

**(Re)searching Teacher Wellbeing: An Exploration of the Relationship Between  
Mindful Nature Experiences and Mental Health**

by

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## Abstract

This qualitative study used a wholistic and relational lens to explore the ways mindful nature experiences impacted the mental health and wellbeing of four educators. Aligned with findings from a growing body of international research on the importance of attending to teacher wellbeing for teacher, student and school health, this study, which included an artistic experience, drew upon transcultural and interdisciplinary studies to consider how mindfully engaging with nature within an educators' work context impacts teachers' sense of wellbeing.

A hybrid arts-based phenomenological methodology was used to provide a reflective, embodied, and flexible approach. Four participants engaged in three personally chosen mindful nature experiences and an artistic reflective activity—eco-mandala making—to delve deeper into how their thoughts, emotions, sensations, and senses were influenced by these experiences. Data were collected through participant-collected artifacts, open-ended individual interviews, and the arts-based method of eco-mandala. Data analysis was iterative involving thematic analysis and coding of interviews, supported by participant pictures, collected artifacts, and the created eco-mandalas.

Within the limitations of this study, four overarching themes provide a set of findings that highlight the interconnected and multidimensional impacts mindful nature experiences had on teacher mental health and wellbeing: Nature Nurtures Positive Emotion, Nature Provides a Physical and Mental Escape (Space & Pace), Nature Magnifies Mental Health and Wellbeing Links Between Teachers and Students, and Nature Deepens Intrapersonal, Interpersonal, and Curricular/Learning Connections. A conceptual model was developed to describe the positive effects that mindful nature experiences had on these teacher participants.

This study highlighted gaps in research connecting nature, mindful attention, and teacher wellbeing and offers field-related recommendations for future research, as well as methodological and practical recommendations.

## **Lay Summary**

This research sets out to answer the question ‘In what ways do mindful nature experiences offer mental health benefits that contribute to teachers’ sense of wellbeing?’ The purpose of this research was to explore how we can promote, protect, and restore teacher mental health and wellbeing in our educational institutions, looking particularly at the environmental context of teachers’ coping strategies. Highlighting gaps in research connecting nature, mindful attention, and teacher wellbeing, this research offers new knowledge and practices on how mindful nature experiences contribute to the mental health and wellbeing of educators. In this study, educators engaged in three personally chosen mindful nature experiences and an artistic reflective activity -mandala making- to delve deeper into how their thoughts, emotions, sensations, and senses were influenced by these experiences.

## **Preface**

The University of British Columbia Okanagan Behavioural Research Ethics Board reviewed the protocol for the research project in January, 2021. The Committee found the procedures to be ethically acceptable and a Certificate of Approval was issued. UBC BREB number: H20-03529.

## Table of Contents

<b><i>Abstract</i></b> .....	<b><i>iii</i></b>
<b><i>Lay Summary</i></b> .....	<b><i>v</i></b>
<b><i>Preface</i></b> .....	<b><i>vi</i></b>
<b><i>Table of Contents</i></b> .....	<b><i>vii</i></b>
<b><i>List of Figures</i></b> .....	<b><i>x</i></b>
<b><i>List of Tables</i></b> .....	<b><i>xi</i></b>
<b><i>Acknowledgements</i></b> .....	<b><i>xii</i></b>
<b><i>Dedication</i></b> .....	<b><i>xiii</i></b>
<b><i>Land Acknowledgement</i></b> .....	<b><i>xiv</i></b>
<b><i>Description of Key Terms</i></b> .....	<b><i>xv</i></b>
<b><i>CHAPTER 1: INTRODUCTION</i></b> .....	<b><i>1</i></b>
<b><i>Teacher Wellbeing: Establishing the Research Context</i></b> .....	<b><i>3</i></b>
<i>Reasons For and Consequences of Poor Teacher Wellbeing</i> .....	<i>3</i>
<i>Interventions and Strategies for Improving Individual Wellbeing</i> .....	<i>5</i>
<b><i>Research Questions</i></b> .....	<b><i>7</i></b>
<b><i>Examining the Space Between My ‘Self’ and My Research Praxis</i></b> .....	<b><i>8</i></b>
<i>Story in Motion</i> .....	<i>9</i>
<i>(Re)searching, Relationships, and Reciprocation</i> .....	<i>13</i>
<b><i>Overview of the Dissertation</i></b> .....	<b><i>13</i></b>
<b><i>CHAPTER 2: LITERATURE REVIEW</i></b> .....	<b><i>17</i></b>
<b><i>Connecting Nature To and With Wellbeing</i></b> .....	<b><i>17</i></b>
<i>Outdoor Experiences</i> .....	<i>20</i>
<i>Gardening Experiences</i> .....	<i>22</i>
<i>Biophilic Design</i> .....	<i>24</i>
<b><i>Indigenous and Eastern Perspectives on Nature-Wellbeing Connections</i></b> .....	<b><i>28</i></b>
<i>Indigenous Ways of Knowing</i> .....	<i>29</i>
<i>Eastern Ways of Knowing</i> .....	<i>34</i>
<b><i>Connecting the Relationship Between Nature and Wellbeing to Mindfulness</i></b> .....	<b><i>37</i></b>
<i>Mindfulness</i> .....	<i>38</i>
<i>Mindful Nature Experience Defined</i> .....	<i>40</i>
<i>Mindful Awareness and Attention as Nature Experience Amplifiers</i> .....	<i>41</i>
<b><i>Links to Ecopsychology and Ecotherapy</i></b> .....	<b><i>42</i></b>
<b><i>Chapter Summary</i></b> .....	<b><i>44</i></b>
<b><i>CHAPTER 3: METHODOLOGY AND RESEARCH APPROACH</i></b> .....	<b><i>46</i></b>
<b><i>Philosophical Assumptions: Social Constructivist Approaches to Research</i></b> .....	<b><i>47</i></b>

Qualitative Research and Phenomenological Connections .....	49
Research Questions Revisited .....	53
Linking Arts-Based Research to Wellbeing .....	54
<i>Arts-Based Features that Supported the Study</i> .....	55
<i>The Artistic Method of Mandala</i> .....	59
Researcher Involvement.....	62
Participant Recruitment .....	64
Structuring Mindful Nature Experiences .....	66
Data Collection .....	67
<i>Participant Collected Artifacts/Resources</i> .....	68
<i>Interview One</i> .....	69
<i>Interview Two: The Mandala-making Process</i> .....	70
<i>Interview Three</i> .....	71
Researcher Observations.....	71
Data Analysis .....	72
<i>Coding and Categorizing of Data</i> .....	74
<i>Themes and Sub-themes</i> .....	79
Trustworthiness .....	81
Limitations.....	85
Chapter Summary .....	86
<b>CHAPTER FOUR: STUDY ENACTMENT .....</b>	<b>87</b>
Teacher Participant Introductions.....	87
<i>Grace</i> .....	87
<i>Mia</i> .....	89
<i>Claire</i> .....	91
<i>Lana</i> .....	93
Participant Mindful Nature Experience Narratives .....	95
<i>Grace’s Forest and Garden Experiences</i> .....	96
<i>Mia’s Drumming, Dancing and Art Experiences</i> .....	98
<i>Claire’s Seasonal Explorations</i> .....	101
<i>Lana’s Hiking Tales</i> .....	103
Eco-Mandalas as Process and Outcome .....	106
<i>Three Mandala Stages</i> .....	107
<i>Participant Eco-Mandala Stories</i> .....	109
Chapter Summary .....	119
<b>CHAPTER FIVE: FINDINGS – DESCRIBED, INTERPRETED AND SYNTHESIZED .....</b>	<b>120</b>
Theme One: Nature Nurtures Positive Emotion.....	125
<i>Benefits Now</i> .....	127
<i>Future Benefits</i> .....	130
<i>Positive Emotion Prompts Positive Action</i> .....	132
<i>Expanding Outward</i> .....	134

<b>Theme Two: Nature Provides a Physical and Mental Escape (Space &amp; Pace)</b> .....	<b>137</b>
<i>Physical Escape - Space</i> .....	139
<i>Mental Escape - Pace</i> .....	146
<b>Theme Three: Nature Magnifies Mental Health and Wellbeing Links Between Teachers &amp; Students</b> .....	<b>150</b>
<i>Awareness Of and Attentiveness To Student Wellbeing</i> .....	151
<i>Perceived Student Benefits of Teaching and Learning With/In Nature</i> .....	152
<i>Teacher - Student Wellbeing Links</i> .....	159
<b>Theme Four: Nature Deepens Intrapersonal, Interpersonal &amp; Curricular/Learning Connections</b> ....	<b>163</b>
<i>Intrapersonal Connections</i> .....	164
<i>Interpersonal Connections</i> .....	171
<i>Curriculum and Learning Connections</i> .....	174
<b>Chapter Summary</b> .....	<b>182</b>
<b>CHAPTER 6: DISCUSSION AND CONCLUSION</b> .....	<b>184</b>
<b>Limitations</b> .....	<b>184</b>
<b>Circling Back to Move Forward</b> .....	<b>189</b>
<i>Study Findings and Literature Intertwined</i> .....	192
<i>Three Supplemental Research Questions</i> .....	201
<b>Contributions to the Field</b> .....	<b>203</b>
<i>MEND Model</i> .....	204
<i>A Path Forward: System-Wide Suggestions</i> .....	207
<b>Recommendations for Future Research - Field Related</b> .....	<b>210</b>
<b>Methodological Recommendations</b> .....	<b>213</b>
<b>Practical Recommendations from Participants</b> .....	<b>218</b>
<b>Reflections on the Role of Research</b> .....	<b>223</b>
<b>Final Reflections</b> .....	<b>224</b>
<b>REFERENCES</b> .....	<b>226</b>
<b>APPENDICES</b> .....	<b>257</b>
<b>Appendix A</b> <b>Initial Zoom Conversation Visuals</b> .....	<b>257</b>
<b>Appendix B</b> <b>Triangle of Awareness and smartEducation</b> .....	<b>258</b>
<b>Appendix C</b> <b>Mindful Nature Experience Photos</b> .....	<b>259</b>

**List of Figures**

Figure 1: Lana’s Eco-Mandala.....111

Figure 2: Grace’s Eco-Mandala.....113

Figure 3: Mia’s Eco-Mandala.....116

Figure 4: Claire’s Eco-Mandala.....118

Figure 5: MEND Model.....206

**List of Tables**

Table 1: Coding Development.....	76-77
Table 2: From Codes to Categories to Themes.....	78-79
Table 3: Themes and Sub-themes.....	81
Table 4: Mindful Nature Experience Benefits: Themes and Sub-themes.....	121
Table 5: Mindful Nature Experience Benefits: Theme 1 and Sub-themes.....	127
Table 6: Mindful Nature Experience Benefits: Theme 2 and Sub-themes.....	139
Table 7: Mindful Nature Experience Benefits: Theme 3 and Sub-themes.....	151
Table 8: Mindful Nature Experience Benefits: Theme 4 and Sub-themes.....	164

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Finally, I owe a depth of gratitude to my four dedicated and caring teacher participants. Their willingness to openly discuss their own mental health and wellbeing and take part in this study at a time when the pandemic put increased pressure on them as educators made this research possible. Our heartfelt conversations echo into the future.

## Dedication

To my three children – Chris, Megan & Zach,  
and for all those hoping to improve mental health and wellbeing in education settings.

*May nature be  
nourishment for your soul,  
consolation for your heart,  
and inspiration for your mind.*

### **Land Acknowledgement**

I want to begin by acknowledging that I live and learn on the unceded ancestral territory of the Syilx People. This dissertation was written in the Syilx People's territory - a diverse and beautiful Okanagan landscape that I turn to for connection, solace, and my overall wellbeing. The purpose of this acknowledgement is not just recognition as a form of reconciliation, but it is also meant to show my deep respect for the Land and the People as my relationship to this place is a synthesis of both. It highlights that I, as a white settler, must confront my own place on these lands and that I still have much to learn about my obligations as a guest in this territory and my relationship with Indigenous Peoples, non-human beings, and with the Land and the water.

## Description of Key Terms

Knowing that words can mean different things to different people, and because studies that do not define terms within the context of the research make findings harder to understand (Falkenberg, 2014), I explain four key terms in detail to ensure clarity. I also emphasize the interrelated nature of mental health and wellbeing, as recognized by bodies such as the World Health Organization (WHO, 2020b), the Canadian Mental Health Association (2019) and the Government of Canada (Canadian Council, 2019).

***Mental Health:*** Considering that differences in cultures and social backgrounds hinder the achievement of a general consensus on the concept of mental health (Galderisi et al., 2015) I have adopted the World Health Organization's (2014) understanding of mental health which is "a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community." For the purposes of this study mental health is conceptualized as a combination of emotional, psychological, and social wellbeing, and is seen as an interconnected part of a person's health influenced by the physical environment along with other social, psychological, biological, economic, and political factors (Centre for Addiction and Mental Health, 2014; Centers of Disease Control and Prevention, 2021). Further, I understand mental health and mental illness to be distinct yet related and that people experience differing levels of emotional, psychological, and social wellbeing over time which influences the extent to which people "flourish" or "languish" in life (Westerhof & Keyes, 2010).

***Mindful:*** Being 'mindful' involves the purposeful honing of attentional skills, inner (thoughts, emotions, sensations) and outer (sensory) non-judgmental awareness and presence as a

conscious practice. It is a way of being that is meant to help teachers in this study note connection with nature, their own body sensations, thoughts, emotions, and senses. This way of being is linked to mindfulness, which according to Jon Kabat-Zinn, can be defined as “awareness cultivated by paying attention in a sustained and particular way: on purpose, in the present moment, and non-judgmentally” (2012, p.1). Shapiro, Siegal, and Neff (2018) understand mindful awareness as a way of relating to all experience in an open, kind, and receptive manner.

***Nature experiences:*** The concept of nature encompasses living and nonliving features and phenomena of the natural world including processes such as the weather, geology and growth, and ranges in scale and degrees of human influence from a single aspect of nature such as a plant to urban parks to vast wilderness (Louv, 2012). ‘Experience’ with nature implies relationality through an intentional state of contact with nature in terms of proximity, activity, and time. Nature experiences are thought to be shaped by individuals’ perceptions, beliefs, values, and influenced by personal awareness and sociocultural meanings (Seymour, 2016; Bratman et al., 2019).

***Wellbeing:*** Wellbeing, a social and cultural construction (Ereaut & Whiting, 2008), has been defined in a multitude of ways and from analysing a variety of definitions of wellbeing a theme of feeling good and functioning well came to light. For the purpose of this study, when I discuss teachers’ ‘sense of wellbeing’ I apply this notion of ‘feeling good and functioning well’ in a wholistic sense. I understand wellbeing to be an overarching concept comprised of multiple domains or types of wellbeing including as social, emotional, physical, spiritual, occupational, financial, environmental, intellectual, and psychological wellbeing (Heaney, 2021; Swarbrick,

2006). These domains can be thought of like pieces in a pie, creating overall wellbeing as a whole. Understanding wellbeing in this way can also be connected to early Greek philosophy where there were differing views of wellbeing: Aristippus' concept of hedonic happiness - positive mood and life satisfaction which is associated with emotional wellbeing today and Aristotle's eudaimonic approach - finding meaning in life and living well while developing a moralistic and ethical character which is associated today with psychological and social wellbeing (Galderisi et al., 2015; Keyes, 2014).

