
<th>New Pedagogies score</th>
<th>Teacher stress Pearson’s r</th>
<th>n.s.</th>
<th>SPANE-B n.s.</th>
<th>TWBS n.s.</th>
<th>TFS 0.253*</th>
<th>Well-Being score 0.194 n.s.</th>
</tr>
</thead>
<tbody>
<tr>
<td>p-value</td>
<td>0.389</td>
<td>n.s.</td>
<td>0.420</td>
<td>n.s.</td>
<td>0.288</td>
<td>0.040</td>
</tr>
</tbody>
</table>

* p < .05, ** p < .01, *** p < .001, n.s. = non-significant.

In summary, the main findings in the quantitative phase were:

a) A significant positive correlation between the overall outdoor score and the overall well-being score ($r(64)=0.283, p <.05$);

b) A significant positive correlation between the overall well-being score and the role that Nature plays in a teacher’s indoor teaching ($r(64)=0.326, p <.01$);

c) A significant positive correlation between teachers’ new pedagogies score and their score on the Teacher Flourishing Scale (TFS) ($r(64)=0.253, p <.05$).

These results indicate that there are relationships between teacher flourishing/well-being and their use of new pedagogies and the outdoors/Nature in their teaching. The qualitative response in the form of semi-structured interviews provided insight on how and why this might be true.

**Qualitative response**

Scores from the analysis of the survey were used to purposefully select participants to be interviewed. Willing participants were selected based on demographics and on their calculated outdoor scores, new pedagogies scores, and well-being scores. Outlier scores, such as exceptionally high or low well-being scores, were of particular interest for exploration. See Methodology – Participants – Phase II.

**Purposeful sampling.** Out of 66 survey respondents, 24 were willing to be interviewed. Of those, 8 subjects from across Canada were selected and available for interviews. Two additional interviewees were referred through other means, without having completed the survey (see
Methodology – Participants – Phase II). The participants represent all levels of education and are all experienced educators. Their well-being scores ranged widely and they use outdoor learning and new pedagogies to varying degrees at this point in their careers. Table 7 provides an overview of the demographics and scores of the 10 interviewees.

### Table 7: Interviewee demographics and scores

<table>
<thead>
<tr>
<th>#</th>
<th>Name</th>
<th>Level</th>
<th>Years teaching</th>
<th>Relevant teaching style/setting</th>
<th>Well-being score /196</th>
<th>Outdoor score /18</th>
<th>New Peds. Score /25</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Stella</td>
<td>Post sec</td>
<td>16+</td>
<td>Land-based/ experiential</td>
<td>131</td>
<td>10</td>
<td>21</td>
</tr>
<tr>
<td>2</td>
<td>Bram</td>
<td>7-8</td>
<td>10-15</td>
<td>Outdoor ed./PE – in school</td>
<td>147</td>
<td>16</td>
<td>22</td>
</tr>
<tr>
<td>3</td>
<td>Floyd</td>
<td>K-8</td>
<td>10-15</td>
<td>Outdoor ed. – in OE centre</td>
<td>175</td>
<td>18</td>
<td>13</td>
</tr>
<tr>
<td>4</td>
<td>Ellie</td>
<td>K-6</td>
<td>10-15</td>
<td>OE, science – in school</td>
<td>150</td>
<td>18</td>
<td>13</td>
</tr>
<tr>
<td>5</td>
<td>Esther</td>
<td>Gr. 1</td>
<td>10-15</td>
<td>Meditation pedagogy/ in school</td>
<td>163</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>6</td>
<td>Louise</td>
<td>ECE</td>
<td>10-15</td>
<td>Forest school/emergent / home daycare</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7</td>
<td>Dana</td>
<td>K</td>
<td>16+</td>
<td>Reggio Emilia, play, self-regulation/ in school</td>
<td>140</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>8</td>
<td>JJ</td>
<td>7-8</td>
<td>10-15</td>
<td>OE + core grade 8</td>
<td>97</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>9</td>
<td>Nikki</td>
<td>K</td>
<td>16+</td>
<td>Outdoor, inquiry / in school</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>10</td>
<td>Charles</td>
<td>7-8</td>
<td>10-15</td>
<td>OE/ adventure ed. / in school</td>
<td>83</td>
<td>14</td>
<td>7</td>
</tr>
</tbody>
</table>

**Themes.** The analysis of the interview transcriptions saw three broad themes emerge from the data. These themes are not discreet, rather, they influence and support one another, weaving together at times and being distinct at other times. The three identified themes are: 1) Fulfilment through authentic pedagogies; 2) Relationships; and 3) Natural spaces and well-being. Theme 1 has been divided into two sub-themes: 1a) Fulfilment through using outdoor learning and 1b) Outdoor learning as an authentic pedagogy.

10 Outdoor, well-being and new pedagogies scores were not obtained for these participants, because the interviewees had not completed the questionnaire prior to interview. They were referred through other interviewees.
Stressors related to teaching and barriers to using outdoor learning were also discussed, but did not emerge as themes relating to the research question. In total, 23 stressors were coded, many of them only once. Since stress is an important factor in well-being, stressors and barriers will be discussed separately at the end of this section.

Theme 1. Theme 1 reflects how teachers are finding fulfilment, accomplishment and meaning through their use of authentic pedagogies, and primarily through outdoor and Nature-based learning. As mentioned, sub-themes were included for Theme 1 to highlight two specific concepts: a) teachers find fulfilment through their use of outdoor learning, and b) teachers describe outdoor learning in ways that are coherent with current understandings of new and authentic pedagogies.

Theme 1a: Fulfilment through using outdoor learning. Several teachers spoke about the satisfaction and pure joy they feel teaching a group outdoors. Floyd, who works at an outdoor centre, said, “[I] just see joy in their eyes, and I often will leave with a smile on my face because I know I’ve done something right to help them.” A teacher at a high school with a strong outdoor program, Bram spoke of opportunities for play with his students: “I love it, I love seeing the smile on their faces, goofing around in the snow with them; it’s recharging for me.” The play is refreshing for teachers and students alike, and “returning to class [after being outside], having that contact allows you to teach your subject more easily,” explained Charles. Ellie also observed that “…they’re better learners after they come back inside after a bit of activity or running around, or sunshine and fresh air.”

The satisfaction of teaching in a meaningful way has allowed Charles to find the motivation to do his work as a teacher, despite having quite a low well-being score (for other reasons that will be discussed in the “Teaching stressors and outdoor learning” section). He also
remarked that he feels a real sense of accomplishment from his work in the outdoor program, which keeps him in his job despite other difficulties and stressors he deals with.

In a similar vein, Ellie discussed the pride she felt about a student-led project in which students petitioned their township to commit to David Suzuki Blue Dot\textsuperscript{11}. Her prior work as an environmental and outdoor educator with these students had presumably led them to take this initiative, and this led to feelings of fulfilment, pride and accomplishment for Ellie. Dana, too, spoke of feeling pride in her kindergarten class’s efforts to reduce waste through reducing, recycling and composting: “I know that I brought that passion forward and that makes me feel really good, to know that, if I can at least start or massage a bit of an idea, then their eyes will be opened earlier than mine were.”

\textit{Theme 1b: Outdoor learning as an authentic pedagogy}. Seven out of ten interviewees refer to outdoor learning and its outcomes using language and examples that are coherent with Fullan and Langworthy’s definition of new pedagogies as using real-world, context-based learning, allowing students to become problem-solvers who contribute to the common good (2014, p. 2). Some mentioned increased student responsibility for themselves, each other, and the world around them, such as taking care of equipment, resolving conflict amongst themselves, or petitioning for social change. Others talked about the human qualities that develop through outdoor education. As Charles observed:

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They have to solve problems: we put them in difficult situations, and they don't have a choice, they have to find solutions, they learn to talk, they learn to listen, to find solutions, to make a plan... Those are qualities that will be useful to them later in their work environment… These are human qualities that they are developing and I think that – it motivates me enormously to do my work. So I wouldn't want to do another job.

Many teachers gave examples of how the outdoors provides real-world learning and a springboard for inquiry. A middle-school teacher, JJ explained why he takes learning outside: “[I’m] incorporating as much outdoor learning in science, geography, history, math – as much as possible. Even literacy. Giving kids those opportunities to be outside, and learn, real life, put things in real life context.” Ellie gave the example of grade 9 students taking the initiative to petition their township to commit to David Suzuki Blue Dot: “they actually, on them, they took that to the Township and they petitioned it and so that's something that those grade 9s felt really good about. And they made a difference, which is cool.”

Speaking of her colleagues, Nikki told how “… a lot of people say, ‘I can't get my kids, my kids aren't interested and they don't ask questions’. And the first thing I say is: ‘take them outside’. Because that's where the questions come from.” Likewise, Louise finds that in a preschool environment, the real-world context outdoors translates into her enforcing safety rules less because the children “see [the danger], it’s real for them. They see very well that it’s steep, there’s water, and eventually they understand that when there is water I can’t go by myself”.

Another key part of Fullan and Langworthy’s (2014) definition of new pedagogies is that “teachers are partners with students in deep learning tasks” (p. 7). Dana referred to this aspect when she described how:
[the kids are] teaching me, I am teaching them, I feel very whole when that is happening, whether it's with a three-year-old or with another adult in my room, or someone in my community, I really enjoy that we're all little experts in our own way. And that's the piece of that definition that I love the best. The partnership and the collaboration piece. And that's where I feel the best.

These learning partnerships provide fulfilment and meaning, and also accompany us into the second theme, “Relationships”.