## CHAPTER 1: INTRODUCTION

Emerging out of a need to address mental health and wellbeing<sup>1</sup> proactively in our schools and inspired by educators that I have shared a profession with and the stories that they have disclosed to me, my dissertation sets out to aid those who work in the education field. Focussing on teachers to promote, preserve, and restore their wellbeing is not just for their own sake, but also for the sake of those who they interact with including their students, as teachers have potential to help future generations develop and practice positive mental health habits. It is not hard to make a case for a need to invest in mental health and wellbeing in Canadian schools and school districts, but what is difficult is finding practical measures that can have a beneficial impact.

When I began my teaching career over 25 years ago, little was discussed about wellbeing and mental health, as society and our school curriculum seemed to focus mostly on academics. Since then, research in a variety of fields such as medicine, neuroscience, psychology, and other social sciences has provided significant insight into the links between wellbeing/mental health and learning and the ability to flourish in life. We also know that mental health is an integral and essential component of health in general (WHO, 2020). Over the years as I acquired both life and professional experience, I began to understand that

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<sup>1</sup> I write the word wellbeing without a hyphen to identify wholeness. The hyphenated form, well-being, which was first recorded in 1561 (Merriam-Webster, 2020) originated in medical discourse that included mind-body dualism, however its meaning has changed over the years to embrace the relatively recent discourse of holism resulting in many writers dropping its hyphen to reflect this and to normalise the word (Ereaut & Whiting, 2008).

attending to these links purposely and mindfully was critical to my own health and those around me, and that mental health meant much more than an absence of a mental disorder. For a long time, I watched, listened, and felt the anguish of many teacher colleagues, administrators and students struggling with wellbeing in schools, and realized that my own genuine and heartfelt inquiry into the topic not only helped me, but could possibly help others in the education system as well.

Increasingly, research is pointing to the importance of teacher wellbeing as connected to school culture, student wellbeing, and learning (Cherkowski & Walker, 2018; Gray et al., 2017). In fact, Irwin argues that to truly care for students, it is vitally important for teachers to care for themselves first because when teachers' wellbeing and mental health is in jeopardy they are less able to support and respond to students appropriately (Miller et al., 2014). Studies have indicated that teaching means "connecting with students and their learning, and the health of that connection is nurtured or jeopardized by the teacher's relationship to herself" (Rodgers & Raider-Roth, 2006, p. 271). This is not an insignificant point, as the positive presence of the teacher is of primary importance in classrooms (Miller et al., 2014). The importance of teachers who embody wellbeing and mental health - which includes emotional, social, and psychological wellbeing (CAMH, 2014) should not be underestimated in efforts to create thriving learning environments. Current research on teacher wellbeing established the context for this study and indicated that my first-hand experiences as a teacher, along with my experiences with educator colleagues and students struggling with mental health and wellness in schools, were not an uncommon occurrence.

This chapter sets out the context for my research on teachers' mindful nature experiences and the guiding questions that I used in designing the study. It is also an opportunity to share how I position myself as researcher. At the end of this chapter I offer a general overview of the dissertation's six chapters including the theoretical framework used to drive the literature review, an overview of the methods employed, and a snapshot of key findings.

### **Teacher Wellbeing: Establishing the Research Context**

An ever-increasing body of research (Katz, Mahfouz, & Romas, 2020; Roeser et al., 2012; Turner & Thielking, 2019) has highlighted ongoing problems with teacher wellbeing, with many educators reporting that they feel stressed, anxious, emotionally exhausted, and have little access to mental health coping strategies. This is significant given that the impact of mental health can be felt individually and collectively as it influences coping skills and relationships, self-compassion, patience and kindness towards others; educational achievement and economic potential; physical health; and social/health care costs (Mental Health and Wellbeing-BC Center of Disease Control, 2019).

### ***Reasons For and Consequences of Poor Teacher Wellbeing***

Teachers have disclosed feeling overwhelmed by workload, system changes, and student needs, with many feeling that administrators don't seem to care and that their organizations don't value wellbeing (Skaalivk & Skaalivk, 2017). Feeling overwhelmed and burnt out actually impairs quality of teaching (Naghieh et al., 2015) and leads to detachment from students (Pillay et al., 2005). Numerous studies have found strong cross-sectional associations between teacher and student wellbeing outcomes (Collie et al., 2015; Harding et

al., 2019; Jennings et al., 2013; Jennings & Greenberg, 2009) including teacher to student stress contagion (Oberle & Schonert-Reichl, 2016). Further, with more than 30% of teachers rating their jobs as either very stressful or extremely stressful (Roeser et al., 2012) it is not a surprise that rates of attrition are high (Acton & Glasgow, 2015). In fact, attrition rates have been estimated to be as high as 46% in the first five years of joining the profession (Jalongo & Heider, 2006). This also leads to economic consequences in human resource costs and health care (Tyrväinen et al., 2014) and has personal life and economic repercussions (Naghieh et al., 2015).

These studies were conducted prior to the onset of the COVID-19 pandemic which further exacerbated the existing problems profoundly impacting teachers and their mental health (British Columbia Teachers Federation, 2020). Research conducted by the Canadian Mental Health Association on the impact of COVID-19, found a pronounced rise in mental health concerns (CBC, 2020) and of 14,000 teachers surveyed by the BC Teachers Federation (2020), half indicated that they didn't want to come back to their classrooms. Even before the onset of the pandemic, teachers' emotional labor demands alone were connected to motivation to leave the profession (Skaalvik & Skaalvik, 2017; Yin et al., 2016). Aware that mental health is chronically underfunded in society, the WHO suggested a comprehensive approach to dealing with the mental health crisis which included studying the impact of environmental features on mental health, prioritizing workplace mental health, and incorporating mental health education into schools.

While this study focused on individual wellbeing and actions that teachers can take with regard to their own mental health and wellbeing it is important to point out that

responsibility also lies with government bodies and school districts to promote and sustainably embed a wellness focus in our education systems despite competing priorities and goals (McConnell Foundation, 2020). Initiatives to bolster mental health and wellbeing thus should include individual approaches as well as organizational approaches.

Organizational cultures must shift to address systemic inequities and teachers need to feel supported and included in districts' visions for wellness (Stoloff et al., 2020). With a focus on individual teachers, this study looks closely at one piece of the larger whole when it comes to wellbeing promotion in our education systems.

### ***Interventions and Strategies for Improving Individual Wellbeing***

Researchers have highlighted ways in which educational institutions could develop and support the individual resilience of teachers (Cherkowski & Walker, 2016, 2018; Greenberg, Brown & Abenavoli, 2016; Katz, Mahfouz, & Romas, 2020; Lantieri & Nabiar, 2012; Meiklejohn et al., 2012; Turner & Thielking, 2019). Studies have focused on alleviating teacher stress, burnout, anxiety, and depression (Acton & Glasgow, 2015), building resilience (Gu & Day, 2006), creating flourishing cultures (Cherkowski, 2018), and prosocial behaviors (Jennings & Greenberg, 2009). Acknowledging that there is a problem with wellbeing in our educational institutions, and recently exhibiting an increasing awareness of the importance of improving wellbeing for all involved in our education systems, school districts and related stakeholders have begun searching for strategies and interventions to target wellbeing growth (McConnell Foundation, 2020; White, 2017). Finding practical measures that are impactful is not as easy as it seems however, and there is a general lack of consensus around best practices for the

development and implementation of teacher wellbeing initiatives in schools due to the relatively newness of the field of research (Svane et al., 2019).

Research on mental health and wellbeing interventions and strategies can be grouped into one of two general categories - changing oneself or changing one's environment in response to what causes stress (Gulwadi, 2006; Lazarus & Launier, 1978). A range of teacher wellbeing interventions and strategies commonly emphasized in the literature focus on self-help efforts such as time management, exercise, and relaxation techniques. This also includes mindfulness-based professional development programs such as Community Approach to Learning Mindfully (CALM) to promote educator social-emotional competencies, stress management, and wellbeing (Harris et al., 2016), Stress Management and Relaxation Techniques (SMART) of which smartEducation was derived (Ragoonaden, 2017), and Cultivating Awareness and Resilience in Education (CARE), a program that promotes educator and administrator self-reflectivity, self-awareness, and emotional literacy (Mahfouz, 2018; Schussler et al., 2018). The environmental context of teachers' coping strategies, however is rarely the focus in measures suggested to teachers despite our surrounding natural environment being identified as one of the key external factors determining our health by the World Health Organization (2020b). In my study, I include both categories to focus on what teachers can do and how they can embrace the natural environment to improve wellbeing.

Exploring places and strategies identified by educators dealing with stress and seeking restoration, Gulwadi (2006) posits that the restorative potential of an environment is related to its ability to support both teachers' inward and outward coping strategies and is a necessary piece to consider when addressing wellbeing problems. This relates to the World Health

Organization and Canadian Council's assertion that the physical environment of where we live and work, be it natural or built, impacts our wellbeing (Council, 2015; WHO, 2020). In fact, results from hundreds of studies in a variety of disciplines provide empirical, theoretical, and anecdotal evidence (Capaldi et al., 2015; Cooper, Boyko & Codinhoto, 2008; Keniger et al., 2013; Maller et al., 2006; Rugel, 2015) that nature and our natural environment has a role in supporting human wellbeing. Studies have also found that health benefits associated with nature exposure were amplified by mindful awareness suggesting a strengthening between the two (Ballew & Omoto, 2018; Mantler & Logan, 2015). Despite the empirical evidence it is unfortunate that in the field of education the restorative power of nature has been overlooked as a way of supporting teacher mental health and wellbeing.

Using a theoretical framework that incorporates nature, mindfulness, and wellbeing, this study looks closely at nature's restorative potential and explores how engaging mindfully with and in nature during a teaching day impacts educators. This research is meant to expand and deepen the dialogue on teacher wellbeing and address the current paucity of research connecting nature and teacher wellbeing by learning about the ways in which mindful nature experiences contribute to the mental health and wellbeing of educators.

### **Research Questions**

This study was designed around my overarching research question – *In what ways do mindful nature experiences offer mental health benefits that contribute to teachers' sense of wellbeing?* I defined a 'sense of wellbeing' in this study as 'feeling good and functioning well' and considered that mental health relies on emotional, psychological and social wellbeing as well as contextual determinants of health such as the environment (CAMH, 2014; Canadian

Council, 2015; Galderisi et al., 2015; Keyes, 2014; Westerhof & Keyes, 2010; WHO, 2020b; WHO, 2014). It is from this broad and multi-faceted understanding of wellbeing that I studied the ways that mindful nature experiences impacted teacher mental health and wellbeing.

With this focus in mind, several other questions also guided the study:

1. When teaching with and in nature, what do teachers notice internally and externally when they are asked to be 'mindfully aware'?
2. What qualities and characteristics of nature interaction do teachers seek out and why?
3. How does providing an opportunity for participants to reflect through an alternate means (the eco-mandala) impact their own understanding of their mindful nature experiences and offer further insight to myself as researcher?

As both an experienced classroom teacher and a researcher, I come from an insider position to study the potential of mindful nature experiences to support teacher wellbeing. In the next section I offer an overview of my background, beliefs and biases as an important aspect of what it means to engage in qualitative research and to examine how my insider perspective may have influenced how and why this study was developed.

### **Examining the Space Between My 'Self' and My Research Praxis**

Absolon and Willet (2005) posit that researchers who see their position, history, and experiences as pivotal to their research process are able to be more reflexive. Examining the space between my 'self' and my research praxis required me to reflect on several key questions: Who am I? Where do I come from? What experiences have shaped my values and beliefs? Positioning myself involved a reflective journey from head to heart. To synthesize my various identities in a meaningful way, I knew that I needed to connect my research with my

inner self, with me as teacher, colleague, and researcher, and with the world in which I live. That was no small task. When faced with much to think about, I did what I always have intuitively done, I sought the forested trails near my home engaging in a form of mindful movement or walking pedagogy (Donald, 2021; Irwin, 2006). While running and pondering I began to understand that my position was and continues to be multilayered, sensory and affective and that it impacted my philosophical assumptions, values and pedagogical practices. I also realized that understanding my own position, which is mediated by my individual history, informed by my everyday lived experiences, and based on my social location, along with my personal values, biases, motivations, and the political and cultural history of the country I live in impacts how I relate to others (Heron, 2005).

### ***Story in Motion***

As a white Canadian woman, born, raised, and currently living in British Columbia, I assert a specific set of privileges and experiences based on the intersecting categories of my location (i.e. gender, race, class, culture etc.). My mother, from a working class family, is second generation Canadian, with extended family members immigrating from Ireland and England. My German father, along with his brother and parents, escaped East Germany shortly after WW2 with little more than a bag of belongings and came to Canada. I am, like my parents before me, a settler in British Columbia and a guest on this Land.

I have strong memories of feeling connected to nature when I was growing up in Northern B.C. as I was allowed the freedom to play and use my imagination in the outdoors even as a young child. I spent countless hours playing in a ravine and wooded area down the street from my home. Those hours flew quickly while watching wildlife, creating mini forts,

building dams and generally running amok in the company of friends or on my own. With no watch on my wrist or phone in my pocket, I knew when to come home when I heard my mom blow a loud train whistle. As I grew older, I explored further and took to going for long runs in nature down by the river with my dog. Even today nature is a place for me to connect deeply with the environment and myself, a place where the wholeness of the Land wraps me in a hug of belonging.

I felt an urgency to preserve and protect the environment when I went to university, undertaking my first degree in Environmental Studies. One of my first 'real' jobs was working with Northern B.C. First Nations bands as an environmental officer helping to check that their leased Land was cared for properly. Through this position I also had the opportunity to learn about Indigenous cultures and appreciated the great love and respect for the Land. I remember being invited by members of the Tse'khene group to attend a Potlach full of colourful dance, drumming, food, and celebration and recall standing out as the only white woman there and thinking that I had much to learn from their ways of being.

After becoming a teacher I brought my passion for the environment into elementary classrooms and engaged my students in interdisciplinary, hands-on learning experiences. I gardened with my classes long before school gardens were approved by school districts, tramped through the fields and woods with my students to engage in place-based learning, and brought nature into the classroom on a regular basis. Class enthusiasm was always high when nature was involved (for both me and my students) and I saw much evidence that the learning was rich and deep. While I felt great doing these things, I was not consciously aware that

choosing to integrate nature into my teaching days also benefitted my own mental health and wellbeing.

Fast forward almost fifteen years of teaching, to a time when I began to have a greater awareness of balance and inner harmony of self. I continued to incorporate nature into my teaching practice and noticed that academics, social emotional development, and relationships were all strengthened as a result. I also had become more attuned to people struggling with mental health and wellbeing: students and their parents, my work colleagues, friends, and family. I witnessed principals and teachers crying in classrooms and staffrooms and said goodbye to a number of colleagues who 'couldn't take it anymore.' Stress, anxiety, and depression should never be status quo. I was frustrated that nothing was being done to improve the situation in education. As a result, I decided to begin my own inquiry project and actively read research and articles discussing strategies and initiatives that addressed mental health and wellbeing in education settings. It was through this process that I came across the contemplative practice of mindfulness which at the time was not known in my school district. Practicing it myself and with my students taught me that it was more than an intervention, it was a living philosophy that allowed us to attend to our own inner worlds, our environment, and others with more calm, compassion, and focus.

Wanting to share what I learned, the following year I organized and facilitated a year-long grant-funded mindfulness inquiry project that involved a dozen teachers and incorporated a number of practices from smartEducation. Many of my colleagues claimed that this professional development experience was transformational for them personally and/or professionally. Interesting to note that those of us that practiced with our students outdoors,

experienced an even greater sense of ease in becoming more mindful, myself included. This experience prompted me to look further at the connection between mindfulness, nature, and wellbeing which eventually evolved into returning to university and this dissertation.

I am aware that my own individual background, beliefs, and biases have influenced this study. Undeniably, my narrative has a strong thread of nature running through it. I see my own relationship with nature as essential to my own wellbeing on many different levels and feel a sense of obligation to act in kind, considering environmental health in my decision making.

In locating myself it is also imperative that I speak to the Land and the on-going impact of settler colonialism. This study took place entirely on the traditional, ancestral, and unceded territory of the Syilx Okanagan Nation where the Syilx Peoples have been stewards and caretakers of these territories since time immemorial. It is on their territory that I recognize the truth about our failings as a country in the past and present, and the Land further serves as a constant reminder of the work needed to reconcile our horrific colonial history that included the genocide of thousands of Indigenous children in Indian Residential Schools. The legacy of separation and suppression of culture has negatively impacted Indigenous communities and families for generations. Canada's Truth and Reconciliation Commission created a historic record of these wrongs and the related consequences, then put forth 94 Calls to Action in 2015 to address them. These calls are for those who can affect change, which is all of us. As a settler researcher I am sensitive to the importance of resisting and challenging exclusion and oppression and I recognize my responsibility to the Indigenous Peoples in Canada by refusing to perpetuate racism by taking a solely Eurocentric approach to research. There is great value in

seeing, feeling, and learning from other perspectives and in this study I have purposely turned to Indigenous and Eastern ways of knowing to be able to do so.

### ***(Re)searching, Relationships, and Reciprocity***

The origin of the word 'research' comes from the Latin word 'circare' which means to 'go round' or 'circle back.' This is an important point to mention when it comes to my research praxis because I understand research to mean 're-searching' and applied this sense of 'searching again' to this study. I was also mindful of the responsibility that I held as a researcher working with and learning from my teacher colleagues and it was my intention from the outset to ensure that I researched in a way that not only honored their stories, but also gave back. I thus offered options and encouraged my participants to choose mindful nature experiences that would suit their own contexts. I then set out to create a research atmosphere where they could circle back to reflect on and learn about their own wellbeing in multimodal ways at the same time that I (re)searched my study questions. Finally, knowing that supporting wellbeing requires looking at relationships with ourselves, our communities, and our environment, I found it helpful to adopt a wholistic perspective of paying attention to the whole as well as the parts to notice relationships, patterns, and interconnections in this complex field of research and practice.

### **Overview of the Dissertation**

My dissertation is organized in six chapters. Chapter Two is a review of the literature that provides a foundation for the theoretical framework of this study. I acknowledge that the findings predominantly show that interacting with nature tends to be more beneficial than detrimental to human health. This tendency toward a positive view of nature and health is a

reflection of the research that seems to focus on the mental health and wellbeing benefits that are associated with nature interaction, including engaging with nature mindfully. Chapter Two outlines the relationship between nature and wellbeing, with purposeful attention directed towards learning from and through different cultural perspectives and ways of knowing. I draw on transcultural and interdisciplinary studies indicating that interacting with nature holds potential to improve mental health in education settings, and that the cultivation of mindful awareness can build on those health benefits. The relationship between nature and wellbeing is then expanded with a connection with literature on mindfulness, including links to both ecopsychology and ecotherapy.

The methodology for this study is described in Chapter Three where I discuss how exploring the mental health and wellbeing of educators within real-life contexts called for an approach that acknowledged the importance of relationship as a central tenet of wellbeing and one that also embraced an embodied sense of experience. To support a more wholistic research process, I used a hybrid methodology, specifically an arts-based phenomenological approach. I combined the method of mandala creation from arts-based research using participant-collected resources including natural artifacts, personal notes, and photographs, with the method of one-on-one conversational interviewing. Participant selection was purposeful based on their prior professional experiences involving mindfulness and engagement with smartEducation practices such as, but not limited to, mindful movement, pause practice, and body scan. Four teachers agreed to participate, and data were collected through three individual interviews including the eco-mandala making experience. Data analysis was an iterative process using inductive thematic analysis. Transcribed interviews were coded,

then themes and relationships were identified within and across participant interviews resulting in rich descriptions for each individual participant, and key findings across participant experiences. An overview of the study's limitations, which included the small homogeneous participant sample size, are provided at the end of the chapter. These limitations are then later revisited in Chapter Six.

In Chapter Four I provide an introduction of the participants to highlight their backgrounds and individual contexts, then outline each of their personal mindful nature experiences, and finally describe their reflective and experiential eco-mandala making experiences. Their eco-mandala stories are told individually in three stages to illuminate the process and the final outcome is shared in photographic form. By portraying each of these in depth, I bring the study to life and offer the necessary context upon which the findings are built.

In Chapter Five I describe the study's findings. Throughout this chapter I provide a description of the themes that emerged through data analysis using excerpts from the transcripts that highlighted teachers' perceptions of their mindful nature experiences. By delving deeper into how participant thoughts, emotions, sensations, and senses were influenced by their mindful nature experiences with and in nature, four overarching themes and several sub-themes eventually emerged through the analysis process. The four main themes include: Nature Nurtures Positive Emotion; Nature Provides a Physical and Mental Escape; Nature Magnifies Mental Health and Wellbeing Links Between Teachers and Students and Nature Deepens Intrapersonal, Interpersonal and Curricular/Learning Connections. Set within the context of this study and using teacher participant narratives, these themes explain

the ways in which mindful nature experiences play a role in bettering teacher mental health and wellbeing.

Chapter Six provides space for discussing the study's limitations in greater depth and expanding upon the study's findings in relation to the research questions and the literature. The possibilities for building upon and growing this field of research in the future are then addressed. I also acknowledge that there is room for qualitative research to play a role in social change and in creating a more socially just society. Finally, practical suggestions from teacher participants and my own researcher recommendations for promoting, protecting and restoring mental health and wellbeing in educational settings are offered.

## CHAPTER 2: LITERATURE REVIEW

This chapter begins with an in-depth review of the relationship between nature and wellbeing, looking at how the features of nature, the location of nature in our environment, and our human interaction with nature are all part of a nature experience. Outdoor experiences, gardening, and impacts of biophilic design are highlighted as nature experiences. I then explore how Indigenous and Eastern ways of knowing about nature and wellbeing offer a relational perspective on promoting, protecting, and restoring mental health as they provide access to different ways of thinking about how we interact with the natural world, particularly viewing our connection with nature in places that we live, learn, and teach. Turning then to mindfulness, I describe how this practice and state of awareness may offer some insight into how teachers can experience nature in ways that further promotes their wellbeing. The mindful development of attentional skills, inner and outer non-judgemental awareness, and presence are discussed as they appear influential in connecting teachers with nature and their own bodies. This chapter concludes with a connection to findings from emerging wellbeing research and from the field of ecopsychology to suggest that mental health and wellbeing benefits associated with nature experiences are potentially amplified by mindful awareness indicating a possible strengthening of wellbeing when nature experience and mindfulness are put together.

### **Connecting Nature To and With Wellbeing**

Research indicates that engaging with nature impacts wellbeing and mental health positively for the general population (Maller et al., 2006; Rugel, 2015) and emerging evidence has additionally highlighted a range of benefits for teachers (Guardino et al., 2019) and students (Kuo, Barnes & Jordan, 2019; Reese, Webster & Biles, 2019). Further, linking nature

with teacher wellbeing activates an educator's environment as an influential element of their health, looking beyond the social determinants of health that are privileged in research and policy (De Leeuw, 2018). Based on research, a number of ecological public health models are currently in use including the Mandala of Health model (Hancock & Perkins, 1985) and the Assembly of First Nation's (AFN) Holistic Health and Planning model (AFN, 2013) which reflect an ecological appreciation for the role of the natural environment in supporting human wellbeing that could be applied to teacher wellbeing (Coutts, Forkink & Weiner, 2014).

There is strong evidence from four in-depth reviews covering over 460 studies from eight different disciplines including medicine, psychology, architecture, business, and education that exposure to the natural environment supports mental health and wellbeing amongst other benefits (Capaldi et al., 2015; Cooper, Boyko & Codinhoto, 2008; Keniger et al., 2013; Rugel, 2015). Citing a further list of research and anecdotal evidence, Louv (2012) adds to the compelling case that nature can promote, protect, and restore health and wellness. Findings such as those in a Japanese/Finnish study by Tyrvaainen et al. (2014) suggest that even very short-term exposure to nature has positive effects. What seems to be excluded in many of the studies, however, is an explanation of the process of nature engagement. Rugel (2015) highlighted a research gap in which a precise definition of nature exposure is missing in many studies including the three meta analyses, and 43 studies she reviewed. She argued that the relational process along with definitions of nature exposure and nature experience, characteristics of nature features and a discussion of settings needs to be made clear in studies of nature exposure (Rugel, 2015).

The concept of nature encompasses living and nonliving features and phenomena of

the natural world including processes such as the weather, geology and growth, and ranges in scale and degrees of human influence from a single potted plant to urban parks to vast wilderness (Louv, 2012). The term nature exposure refers to humans being in a state of contact with nature in terms of proximity, activity and time, and which can be intentional or incidental (Keniger et al., 2013). Kellert (2002) formulated a definition of nature exposure to include 'direct' exposure of plants, animals, and habitats not influenced by humans, 'indirect' exposure of nature which is contrived in some way by human activity (i.e., gardens, zoos, nature centers, aquariums, potted plants) and 'vicarious' exposure of nature through technology, books, and pictures. In the context of education, a number of passive/active and structured/unstructured activities have been identified by Kuo, Barnes, and Jordan (2019) as forms of nature exposure including: free play in nature, nature walks, nature center programs, outdoor classrooms, classroom views, vegetation in/around schools, and school gardens. The type of exposure is also related to the setting, be it outdoors, indoors or in transitional zones. Rugel (2015) and Maller (2009) found that all types of nature exposure and associated activities were beneficial to some degree for psychological, emotional, and social wellbeing.

Nature 'experience' is slightly different from nature 'exposure' as it is shaped by individuals' perceptions, beliefs, values, and is influenced by personal awareness (attunement to attitudes, feelings, levels of attention) and sociocultural meanings (Bratman et al., 2019; Seymour, 2016). Experience with nature implies relationality, whereas exposure to nature may not. Bratman et al. (2019) suggested teacher wellbeing and mental health requires consideration of the characteristics of nature experience, and personal intent to interact with

nature needs to be considered, as does the dynamics of the experience itself.

### ***Outdoor Experiences***

Educational research findings support the notion that outdoor experience is a promising way for schools to enhance learning and wellbeing for teachers and students alike. For example, Guardino et al.'s (2019) study of thirty seven kindergarten students and two teachers revealed that both the teachers and the students reported an increased perception of wellbeing, pleasure, and interest when teaching and learning in the outdoor classroom. This aligns with findings in which principals and teachers reported perceived benefits to mental, social, and emotional health and wellbeing of children involved in outdoor hands-on nature-based activities (Maller, 2009; Maller & Townsend, 2006). Drawing on ethnographic observations and interviews, Chawla et al.'s (2014) research describes how natural areas (outdoor green space, wooded areas, school gardens) enabled students to escape stress, focus, build competence, and form supportive social groups. These findings have implications for nature–wellbeing theories involving resilience, restoration of mental health and stress management. Another study by Reese, Webster and Biles (2019) on integrating nature in K-12 settings found that school counselors who utilized meditation gardens and nature paths, and other green outdoor spaces for hands-on learning and reflection were able to support students' academic, career, and social/emotional development.

The majority of research on outdoor experiences tends to be focused on the academic benefits for children, but there are lessons that can be learned from this research to inform how outdoor nature experiences may offer wider wellbeing benefits in a school setting. An

integrative critical review by Kuo, Barnes, and Jordan's (2019) draws on scientific evidence from a large range of peer-reviewed studies highlighting that children's experiences with nature outdoors decreased stress and improved self-regulation amongst other benefits. Studies have also shown that outdoor experiences reduce the symptoms of ADHD in children and that the greener the setting, the more engaged children become (Louv, 2012). Rugel (2015) along with Swank and Swank (2013) reiterated this point and they, together with Louv, provide examples of other studies on schools that use outdoor classrooms and nature experience showing improvement in student focus, concentration, critical and creative thinking, and prosocial behavior and attitude. Kuo et al. (2019) speculated that outdoor experiences may foster these results because they are calmer and quieter and because they encourage connection.

Outdoor experience does not exist in isolation as it is inherently connected with the diverse characteristics of nature and is impacted by the context of place, which is profoundly complex and wholistic, involving a synthesis of Land and people. Mental, social, and physical characteristics are not separated, but joined together to produce an anatomy of a place (Cresswell, 2004) which triggers acts of self-reflection and networks of expanding spheres of awareness (Basso, 1996) tying it to mental health and wellbeing. This systems perspective is important to understand when investigating the ways that nature experience impacts teacher wellbeing. It is not a linear process. Experience with the outdoors is more than a sense of space or time, it is the diversity of place that is found within it –ecological, personal, and cultural (Cajete, 1994). This experience of sensing places, then, is both reciprocal and dynamic. It is relational.

### ***Gardening Experiences***

Throughout history the significance and influence of gardens on health and healing has varied by culture, era and context, and more recently gardening experiences have found their way into schools. While I did not find studies on the connection between school gardening experience and wellbeing benefits to teachers in particular, we can learn about and apply the ways that gardening benefits adult mental health from the context of hospitals, care homes, and business settings.

In the field of education research, it is also worth noting that little attention has been paid to the connection between gardening experience and teacher/student wellbeing, social/emotional development and mental health indicating a gap in research in this area. Swank and Swank's (2013) review of literature covering the relationship between school gardening and the personal, social and academic growth of students found an overwhelming focus on how academic learning improved. Lam, Romses, and Renwick addressed this gap in 2019 when they undertook a research project to gain an understanding of the relationship between secondary school youth experiences in Vancouver school gardens and their mental wellbeing. Students shared through their writing and photographic art that exposure to school gardens benefited their wellbeing. The researchers concluded that gardening experiences supported mental health in youth by building their resilience, increasing their sense of autonomy, improving their outlook and providing a sense of inclusion, connection, and belonging. This area of research is worthwhile pursuing further.

Coming back to gardening experiences and associated wellbeing benefits for adults, research in hospitals, care homes, and business has shown that doctors, nurses, patients, staff,

and visitors have all experienced healing effects from gardening and gardens in those settings (Louv, 2012; Messer Diehl, 2009). Fostering relaxation, stress relief, and general wellbeing, a garden allows for both passive (walking, sitting and observing) and active (physical work of planting, digging, weeding) interaction with nature. Gardens also allow for tactile and sensory opportunities as one's senses can be awakened in gardens due to the variety of fragrances, textures, sounds, tastes, shapes, and colors. This sensory stimulation can help us connect with and experience nature in more depth (Messer Diehl, 2009).

Other research conducted outside the field of education has also indicated that gardening is greatly beneficial for health and wellbeing. For example, Soga, Gaston, and Yamaura (2017), environmental scientists working in the fields of agriculture, biology and sustainability, conducted a meta-analysis of twenty two case studies from North America, Europe, Asia, and the Middle East examining the effects of gardening and found reductions in depression, anxiety, and body mass index, as well as increases in life satisfaction, quality of life, and sense of community occurred for gardeners. Stress-focused studies, such as van den Berg and Custers' (2011) research found that even 30 minutes of gardening promotes neuroendocrine and affective restoration from stress. A review of literature on gardening-based mental health interventions by Clatworthy et al. (2013) examined and evaluated the described benefits and quality of research in ten studies finding range of benefits across spiritual, social, vocational, physical and emotional domains including reduced symptoms of depression and anxiety. Further, Messer Diehl's (2009) work regarding sensory stimulation in garden experiences indicated that the more senses used, the greater the wellbeing improvements.