**Theme 2: Relationships.** The theme “Relationships” reflects how teaching outdoors allows teachers to build positive and strong relationships with their students, each other, and the land and community outside the classroom. Learning partnerships between teachers and students are one way, as Dana described above. Louise expressed a similar perspective: “I feel that when I am outside I am equal to the child; I can learn as much from him as he can from me, and in our relationship, he can be himself and I can be myself and we are good with that.” Stella also described equalization of roles and of hierarchy when recalling expedition-based learning:

When you have to share a responsibility for creating meals together, when you and a student are legitimately working as hard as you can, side by side on a portage, and sharing that experience, then, you know – a lot of times you talk about in a classroom, trying to minimize the power dynamic, and certainly there were power hierarchies in that kind of a thing, with us being instructors but it also, there was a also a lot of equalization when you actually had to share the work of being out there together.

On wilderness expeditions, just like during an afternoon trip to the park, the outdoors acts as an equalizer and allows for teachers and students to work side by side and learn from one another.
Another main way that interviewees said their relationships were enhanced was through students and teachers having the opportunity to see each other in a “different light” – stepping outside the box together, both literally and figuratively. Nikki remarked that students who “might be more quiet and reserved inside, a lot of times will come out of their shell a little bit more outside… I think it helps see another side of your kids that you might not have seen before.”

Bram described how, at a higher grade level, the outdoors allows different strengths to be put to use, allowing students to shine in ways they don’t or can’t indoors:

I love seeing that kid that's in class struggling with a math problem or struggling with Language Arts or not the most popular kid in school, but in the outdoors we need to have everybody on the same page, and I can add the team building…and now this kid that is quiet in class is someone that everyone else is relying on, because he can light the stove properly or whatever, so it allows different leadership to bloom.

Floyd, who works at an outdoor centre and doesn’t have a regular class of his own, noticed that “teachers see their students in a new light when they’ve come here [to the outdoor centre]” – perhaps, like Ellie, these teachers have an opportunity to “see them as a kid, as opposed to just seeing them as someone that you're trying to ram information into. And I think as a teacher, that's helped me to sort of realize what our role is in the kids’ lives.”

Relationships work two ways, and the outdoor setting also allows students to see and relate to their teachers differently than they do in the classroom. As the outdoor education specialist at her school, Ellie regularly observes classroom teachers with their students in an outdoor setting:
The teachers will jump in and play, like, a game of thicket with the kids and they're chasing them around, and the kids get to see a good side of the teachers as well, because they embrace the learning, and they like running around with them, and it's neat to see that relationship form with them.

As Bram described, multi-day outdoor experiences allow students to appreciate their teachers as people with skills and lives outside of school:

Sometimes bringing a teacher on a trip – maybe the teacher coming is quieter, doesn't do much involvement or... But maybe they like to go jogging or they go on biking trips or... And then all of a sudden, the kids see that teacher and they're like ‘oh they're awesome, they're really good at biking!’.

Charles echoed this sentiment as well as my own experiences as an outdoor educator: “I think my relationship with my students is better, is richer than it would be if I only interacted with them in a conventional setting”.

Teachers said their relationships with other teachers and school staff are often strengthened through outdoor learning, however, some outdoor educators see themselves as outliers in the school and seek out others within the board or the wider outdoor education community for support. Ellie, who works with all classes and all teachers, finds her relationships enhanced compared to when she was a classroom teacher:

When I was a grade 3 teacher I was teaching in my classroom, in sort of a silo...you [sic] didn't really see what other teachers were doing. But now I teach with every single grade and every single teacher that I get to build that relationship on a professional level, but also a personal [level].
JJ sometimes finds it hard to be the only one in his school using and advocating for outdoor learning. He seeks out like-minded peers outside of his school to remind himself that he’s “not the only one out there doing these things”. His participation on an outdoor advisory board within his district provides him with a “community of people that are encouraging each other rather than discouraging”.

Charles’ experience is that his relationship with teachers is generally good, but that the supplementary logistical and preparation demands of outdoor education requires him and other outdoor staff to be separate from teachers during non-teaching hours:

At lunch time, we are always working on paperwork for our courses so we don’t eat in the staff room…it does separate us from the rest of the school and it is harmful to communication and to opinion sharing and idea sharing [outside of outdoor ed].

This experience, as JJ described, can feel isolating if teachers aren’t seeking out community and support outside their school. However, in many cases the culture difference that distinguishes outdoor educators from other teachers also serves as a cohesive bond among themselves, drawing them in and providing belonging in a tight-knit, outdoor-education culture and identity. Stella described a “shared sense of camaraderie and enthusiasm amongst people who identified as being part of an outdoor ed. culture” and added that for her, “ultimately, the well-being comes more from the community of learners than it does specifically from the outdoors”.


**Theme 3: Natural spaces and well-being.**

I like being their teacher, but I also like being their teacher outside. And I think it brings out the best in me and it brings out the best in them as well (JJ, interviewee).

Theme 3, *Natural spaces and well-being*, emerged as teachers described the positive effects that teaching outside, or even merely *being* outside has on their well-being. We know that natural spaces contribute to well-being for humans (see Chapter 2, *Well-being, sustainability and happiness*); participants in the study discussed several ways that spending teaching time in the natural world positively affects their well-being.

A primary benefit was on stress levels. The two participants with the lowest well-being scores, JJ and Charles, both discussed the positive effect that going outside has on their stress levels: “I feel better as a teacher when I can spend some time outside. When I take the kids outside, some of that…some of the stresses go away” (JJ). Charles leads an outdoor education day once every two weeks and described how “it puts our minds on something other than school, it allows us to take a break in our two weeks, go crazy a little bit”.

The authenticity of the natural environment allowed Louise to feel the burden of being the “police” around safety rules ease up and her stress levels go down, since the children recognize dangers for themselves and manage risks on their own to a greater extent. Nikki, who takes her kindergarten class out for a whole day once a week, also described lower stress levels outside: “It’s a day that’s a lot less stressful for myself. Very [much so], because I know the kids love it. And it’s nice to be outside with them, and they’re excited.” While many teachers did not articulate specific things about being outside that made them feel less stressed, Ellie did describe
the difference she felt as an outdoor specialist, and some specific reasons why she thinks she is
happier and healthier than she was as a classroom teacher:

When I was teaching grade 3 in the classroom, every year like clockwork I
would lose my voice in November and in February, because those were the
stressful times. Since I've been working outside, I’ve maybe been sick once in
the 7 years. Because I’m not in the germy building with all the germy kids. I'm
out in the fresh air, and I’m taking care of myself, and it forces me to drink
water, because I’m actually active and moving around, and think there are a lot
of benefits to it.

Of the 10 teachers interviewed, 8 discussed tangible or intangible benefits to their well-
being from using the outdoors in their teaching, such as: having more patience, finding pleasure
outdoors, “feeling a huge difference” when outdoors, feeling calmer, being more relaxed,
changing perspective, being able to “think better, feel better, due to the sights and sounds, the
smells and tastes out there” (Dana).

Dana, who spent time as an educator in an Autism Spectrum Disorder (ASD) classroom,
has also had an opportunity to compare her well-being with and without outdoor learning. Early
in the year, taking her class outside was not feasible due to the particular needs of the children
and the group management challenges it would have presented. “I really realized throughout that
– because we couldn't always get out[side]…. I realized how much – how I worked more every
day, and how I came home more exhausted, how I ate more, how I was constantly burnt out.”
Later in the year, when children were more comfortable, “we got to be outside more often,
because they were more regulated and could do that, and it made a world of difference. In my
own personal piece of getting my vitamin D every day, or my fresh air every day.” Now, Dana
works as a kindergarten teacher, and spends every morning outside with her class. “Every day is different, and every day is new when you're outside, because there aren't four walls,” she explained, “so how does that help with my happiness? It just really does.”

Three respondents talked about how sometimes, even teachers who are reluctant to go outside with their classes end up experiencing success and feeling the positive effects of time outdoors. Esther recalled the day that her school participated in “Outdoor Classroom Day¹²” when “every teacher was expected to do an outside lesson. It was told. It's not that you choose to; you have to do an outside lesson. And the teachers that usually hesitate did it, and … they said it went really well¹³”. Ellie has had similar experiences when teachers came outside reluctantly or despite time crunches:

And I think it's better for us, too. Getting that… a lot of the teachers will say,

‘Oh, it's so good, I'm so glad I came outside, because I got some sunshine, some fresh air, and now I'm back on track’. It makes a difference for us, too.

The teachers interviewed for this study all use outdoor learning to some degree, and all experience a personal need to be outdoors for wellness. Recalling her days as a grade 3 classroom teacher, Ellie said, “The type of person that I am, if it was a beautiful day outside and I was in a classroom, it's not good for me. I would sort of be looking out the window and wishing that I was out there”. Louise echoed this feeling: “Even before [I started teaching outside], being outside was a part of me. It's where I feel the best, where I feel the most wellness, it's in these

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¹² Outdoor Classroom Day is a global campaign to inspire and celebrate outdoor learning and play (https://outdoorclassroomday.com). Twice a year, schools can register to participate and commit to taking lessons outdoors and prioritising playtime.

¹³ I was not able to interview any teacher who had been expected to use outdoor learning who would otherwise been reluctant to do so.
vast spaces where I can just be me”. Dana, too, said “I always feel like I can be more ‘me’ when I am outside.”

*Stressors and barriers.*

*Stressors.* Through the interviews, teachers did discuss stressors in teaching and barriers to outdoor learning. In total, 23 stressors were coded, many of them only once. It is not within the scope of this study to determine or evaluate teacher stressors, rather to illuminate how outdoor learning might contribute to decreasing stress levels. Some of the main stressors listed (student conflict, noise levels in the classroom) are actually countered by outdoor learning.