Gardens and plants do not necessarily need to be thought of as outdoor features as they can also be incorporated into building design in transitional spaces and inside structures. Living walls, atriums and large windows showcasing natural views are examples of how gardens and nature can be linked with our built environment which leads to a discussion of how biophilic design can impact nature experience. This has implications for how school and school ground design could connect to teacher wellbeing.

### ***Biophilic Design***

The built school environment (school building and classrooms, playgrounds, and school property) is the arena in which teachers live out their day-to-day activities and should be considered when discussing the setting of nature experiences and the impact of nature on wellbeing. Research linking architecture and wellbeing has shown that design features that embrace nature (biophilic design) appear to benefit the mental health and wellbeing of students in schools (Benfield et al., 2015; Dutt, 2012; Li & Sullivan, 2016; Rugel, 2015). Other studies have found these same results along with increases in work productivity in hospitals, office buildings, residences (Kellert, 2018; Kellert & Calabrese, 2015). For older schools and classrooms that do not have elements of biophilic design such as windows with views of natural features, community gardens, trees, and green fields studies have suggested that teachers can utilize indoor plants and posters of nature to increase exposure and experience with nature improving wellbeing (Cooper et al., 2008; Han, 2009; van den Berg et al., 2017).

Biophilic design principles connect architecture with nature and wellbeing and have been shown to advance human health and productivity, create an interrelated setting with the ecological whole (more than just a solitary plant sitting in the corner), encourage

engagement with nature, develop emotional attachment to place, and foster feelings of belonging. Biophilic design is based on Kellert and Wilson's (1995) Biophilia Hypothesis which predicts that peoples' psychological health is associated with their relationship to nature. In that sense, they believe that humans have a biological need to be in contact with the natural world. It implies serious consequences for our psychological wellbeing if we become estranged from our natural environment. Biophilic design is also non-exploitive of nature and can be incorporated inside, outside and in transitional spaces (Kellert, 2018).

The research linking architecture and wellbeing offers insight into the ways that nature experience through features of school design can contribute to wellbeing. Worth noting, there is a large gap in research in this area with regard to teacher wellbeing. Dutt (2012) identified a lack of empirical research on the topic when she undertook a qualitative study at Bowen Island Community School in BC. While her study focused on student wellbeing, results indicated that indoor/outdoor interfaces (windows, skylights) and the presence of both gardens and forest as play environments were significant contributing factors to happiness, wellbeing, aesthetic pleasure and productivity at school (Dutt, 2012). Several other studies on the connection between architecture design, nature, and wellbeing have followed suit in more recent years focusing on student wellbeing. Quantitative studies conducted by Li and Sullivan (2016) and Benfield et al. (2015) in high school and college settings found that visual access to natural views restored attentional functioning, reduced physiological arousal, and improved attitude which was consistent with research in hospitals (Ulrich, 1984), office buildings, and residences (Cooper et al., 2008). Rugel (2015) used Kaplan's (1995) Attention Restoration Theory and Ulrich's (1991) Stress Reduction Theory,

both related to Biophilia, to argue that humans innately respond well to nature for adaptation reasons as that is the environment in which we evolved. Attention Restoration Theory (Kaplan, 1995, 1989) proposes that restorative experiences in nature facilitate the recovery of directed attention which is key in coping with stress and self-regulation. According to this theory, nature helps to engage one's senses to pay attention and is thought to allow people space and opportunity for reflection. Ulrich's Stress Reduction Theory (1991) points out that our stress recovery when engaging with nature, even just through a window, is both psychological and physiological.

Li and Sullivan (2016) and Benfield et al. (2015) suggest that teachers should consider seeking out classrooms or learning environments with visual access to natural settings or features if at all possible. Recently, architectural trends have responded to this theory driven research and empirical evidence in which visual access to the natural environment is recognized as an important component of the built environment that contributes to wellbeing. However, educational settings are one exception to that trend where windowless classrooms and classrooms with blinds and no nature views are commonly used 'to reduce outside distractions' (Benfield et al., 2015).

Acknowledging that many teachers and students find themselves in classrooms where, unfortunately, visual access to nature or natural elements is not readily accessible, the presence of indoor plants can provide mental health, physiological, and concentration benefits. For example, in elementary-level classrooms, the biophilic design of green walls were found to have restorative impacts, improve attention, and influence positive affect (van den Berg et al., 2017). Han (2009) found that high school students also benefited in this way from

larger potted plants placed along the front of the classroom. Research completed in other contexts found that plant exposure reduces anxiety and stress, improves attention, decreases depression, increases happiness and life satisfaction, and improves self-esteem (Hall & Knuth, 2019).

If plants are not an option in classrooms, pictures of nature have also been found to improve affect by reducing arousal levels (Cooper et al., 2008). In 1991 Ulrich and his colleagues further investigated whether different conditions (visual scenes of unthreatening natural environments vs urban environments) fostered or hampered recovery from stress and found that unthreatening nature scenes were a restorative influence on participants increasing their positive emotional states, improving attention, and decreasing physiological arousal (Ulrich et al., 1991). Of significance was the quickness of recovery during the study. Within four minutes all groups experienced some degree of recuperation, but after 5-7 minutes the nature viewers had significantly higher rates of recovery physiologically. Additionally, the nature viewers' self-reported emotional states were surprisingly more positive than their baseline. This may have implications for busy, stressed teachers who have limited time to pause and recover during the teaching day. Coupled with additional research, these findings on nature and wellbeing have the potential to affect educational policy and practice and educational architectural design (Benfield et al., 2015).

Most of the research reviewed has been carried out from a Western perspective, with associated biases in this literature with respect to a focus on Western ways of thinking and doing. For example, Keniger et al. (2013) found in their review of research studying the benefits of interacting with nature that a Western cultural bias exists as the majority of studies

have a geographical bias to northern settings in North American and European countries. However, given that we learn through and from cultural frameworks for organizing knowledge of the natural world and the place of humans in it (Van der Tuin, 2010), examining this issue through only a Western lens narrows our overall understanding of how engaging with nature contributes to universal human wellbeing. Considering our history of cultural imperialism, it is time to recognize the merits of pluralism and the importance of listening to, respecting, and learning from the cultural perspectives and voices of others (Coope, 2019). As such, exploring the relationships between nature and wellbeing from different cultural perspectives can provide a richer sense of the ways in which nature experiences can potentially impact teacher mental health and wellbeing.

### **Indigenous and Eastern Perspectives on Nature-Wellbeing Connections**

One way of thinking about how to learn from multiple ways of knowing is through the concept of knowledge dexterity, which can be described as learning to value and use different cultural lenses to recognize the potential diversity of cultural capital (Donald, personal communication, Feb. 4, 2020). In this section, I foreground Indigenous and Eastern Ways of Knowing to provide different cultural insights into the human relationship between nature and wellbeing. My aim is to intentionally unsettle the notion that European Knowledge was the primary and important knowledge guiding my research. I recognized that other ways of knowing and being needed to be examined and included in my literature review in an effort to attend in a more culturally responsive way to the literature review for this study. As a Canadian who is coming to understand my role in Truth and Reconciliation in this country (TRC, 2015), I am recognizing my responsibility to Indigenous Peoples to take a decolonizing

stance in my work and life as I work toward meaningful reconciliation. For me, one small way of doing this was to respectfully highlight Indigenous world views in my research. By connecting different knowledge systems, we can create a shared knowledge space of many ways of knowing while maintaining cultural diversity (Lomas, 2016; Turnbull, 2000).

Additionally, Louv reminds us when talking about wellbeing and culture that “we need to consider the strong cultural links to nature that already exist and can be built on” (2012, p.138).

### ***Indigenous Ways of Knowing***

Indigenous Peoples have described a broad, inclusive understanding of nature seeing culture in nature and nature in culture, with themselves as one with earth (Kelly, 2019).

Relationship with nature is one of embodiment with seamless physical, cultural and spiritual union with the Land (Cajete, 1994; De Leeuw, 2018). Cajete illustrates this line of thought with the words “we are this land, and this land is us” (1994, p. 91). This relationship is critical to wellbeing since the earth is seen as a powerful determinant of Indigenous health.

Indigenous Ways of Knowing and Being in the world are wholistic, understanding that the biological world exists beyond us, instead of being separate from us and available for humans to dominate and exploit. Indigenous Ways of Knowing involves a ‘presentness’, an act of relationship that entails meeting in togetherness, respecting and caring for nature for its intrinsic value (Cajete, 1994; Kelly, 2015). Indigenous knowledge also attaches importance to place, recognizing place as a necessary condition for understanding and wellbeing (Armstrong, 1995; De Leeuw, 2018; Johnson, 2019; Wagamese, 2016). Chief Dan George’s quote “The beauty of the trees, the softness of the air, the fragrance of the grass, speak to

me... and my heart soars” is reflective of this. With wisdom sitting in places, as espoused by Basso (1996), our place in and relationship with nature within an education context is one worth exploring further. Thinking of nature in this way moves us beyond teachers and researchers only focusing on an outcome, such as a feeling produced or a want met from nature contact, to instead focusing more on the relational process of nature experience.

Cultural wisdom has been obstructed for many years as Indigenous cultural knowledge systems have been pervasively ignored or undermined (Coope, 2019; Turnbull, 2000). Cajete, an American Indigenous scholar, advocated over twenty-five years ago for a more balanced integration of cultures (1994). In his seminal book he shared Indigenous perspectives on the ecological foundations of health and wholeness writing that “in one form or another, the environment provides the context for illness, health and healing” (1994, p. 107). Rosiek et al. (2019) have pointed out that acknowledging Indigenous scholarship and Indigenous traditions of thought and practice provides great insight about other-than-human agency regarding nature which can’t be really be considered as ‘new.’ By acknowledging our diverse cultural knowledge, ‘knew’ thought about mental health and the relationship between wellbeing and nature can be shared for the benefit of all, including teachers.

Educators in British Columbia, Canada have a responsibility to contribute towards truth, reconciliation, and healing by developing a deeper understanding of Indigenous Ways of Knowing and Being, history and culture (BC Ministry of Education, 2021). As stated in BC’s curriculum, teachers are learning/teaching how to integrate Indigenous Worldviews and perspectives into their classrooms and learning environments in a culturally sensitive manner, and about the power of focusing on connectedness and relationships to oneself, others, and

the natural world (2015). Traditional Ecological Knowledge, sense of place, and a wholistic understanding of wellbeing all provide important Indigenous links to nature and wellbeing research. Reconciliation is not only between humans, but also between humans and the Land. It is a celebration of kinship and an offering of respect and humility (Armstrong, 1995; Cajete, 1994; Kelly, 2019; Wagamese, 2016).

We are also reminded that Indigenous knowledge itself is as diverse as its peoples (Coope, 2019), and so a few different examples are provided to explain how engaging with and relating to nature is critical for wellbeing from an Indigenous perspective. Johnson (2019) offered elder wisdom and stories as insight into Northern BC Indigenous communities where health and wellbeing is not just embodied but is said to be emplaced. Health, wellness, and wellbeing were all found to be entangled with the promotion of wellbeing requiring a close look at relationships between people/communities and the Land. Jeannette Armstrong, an Okanagan Indigenous scholar and author, explains that “Okanagans teach that our flesh, blood and bones are Earth body...our word for body literally means ‘land dreaming capacity’...The Okanagan teaches that emotion or feeling is the capacity whereby the community and Land intersect in our beings and become part of us. This bond or link is a priority for our individual wholeness or wellbeing.” (Armstrong, 1995). This is relevant because emotional wellbeing is said to include both happiness and an interest in life, critical to overall personal wellbeing (Galderisi et al., 2015) and by thinking in this way, teachers could become more attuned to their emotions while engaging with nature to strengthen the bond. A wellbeing connection with Land was also expanded upon by Canadian Ojibway author Richard Wagamese who shared that he felt the “lure and tug of the Land,” was personally

“articulated and defined in the context of geography,” (2016, p 50) and that in nature he was “healed and made more” (2016, p 54).

In New Zealand, a case study of a contested Kaiwharawhara stream highlights how Māori traditions and values provide a construct for the interconnectedness of mind, body, spirit, and Land as vital aspects for health and wellbeing of both Land and people (Marques, McIntosh & Hatton, 2018). The Land is seen to shape who they are as people, not the other way around. Marques, McIntosh and Hatton (2018) integrate Maori knowledge (bicultural and Indigenous constructs) to extend our way of thinking beyond the common perceptions understood in Western culture and suggest that embracing traditional Indigenous knowledge we can learn how interconnectedness between nature and people can improve health and wellbeing.

These Indigenous perspectives of nature contrast Kellert and Wilson’s (1995) Biophilia hypothesis which is based on human dependence on nature for survival or self-interest (Lee-Hammond, 2017). Also, the theory’s emotional link between all humans and the living world may have overemphasized the evolutionary origins of positive human feelings for life and life-like processes as it does not take cultural capital into consideration (Joye & De Block, 2011). This can be explained through Kellert (1993) who figures that humans value nature in a variety of ways for our benefit (utilitarian, naturalistic, scientific, aesthetic, symbolic, humanistic etc.), but only one way is moralistic which covers the spiritual relationship more in line with the Indigenous perspective.

Joye and De Block (2011) further discuss cultural capital and suggest that while caring for nature may be to a large extent ‘in our genes’ as proposed by biophilia, Western culture

has perverted this natural tendency. We need to be aware of cultural capital as it creates epistemology differences between Indigenous cultural values and Western values. Western educators and researchers, for example, often try to prove that going outdoors is good for humans – providing a justification, or a finding of the ‘truth academically.’ A further argument used to explain cultural capital is one in which innate biophilia of a moral/spiritual nature is present in children in which children embody their landscape and nature as shown in Sobel’s (2008) research which found children’s experiences in nature to be transcendent and connected, thus quite different from Western adults. Additionally, Lee-Hammond (2017) points out that the Western research measurements such as Connectedness to Nature Scale and Nature Relatedness Measures are quantifiable, positivist measures that are a departure from the innate wisdom of Indigenous Peoples who have known for thousands of years that a strong relationship with nature brings balance and wellness mentally, physically, and spiritually.

Indigenous knowledge is an ecological way of understanding our world, its interconnectedness, and our relationship to it. Little Bear summarized this nested and situated understanding as ‘All my relations’ where ‘all’ means ‘whole,’ ‘my’ means ‘belonging’ and ‘relations’ means ‘ours’ (De Line, 2016). Indigenous scholar and artist Vicki Kelly (2015) offers her understanding of ‘All my relations’ by pointing to the interconnectedness of humans and environment and its link to wholistic wellbeing. Finally, Wagamese (2016) considers the phrase ‘All my relations’ to mean all people, rocks, grass, and creatures that “live because everything else does” and “if we were to choose collectively to live by that teaching, the energy from that change of consciousness would heal each of us - and heal the

planet” (2016, p 36). This understanding is also found in Eastern ways of knowing such as in the Buddhist concept of nature where all life is considered interrelated and interdependent, and the principles of non-harm and respect for life are espoused (Dalai Lama, 1992; Epstein, 2005).