[Working in a traditional daycare (CPE)] was awful, it was worse! It was worse because you also have all the other rooms [of kids] - oh yeah, the decibels are really too high in a daycare. It eats away at your energy. All the fights, the crying, everything that makes a loud noise. No, in a CPE it's worse. Even if sometimes I think, ‘ok, there is too much noise, we're going outside, I can't take it any more’. It impacts my patience and my level of tolerance; at a certain point, I have none. (Louise)

Respondents identified the following stressors they experience related to teaching:

- Student conflict indoors;
- Noise levels indoors;
- Justifying outdoor learning to administrators and colleagues;
- Excellent teaching impeded by competing pressures;
- Time constraints;
- Report cards and evaluations;
- Weather (for the outdoor education specialists).
The stressors that were mentioned most were student conflict and the amount of intervention needed from the teacher (11 mentions each). Noise levels in the classroom/school was also frequently mentioned (8 mentions). These two were alleviated by using the outdoors, where kids learn to solve problems among themselves and the noise is more acceptable/bearable. For these teachers, the need to enforce rules seems to be decreased outdoors or through outdoor education.

**Barriers.** While all the teachers in this study use outdoor learning to some degree, and also believe it to have value, they did identify barriers or obstacles that can make it difficult to implement, including:

- Lack of time combined with increased paperwork and organisation for outings;
- Lack of infrastructure for outdoor learning, including policy and procedures;
- Routines and patterns;
- Curriculum expectations;
- Fear of failure/ Lack of skills/confidence;
- Lack of support from administration;
- Inclement weather;
- Equipment and clothing needs (students and teachers);
- Traditional school system is restrictive;
- “Survival teaching” in first years means little time for innovation;
- Standardized testing – having to teach to the test;
- Lack of support from teachers/parents;
- Student-teacher ratio requirements.

The most frequently cited barriers were lack of infrastructure and support for outdoor learning (9 mentions) as well as time constraints (9) and curriculum pressures (6). Routine was
another common barrier that prevented teachers from going outside (7 mentions): the habit, developed over a lifetime, of working indoors means teachers sometimes just don’t think about teaching outside.

While I have teased apart the main themes that emerged from the data, they are interrelated, and some statements are relevant to more than one category. Fulfilment and meaning are associated with relationships and connection with Nature; learning outdoors allows for authentic pedagogy and meaning in teaching; and outdoor learning is linked to natural spaces and well-being. Figure 5 visually represents the findings and the interrelationship among the three themes that emerged from the qualitative analysis. These themes together contribute to explaining the main quantitative results: 1) that outdoor scores were positively correlated with well-being scores ($r(64)=0.283, p<.05$); 2) that Nature-based indoor teaching is positively correlated with well-being scores ($r(64)=0.326, p<.01$); and 3) that scores on the Teacher Flourishing Scale (TFS) were positively correlated to a teachers’ use of new pedagogies ($r(64)=0.253, p<.05$).
Figure 3: Qualitative results are interrelated and explain quantitative results

This chapter presented the results of the data collected in the quantitative and qualitative phases of research. The discussion that follows in the next chapter will illuminate these results in context of the literature on the topic, and will bring us closer to answering the research questions: 

*How can outdoor learning, when viewed as a new pedagogy, contribute to well-being for teachers?* and *How does outdoor learning align with the attributes of new pedagogies?*

**Chapter 5: Discussion of findings**

The purpose of this research was to identify how outdoor learning can contribute to well-being for teachers, and how outdoor learning aligns with the attributes of “new pedagogies”. The significant findings detailed in the previous chapter, and summarized in Figure 3, merit
discussion in the context of the literature and current scholarship on the subjects of new pedagogies, flourishing, natural spaces and well-being, and barriers and stressors associated with outdoor learning.

**New Pedagogies and Outdoor Learning**

The foremost theme to emerge from the interviews was the fulfilment that comes from using outdoor learning. I will begin discussion of this theme by confirming my earlier assertion, based on definitions and experience, that outdoor learning must be considered a “new pedagogy”. The participants in the study confirmed this assertion; their anecdotes and experiences make it clear that outdoor learning aligns with all of the attributes of new pedagogies described by Fullan and Langworthy (2014) and O’Brien (2016) in that it:

- engages students and revitalizes teaching through deep learning;
- engages students and teachers in “learning in ways far beyond meeting basic competencies and skills” O’Brien (2016, p.170);
- fosters learning partnerships between teacher and students;
- uses real-world, context-based learning.

In light of this knowledge, outdoor learning is considered to be a new pedagogy in the discussion that follows.

**Teacher Flourishing**

Much attention has been paid to the benefits of new pedagogies to students, but the Teacher Flourishing Scale (TFS) results suggest that using new pedagogies brings important benefits to teachers as well. The correlation between scores on the TFS and a teacher’s use of new pedagogies could indicate that using new pedagogies fosters aspects of flourishing such as engagement, purpose, meaning, and relationships. When teachers are partners in learning, and
contributing to students’ development as “creative, connected, and collaborative life-long problem-solvers and to be healthy, holistic human beings who not only contribute to but also create the common good” (Fullan & Langworthy, 2014, p. 2), they are engaged in work that they find meaningful and are able to develop positive relationships with their students. As O’Brien (2016b) discussed, new pedagogies, in relation to flipped learning, can lead to increased individual, personalized relationships with students and greater teacher satisfaction. These benefits also came through strongly in the narratives of many of the interview participants when they discussed outdoor learning.

**Enhanced relationships.** It is recognized that positive relationships are an essential component of well-being and teacher flourishing (Carney, 2015b; Seligman, 2011). Indeed, Carney (2015) emphasizes the importance of relationships by making it central to his model. The results of this study show that outdoor learning does foster positive relationships; this is consistent with findings from Dyment’s (2003) study in the Toronto District School Board that showed that student-teacher relationships were improved through the use of green school grounds: how or why might this be the case?

Early on in the interviews I started to notice a common phrase being used: “seeing my students in a different light”. This phrase, and variations on it, was used by nearly all of the interviewees: Either teachers saw their own students in a new light, or they observed other teachers seeing their students differently in the outdoors. “Whenever you get to see a kid in a different light, rather than just a classroom for 45 minutes, you make better connections” (Bram, interviewee).

Many factors might contribute to this new perspective. Stella, for example, spoke of a leveled-out power dynamic in wilderness expeditions that came from going through the same
hardships and being responsible for living well together. This equalizing effect of the outdoors might also occur on a smaller scale in a local park or wilderness area, when we are removed from the classroom and see ourselves in perspective as beings within Nature. The hierarchical power structure from the classroom is replaced by a web-like dynamic in which teacher and students operate on one plane and all are connected within the ecosystem. This perspective is coherent with a biocentric worldview in which all organisms are interrelated and equal in worth (Verhagen, 2008).

Seeing one’s students in a different light allows teachers to appreciate different talents and strengths that may not be apparent in the classroom. New pedagogies in general could contribute to this as well – when stepping out of the conventional teacher-student relationship and using pedagogies that engage students, teachers might see certain students “shine” in ways they hadn’t or wouldn’t with conventional instruction. However, despite our best efforts, the power dynamic in the classroom remains. Stepping outside of the classroom might allow teachers to truly become partners in learning with their students, away from the four walls, the desks and the blackboard, all of which serve as reminders of conventional hierarchies within the school.

The outdoor environment is unpredictable and less easily controlled than the classroom; learning opportunities present themselves sometimes in unexpected ways. Teachers who are comfortable teaching in the outdoors embrace this opportunity to engage in inquiry with their students, and must let go of the conventional view of the teacher as one who imparts knowledge. Students also have the opportunity to see their teacher in a different light: One who plays, explores, wonders, imagines and learns. As a new pedagogy, outdoor learning thereby fosters learning partnerships between teachers and students in unique ways.
Reduced teacher isolation. Outdoor learning often requires that teachers work with other adults, whether it be to provide an appropriate student/teacher ratio or to bring in outdoor skills expertise. A teacher might work with an outdoor education specialist or a gardening specialist, for example, or pair up with another teacher in the school. Gulwadi (2006) noted that teacher stress, particularly in elementary settings, is exacerbated by working most of the day in isolation from other adults, and with little respite. The fact that outdoor learning often requires another adult could help to reduce stress, increase enjoyment and improve relationships. As well, the time outdoors is a literal “change of scene” that provides respite from the classroom environment.

The altered hierarchy outdoors could also be a way to provide respite and reduce isolation. The teacher who sees herself as a partner in learning with her students might feel less stress related to having to “know it all”. As Palmer (1998) writes, in conventional pedagogy “students and the act of learning are more important than teachers and the act of teaching” (p. 118). There is little connectedness or community, and little meaning in it for the teacher. Outdoor learning fosters a community of learners centred around a subject which could lead to positive relationships and a reduced feeling of isolation and stress. Teachers still need peer support for what they are doing, and find that through supportive professional environments related to outdoor learning.

Supportive professional environment. Carney (2015b) discusses how a “supportive professional culture is as important for the success and well-being of teachers as a caring and inclusive classroom is for students” (p. 192). The culture specific to outdoor education and the unique challenges associated with it means that outdoor educators tend to seek out others using similar pedagogy. This provides a support network and creates communities of supportive peers.
who have similar goals, experiences and needs. Some teachers talked about the support that exists within their school, others found or created networks outside their schools. Outdoor educators who don’t have that support or encouragement within their school talked about feeling like outliers, and discussed challenges they had in connecting with school staff. In JJs case, for example, the main reason his well-being score was low was that he did not feel support for outdoor learning within his school. As a remedy, he sits on an outdoor advisory board within his school district, which provides him with the community of encouraging peers he otherwise lacks within his own school. Charles finds it hard to find time to connect with most of the staff, but does have positive relationships with the outdoor education group of teachers at his school. These supportive networks contribute to creating the safe and positive professional learning environment that is an essential element in teacher well-being.

**Relationships with Nature and place.** According to Priest (1986), outdoor education nurtures not only interpersonal and intrapersonal relationships, but also the “ekistic”, or the interaction between humans and their surroundings, and the “ecosystemic”, or the dynamic among all parts of the ecosystem. While current well-being discourse emphasizes positive relationships among people, it leaves out our relationships with Nature and the Earth, which are crucial to our well-being from an indigenous perspective (Bell, 2016). Considering also theories on biophilia (Wilson, 1984), which will be discussed in a subsequent section, we must acknowledge that our relationship with Nature is essential to our well-being. “I think no matter what I'm doing, the concept of land, and my relation with the land where I'm living, is always at the heart, I would like it to always be at the heart of my teaching…whether I'm outside or not” (Stella, interviewee).
An intriguing and unexpected finding was the correlation between the overall well-being scores and the role that Nature plays in a teacher’s indoor teaching, suggesting that a teacher’s connection with Nature is more strongly related to their well-being than how often they actually go outside with their students. This finding is consistent with work by Nisbet et al. (2011) demonstrating that people with higher Nature relatedness experience greater well-being. They suggested that learning about the natural world encourages us to reflect on how all life is interconnected, and to see ourselves as a vital part of Nature, thereby valuing all life more (Nisbet et al., 2011). Though they were studying the well-being of students, it is reasonable to assume that these same benefits would be experienced by a teacher who relates highly to Nature and for whom Nature plays an important role, indoors as well as outdoors.

This finding is significant because of the barriers to outdoor learning that have been identified by teachers (see Chapter 4: Findings, Stressors and barriers). Teachers who are reluctant to take students outdoors or who face logistical, administrative, or technical barriers to implementing outdoor learning, may find that using Nature as a mentor in their classrooms is an effective and positive “gateway” to outdoor learning that not only brings well-being benefits, but that also paves the way for sustainability and environmental education in their classrooms.

**Meaning and engagement.** A sense of purpose and meaning are essential to well-being (Carney, 2015b; Seligman, 2011). Engagement, or feeling interested, committed, and one with the task, is another important element contributing to well-being (Seligman, 2011). These concepts emerged in the interviews in different ways, particularly in Theme 1 (Fulfilment); they also relate to why using new pedagogies is associated with flourishing in teachers.

Teaching is a difficult, emotional, time-consuming, somewhat altruistic and moderately-paid profession that nonetheless attracts many people to it. Why do people choose to teach? The
literature tells us that teacher candidates are seeking purpose and fulfilment, hoping to make a difference through their work, and searching for meaning through “ideas, relationships and hope” (Manuel & Hughes, 2006, p. 11).

As discussed in the previous section, the relationships developed through outdoor learning contribute to meaning, as do several other factors. When teachers told of seeing joy in the faces of their students, they are talking about reasons why their work is meaningful. Others spoke of the pride and accomplishment they felt regarding their students’ initiatives and their development as responsible, caring human beings. Still others described helping to instil an environmental ethic and knowledge of the natural world in their students. Ellie said that teaching outside has helped her to “realize what our role is in the kids’ lives”. All of these examples suggest that outdoor learning can make teaching more meaningful to teachers, thus fulfilling their reasons for becoming teachers in the first place.

Comments from interviewees align with Dyment’s 2003 study for the Toronto District School Board, which revealed that teachers’ motivation and enthusiasm increased when they started using green school grounds, compared to teaching indoors. As well, teachers reported that their ability to meet diverse learning styles of their students increased, as did their use of interdisciplinary approaches and innovative teaching strategies. Using the outdoors as a learning environment and placing it at the “centre of the pedagogical circle” (Palmer, 1998, p. 119) leads to a learning community that is engaging, rigorous and holds meaning – for teacher and students.

Benefits to student learning and engagement were also identified in Dyment’s (2003) study, such as:

- increased student enthusiasm and engagement for learning;
- Improved student ability to retain knowledge and skills;
• Improved academic performance on standardized tests;
• Increased positive, civil and pro-social behaviour;
• Improved communication and cooperation among students.

These benefits have been noted more broadly in the literature (Blair, 2009; James & Williams, 2017). Improvements in student engagement and motivation have also been shown to lead to increased confidence and enjoyment in teaching (Martin, 2006). Thus, it would seem that outdoor learning can allow teachers to find high levels of meaning, enjoyment and engagement in their work, thereby contributing to their well-being.

“Character” education is one of the 6 C’s in NPDL (Fullan & Langworthy, 2014) and a main component of 21st century learning. According to interviewees, outdoor learning allows them to educate for character. Teachers spoke of decreased conflict, increased levels of environmental and social responsibility, problem solving, listening and communication, personal responsibility, and empathy. When teachers see these positive changes in their students, they feel pride, accomplishment, and that their work is meaningful, despite the long hours, endless paperwork and inclement weather. Working with these students also becomes more enjoyable, as strong relationships are built and students develop positive character traits. Bram even discussed how other teachers thank him for the outdoor education he does with his students, because those students are more enjoyable to teach. Students who are better at dealing with conflict and who require less discipline create a less stressful environment for the teacher. “It’s neat that those other programs can benefit from strong kids and their development” (Bram, interviewee).

**Self-awareness, identity and flow.** Several interviewees referred to a feeling of being themselves when outdoors in natural spaces. “I can just be me” (Louise); “I can be more me” (Dana); “The type of person that I am…wishing I was out there” (Ellie). Others described their
backgrounds and hobbies as being centered around the outdoors and Nature-based activities such as camp, camping, hiking, forestry, playing in the woods, etc. Clearly, the teachers in the study have a strong connection to Nature and feel comfortable, even “more like myself”, when outdoors in a natural environment. How does this contribute to their well-being?

Csikszentmihalyi’s (1975; 2008) work, including his flow theory14, can help to explain how working in a way that is congruent with one’s identity and values can lead to happiness. Flow theory has been an important contributor to positive psychology and Seligman (2002, 2011) essentially equates engagement with flow.

Csikszentmihalyi (2008) discusses how “someone who knows his desires and works with purpose to achieve them is a person whose feelings, thoughts and actions are congruent with one another and is therefore a person who has achieved inner harmony” (p. 217). The teachers quoted above are aware of their feelings and thoughts (their need to be outside, their love of Nature), and their actions at work – teaching outside – are congruent with these. Presumably, teaching in and about Nature is also congruent with their environmental values and ethics. It follows that their well-being would be positively affected by the congruency of thought, feelings and action stemming from using outdoor learning. Carney’s (2015) discussion of the importance of self-awareness to social-emotional learning supports this concept of alignment. Being aware of one’s needs, interests, and strengths, and aligning them with one’s actions, will lead to well-being and inner harmony.

14 Csikszentmihalyi defines flow as “a state in which people are so involved in an activity that nothing else seems to matter; the experience is so enjoyable that people will continue to do it even at great cost, for the sheer sake of doing it.” (Csikszentmihalyi, 2008, p.4). It is not a fixed state; rather, we can learn to achieve it through focusing our attention on a consciously chosen goal.
Conversely, Csikszentmihalyi (2008) describes how “many people feel that the time they spend at work is essentially wasted – they are alienated from it, and the psychic energy invested in the job does nothing to strengthen their self” (p. 68). Examining the reasons for teacher burnout and attrition described in the introduction to this paper, we can see that this, sadly, might be a common feeling for teachers. What is it, then, that might allow us to find flow at work, or what makes work more enjoyable, more meaningful and engaging? Csikszentmihalyi (2008) describes workers who find flow and great enjoyment in jobs that would likely be considered by others to be mundane, even soul-crushing. People who find meaning and engagement in these jobs describe little separation between work and pleasure; that is, they find pleasure in their work, seeking learning and growth in difficult work environments or potentially mundane tasks. In other words, people are finding freedom in their work, rather than seeking freedom from their work. Hensley (2011) draws on flow theory to explore how a feeling of freedom “leads to intrinsic motivation and fosters joy” (p.150); the teachers quoted above are aligning their thoughts, feelings and actions, finding freedom in their work, and thereby are more receptive to flow and joy in their teaching.

Louise’s case bears discussion here: I interviewed her because at the time, she was about to close her Nature-based daycare and I was curious to know why. Presumably, she was unhappy with her work, yet she had created a daycare that aligned with her values. Louise, though, didn’t feel that she could do a good enough job on her own. She felt that she needed a partner with complementary skills who could do the organizing, paperwork, and planning. She did not have the resources needed to make her daycare what she wanted it to be. As well, since she had a couple of very young babies in her care, she had to spend significant amounts of time indoors in the winter, which she recognized was not good for her mental health or for her teaching. Finally,
despite her love of children, and her desire to be outdoors, she found herself wishing she could do something else – something for herself – on a beautiful day. Her feelings, thoughts, and actions were not aligned, and she did not have the resources she needed to bring to life the vision that she had for her daycare. Lack of resources as a barrier will be discussed later in the chapter. Louise’s case draws our attention to the importance of adequate resources and support in successful education and teacher retention.

Recalling Seligman’s (2011) theory on flourishing, well-being is comprised of five elements: Positive emotion, engagement, meaning, positive relationships, and accomplishment (PERMA). In attempting to discover why well-being is positively correlated with a teachers’ use of outdoor learning, we see that outdoor learning allows a teacher to experience all of the elements of the PERMA model, and thus to flourish and find fulfilment as a teacher. In particular, positive relationships with students, other teachers, and Nature arose as important contributors to teacher well-being.

Natural spaces and well-being.

Biophilia and the “ immensity”.

We have the forest, the field, the river, the sea; it's all these places where there is breath and there is space: The immensity. (Louise, interviewee).