### ***Eastern Ways of Knowing***

From an Eastern perspective, nature, in Buddhist literature, is an extension of human love deserving of compassion, kindness, and respect and is not treated as something less important or separate from humans (Dalai Lama, 1992). Thich Nhat Hanh, a Buddhist monk and Zen master tied this understanding of nature to wellbeing with his quote “Go home to nature and let nature heal you.” Eastern ways of knowing and Eastern studies on nature and wellbeing offer a number of insights that could be adopted by teachers and researchers concerned with mental health and the relationship between nature and wellbeing such as the intention to engage with nature from a perspective of inquiry with a quiet mind and alert senses, an awareness of the subtle, not just the obvious, in both ourselves and in nature, and finally embracing a mindful approach to life.

In Japan, nature is seen as a dynamic whole that is to be both admired and appreciated. This appreciation of nature is fundamental to Japanese culture and aesthetics, and also has an ethical connotation. The moral dimension of Japanese aesthetics promotes respect, care, and consideration for all human and nonhuman forms (Hume, 1995). Japanese aesthetics can be thought of as a set of ancient ideals that include ‘yugen’ (profound grace) which involves an awareness of the universe that creates an emotional response too deep for words along with ‘wabi’ (transient and stark beauty), ‘sabi’ (the beauty of natural aging). The

evolving state of nature represents these ideals beautifully through life cycles involving birth, growth, death, and weathering for example. Lomas (2016) posits that words with special, culture-specific meanings reflect and pass on characteristics of a given society. Insights are not only ways of living, but also ways of thinking. By learning about words pertaining to wellbeing cross-culturally, he believes that our understanding of a culture's beliefs and values is enriched. For example, there isn't one English word to describe how appreciation of beauty in nature helps one recover from stress, but Sanskrit actually has a special word to describe the feelings of pleasantness associated with natural beauty—Ullassa (Lomas, 2016). This appreciation of beauty is fundamental to Japanese culture and aesthetics (Hume, 1995). Two other words, wabi and sabi, both refer to a mindful approach to everyday life where beauty is considered an altered state of consciousness seen even in the mundane and simple (Hume, 1995). It is thought that a quiet mind and cultivated eye is able to see beauty in subtle places. According to Zen philosophy there are seven aesthetic principles for achieving wabi-sabi, all of which are found in nature and are also used to suggest virtues of human character and appropriateness of behavior in Japan. Integral in daily life in Japan, the concept of aesthetics contrasts that of Western society in which perfectionism, obviousness, and youth is valued.

Building on the appreciation of nature fundamental to Japanese culture and aesthetics, Shinrin-yoku (SY) is a Japanese practice of “immersing oneself in nature by mindfully using all five senses” (Hansen et al., 2017, p.1). It also has been called forest bathing or forest therapy. In the 1980s, SY surfaced in Japan as a response to Japan's high stress corporate culture that was causing ill health from overwork. Inspired by reverence of nature and supported by government backed research, SY has become an important part of preventive health care and

healing in Japanese medicine. As such, the majority of studies on forest therapy effects have been fairly recent (Rugel, 2015).

Ochiai et al. (2015), for example, completed a mixed-methods study on the physiological and psychological effects of a forest therapy program on middle-aged females revealing that forest therapy had a clear statistical correlation with decreases in pulse rate and salivary cortisol levels of participants. Participants also reported decreased anxiety levels, and increased feelings of relaxation and vigor. Hansen et al. (2017) completed a review of 64 qualitative and quantitative studies of SY practice finding that all studies had positive physiological and psychological impacts reducing stress in participants. They used Kaplan's Attention Restorative Hypothesis (1995), Ulrich's Stress Reduction Hypothesis (1991), and Kellert and Wilson's Biophilia Hypothesis (1995) as theoretical frameworks for their review. Twenty-five of the reviewed studies specifically focused on how SY in natural environments benefited overall human wellbeing. The studies took place in nine countries-predominantly in Japan and Korea, but also in USA, UK, Canada, Lithuania, Denmark, Sweden, and Israel. The authors suggest that Shrinrin-yoku holds the potential to benefit all humans as study participants were representative of different cultures, genders, education, marital, and economic status. This aligns with findings from Kuo et al.'s wellbeing work (2019) where results were found to be consistently positive across diverse student populations and education settings. Other research, however, has been too homogenous which limits its generalizability. Additionally, considering that the studies were done in non-tropical climates, a universal case for Shinrin-yoku and other forms of forest therapy is difficult to argue without more research.

Despite questions on universal generalizability, standardized forest therapy programs are recognized in Japan as a relaxation and stress management activity with demonstrated clinical benefits (Ochiai et al., 2015) for young and old alike. However, very few studies of SY have been completed within the context of education in Japan. Some insight comes from Korean studies on the effect forest healing programs have on reducing teacher stress (Park et al., 2017) and from several Korean studies to determine the effect of forest therapy on the psychosocial health of elementary school children (Song & Bang, 2017). The forest healing programs were found to decrease depression, anxiety, stress, aggression, anger, and increase self-esteem and social skills of school children. South Korea promotes forest therapy programs for teachers (Park, 2017; Song & Bang, 2017) indicating that Shinrin-yoku research is starting to affect practice and policy in some areas of the world.

Mindfulness practices are woven into Eastern ways of knowing. From the practice of Shinrin-yoku involving mindfully immersing oneself in nature using all five senses, to Japanese aesthetics which references a mindful approach to everyday life using a quiet mind and cultivated eye, to finally an awareness and appreciation of the wholeness of nature, Eastern ways of understanding connect nature, wellbeing and mindfulness. Unsworth et al. (2016) suggested that the field would benefit from future wellbeing studies investigating the interaction between culture, meditation practices, and nature experience.

### **Connecting the Relationship Between Nature and Wellbeing to Mindfulness**

As a practice, mindfulness may offer some insight into how teachers can experience nature in ways that further promotes their wellbeing. As mentioned, nature ‘experience’ involves more than just superficially crossing nature’s path unaware of one’s surroundings.

The degree that one experiences nature is influenced by one's personal attunement to attitudes, feelings, and levels of attention (Bratman et al., 2019; Seymour, 2016; Wolsko & Lindberg, 2013). Mindfulness practices may offer teachers opportunities for gaining capacities for intentional noticing of nature in ways that open the space for additional wellbeing benefits. Building skill and ability in mindfulness through sitting practices, mindful movement, and other practices that focus attention (smartEducation, 2015) may help teachers in foregrounding intentionality, and increase internal and external awareness when engaging with nature. Within the context of mindfulness practice, and given the importance of the smartEducation's Triangle of Awareness within the context of this study, I provide a brief overview of smartEducation (Stress Management and Resiliency Techniques) in Appendix B to share background information on this program and its position within the Okanagan School of Education at the University of British Columbia.

### ***Mindfulness***

While mindfulness is often associated with Buddhism, it is embedded in most religious and spiritual traditions, as well as in Western philosophical and psychological schools of thought (Walsh & Shapiro, 2006). Mindfulness, according to Jon Kabat-Zinn, can be defined as "awareness cultivated by paying attention in a sustained and particular way: on purpose, in the present moment, and non-judgmentally." (2012, p.1). Further, Shapiro, Siegal, and Neff (2018) understand mindful awareness as a way of relating to all experience in an open, kind, and receptive manner. The contemplative practice of mindfulness is not about escaping from life, it is about learning to fully engage with it. "The capacity to shift perspective out of the egocentric individual frame of reference to a deeper understanding of the nature of reality as an

interconnected, interdependent whole is a key to the radical transformational power of mindfulness” (Shapiro, Siegel & Neff, 2018, p. 1699). In education, mindfulness carries with it the intention to cultivate openness, which has been shown through research to reduce stress and aid in wellbeing, and also help one examine the assumptions we make about race, gender, and class through critical pedagogy (Ragoonaden & Ergas, 2020).

Awareness can be focused toward the outside of us through our senses or to our internal world through perception of body sensations, emotions, and thoughts as described by the Triangle of Awareness presented in smartEducation (2015) and explained further in Appendix B. This is not to say that the mind and body are separate entities as they are indeed connected. Varga (2018) offers a medical perspective stating that a bidirectional relationship between the body and mind exists, and that the connection between the two can be strengthened through practices improving awareness such as mindfulness. Mindfulness helps to overcome attentional imbalances where thoughts, for example are attended to first and foremost, without awareness of one’s sensorimotor and emotional states (Wallace & Shapiro, 2006). This is known as perceptual discrimination (MacLean et al., 2010). Fogel (2011), a specialist in psychophysiology of self-awareness, found that failure to attend to both the mind and the body leads to mental health disorders and poor wellbeing. Western psychological theory aligns with the importance of developing attentional skills for psychological flourishing. For example, Ryan and Deci’s (2001) theory of self-regulation posits that attention is crucial to maintaining and improving psychological function and Csikszentmihalyi’s (1990) theory of flow (the state of being completely involved in an activity emphasizing process over product) highlights the importance of sustained attention as a pre-cursor to happiness and engagement

in activities.

Mindfulness, being in a state of awareness and openness, also involves three simultaneous interwoven elements: intention, attention, and attitude (Shapiro, Siegel & Neff, 2018). Intention generally refers to cultivating an awareness of the underlying motivations for what drive us to do certain things. Attention is where one consciously focuses (internal experience of body sensations or emotions or thoughts or external experience using one's senses) as even with divided attention the brain cannot attend to much more than two things at once. MacLean et al. explain that practitioners of mindfulness "use introspection to monitor their quality of attention, recognize when attention has wandered, and guide attention back to the chosen stimulus" and that this metacognitive or meta-attentive aspect of mindfulness leads to improvements in perception and sustained attention (2010, p 830). And finally, attitude refers to the non-judging quality of our attention. In that sense, mindfulness allows a tuning in and fluid awareness of the full context of one's situation allowing time to respond instead of just reacting in an automatic, impulsive manner. It heightens the ability to connect to place in the moment and can be "like a camera, capable of taking beautiful pictures at different lens widths – from wide angle to telephoto" (smartEducation, 2015, p.79).

### ***Mindful Nature Experience Defined***

Bringing together mindfulness and nature experience, I propose that 'mindful nature experience' is based on two connected components that are both process oriented and relational. The first, 'mindful,' relates to the cultivation of mindfulness which is defined as being non-judgmentally present in the moment, attentively using one's senses (smell, touch,

taste, sight, hearing) and observing one's inner thoughts, body sensations, and emotions. The second part of the definition is 'experience with nature' which can take many passive or active forms including but not limited to solo or class nature walks, sitting in nature, class gardening, growing plants in classrooms, observing nature through a window, teaching/learning outdoors, eating outside. The two taken together create the proposed concept of 'mindful nature experience' which is a relational process. The contemplative practice of a walking meditation in nature is one example of a mindful nature experience that can guide one's attention and awareness in this manner.

### ***Mindful Awareness and Attention as Nature Experience Amplifiers***

Mindful awareness and attention have been found to play a role in how we experience nature in a number of studies specific to this subject. For example, Ballew and Omoto's (2018) research connecting mindfulness-nature-wellbeing found that greater positive effects of nature appear to be driven by a mindful immersive experience with nature and not merely by just being outside. Results indicated that nature fostered awe and positive emotions more so when people focused their attention on their surroundings. Research conducted by Unsworth et al. (2016) provides another example of how combining mindful attention with nature can increase connection with nature. Additionally, Cooper, Boyko, and Codinhoto's (2008) literature review of data from 280 interdisciplinary studies about the physical environment and its direct and indirect impacts on learning and mental health found that significant factors contributing to mental capital and wellbeing relate to both our access to nature and to our awareness through sensory stimulation – what we see, smell, touch, taste, and hear.

When asked if our inner human development and wellbeing connected with our

relationship to nature, T. Berry, an individual honored by the United Nations as a leading voice for the Earth responded, “the outer world is necessary for the inner world; they are not two worlds but a single world with two aspects: the outer and the inner” (as cited in Louv, 2012, p.246). These two worlds are not mutually exclusive, instead they coalesce and strengthen each other. Similarly, Mantler and Logan’s research (2015) found that the health benefits associated with nature exposure were amplified by mindful awareness suggesting a strengthening between the two. This could be explained by studies that have shown exposure to nature improves the ability to pay attention (Benfield et al., 2015; Han, 2009; Li and Sullivan, 2016; van den Berg et al., 2017). It is this understanding of the importance of connecting peoples’ minds with nature and their own bodies that ecopsychology and ecotherapy is based on.

### **Links to Ecopsychology and Ecotherapy**

Ecopsychology and ecotherapy are both nature-based fields that connect humans mindfully with nature. Ecopsychology is defined as “the study of psychological processes that tie us to the world or separate us from it” and ecotherapy as applied ecopsychology referring specifically to “healing and growth nurtured by healthy interaction with the earth” (Buzzell & Chalquist, 2009, p.17-18). Ecotherapy is rooted in ecopsychological philosophy, which posits that our disconnection from our natural surroundings forms the basis for much of our ‘disease.’ Its contention is that if people are disconnected from nature, then psychological development is impacted negatively. In these fields, mindful attention and awareness of one’s natural surroundings and oneself plays a role in improving health and wellbeing.

In the 1990s ecopsychology and ecotherapy were established through a group of

psychology and environmental scholars meeting to share learnings and understandings from their fields. Mental health professionals had been discovering that their inexpensive healing methods involving nature worked, but without sufficient evidence based on academic research studies their findings weren't scientifically credible in the Western scholarly circles. A new discipline, ecopsychology, was established as a result. This was marked by the publication of *Ecopsychology: Restoring the Earth, Healing the Mind* (Roszak et al., 1995), which is considered a seminal volume of a collection of essays written by many of the original pioneers of eco-psychological philosophy illustrating that ecopsychology goes beyond traditional therapeutic models of psychology (individual, family, and social dimensions of the human personality) and instead offers a natural place-based model of mental health.

Ecopsychology and ecotherapy address and acknowledge how human wellbeing and identity is entwined with nature taking into account Indigenous wisdom and Eastern perspectives as well as Western scientific understandings. In that sense, ecopsychology is a coalescence between different ways of knowing. Practices also come from the blended fields of psychology and environmental studies and can include nature-reconnection practices, animal assisted psychotherapy, horticultural therapy, wilderness work and a variety of other restorative methods (Messer Diehl, 2009). Through practices such as these, therapists help to connect patients' minds with nature and their own bodies. Ecotherapy speaks to an important journey of the assimilation of the 'outside with the inside'. As such, practitioners use a mind-body-world web approach with ecotherapists aiming to attend to their clients and the non-human world as an I-Thou relationship as espoused by Martin Buber (Buber, 2013; Buzzell &

Chalquist, 2009). This means that the intention when interacting with nature is not to *use* it, but instead to engage *with* it. It is also emphasized that ecotherapy requires a mindful slowing down from the fast pace of modern life instead of attending to what is going on around oneself only in brief moments. Therapists have found this opens space for reflection and is a precursor to sensing place and connecting with nature (Buzzell, 2009).

Coope (2019) argues that using a Western, human-centered paradigm is not seen as a perspective that allows us to move towards a closer relationship with nature where we should see nature and all its parts as subjects in their own right. Key lessons can be learned from Indigenous Traditional Knowledge as it invites recognition of the need to acknowledge not only scientific styles of psychological knowledge but also the aesthetic and sacramental dimensions. Cajete (1994) describes these foundational parts of Indigenous knowledge as essential in discovering one's identity, heart, and place in life in a wholistic sense which is critical to wellbeing. Indigenous Traditional Knowledge offers council of humility and suggests a reframing of the human position in nature to one of connection and association. By viewing nature - trees, water, animals as coparticipants in healing and important in creating a sense of belonging to place, we can become more aware of the relationship between our planet and our own sense of wellbeing (Buzzell & Chalquist, 2009). The natural world also needs us to belong to it as we can only begin to care for what we know and inhabit.