While many comments about Nature were intangible (for example, “I just feel better”), the literature supports what interviewees expressed about benefits of Nature contact on their well-being. When we look at our relationship with Nature from an evolutionary perspective, we see that since humans evolved and developed in natural environments, we have adapted to affiliate with living things (Wilson, 1984) and to experience a lesser stress response in Nature (Ulrich, 1993; Ulrich, et al., 1991). The biophilia hypothesis (Wilson, 1984) could explain why teachers
interviewed expressed their feelings about being in Nature in such broad, non-specific ways: it is just an innate part of them that they are fortunate to have recognized and that they strive to nourish.

The image of the “immensity” evoked by Louise brings to mind how stepping outside allows us to experience a vastness, to see a horizon, to feel small yet connected with the Earth. These things allow a change in perspective, clear, fresh air, and a recognition that we are part of an ecosystem. This is consistent with the idea that when we see ourselves as part of Nature, our well-being is positively affected (Nisbet et al., 2011). Louise’s immensity is impressive: she lives in Gaspésie, where inspiring landscapes are unavoidable; still, it has been shown that even spending time in nearby Nature including parks and other urban green spaces affects our well-being positively (Nisbet & Zelenski, 2011; Passmore & Howell, 2014).

This view of ourselves as inseparable from Nature aligns also with Indigenous worldviews of ourselves and everything on Earth as being connected, and of Nature being at the heart of well-being (Bell, 2016). Recognizing and honouring this link with Nature allows us to connect to our place, to our community, to others and to ourselves (Bow & Buys, 2003).

**Teaching stressors and outdoor learning.** A daycare or a school full of children is a noisy place where every sound ricochets sharply off the concrete walls and floors. Louise described how the noise in a traditional daycare was stressful and unpleasant for her; how it “eats away at your energy”, compared to outdoors where the sounds dissipate into the air. This was a common stressor for teachers that was relieved or eliminated by learning outside. Perhaps simply the expectations we have of children – of anyone – add to the stresses indoors. Children are expected to sit still and be quiet indoors, whereas outdoors they are not only allowed, but *expected* to be active, make noise, and expend energy (Rivkin, 1998). This must contribute to
children’s well-being but also relieves the stress from teachers who, for a brief time, are freed from having to modulate noise or ensure a silent march through the corridors.

Conflict intervention was another main indoor stressor that was mentioned by preschool and primary teachers. Teachers spoke of how outside, conflicts occurred less frequently and often got resolved without their intervention. Perhaps this is because, as Ouvry (2003) suggests, outdoors there is more space and children can move more easily away from confrontation. Louise also thinks that because outdoors she is physically further away from the children, they come to her with complaints less automatically than they do indoors. They look around, see that she’s not right there, and either deal with their issue or move on to playing somewhere else. Children are also able to play, imagine, and move more freely in a bigger space: They are freer, thus experience more joy in their play (Hensley, 2011), and conflict simply arises less often. Teachers, in turn, are relieved of the stress that comes from conflict intervention.

Many of the other stressors mentioned by interviewees were related to trying to implement outdoor learning in a context that did not support it as well as it could. Using new pedagogies in a traditional system can be difficult because of a lack of support, time, and competing pressures and expectations. In particular, justifying the use of outdoor learning can be exhausting for teachers, as well as the paperwork, extra time and resources needed to take students out (often on weekends/holidays). Indeed, those with the lowest well-being scores (Charles and JJ) said that their biggest stressors were lack of support from colleagues, lack of infrastructure for supporting outdoor learning and other authentic pedagogies, and curricular pressures imposed by the school board or province. According to them, these stressors contributed to their lower well-being scores. Despite these difficulties and high stress levels, Charles and JJ find fulfilment and joy through outdoor education and have no intention to leave
their schools or their profession. Outdoor learning allows them to align their feelings, thoughts and actions, perhaps thereby compensating for the stress they feel in their schools. When asked if he would be better off if his outdoor program were cancelled and he became a “regular” physical education teacher, Charles responded,

I love being in a gym and I'm a good phys-ed teacher, but I love doing it outside…. I think that if tomorrow the program didn't exist anymore and I was a phys-ed teacher in my gym, I would, oh my goodness – I would have so much extra time! I would have so much free time in the evening for my family for my partner, the weekend. So that part I would like. But, if the program was cancelled, I would look for another job where a similar program existed or I would look for a school that wanted to develop one. Because it's... it's my specialty, it's where I feel I can contribute, and I think that, for me [outdoor education] is the best way I've found to help our society.

Lack of support, lack of time, lack of resources, competing expectations and pressures are stressors that would be less prevalent if outdoor learning were more widely supported and recognized by governments, school boards, faculties of education, school administrations and other teachers. If, as Dyment (2003) recommends, outdoor learning and its myriad benefits were supported and recognized through curriculum policy, curricular resources, pre-service teacher training, professional development, and funding, then teachers would not be struggling against the tide to teach outdoors, and the benefits of outdoor learning would be experienced by all students and teachers.

The restorative effect of Nature on teachers. A primary benefit of outdoor learning on teachers in this study was on stress levels, particularly when that learning happens in natural
spaces. While using outdoor learning did not alleviate all of the stressors related to their jobs, many did describe how “stresses go away” (JJ) when they can spend some time outside. Dana told about being “exhausted…constantly burnt out” when she taught in an ASD classroom and couldn’t get outside with her class. Ellie was sick every November and February before she started teaching outside. Literature on the restorative effect of Nature supports these teachers’ claims that spending in natural environments has a positive effect on stress levels, illness (Ulrich, 1993) and mental fatigue (Kaplan, 1992; 1995). Notably, Kaplan’s (1992; 1995) theory of restorative environments supports the idea that spending time in natural environments can provide a restorative effect for teachers. A restorative experience is one that facilitates recovery from mental fatigue, caused by too much directed attention. Components of the restorative environment are easily found in natural spaces and allow for:

1) A feeling of “being away” (being in a different setting);

2) sufficient scope to engage the mind and is rich enough to be considered a whole other world;

3) fascination: a stimulus that keeps one absorbed without having to think about it (involuntary attention), much like a state of flow;

4) Compatibility between the environment and the purposes and inclinations of the individual (Kaplan, 1992, 1995).

While vast, sweeping natural landscapes – Louise’s “immensity” – easily qualify as restorative environments, the four components listed above can also be found in nearby Nature, parks and schoolyards. Passmore and Howell (2014) support this, showing that well-being benefits happen even when Nature-based activities are simple and happen close to home. Activities chosen by their study participants included walks in parks, picnic lunches, and studying in the backyard.
These are similar to what a teacher might do on a neighborhood walk or in a green schoolyard, suggesting that the restorative effect of Nature is accessible to teachers even in urban schools and is a realistic way to improve teacher well-being. Dana’s and Ellie’s stories of stress, burnout and illness also suggest that teacher attrition could be prevented – in their cases, perhaps it was prevented – if outdoor learning were more widely understood, promoted and supported.

**Teachers with less Nature connectedness.** Of course, not all teachers feel a strong connection with Nature or experience a need to be outdoors. Not everyone is comfortable in Nature – let alone teaching outdoors – and the many pressures put on teachers mean that they don’t think they have the time to go. These teachers might experience fulfilment through the engagement and flow that comes of using new pedagogies in the classroom, and other well-being benefits associated with relationships and meaning, but it is probable that even teachers with lower Nature relatedness would find enhanced well-being benefits through teaching outdoors in a natural space. Interviewees Ellie and Esther both told of teachers who were reluctant to participate in outdoor learning and who were subsequently pleased with the result and happy to have spent time outdoors. Passmore and Howell (2014) determined that well-being effects of Nature are experienced even by those with low levels of Nature connectedness. It has also been shown that people often fail to anticipate the well-being effects that spending time outside will have on them (Nisbet & Zelenski, 2011). As we have seen, positive relationships with students, other adults, and Nature are developed through outdoor learning. Additionally, being in a natural setting benefits our well-being, regardless of Nature relatedness. It follows, then, that outdoor learning – particularly when it is Nature-based – is a “new” pedagogy that could contribute to well-being and flourishing for all teachers – even if they don’t think it will – and therefore should be supported and encouraged within the entire system.
Considering that well-being benefits were found to be associated with indoor Nature-oriented teaching, teachers who are less comfortable taking a class outside might experience benefits through using Nature as a mentor in their indoor lessons. Further research that supports teachers’ integration of indoor Nature-based teaching could investigate the impact of this pedagogy on teacher well-being.

**Barriers to using outdoor learning**

Teachers may be reluctant or unable to take their students outside for many reasons: time, weather, logistics, lack of support from administrations, class size, curriculum expectations, lack of confidence and skill in outdoor pedagogies – these have been named as common barriers to outdoor learning by the respondents in this study and are commonly listed in the literature as reasons why teachers don’t teach outside (Dyment, 2005; Waite, 2010). Many of these are technical barriers (proper clothing can address weather issues, for instance), but it is worth noting that teachers in this study with the lowest well-being scores were those who had the least support through their school for outdoor learning. Having to spend time justifying the value of outdoor learning over and over again to new administrations was exhausting for Charles, and Stella found that she was not supported through policy and resources, making her job more difficult. JJ talked about feeling alone in his school and that other teachers and administrators made him feel that taking students outside was not valuable pedagogy – for this reason he sought out others on the Outdoor Advisory Board who were “encouraging each other rather than discouraging”.

Other barriers named by interviewees can be partially addressed by improving support in schools, but this must in turn be supported by curriculum, policy, resources, professional development and pre-service teacher education. Even when schools green their grounds, presumably because they believe in outdoor learning and the benefits of natural spaces, teachers
are not always supported as well as they could be in their use (Blair, 2009; Dyment, 2003). Professional development, pre-service teacher education, curriculum policy and curricular resources should be provided so that teachers feel and are equipped to use outdoor learning on their school grounds or elsewhere, so that they feel that what they are doing is valuable and appreciated by others, and so that they can feel fulfilled in their roles as teachers.