### **Chapter Summary**

The literature reviewed as part of this chapter highlights how human wellbeing is connected with nature. I shared a variety of studies that explored the ways in which outdoor experiences, gardening experiences and biophilic design offer wellbeing benefits. Research

indicates that benefits include mental, social, emotional, physical/physiological, and psychological wellbeing improvements. From there, I drew attention to other ways of knowing and being by providing Indigenous and Eastern perspectives on the relational links between nature and human wellness. For example, I pointed out that for the Indigenous Peoples this relationship is critical to wellbeing since the Earth is seen as an embodied and powerful determinant of their health. Then I turned to mindfulness to explain how mindful development of attention skills, inner and outer non-judgmental awareness and presence may help teachers experience nature in ways that further promotes their mental health and wellbeing. Finally, I shared the ways in which ecopsychology and ecotherapy relate to the links between wellbeing-nature-mindful awareness and suggest that, based on the literature reviewed, mindful nature experiences have potential to improve the mental health and wellbeing of educators. In the next chapter I share the hybrid methodological approach that I used to conduct this study.

### CHAPTER 3: METHODOLOGY AND RESEARCH APPROACH

Choosing a research methodology should be an act of thoughtful selection, a narrowing down of choices, making certain that the resulting options are suitable for the intended research context. Methodologies are often selected to most appropriately answer the research question and can be seen as a reflection of the way the researcher views themselves in relation to the world around them (Denzin, 2011). The choice of research practices depends on the questions to be asked, and those questions depend on the context (Denzin, 2011). As such, exploring the connection between mindful nature experiences and the mental health and wellbeing of educators called for a methodology that not only acknowledged the importance of relationship as a central tenet of wellbeing, but also embraced an embodied wholistic sense of experience that could grow within the context of this teacher wellbeing study.

With the need for coherence between the nature of a researcher's questions, philosophical assumptions and methodological approaches taken to answer them (Eisner, 2017; Spencer et al., 2014) I used a hybrid arts-based phenomenological approach to inquire into the question of how mindful nature experiences influence teacher wellbeing as a reflective and flexible perspective for exploring the complexity of mental health and wellbeing development and embodied knowing. A hybrid methodology involves a combination of two or more methodological approaches that compliment and extend each individual research practice (Ellingson, 2013). Benefits of a hybrid approach include tying insights from one interview to the next to explore meaningful connections and weaving additional layers of participant experiences and understanding to create a fuller and more impactful participant story. The hybrid approach I used helped connect nature with mindful attention and wellbeing and

allowed me to delve deeper into how participant thoughts, emotions, sensations, and senses were affected by mindful nature experiences by combining open-ended interviewing with the collection of artifacts and subsequent creation of an eco-mandala. With this approach, I was able to offer my participants different opportunities for sharing their experiences which created rich spaces for interpretation and meaning-making and allowed me to see many connections between various parts and the whole.

This chapter provides an overview of my selection of a methodology and explains how I carried out the study. I begin with a discussion of my philosophical assumptions and the choice of a qualitative hybrid methodology combining arts-based (ABR) and phenomenological research approaches.

### **Philosophical Assumptions: Social Constructivist Approaches to Research**

I framed this study within a social constructivist approach based on the assumption that each person constructs and interprets knowledge differently, and that learning is linked to one's social and cultural context (Bloomberg & Volpe, 2012; Creswell, 2003; Spencer, Pryce & Walsh 2014; Vygotsky, 1934). In essence, meaning-making is constantly in flux occurring socially between people (interpsychological) and individually inside oneself (intrapsychological).

Adopting a social constructivist approach leads to the possibility of multiple realities understood from a variety of different perspectives. The epistemological basis for this perspective is interpretativism. Guba and Lincoln (1985) attest that there may be as many realities as there are people, while acknowledging that some of those realities may be shared. This aligns with a key qualitative research assumption that there is no absolute knowledge, just our interpretation of it (Denzin, 2011; Eisner, 2017).

In this study, open-ended interviewing allowed meaning to be made based on participant descriptions of their experiences and researcher-participant conversations. This meaning-making was socially constructed between the two parties, allowing for a process of understanding that was inherently inductive (Creswell, 2003; Merriam, 2002). In this sense, I developed my own interpretations of the participants' experiences throughout the research process and acknowledge that my own beliefs were capable of shifting based on collective construction of knowledge (Lincoln et al., 2013). Open-ended questioning was important as it provided space for participants to reflect on their views and develop new understandings through their narrative descriptions as they engaged with me as the researcher. The inclusion of an arts-based methodology added another layer of meaning to conversation and discussion in a wholistic sense as it was capable of incorporating embodied knowing instead of relying only on the thinking mind. As Chaplin (1994) wrote, "the production and reception of visual art works are social processes" (p. 161). Bourdieu (1993) further explained how art links to social constructivism stating, "the work of art is an object which exists as such only by virtue of the [collective] belief which knows and acknowledges it as a work of art" (p. 35) which means that one must also attend to the social conditions that produce this belief. The opportunity to engage in co-created understanding and knowledge developed with, through and from each other through discussion and art was an active experience.

Social constructivist theory has successfully supported research on the acquisition, expression, and application of knowledge in complex contexts in the field of education as well as health care fields such as mental health and psychology (Appleton & King, 2002; Labonte & Robertson, 1996; Thomas et al., 2014). Recognizing that this theory privileges social interaction,

takes local context and culture into account, and can offer a more wholistic view of studied phenomenon by integrating the concepts of knowledge creation and action, it has been adopted by the Canadian Institutes for Health Research in their Knowledge to Action framework (Graham, 2006). Researchers who embrace social constructivism as a philosophical assumption indicate an understanding that the knowledge exchange process between researchers and participants is constructed in a mutually created social context through social and environmental interactions (Thomas et al., 2014). Hoshmand and Polkinghorne's (1992) literature review emphasized that social constructivism enables a broader choice of research methods, the development of reflective skills in practice and better linkages between researchers and practitioners.

From the field of education, Kim (2014) elaborates that social constructivist assumptions can embrace methodologies and methods that make empathic and aesthetic connections with participants to improve meaning-making. Ellingson (2009), who built on Richardson's (2000) work, believes that a social constructivist approach works well with hybridized or "crystallized" research that combines multiple genres of methodology including creative representations. Studies of this nature span "multiple points on the qualitative continuum in order to maximize the benefits of contrasting approaches to analysis and representation... offer deep, thickly described, complexly rendered interpretations of meanings about a phenomenon or group and... reflect several contrasting ways of knowing" (Ellingson, 2009, p.10).

### **Qualitative Research and Phenomenological Connections**

I chose a qualitative research path because its creative, flexible, and interpretive nature allowed me to embrace the complexity and unpredictability of the study topic and context, and

because it is based on the premise that there are many ways of understanding the world and our experiences, thus aligning with my own research views (Brinkman et al., 2014; Denzin, 2011). Qualitative research also assumes that our knowledge and understanding of our world comes from our lived experiences, which involves direct, first-hand involvement and are described 'qualitatively' referring to primary objective qualities or secondary subjective qualities like our senses (Spencer et al., 2014). Indeed, my teacher participants were asked to qualitatively describe their lived experiences with and in nature and reflect upon how these mindful nature experiences impacted their own mental health and wellbeing.

Qualitative researchers who choose a phenomenological approach seek to “understand the meaning and nature of an experience: How do people perceive the world they live in and what it means to them? How does meaning arise from their experiences?” (Kapitan, 2018, p184). Considering that phenomenology is capable of illuminating meaning that people give to their experiences as they are lived, it made sense to adopt this approach to see, feel, and hear how participant teachers were engaging in their mindful nature experiences and understand how these experiences impacted their mental health and wellbeing from their perspectives. Phenomenology is “the study of phenomena—in other words, of the world as it appears to experiencing, acting human beings” and is said to be tied to consciousness (Brinkman et al., 2014, p. 22). There are also different types of phenomenology, each connected to different philosophical ways of conceiving the *what* and *how* of human experience (Neubauer et al., 2019).

I leaned toward the hermeneutic tradition of phenomenological research which pushes beyond description to interpreted understanding whereby meaning is created through

interaction between researcher and participant. In this way, meaning involves a circle of understanding where experiences are brought into the relationship by participants, shared based on their perspective, and then interpreted. Through subsequent interaction or '(re)searching,' my participants and I continued this circle of meaning-making over the course of three interviews, and then for me as I engaged in the analysis. As researcher, I made an effort to acknowledge my own bias and suspend any premature interpretations to truly listen, empathetically understand my participants, and engage in meaningful dialogue which is expected by someone taking up this approach. As part of the analysis process, I further reflected upon my subjectivity by not assuming my participants experienced teaching with and in nature in the same manner as myself and by allowing their voices and stories to lead theme development. Eisner (2017) emphasises the importance of researcher 'connoisseurship' in this context, highlighting that those with skill and even personal experience with the subject matter learn to see and not just look when undertaking their research turning it into a potential strength when searching for meaning. Expanding upon the importance of personal experience, Abolson and Willett (2005) believe that that it is unethical to do research in which you have no personal connection and that the more a researcher is invested and connected to what they are studying, the more responsible and accountable they are. Neubauer et al. (2019) point out that a researcher's education and knowledge base leads them to explore a phenomenon/experience and that asking the researcher to take an unbiased approach is inconsistent with hermeneutic phenomenology's philosophical roots.

As expressed by phenomenologist Van Manen, lived experiences involve "reflexive re-living and a reflective appropriation of something meaningful" and in turn, these lived

experiences gather significance as we give memory to them and assign meaning to our lived lives (1990, p. 36). The subjectiveness of this approach is an advantage as it provides personal insight to lived experience (Eisner, 2017) which is critical when studying teacher mental health and wellbeing subjectively because all of our experiences are different and wellbeing is understood to be a fluctuating construct throughout our lives (CAMH, 2014; Keyes, 2014).

Qualitative phenomenological research falls under the philosophical umbrella of social constructivism and combines well with arts-based research in this study as the two weave together to grow understanding based on participants' conscious and unconscious knowing. While different, both are capable of generating insights from direct experience. Van Manen (1990) saw the value in incorporating art with phenomenological research as he believed that the essence of a person's experience could indeed be described richly using aesthetic materials together with literary sources and explains that this is because those that engage in art "are involved in giving shape to their lived experience, [and] the products of art are, in a sense, lived experiences transformed into transcended configurations" (p. 74). Hybrid forms of qualitative research continue to be developed as researchers see value in moving outside the limitations of traditional research genres. Ellingson explains that "genres do not reflect natural categories, but inductively derived generalizations based on existing discourse, and their value lies only in the degree of illumination they provide" (2009, p. 6)

By embracing an arts-based phenomenological approach to inquire into the question of how mindful nature experiences influence teacher mental health and wellbeing I acknowledged the importance of relationship to self, others, and place as a central tenet of wellbeing and was

convinced based on my literature review that this hybrid form of qualitative research would best offer insight into my research questions.

### **Research Questions Revisited**

Aligning with my philosophical assumptions, I locate myself as a relational researcher/teacher whose life-stance embraces experiential learning, inquiry, and reflexivity. Further, I believe that differing aspects of reality exist as they are dependent on perspective, and that research striving to understand lived experiences is enriched when wholistic and relational lenses are used. Accordingly, I was drawn to qualitative research methodologies to explore teacher mental health and wellbeing and help me answer my question: *In what ways do mindful nature experiences offer mental health benefits that contribute to teachers' sense of wellbeing?* By anchoring the study with this question, I sought to better understand how conceptualizing nature and our natural environment as restorative could help promote, protect and restore teacher wellbeing. Sub-questions included:

1. When teaching with and in nature, what do teachers notice internally and externally when they are asked to be 'mindfully aware'?
2. What qualities and characteristics of nature interaction do teachers seek out and why?
3. How does providing an opportunity for participants to reflect through an alternate means (the eco-mandala) impact their own understanding of their mindful nature experiences and offer further insight to myself as researcher?

Taken together, these questions formed the basis of my study which, in turn, prompted the selection of a hybrid arts-based phenomenological methodology to best answer them. As a mode of inquiry, arts-based research in particular called out to be included as it is linked

through principles that value subjective experience and allows for diverse ways of knowing. Respectful of Indigenous epistemologies, Eastern, and Western ways of knowing, and recognizing embodied ways of knowing, this methodology did indeed act in a complementary way to extend and strengthen the findings.

### **Linking Arts-Based Research to Wellbeing**

Arts-based research (ABR) is a transdisciplinary approach to research that has contributed to a deeper understanding of mental health and wellbeing. Transdisciplinary research and practice synthesizes knowledge from a range of academic disciplines such as psychology, medicine, business and education, and from the community transgressing boundaries between the sciences, other fields, and society (Lawrence, 2010). As such, it is systems based, acknowledges complexity and is characterized by hybridity, non-linearity, reflexivity, and recognizes the importance of aesthetics (Brown et al., 2010). ABR is thus capable of advancing knowledge on complex subjects such as mental health and wellbeing as it provides insights through aesthetic form and embodied knowing that otherwise may not come to light when other methods are used.

Exploring the relationship between the power of aesthetics and mental health and wellbeing is not only part of ABR history, it is also pertinent to the discussion of how ABR can support and inform the study and development of teacher wellbeing today. ABR aids researchers in their goals to explore social-emotional experiences and has been used successfully in studying mental health and wellbeing (McKay & Barton, 2018; Sagan, 2014). Further, art contributes to wellbeing and improves mental health as established in the fields of art therapy, arts in health and medicine, community arts practice, participatory arts, and

widening participation within arts education (Berger & McLeod, 2006; Fancourt, 2017; Sagan, 2014). The role of art in health is inherently transdisciplinary and transcultural, making it all the more valuable to the diverse and complex world of education.

ABR does not require that researchers or participants are artists. Chilton and Leavy (2014) suggest that the artistic product does not have to showcase innate artistic talent to be useful and that the art created by participants during research need only be attentive, honest and authentic. Understanding that ABR is not exclusive, it may appeal to researchers looking for a wholistic approach that expresses emotion, engages the senses, illuminates the complexity of lived experience, transforms consciousness, and enables transformative growth (Barone & Eisner, 1997; Bickel, 2016; Eisner, 2002; Janesick, 2015; Walsh, 2015).

### ***Arts-Based Features that Supported the Study***

ABR has four key features that are especially relevant for those intending to support and inform the study and development of teacher wellbeing through an arts-based methodology. It is experiential (Flowers, Lipsett & Barrett, 2015; Kelly, 2015) opening to embodied ways of knowing, pluralistic (Irwin et al., 2006b; Rolling, 2010) allowing connections to other roles and cultures, iterative (Bickel, 2016) enabling continued reflection/action, and finally informative both during and after the process of creating art (Barone & Eisner, 1997; Irwin, 2006; Kelly, 2015). The relevance of each of these features is discussed further below.

**Experiential and Embodied.** The process of creating art is part of a 'lived experience' which entails direct, first-hand involvement to gain personal knowledge, and embodied self-awareness is considered part of this (Flowers, Lipsett & Barrett, 2015; Fogel, 2011). Embodied knowledge is not just grounded in place, it also involves a centering in process and practice

(Magnat, 2012). Embodiment refers to the processes in which a person's positive and negative exposures and life experiences are incorporated into their body (Krieger, 2005) and is informed by both feeling and thinking (de Freitas et al., 2018). It is also known as somatic learning which involves learning from and through the body. By paying attention to the body, it is possible to access pre-conceptual knowing bringing it forward into consciousness. Where we place our attention is of importance as our brains are not wired to attend to everything at once. We also are unable to attend to something if we are not aware of it in the first place (Ergas, 2013). Loizzo (2018), a neurologist studying embodied contemplative practice, agrees that this practice aids in becoming more attuned to embodied knowing and that artistic activities provide a framework to do so. Loizzo (2018) and Rigg (2018) further see the potential of embodied contemplative practices such as the arts as extending to mental health.