Teachers who are less comfortable teaching outside could start by incorporating Nature into their indoor teaching. This could serve as a “gateway” to outdoor learning and still bring well-being benefits. Using Nature as a mentor could be supported at the school level; the Living School concept is a vehicle currently being used to promote connection with Nature through an integrated curriculum rooted in living systems (O’Brien & Howard, 2016).

One other barrier that bears discussion is “routine”, meaning that despite wanting to teach outdoors, or knowing its benefits, teachers have developed habits and routines that override change. As Dyment (2005) discusses, most teachers have been in classrooms all their lives; for them, teaching and learning happens in a classroom, and it can be difficult to change habits. As well, the system supports this traditional paradigm, through teacher education programs, the design of schools, and the expectations communicated through standardized tests and curriculum documents. As we continue to recognize the benefits of outdoor learning for students and teachers alike, we must change the way pre-service teachers are taught, the way schools are designed, and what we expect of schools: so that when a future generation of teachers “teach how they were taught”, they draw upon a model that includes outdoor learning.
Limitations

Some limitations to this study have already been discussed throughout the third and fourth chapters of this thesis. With the benefit of hindsight and by reflecting on my results, I have identified others that bear discussion here.

The results that informed the qualitative phase of the study were largely based upon a “well-being score” that I created by adding the scores on four different well-being measures. As I explained in the Methodology section, I did this in order to account for the different aspects of well-being that I wanted to measure. Limitations here include the problems inherent to self-reporting, particularly around well-being, which could be affected by any number of punctual events. Additionally, since participants knew that the research was linking outdoor learning with well-being, teachers’ personal biases toward outdoor learning might have incited falsely positive responses to well-being questions. Since some of the most ardent supporters of outdoor learning had low well-being scores, though, I believe that respondents tried to give honest answers.

Another limitation to the validity of the quantitative results is that the Teacher Flourishing Scale (TFS) has not been validated. The TFS asks about elements of a teacher’s work-related flourishing and was derived from both validated scales and current theory on flourishing. In addition, Chronbach’s alpha indicated excellent inter-item reliability among the items on the test, and the results of the TFS correlated to a significant degree with the other well-being measures used. However, the sample size was relatively small (n=66); this sample size might be considered a pilot test of the TFS. Further validation of the TFS as a way to measure teacher flourishing would be needed in order to use the scale in future research.

Though I was unable to find a willing participant, it would have been illuminating to interview a teacher who had been “told” to use outdoor learning by their administration, as
Esther described when she talked about Outdoor Classroom Day, or a teacher who is reluctant, hesitant, or lacks the confidence to engage in outdoor learning. Teachers who do not embrace outdoor learning, without the proper supports, may feel more stressed if required to use it or may simply not enjoy the outdoors. However, given that people experience well-being benefits from being in natural spaces regardless of their Nature connectedness (Passmore & Howell, 2014), and considering the fulfilment and meaning associated with using outdoor learning as a new pedagogy, an interesting direction for further research would be to understand whether encouraging outdoor learning in otherwise reluctant teachers, can positively affect teacher well-being, and how best to support those teachers to achieve the best outcomes.

Summary

Through the use of outdoor learning as a new pedagogy, teachers are flourishing through enhanced relationships, meaning, purpose and engagement in teaching. Their relationships with students, other staff, and with Nature are deepened. A supportive professional environment can lead to increased engagement but can be harder to find for those who identify strongly with an outdoor education culture; those who can’t find it within their schools find it elsewhere.

Teachers who have a strong connection to Nature and who use Nature-based learning both indoors and outdoors are able to align their work with their values and their concept of themselves. Their feelings, thoughts and actions are in harmony and lead to flow. These teachers find purpose and meaning in what they are doing; through character and leadership development, sustainability education, and Nature connection, they feel they are making a difference and contributing to society, which is what likely led them to teaching in the first place.

Innate biophilia as well as restorative natural environments lead to increased happiness and decreased stress levels. These benefits are achievable in nearby natural spaces, meaning that
it is not necessary to find remote wilderness to experience improved well-being through Nature. In addition, even teachers with lower Nature connectedness are likely to experience Nature-related benefits to their well-being.

Teachers who are passionate about outdoor learning will make it happen in spite of the barriers and stressors they face. However, in order for outdoor learning to benefit all teachers in the ways discussed in this chapter, it must be supported across the board: during pre-service teacher education, through professional development, by providing resources to boards and schools, and through curriculum, policy and standards.

Although some limitations affected the study, the findings still demonstrate important conclusions with regards to how outdoor learning and connecting to Nature through indoor teaching can positively impact teacher well-being. Further research would be valuable in establishing the validity of the TFS, as well as in exploring how encouraging a certain degree of outdoor learning in reluctant teachers could positively impact their well-being. In addition, current models of well-being and of new pedagogies would benefit from expansion, in order to include Nature and outdoor learning.

**Conclusion**

The purpose of this research was to identify how outdoor learning can contribute to well-being for teachers, and how outdoor learning aligns with the attributes of “new pedagogies”. In light of widespread teacher burnout and attrition, as well as pervasive disconnect between both children and adults and the natural world, it is crucial that we consider teacher well-being and that we find ways of connecting to Nature in the places where we live and work. Nearby Nature such as that found in school gardens, green school grounds and local parks is essential to any
solution involving Nature-based or outdoor learning, to diminish costs, time, and logistics involved in outdoor learning experiences.

The literature review examined causes of teacher burnout and attrition, as well as some initiatives in school health, positive psychology and Living Schools that could contribute to a solution. Connection with Nature, environmental ethos and sustainability education also informed the study. The study was approached considering outdoor learning as a “new pedagogy”; as such, this theory informed the exploration of well-being benefits associated with outdoor learning.

An explanatory sequential mixed methods approach with a participant selection model (Creswell & Plano Clark, 2018) was used to research the questions. In the quantitative phase of research, a survey of 66 practicing teachers using four different well-being measures revealed that there is a positive correlation between a teacher’s use of outdoor learning and their well-being. In particular, a teacher’s use of Nature in their indoor teaching was correlated with their well-being. Finally, a teacher’s score on the Teacher Flourishing Scale (TFS) correlates positively with the amount they use new pedagogies, including outdoor learning, in their teaching.

In the qualitative phase, interviews with ten purposefully sampled teachers revealed reasons why these correlations exist; specifically, how well-being and flourishing are associated with outdoor, Nature-based learning and new pedagogies.

Research conclusions

Early in this thesis I argued, on the basis of definitions and personal experience, that outdoor learning is a “new pedagogy”. The qualitative results of this study clearly show that outdoor learning is an authentic pedagogy that is based in real-world, context-based, character-
building experiences and aligns squarely with the definitions and ideology behind new pedagogies. Outdoor learning creates highly meaningful learning experiences that allow teachers to teach in accordance with their values and to feel they are making a difference through their chosen profession.

Furthermore, the results show that outdoor learning stands out among other new pedagogies in its relationship-building capacity. While all new pedagogies do create meaningful learning, and likely contribute to flourishing, outdoor learning in particular often allows for contact with Nature and brings teachers and students “outside the box” both figuratively and literally into a space where they can see one another in a new light and create true learning partnerships. Including outdoor learning in the new pedagogy discourse will extend the reach and effectiveness of both new pedagogies and sustainability education. To answer the research questions, then, outdoor learning must be viewed as a new pedagogy. It contributes to teacher well-being through several mechanisms associated with relationship-building, flourishing, and Nature-connectedness.

Outdoor learning enriches relationships between teacher and students, as well as those among colleagues. Teachers and students are given the opportunity to see one another in a “different light”. Relationships with other staff are enhanced as outdoor learning often requires teachers to work with other adults, thereby reducing teacher isolation. In addition, the culture of outdoor educators leads to and demands a supportive professional environment either within or outside the school. Finally, when outdoor learning is Nature-based, relationships with Nature are enhanced, and spending time in restorative natural environments promotes well-being and reduces stress. The outdoor environment is a less stressful teaching environment due to decreased conflict and noise. Nature-based teaching indoors also contributes to well-being
through developing Nature connectedness. All of these relationships contribute to flourishing and hence, to well-being.

Teachers find meaning and purpose through the outcomes of outdoor and Nature-based pedagogy, which include character development, leadership, inquiry, and concern for the environment. They are thus able to align their identity, values and actions through their teaching, and find joy, freedom and flow in their work. These benefits contribute to flourishing as well as physical and mental health in teachers and thus lead to perseverance in teaching rather than attrition and burnout. However, stress can be caused by struggling against the tide to obtain the support needed to design and implement effective outdoor learning. This research has shown that outdoor learning is a new pedagogy that contributes considerably to sustainability education, teacher well-being and flourishing. The implications to this new knowledge are significant.

Implications

Knowing that outdoor learning contributes to teacher well-being in so many different and valuable ways, what are the implications for teachers, schools, and education as a system?

To return to the initial problem, attrition and burnout could be reduced if outdoor learning were supported and encouraged on all levels. It is important to look at the system as a whole in order to make changes that will be effective. While supporting outdoor learning in schools will help teachers who are already inclined to use it, the well-being benefits for all teachers would be enhanced by explicitly shifting education policy and practice so that outdoor learning becomes a “normal” way of teaching – an additional tool in the pedagogical toolkit. To achieve this, pre-service teacher education programs would need to emphasize Nature-based and outdoor learning as an effective, new pedagogy and model its use. In addition, curricula designed to incorporate outdoor learning to meet learning outcomes across disciplines would not only contribute to
advancing outdoor learning but could also contribute to indigenizing education through culturally appropriate inclusion of Indigenous worldviews. Using language inspired by Nature in curriculum documents and resources could encourage teachers to use the outdoors as a classroom and to engage in Nature-based learning indoors as well. At the same time, professional development opportunities would need to be designed, prioritized, and recognized in order to increase practicing teachers’ comfort levels with Nature-based and outdoor teaching, and resources such as specialists, budgets for transport and equipment, and even clothing would be required.