Phenomenologist Merleau-Ponty was an early identifier of the role of art in perception and reflection. He viewed the artist's situated embodiment as key in opening oneself up to experience creating an intertwining of sensing (out there) and the sensed (in here). This aesthetic experience is paramount in learning about oneself, and one's relationship with others and the world. Acknowledging that the embodied nature of aesthetic experience is integral to learning are more contemporary education scholars Vicki Kelly (2015), William Pinar (2010), and Maxine Greene (2001). Aesthetic experiences are said to "bring us in touch with ourselves" thereby experiencing "unexpected resemblances ... between the inner and outer" (Greene, 2001, p. 74). A liminality exists when engaging in aesthetic experience, providing opportunity for embodied connection leading to deeper reflective learning. Barton and Ryan (2013) argue that that unless individuals are encouraged or taught to reflect in multimodal ways then

reflection is superficial in the context of education and depth of learning is impaired. Arts-based methods are thus a way of pulling out deeper awareness and embodied knowledge which is key when researching wellbeing. Bai et al. (2018) explain that this shift of consciousness allows the unseen, untouched, and unheard a role as a source of wisdom.

**Pluralistic – Open to Connections.** Art practices are relational and pluralistic as they guide us towards seeing interconnections rather than separations and are open to differing personal and cultural perspectives (Bickel, 2016; Kelly, 2015; Lines et al., 2019; Rolling, 2010; Varga, 2018). Based on relationality, arts-based research is also a process of becoming that is sensitive to place and time. As such, it is a situational methodology set within cultural, social, political and ecological processes known as ‘relational aesthetics’ which is a term used to describe art that is inspired by human relations. Asking participants to engage with and in nature during the course of the study tied in with ABR’s sensitivity to place and ecology.

Its cultural pluralism is also acknowledged by Indigenous artist and education scholar Vicki Kelly (2015) who sees art as a process of transformation and becoming, with the act itself offering a liminal space tying one wholistically to nature which made it a strong choice for this study. For Indigenous Peoples, art has been described as deepening an understanding of what it means to live well in a particular place (Cajete, 1994; Kelly, 2015; Salvestro, 2016), and is able to bring to light the deep connection to Land that is a critical determinant of Indigenous Peoples’ health (Johnson, 2019; Magowan, 2002). Working in and with nature while engaging in art allowed the environment to not only act as a setting but also connect to as a partner in this relational process (Berger & McLeod, 2006).

**Iterative – Allows for Cycles of Reflection and Action.** The arts, as a multimodal approach used to engage in reflection and express knowledge, provide a transdisciplinary platform for reflection further down the continuum far beyond simple description. Ryan and Ryan (2013), scholars specializing in higher education, point out that most researchers and academics agree that there are different types or hierarchical levels of reflection along a depth continuum ranging from basic descriptive accounts to transformative reflection. Reflection through art is potentially transformative due to its cumulative (Barton & Ryan, 2013) and embodied nature (Rigg, 2018). This point is emphasized because reflection is valued and widely accepted in educational circles as a means of improving educators' professional practice and has a lengthy history stemming from the work of Dewey on reflective thinking for personal and intellectual growth (1998). Reflection can be defined as "bringing unconscious aspects of experience to conscious awareness, thereby making them available for conscious choice" and needs to be recognized as not purely cognitive as it "is folded into all our ways of seeing and experiencing the world" (Barton & Ryan, 2013, p. 410).

In researching teacher resilience and wellbeing, McKay and Barton (2018) found that arts-based reflective practices elicited teacher awareness of what supported and protected their wellbeing as it helped with the identification and expression of thoughts, feelings, and actions within their complex workspace. This feature indeed supported the aims of the study.

**Informative – Both Process and Outcome Provide Insight.** Leggo and Kelly (2015) and Barone and Eisner (1997) offer explanations for how arts-based research is informative pre-structurally through the artistic process and post-structurally upon its completion. Leggo and Kelly (2015) emphasize that the artistic process embraces an individual's 'liminal spaces'

between conscious/unconscious knowing which allows implicit assumptions to surface and either be accepted or opposed. ABR also provides an opportunity to study the relationship between what we know and what we believe and interpret any information that surfaces post-structurally. According to Barone and Eisner (1997) this praxis allows for continued reinterpretation and prompts further connections. Information gained post-structurally also allows other viewers insight into the way one experiences the world. Thus, both process and product are beneficial for participants in terms of insight into their own wellbeing and mental health and are informative to researchers. The method of mandala exemplifies how each of these ABR features aligned with the research context and supported the research questions.

### ***The Artistic Method of Mandala***

Vicki Kelly pointed out that “each art form has unique pedagogical ways of acting upon our sense and sensibilities” and “the medium shapes or informs the perception of the artist” (2015, p. 58). Eisner similarly reminded researchers that “the selection of form of representation in ABR is a choice having profound consequences for our mental life, because choices about which forms of representation will be used are also choices about which aspects of the world will be experienced. This is because the tools one works with influence what one is likely to think about” (2005, p. 8).

For this study I chose to use mandala as the art form or method. The word mandala is generally used in reference to an artistic method in the form of a painting, drawing, diagram, or architectural 3D structure, built outward from a center point with materials such as found objects or different artistic mediums (Kopytin, 2017; Palmer et al., 2014; Potash et al., 2016). The process of creating a mandala involves three stages regardless of culture (preparation,

experience, post-reflection) with each considered to be an elemental learning tool (Cajete, 1994; Kopytin, 2017). A simple 2D mandala can be made by sketching a center point and concentric circles or patterns expanding outwards from it with axes crossing the circles through the center point. A 3D mandala is made from materials such as items found in nature (organic materials, sand, stone etc.) that are arranged in a pattern. This type of mandala begins with one object being placed in the middle with the mandala shape then expanding outwards in rings or layers. Tying mandalas to place, Kopytin (2017) explains that 3D 'green mandalas' created with the inclusion of natural materials bring the arts and nature together to assist with individual health and wellbeing. It is this type of mandala that I chose as my ABR method and have called it an 'eco-mandala.' This choice of mandala type was not to privilege Western studies over Indigenous or Eastern practices, but because it combined nature and mental health/wellbeing, those being key aspects of my study, and had been used with study participants, including educators, which added to my confidence as an inexperienced researcher.

The method of mandala has a relevant history and strong ABR features that can support and inform research and practices of teacher wellbeing. While a visual art form, a mandala is considered to be a relational practice rather than simply a final product (Buchalter, 2012), and so the process of creating a mandala is an opportunity for transformational learning about the self and one's relationships (Cajete, 1994; Dirkx, 1998; Jung, 2009; Maher et al., 2012). However, mandalas are special as they hold meaning in Indigenous, Eastern, and Western cultures. While mandalas can be traced back to Buddhism and Hinduism, they have taken many forms throughout history and have been used for a variety of purposes in different cultures (Buchalter, 2012). More recently explored and used in research in the fields of psychology

(Jung, 2009; Jung, 1973), art and art therapy (Buchalter, 2012; Takai, 2015), and in educative settings (Mahar et al., 2012; Palmer et al., 2014; Potash et al., 2016) the use of mandalas has allowed researchers and participants to gain valuable insight into wellbeing.

The depth of knowledge gained from using mandala in research could be partly explained by the understanding that creating a mandala allows for an embodied journey of reflection of one's self, the world, and how everything is bound together wholistically (Jung, 1974). In fact, the word mandala, of Sanskrit origin, actually means 'circle' which is a common symbol used in many cultures to denote wholeness and inclusion. Mukherjee (Caetani Center, 2020) shares that when one makes a mandala, it is very experiential as it involves a going in and a going out, a harmonizing of our inner and outer selves. Connected to the natural world, mandalas can guide us towards seeing interconnections rather than separations providing meaning to systems and relationships. From an Indigenous perspective, the making of a mandala honours the importance of health, healing, centering, and transformative growth and that "in reflection of relationships, mandalas also mirror the nature of self-relatedness" (Cajete, 1994, p. 151). As such, a mandala can be seen as a relational practice and process as well as an artistic outcome.

Mandalas exemplify the four key features of ABR as they are experiential and embodied, pluralistic, iterative, and informative to participants and researchers. In addition to appreciating mandalas for their research applications, artistic beauty and cultural inclusivity, mandala use in the Western world in psychoanalysis and psychiatry has additional relevance to the study and development of wellbeing. They are believed to have a calming and relaxing effect on the mind and body, improve focus, encourage playfulness and bring creative joy, make the invisible

(unconscious) visible, give form and expression to intuitive insight, and open up perspectives of wholeness and relational unity (Cornell, 2006).

### **Researcher Involvement**

In the context of this study, I was a researcher with an insider/emic perspective because my participants were past teaching colleagues with whom I had worked in varying capacities over the years in the same district. In educational research, an emic perspective looks through the eyes of members of the culture being studied (Patton, 2010), and in this study that would be through the eyes of teachers. Given the understanding that each researcher brings their past experiences, ideas and perspectives to a study, I also worked from an etic/outsider perspective as a graduate student researcher who no longer works as a teacher. From an emic perspective, I had a deep understanding of education and life in schools after 25 years of classroom teaching, a shared background from a mindfulness inquiry project, had engaged in mindful nature experiences as a practicing teacher, and had two decades of inside knowledge about the culture of the district. From my etic, researcher, perspective I developed the research framework and was removed from the direct context of the study, which was compounded by COVID regulations eliminating in-person contact. I understood that for a qualitative researcher “the challenge is to do justice to both perspectives during and after field work and to be clear with one’s self and one’s audience how this tension is managed” (Patton, 2010, p. 268).

In this study, I viewed my participants as equals and the study allowed me to continue to build my relationships upon trust and respect. Lincoln and Guba (2003) point out that treating your participants as partners in this way is founded upon a constructivist ontology and increases overall trust in the research process. Researcher involvement with participants began

with a search for teachers who might be interested in joining the study. I followed all ethical guidelines ensuring that there was no possible or perceived coercion to join the study, no deception of participants during the study and guaranteed anonymity during and after the completion of research. I felt that it was important to allow for teacher agency in the study, ensuring that the mindful nature experiences suited participant needs based on timing of starting the study, context, and interest. I offered some nature experience suggestions and we discussed current activities that teachers were undertaking along with how to make engagement mindful. Participants were excited to discuss what their mindful nature experience plans entailed.

Even though I knew my participants professionally, I was careful not to assume that I already knew the meaning my participants made of their experiences when it came time to engage in the interviews. This is in-line with suggestions from Spencer, Pryce, and Walsh (2014) in which the job of the researcher is to learn about their participants' lived experiences without taking for granted that one's participants think the same. This approach could also be likened to therapists who truly listen and empathetically understand the communications of those they work with instead of jumping to premature initial interpretations (Kapitan, 2018).

I wanted to see, feel, hear, and understand how these teachers were living out their mindful nature experiences to better understand the ways that their experiences were impacting their wellbeing. As Van Manen (1990) aptly states, this "research consists of reflectively bringing into nearness that which tends to be obscure, that which tends to evade the intelligibility of our natural attitude of everyday life" (p. 32). However, I am very aware that I may never know the actual essence of their experience and that the meaning we all attach to

experience is socially constructed, intersubjective, and contextual. My process of interviewing participants aimed to be conversational, where we could learn more about each other through our exchanges of meaningful dialogue. In this sense, my participants and I created and recreated meaning through interaction. I employed focused, active, and compassionate listening, intentionally engaged in self-awareness and also noted self-awareness in my participants, which allowed me to discover new, in-depth meaning (Kapitan, 2018). That being said, my past experiences and knowledge were valuable guides to the study as both led me to research teacher wellbeing and explore the relationship between mindful nature experiences and mental health. In that way, my research does not take an unbiased approach to the data which is consistent with my methodology's philosophical roots.

### **Participant Recruitment**

Once ethics from the university Research Ethics Board and the School District were provided, I recruited participants from the group of teachers who had previously engaged in a mindfulness project that had been initiated in the district, and in which I had taken part as a teacher myself. Together, over the course of ten months, these teachers along with myself engaged in a variety of mindfulness practices from smartEducation including, but not limited to pause practice, mindful movement, and body scan. This delimitation was determined to ensure that participants were comfortable using the Triangle of Awareness as developed in the smartEducation program (<https://education.ok.ubc.ca/research-partnerships/smarteducation/>) that I used for engaging participants in reflecting on their mindful nature experiences and that guided my initial analysis process. I determined that it would be helpful to have a sample of participants who were already familiar with mindfulness, as I had planned for in the design of

this study. I decided to invite the teachers who had previously worked with me in the mindfulness inquiry project in our district to participate in the study. With restrictions in place due to COVID-19, there was no opportunity to work with other teachers to establish a groundwork of mindfulness before beginning this study, so these twelve educators became the participant pool. I determined that these educators had an established familiarity with mindfulness through the practice of inner (emotions, sensations, thoughts) and outer awareness and would be able to understand and foreground a process of mindfulness when engaging with and in nature that would potentially increase their capacities for noticing how their wellbeing was impacted by their nature experiences. An invitation to participate in the study was emailed by my supervisor to each of these teachers and potential participants were asked to reply to the email if they were interested in participating, resulting in a group of four participants with whom I could explore the research questions.

Considering that the study began in the midst of the COVID pandemic and the increased pressures and stress that teachers were experiencing at that time, I was unsure how many of the twelve educators would step forward to participate. Some provided reasons for not participating which included excess anxiety, work turmoil, and general feelings of overwhelm. The four participants that did volunteer were a homogeneous group—white women who were about the same age and taught in schools whose students tended to be majority white and middle class. Prior to their involvement, I did not know how much experience they had incorporating nature into their teaching day, or if nature was a part of their personal lives.

## **Structuring Mindful Nature Experiences**

Once participants were selected, an initial conversation occurred over Zoom with each individual to answer questions about the study and explain three key aspects of the research experiences: A) Participants were asked to carry out 3 mindful nature experiences in a manner of their choosing and in their own school or community context within an established timeframe of one mindful nature experience per week over the course of three weeks. Participants were provided with options and examples of nature experiences and also encouraged to make their own choice about how they would like to engage in their mindful nature experiences at some point during their workday. They were told that their nature experiences could be active or passive practices and did not have to be limited to the outdoors as other experiences such as growing plants inside, highlighting window views, and visiting nature centres have also been found to contribute to mental health and wellbeing. Suggestions were provided including using outdoor classrooms, class gardening, nature walks, nature inquiry projects, class reading outdoors or incorporating painting, drawing, music, and movement into nature experiences. Their choices were somewhat dependent on what their environmental school site and/or community had available. Mindful nature experiences that teachers chose included hikes in a nearby provincial park, class visits to nature spaces near the school, gardening on school grounds, and drumming, hoop dancing, and a combined contemporary art/dance activity on the school field. It was important for teacher participants to feel comfortable choosing what worked for them and their own class/school situation and be familiar with what options existed. B) Participants were asked to gather artifacts (natural objects, photos, notes, etc.) from their nature experiences with the intention of using them in

our interviews as reflective tools, and to create their eco-mandala during our second interview. C) Participants were also asked to pay attention to how they mindfully experienced their nature interactions, and it was requested that they try to include the intention to engage from a perspective of inquiry with a quiet mind and alert senses, becoming aware of the subtle, not just the obvious, in both themselves and in nature. I reiterated that there was no right or wrong approach and that my interest lay in learning about their individual lived experiences. Three slides were used to support the conversation and explain the three key aspects of the research experiences. These were then emailed to participants for future reference (Appendix A).