It is not sufficient for teachers to be the only ones advocating the use of outdoor learning as a new pedagogy. It will be essential that administrators push for and support this as well if system-wide transformation of policy and practices are to be realized. Since we know that a strong connection with Nature is not required in order to experience the benefits of Nature contact, outdoor and Nature-based teaching and green school grounds/school gardens could have a positive impact on teacher well-being if encouraged and supported across the board. The Living Schools movement is an excellent vehicle to bring Nature-based teaching to schools, both inside and outside its walls.

Reduced attrition and teacher burnout would benefit schools, children, and society as a whole. Additionally, Nature-oriented outdoor pedagogies such as garden-based and place-based learning are effective vehicles for sustainability education and for creating connection with nearby Nature. Pro-environmental actions and attitudes in both students and teachers are a likely result. The happiness and well-being that will be born of Nature contact will in turn spawn an ethos of sustainability.
Making it “normal” to learn outdoors and to be inspired by Nature means that when children grow up to choose teaching as a profession, “teaching as they were taught” will involve outdoor learning. The cycle will be complete.

**Recommendations**

Three recommendations for further research have come of this study. The first would be to validate the Teacher Flourishing Scale and to continue research on what contributes to teacher flourishing. The second is to study if well-being benefits are experienced by teachers who are reluctant to use outdoor learning but who are encouraged to do so. While expecting teachers to use a certain (foreign) pedagogy would likely lead to resistance from some, and is counter to the ideas of teacher autonomy, “flow” and flourishing, getting buy-in for a certain amount of outdoor learning and providing appropriate support still leaves ample room for teacher creativity and autonomy. “Outdoor Classroom Day” is an initiative that some schools are participating in and could be a way to slowly integrate outdoor learning into the culture of a school, provided that teachers are well-supported through professional development, resources, and time.

A third recommendation for further research is born of the unexpected finding that teacher’s well-being scores were significantly correlated with the extent to which Nature plays a role in their indoor teaching. While the well-being of students has been studied in relation with Nature-relatedness (Nisbet et al, 2011), the same has not been done specifically for teachers. Exploring how Nature-based indoor teaching could impact teacher well-being could allow schools to eliminate some of the logistical, administrative and technical barriers to Nature-based (outdoor) learning, while providing similar benefits to the well-being of teachers.
Two further recommendations involve the expansion of current models of well-being and new pedagogies to include Nature-based and outdoor learning; and supporting pre-service and in-service teachers in incorporating these into their practice.

Emphasizing the benefits of Nature connection and outdoor learning as a new pedagogy on teacher well-being in pre-service teacher education programs could be achieved as pre-service teachers are introduced to new pedagogies. Expanding the discussion of new pedagogies to include outdoor learning and sustainability education could encourage new teachers to incorporate them into their practice as they are forming their teaching habits and philosophy. Further research could examine the most effective ways of introducing these pedagogies to teachers, and track the well-being or attrition rates of teachers who are using them.

It is also recommended that the well-being models currently informing practice in healthy school communities be revised, or new models be created, to reflect Nature’s role in well-being and flourishing. For example, *relationships with Nature* could be included as part of Seligman’s (2011) “positive relationships” or Carney’s (2015) relationship-centred model of well-being in schools. The healthy school communities movement would benefit from recognizing and promoting the role of Nature in school health and teacher well-being. Promoting relationships with Nature will likely go hand in hand with sustainability education and will open the door as well to incorporating Indigenous worldviews within the curriculum.

Outdoor learning has brought me closer to Nature, to others, to my students and to myself. Teachers in this study have helped me to explain how using outdoor and Nature-based learning contributes to their well-being. It is my hope that all teachers across Canada begin to teach “outside the box” so that they, and their students, can reap the benefits of connecting with Nature and each other outdoors. It is vital for our children’s futures as healthy, holistic
contributors to society that they learn to see themselves as part of Nature and as change agents for a more sustainable future. Humans’ disconnect with Nature has far-reaching implications, both within ourselves and for the very survival of our species. Perhaps embracing outdoor and Nature-based learning can bring us all closer to Nature, closer to each other, and closer to ourselves.

Nature is not merely “nice”. It is not just a matter of improving one’s mood, rather it is a vital ingredient in healthy human functioning” (Kaplan, 1992, p. 141).
References


Appendix A: Questionnaire

*Required question

Consent & inclusion
1. Informed consent: Do you agree to participate in this study? *
   o Yes
   o No  *Skip to question 24.

Participant information
2. Are you a practising teacher? *
   o Yes, I currently teach at least part-time
   o No, not a practising teacher  *Skip to question 24.

Demographics
The following questions will help us understand the demographics of our respondents.
3. How old are you? *
   o 20-30
   o 31-40
   o 41-50
   o 51-60
   o 60+

4. I identify my gender as:
   o Female
   o Male
   o Transgender
   o Other:

5. At what level do you teach? If you teach at more than one level, please select the level you teach at most frequently. *
   o Preschool (Pre-kindergarten)
   o Primary (K-6)
   o Secondary (7-12)
   o Post-secondary

6. Which option best describes your school setting? *
   o Urban
   o Suburban
   o Rural/ small town

7. For how many years have you been a practising teacher? *
   o 0-5
   o 6-10
   o 11-15
   o 15+
**Pedagogy**
This section will explore different pedagogies you use in your practice.

8. For each row, please read the descriptor and indicate the average amount of time spent using each strategy in your classroom over the span of a typical year. *
Please provide an answer for each row:

<table>
<thead>
<tr>
<th>Answer choices:</th>
<th>Never</th>
<th>About 10% of my class time</th>
<th>About 20% of my class time</th>
<th>About 30% of my class time</th>
<th>More than 30% of my class time</th>
<th>More than 50% of my class time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Inquiry-based learning (a form of active learning that starts by students posing questions, problems or scenarios)</td>
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<tr>
<td>2. Flipped learning (reverses the traditional learning environment by delivering instructional content, often online, outside of the classroom. Contact time with students is used for learning activities).</td>
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<td>3. Genius Hour / 20% time or Passion-based learning (allowing students to spend a set amount of class time per week on a project that interests them)</td>
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<tr>
<td>4. Project-based learning (students gain knowledge and skills by working for an extended period of time, often in teams, to investigate and respond to an authentic, engaging and complex question, problem, or challenge)</td>
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<td>5. Direct instruction (Delivering content to the class)</td>
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<td>6. Outdoor learning (learning that takes place outdoors, be it on the school grounds, in the community, or in a wild place)</td>
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</table>

If you would like to elaborate on or explain any of your answers to the above question, please do so here:

9. In general, or on average, how often do you take your class outside for a learning activity? *
   - Never
   - Once or twice a year
   - once a month
   - once or twice a week
   - 3-5 times a week
   - More than 5 times a week

10. Do you take your students outside more often at different times of the year? (check all that apply) *
    - Not applicable, I don't take my students outside.
    - No, it's pretty consistent throughout the year
    - Yes - We are outside less often in winter
    - Yes - We are not outside as much close to exams
    - We only go outside in fair weather
    - Other:

11. Please indicate the types of outdoor spaces that are AVAILABLE for you to use in your teaching (check all that apply): *
    - Green school grounds (natural or naturalized areas on school property)
    - Nearby park(s)
    - School garden
    - Wilderness areas requiring bus transport
    - School yard (hard surface)
    - Wilderness areas within walking distance
    - Walkable community
    - Outdoor centre
12. Please indicate the types of outdoor spaces that you use in your teaching (check all that apply):*
   o Not applicable
   o Green school grounds
     (natural or naturalized areas
     on school property)
   o School garden
   o School yard (hard surface)
   o Walkable community

13. What subjects or disciplines do you teach outside? (check all that apply) *
   o Not applicable
   o Math/ Science/Technology
   o Language arts/ literature
   o Second language instruction
   o Arts (music/ visual art/
     dance/ drama)

14. What type(s) of outdoor learning do you use? (check all that apply) *
   o Not applicable
   o Outdoor/ adventure education
   o Garden-based learning
   o Place-based learning
   o Nature-based learning
   o Other:

15. What role does Nature play in your teaching INDOORS? *
   o Nature does not play a role in my teaching indoors.
   o I sometimes incorporate Nature into my classroom teaching.
   o I often incorporate Nature into my classroom teaching.
   o Nature plays an important role in my classroom teaching.
   o Nature is the central element to my classroom teaching.

16. What role does Nature play in your teaching OUTDOORS? *
   o Nature does not play a role in my teaching outdoors.
   o I sometimes incorporate Nature into my outdoor teaching.
   o I often incorporate Nature into my outdoor teaching.
   o Nature plays an important role in my outdoor teaching.
   o Nature is the central element to my outdoor teaching.
Well-being
17. In general, how stressful do you find being a teacher?15 *
   - 0- Not at all stressful
   - 1- Mildly stressful
   - 2- Moderately stressful
   - 3- Very stressful
   - 4- Extremely stressful

18. Please think about what you have been doing and experiencing (RELATED TO YOUR WORK) during the past 4 weeks. Then report how much you experienced each of the following feelings, using the scale below16. For each item, select a number from 1 to 5, and indicate that number below. *

<table>
<thead>
<tr>
<th>Feeling</th>
<th>Scale</th>
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<tbody>
<tr>
<td>Good</td>
<td>1 (Very rarely or never)</td>
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<td>Happy</td>
<td>2 (Rarely)</td>
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<tr>
<td>Positive</td>
<td>3 (Sometimes)</td>
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<tr>
<td>Afraid</td>
<td>4 (Often)</td>
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<tr>
<td>Contented</td>
<td>5 (very often or always)</td>
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<tr>
<td>Sad</td>
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<td>Joyful</td>
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<td>Angry</td>
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<td>Negative</td>
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<td>Unpleasant</td>
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<td>Bad</td>
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<tr>
<td>Pleasant</td>
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</table>

19. Currently, how do the following aspects of being a teacher affect your well-being as a teacher?17 *

<table>
<thead>
<tr>
<th>Answer choices:</th>
<th>1 - Negatively</th>
<th>2 - Mostly negatively</th>
<th>3 - More negatively than positively</th>
<th>4 - Neither positively nor negatively</th>
<th>5 - More positively than negatively</th>
<th>6 - Mostly positively</th>
<th>7 - Positively</th>
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<tbody>
<tr>
<td>i.</td>
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<td>viii.</td>
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</table>

15 (Boyle, Borg, Falzon, & Baglioni, 1995)

16 Scale of Positive and Negative Experience (SPANE) (Diener, et al., 2010)

17 Teacher Well-Being Scale (TWBS) (Collie, Shapka, Perry, & Martin, 2015).
ix. Marking work
x. Working to finish my teaching tasks
xi. Fitting everything into the allotted time
xii. Recognition for my teaching
xiii. Classroom management
xiv. Work I complete outside of school hours for teaching
xv. Relations with students in my class
xvi. Staying late after work for meetings and activities

20. Below are 8 statements with which you may agree or disagree. Using the 1-7 scale, indicate your agreement with each item. *

<table>
<thead>
<tr>
<th>Answer choices:</th>
<th>7 - Strongly agree</th>
<th>6 - Agree</th>
<th>5 - Slightly agree</th>
<th>4 - Neither agree nor disagree</th>
<th>3 - Slightly disagree</th>
<th>2 - disagree</th>
<th>1 - Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. I feel a sense of purpose and meaning as an educator</td>
<td></td>
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<td>ii. My professional relationships are supportive and rewarding</td>
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<td>iii. I am engaged and interested in my daily activities as an educator</td>
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<td>iv. I actively contribute to the happiness and well-being of others</td>
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<td>v. I am competent and capable in the activities that are important to me</td>
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<td>vi. I experience many positive emotions at work</td>
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<td>vii. I am fully satisfied with my job</td>
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<tr>
<td>viii. I am satisfied with what I achieve at work</td>
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</tbody>
</table>

Thank you for your participation in phase 1 of this research. The email address you provided earlier will be used only to send a note of thanks along with the final report of findings. If you have any questions, or to withdraw your participation in the survey, please contact the lead researcher, Holly McIntyre at hollymac75@me.com. The second phase of this study involves interviews with selected willing participants in order to further explore the research question.

21. Would you be interested in being interviewed for phase 2 of the study and contributing further to the research on outdoor learning and teacher well-being? Interviews should take about 30-45 minutes and will be done either in person or by Skype. *
   - Yes
   - Maybe!
   - No thanks Skip to question 24.

22. Interview contact information:

23. Great! If you answered that you would be interested in being interviewed, or that you would like more information, please provide your name and the best way to contact you (include phone number, email address as appropriate). (All participants will remain anonymous throughout the study and report) *

24. Thanks! I'll be in touch! Any final questions or comments? Stop filling out this form.

18 Teacher Flourishing Scale (TFS), see appendix B.
Appendix B: Teacher Flourishing Scale

The TFS was inspired by Diener et al’s *Flourishing Scale* (2010), integrating elements of O’Brien’s “Professional Well-being Assessment” (2016, p. 104), a scale that itself has not been validated but that nevertheless touches on many aspects of flourishing in a professional teaching context and that is based on Seligman’s (2011) PERMA model. The TFS is completed with questions on job satisfaction (Caprara, Barbaranelli, Borgogni, & Staca, 2003).

The following table illustrates how each scale contributes to the TFS.

<table>
<thead>
<tr>
<th>Flourishing scale (Diener, et al., 2010)</th>
<th>Professional well-being assessment (O’Brien, Education for sustainable happiness and well-being, 2016)</th>
<th>Teacher flourishing scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>√ I lead a purposeful and meaningful life</td>
<td><strong>I feel a sense of purpose and meaning as an educator</strong></td>
<td>I feel a sense of purpose and meaning as an educator</td>
</tr>
<tr>
<td>√ My social relationships are supportive and rewarding</td>
<td>I feel that my professional relationships are healthy</td>
<td>My professional relationships are supportive and rewarding</td>
</tr>
<tr>
<td>√ I am engaged and interested in my daily activities</td>
<td>I am engaged with my students I am engaged with my colleagues</td>
<td>I am engaged and interested in my daily activities as an educator</td>
</tr>
<tr>
<td>√ I actively contribute to the happiness and well-being of others</td>
<td><strong>I experience many positive emotions on a daily basis</strong></td>
<td>I actively contribute to the happiness and well-being of others</td>
</tr>
<tr>
<td>I am competent and capable in the activities that are important to me</td>
<td>I enjoy both the small and large accomplishments of my work</td>
<td>I am competent and capable in the activities that are important to me</td>
</tr>
<tr>
<td>√ I am a good person, and live a good life</td>
<td>Caprara et al, 2003 (Caprara, Barbaranelli, Borgogni, &amp; Staca, 2003)</td>
<td>I experience many positive emotions at work</td>
</tr>
<tr>
<td>√ I am optimistic about my future</td>
<td><strong>I am fully satisfied with my job</strong></td>
<td>I am fully satisfied with my job</td>
</tr>
<tr>
<td>People respect me</td>
<td>I am satisfied with what I achieve at work</td>
<td>I am satisfied with what I achieve at work</td>
</tr>
<tr>
<td>I feel good at work</td>
<td></td>
<td></td>
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</tbody>
</table>

The TFS was graded on a 7-point Likert scale (see question 20, Appendix A).
Appendix C: Interview protocol

Introduction:

- Expression of thanks for participation and recognition of contribution
- Consent to participate in phase 2, including:
  - Right to not answer a question;
  - May ask to end interview at any time;
  - Consent form signed/read/questions? Consent for audio recording of interview.
- Statement of purpose, research purpose etc.:
  - Research question: How might outdoor learning (OL), viewed as a new pedagogy, contribute to well-being (WB) for teachers?
  - The term "new pedagogies" refers to pedagogy that encourages learning partnerships between teacher and students, uses real-world, context based learning, and allows students to become “creative, connected, and collaborative life-long problem-solvers and to be healthy, holistic human beings who not only contribute to but also create the common good” (Fullan & Langworthy, 2014, p. 2). Some examples include inquiry-based and project-based learning.

<table>
<thead>
<tr>
<th>Question</th>
<th>Sub questions/ cues</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>Before we begin, I wonder if you would describe your role and experience with outdoor learning (if participant has indicated use of OL) … or with any “alternative” pedagogy you use? (interviewer to take mental notes, not to interrupt with cues) -What does OL look like to you? -how long have they been using it -reaction from administration? - reaction from colleagues - feel of competence, risk-taking -Well-Being (WB) as a teacher -effectiveness with students</td>
<td>Allow participant to speak from her/his experience. “Elicit…the central story that will give the interview direction and depth” (Galleta, 2013, p. 52) Researcher to mentally note meaningful junctures in story to return to later.</td>
</tr>
<tr>
<td></td>
<td>Why do you (or don’t you) take your classes outside to learn? Why don’t you take them outside more often than you currently do?</td>
<td>Explore personal or professional reasons for Outdoor Learning (OL). Identify barriers to OL.</td>
</tr>
<tr>
<td>Main interview section</td>
<td>As a teacher, how much stress do you experience? What are the main sources of stress for you? Or: what are the barriers to well-being in your job?</td>
<td>What helps you to deal with these stressors?</td>
</tr>
<tr>
<td>(How) do you think Nature-based learning (or using new pedagogies) affects your well-being as a teacher?</td>
<td>Cues: stress, enjoyment, job satisfaction, feelings of competence, feeling effective as a teacher, connection with Nature Chicken-or-egg question. Which comes first? NPs or WB</td>
<td>Explore whether OL is an antidote to stress, and how it positively affects the WB of teachers.</td>
</tr>
<tr>
<td>(How) does your use of other new pedagogies affect your well-being as a teacher?</td>
<td>Cues: stress, enjoyment, job satisfaction, feelings of competence, feeling effective as a teacher Compare to OL</td>
<td>Explore how new pedagogies might achieve some of the same WB goals as OL; differentiate the WB benefits of in-class pedagogies and OL pedagogy</td>
</tr>
<tr>
<td>(How) does outdoor learning (OL) impact your relationships…</td>
<td>- with students - with other staff - with parents - with Nature</td>
<td>Explore the role that relationship building plays in OL and as it relates to WB</td>
</tr>
<tr>
<td>How is OL related to the Connection with Nature (CWN) you feel?</td>
<td>do you feel more connected with Nature because you take your classes outside, or do you take your classes outside because you feel a CWN?</td>
<td>Explore the link between well-being and connection with Nature in teachers</td>
</tr>
<tr>
<td>Has learning outdoors encouraged you or your students to make more sustainable choices in your everyday lives? How? Why or why not?</td>
<td>What kinds of choices, Why might this be true; How does it contribute to your happiness/WB How does it contribute to others’ happiness/WB</td>
<td>Explore the connection to sustainable happiness</td>
</tr>
</tbody>
</table>
What role does your school play in promoting or supporting (or discouraging) OL and/or new pedagogies? What role should the school play?

Connect to the idea of Living Schools and healthy schools and to how school leadership can play a role in creating a positive environment for well-being.

Depending on the answers to previous questions

Do you have any additional thoughts, or final points you’d like to make?

Connect back to earlier ideas. Expose any contradictions, try to make meaning with participant.

Thanks again, reminder about report being sent, revoking consent, etc.