Careful discussion, provision of examples, and subsequent question answering regarding options and ideas for nature experiences, and what constitutes 'mindful' engagement with and in nature occurred at the beginning of the study with an aim of increasing the trustworthiness of each of the participant chosen mindful nature experiences. This was important considering the autonomy that was given to the teachers. According to Lincoln and Guba (1982), a study that is trustworthy is designed to ensure that participant reflections provide clear understanding of the phenomena being studied. Laying the groundwork in this way contributed to the richness of the data with participants demonstrating a mindful approach in their interactions with nature as shown by the detail teachers were able to share regarding their inner and outer awareness. The data, which highlighted stories of purposeful and intentional engagement with nature, is an indicator of trustworthiness in the process.

### **Data Collection**

Data were collected through a variety of approaches including participant-collected artifacts/resources, open-ended individual interviews, and the arts-based method of mandala.

These three methods were used to elicit reflective responses to explore individual teachers' experiences with nature in relation to their wellbeing and mental health (comprised of social, emotional, and psychological health). Researcher notetaking was used to reflect on the connections, patterns, and additional emerging questions that arose as the study progressed. Interviews were guided by the Triangle of Awareness model of attention (Appendix B) as used in smartEducation mindfulness programs to talk about participants' sensations, thoughts, and emotions as they arise, as well as sensory awareness throughout the research experiences. The intention was to gain a depth of understanding that included thick description with contextual details and participant perspectives on their experiences engaging mindfully with nature during their workday.

### ***Participant Collected Artifacts/Resources***

Participants were asked to collect artifacts from all three of their mindful nature experiences. What these items were and how they were collected was left up to each participant. Suggestions that were provided by the researcher included 3D items from nature (sticks, rocks, pinecones, leaves etc.), notes, journal entries, and photographs that could help with reflection and be shared during interviews. Participants were also told that what they did collect would be used during the second interview to make a mandala. Collected artifacts and resources that were presented by the participants included the following: photos taken during their mindful nature experiences, photos of poems, teacher notes, student artwork, and a variety of natural items such as flowers, grass, seeds, rocks, leaves and branches.

### ***Interview One***

The first interview occurred three weeks into the study after a minimum of three mindful nature experiences (one per week). Participants emailed me when they completed these experiences and we then arranged for our first one-on-one interview. The interviews were open-ended, lasting up to 120 minutes, allowing participants to reflect on how their experiences influenced their sense of wellbeing. I used smartEducation's Triangle of Awareness as a guide for interviews and participant reflections to provide a greater depth of understanding into participants' inner world (thoughts, emotions, sensations) and outer world (sensory experience of nature). To start conversation in the first interview, a few broad questions were asked such as asking participants to explain what the terms wellbeing and mental health meant to them and to describe their mindful nature experiences including basic details, sensory recollections, and their own thoughts, emotions and sensations related to the experiences and how these experiences impacted their sense of wellbeing. These types of questions are considered integral in gathering data that leads to an understanding of the experiences, and "ultimately provide an understanding of the common experiences of the participants" (Creswell, 2007, p. 61). I invited participants to bring their collected artifacts/objects to aid reflection. These teachers chose to share photos and/or personal notes over ZOOM which provided me with an opportunity to ask them to explain what they evoked. A description of each participants' mindful nature experiences is provided in the next chapter. It is through these descriptions that I aim to bring readers into each teacher's world to gain a better understanding of where they went to experience nature, what they did with and in nature, and how they experienced it.

### ***Interview Two: The Mandala-making Process***

The second interview, which lasted between 45 and 120 minutes, occurred on Zoom two weeks after the first interview. It focused on participant engagement in the artistic experience of creating an eco-mandala with items collected from the three mindful nature experiences. Participants were first invited to share their items and reflect on why they chose them before they created their eco-mandalas. Once completed, we engaged in a conversation to further discuss the process. By following them through the stages of creating their mandalas there were numerous opportunities for reflection and meaning-making. Participants were asked to tell me about how they experienced this activity including their thoughts, emotions, and sensations. They were also asked why they built their mandala the way they did, what was significant about their mandala and how this experience impacted their sense of wellbeing. This practice promoted dialogue “critical to cultivating understanding” and evoked emotional responses making the dialogue engaging (Leavy, 2020, p. 27). This is consistent with social-constructivism. Pictures of the materials were taken prior to making the mandala and then once the mandala was completed, and these photos were used as part of the data for this study. The artistic creation of the mandalas were used for communication of ideas, emotions and feelings, rather than analyzing the artistic elements of the piece. This focus was clearly communicated to participants during the orientation to the study and again prior to our conversation in this interview.

The act of creating an eco-mandala was also a mindful nature experience as participants intentionally engaged with nature and demonstrated that they were ‘mindful’ by honing their attentional skills, inner and outer non-judgmental awareness, and presence as a conscious

practice. Eco-mandala photographs and explanations detailing what the experience of mandala creation looked and felt like are found in the next chapter. The three stages of this activity are described in depth to provide a better understanding of the process and the finished product.

### ***Interview Three***

The final interview lasted 45 to 120 minutes and took place several weeks after the second interview, providing time and space for reflection before we talked about what this whole experience meant for the participants in relation to their sense of wellbeing. While conversational, this interview also incorporated the following broad questions: What did participating in this study mean for you in terms of your own wellbeing and mental health? and Do you see mindful nature experiences fitting into your life as a teacher?

All three interviews with each participant were audio-recorded and transcribed. Participants were assigned pseudonyms, had the opportunity to review their transcripts, and were invited to check emerging stories and theories based on their own participation in the study. Engaging participants in multiple in-depth interviews is consistent with Creswell's (2007) explanation of phenomenological data collection procedures with the goal of collecting rich data.

### **Researcher Observations**

Considering the restrictions placed on in-person meetings due to the COVID pandemic, my research observations were confined to notes based on email correspondence, Zoom conversations, and my own reflections. These notes provided additional insight and information following interactions with participants. I found that when using Zoom it was challenging at times to read body language and facial expressions due to lighting and, occasionally, there were

connectivity issues which made interviews more difficult when Wi-Fi was not working. I also had to elicit the help of my participants to take pictures throughout the mandala-creation interview and to position their computer screen and adjust the mike to maximize visual and audible contact in all interviews. My participants were gracious, helpful, and enthusiastic despite the COVID constraints.

Over the course of the study, I found myself thinking as a researcher and teacher, and also as an artist. Leavy (2020) notes that this is a skill that arts-based researchers need to develop, making the inclusion of ABR different from other types of research. Balancing needs of teacher participants, creating space for authentic art engagement and ensuring trustworthy research required me to think differently and innovate at times. While carefully crafting my research proposal, I knew that it was important to also make room for intuition, flexibility and allow some roominess in the process to adapt to the unforeseen, especially considering that this research was carried out in the middle of the COVID pandemic.

### **Data Analysis**

Data analysis was an iterative process that started when data collection began. In this manner, data collection, data analysis, reading supportive literature and writing went hand in hand. According to Creswell (2007 p. 150) these steps in qualitative research are not always distinct, but instead are often interrelated and occur simultaneously throughout the research process as data analysis is “custom built.” Engaging in data analysis was a cyclical act (Creswell, 2007; Saldana, 2016; Van Manen, 1990) that involved reflectively spiraling back through the data reading, writing, re-reading and re-writing as I checked and rechecked meaning. This cyclical process of (re)searching aligns with a phenomenological approach to research

(Neubauer et al., 2019). The same process can be used effectively with artistic expressions and imagery related to a phenomenon (Kapitan, 2018). As my data also included participant collected artifacts and eco-mandalas, I circled back to look and re-look at photographic evidence in conjunction with the reading, writing, re-reading and re-writing process.

I engaged with participant data both wholistically and selectively. According to Van Manen, a hermeneutic phenomenologist, this is important as data should not be thoughtlessly “reduced to a methodical schema or an interpretative set of procedures” (Van Manen as quoted in Bynum & Varpio, 2018, p.252). Thematic analysis and coding of interviews were supported by participant pictures, collected artifacts and the created eco-mandalas. As discussed earlier in the chapter, the inclusion of artifacts and incorporation of art is recognized as an integral part of educational research and data collection, aiding in deepening understanding. A phenomenological approach to data analysis does not need to focus upon a single lock-step manner of analysis and impose it indiscriminately, instead it is appropriate to develop analysis methods that reflect the uniqueness of the phenomenon under study, with consideration to researcher preference and personal style (Wertz, 1983).

With the large amount of data that came out of the participant experiences it was essential to be organized. I reread each teachers’ transcripts a number of times to get a sense of the whole before breaking the interviews into parts. Once each was read multiple times, I looked at each teacher’s particular experiences by carefully reading individual interview transcriptions highlighting “significant statements, sentences, or quotes that provided an understanding of how the participants experienced the phenomenon” – their mindful nature experiences (Creswell, 2007, p.61). Moustakas (1994) calls this step horizontalization, locating

the “horizons” or lines in the data that have relevant perspectives. By placing all these lines horizontally, equal value is given to everything and interview comments can be compared in “horizon” to search for similarities and differences in text. This process helped me to see and support codes and categories that were coming to the foreground. Categories were adjusted as patterns and themes became relevant and then further compared and contrasted with findings in the literature that framed this study. According to Saldana (2016) and Charmaz (2014), this coding process is considered to be an essential link and transitional process of connecting data collection with an explanation of meaning and stimulates researchers to think metacognitively. Sohn (2017), Fereday, and Muir-Cochrane (2006) have innovatively used coding in phenomenological studies to search for meaning and it has been used to analyse data in research on mental health incorporating the arts (Kennedy et al., 2020), and in arts-based studies (Yilmazli et al., 2019). Choosing both is in-line with Ellingson’s (2009) methodological crystallization which combines multiple forms of analysis and multiple genres of representation to create rich accounts of phenomena.

### ***Coding and Categorizing of Data***

Coding and categorizing, while similar, are two separate components of data analysis. Charmaz (2014) likens codes to the bones in your analysis, whereas categories are like a working skeleton. The codes support the categorizes which eventually flesh out into more meaningful themes as a body of understanding develops. Moving from coding to categorizing requires synthesis and a consolidating of meaning creating a new whole. Referring to this process, Saldana states that “it is not a precise science; it is primarily an interpretive act” (2016,

p.5). My own interpretive act involved an analysis using the study's theoretical framework and the mindful Triangle of Awareness that guided data collection.

I began by reading all transcripts numerous times to get a feel for the whole of the data set and the experiences overall. I then applied the Triangle of Awareness to the first individual interview that included participant photos/artifacts, the second individual interview regarding their artistic eco-mandala creation, and the third and final individual interview that wrapped up the study. I organized quotes from the transcripts into the Triangle of Awareness areas: emotions, sensations, thoughts, and each of the five senses. From here I reread the transcripts to see if anything important was left out of the initial organizing. What I discovered when I went back were narratives providing suggestions for how mindful nature experiences could be fit into a teaching day along with recommendations to overcome challenges that might arise. I made note of this to use as part of the study recommendations presented in the final chapter. I then went back to my codes and proceeded with the analysis.

The data were coded in three ways through open coding, axial coding, and selective coding. I began with open coding looking at the transcribed text and found lines or paragraphs that highlighted essential aspects of what was said. I then placed these quotes horizontally on a separate document and began to notice similarities and differences. From here I did axial coding which involved comparing the open codes and relating them together in categories or concepts. Some codes appeared to be more significant, which helped develop categories. I looked for patterns here, and as Kapitan (2018) writes, turning codes into categories is a systematic process of questioning, reflecting, and focusing. Finally, through selective coding I noticed some themes developing within the research categories. This was a time consuming

process in which I went back to question my choices and recoding was done several times. I constantly compared them with each other to see if the categories fit or needed to be adjusted. I also went back repeatedly to the original whole transcripts to see if the codes and categories were supported.

The codes that developed were predominantly positive, which spoke to the experiences that the teachers shared during the interviews (Table 1). Guided by the Triangle of Awareness, the first codes were related to emotion. The second codes were sensory codes. These were associated with breathing, sensory awareness, body tension, and mobility. A range of thought codes surfaced. The majority of these thoughts were held in common by participants. The rest of the codes related to each of the senses, with sight as the dominant sense used. Codes here were indicative of how participants took note of their surroundings, either observing nature or watching their students. Codes related to touch, smell, and sound represented participant experience once again.

Table 1  
*Coding Development*

INITIAL ANALYSIS – Guided by Triangle of Awareness	CODES
Inner Awareness – Emotions	joyful, excited, happy, calm, creative, playful, renewed, balanced, centered, nurtured, inspired, peaceful, patient, friendliness, revitalized, feel important, stressed, energized, enjoyment, feel good, lit up, regrouped, recharged, appreciative, worried, relaxed, reflective, comforted, rejuvenated
Inner Awareness – Sensations	Breathing deeper and slower Heightened senses Less tense Pace slower/more peaceful Roominess, space to move Spiritual connection Feel energy from nature and more alive Embodied awareness
Inner Awareness - Thoughts	We didn't want to go back Get away from to-do list Magically evolved – nature as teacher Impromptu teaching Reflexive thinking and learning Mind not buzzing Less thinking about regrets or worries Reflective

INITIAL ANALYSIS – Guided by Triangle of Awareness	CODES
Inner Awareness - Thoughts (cont.)	Less behaviour management Released from clock, structure Easy to connect curricular content and competencies with nature Teacher-student bonding stronger outside Tune into myself so I can do the job best for kids Easy to see/feel connections in nature Opportunity for teachers-other adults (parents/EA) to connect Prosocial behaviours (friendly, patient) Connects people with place (appreciation, interest) Interdisciplinary In the moment Best part of the week for all Feel successful when kids doing well
Outer Awareness - Sight	Escape fluorescent light Students get along, teamwork Students more connected to each other with positive energy Students with SE problems socialize better Kids love to be outside Students' joy/excitement elicits teacher joy Students focused, engaged, attentive Present awareness Kids playful, engaged Natural colours, diversity
Outer Awareness - Taste	-
Outer Awareness - Touch	Tactile connections with Land, water, plants, animals Warmth of sun Wind/breeze
Outer Awareness - Smell	Fresh air to breathe Love the aromas
Outer Awareness - Sounds	Student noise dissipated Fewer interruptions Student laughter, cheering, and giggling Love sounds of nature (bird songs, water)

When it came to categorizing, I first considered all the codes in their entirety and then came back to the emotion codes as they were the most straight forward. These appeared to fit into one of three categories, those related to 'activated' positive emotion, 'deactivated' positive emotion, and emotions/actions that stemmed from the originally stated emotions. The activated and deactivated positive emotions that I noticed aligned with two models used in emotion research: Watson and Tellegen's (1985) Positive Activation-Negative Activation Model and Russell's (1980) Circumplex Model of Affect, although Russell uses the words pleasant/unpleasant instead of positive/negative when describing emotions. Participant stories and quotes supported these positive (pleasant) emotional categories outlined in the models. I noted that the participants tended to describe what would be considered more positive and

pleasant descriptions of their emotions. Given the focus in this study on understanding how nature might improve teacher wellbeing, the positive responses were not surprising.

Going back again to the remaining codes, two more categories came to light that blended codes from different inner and outer awareness areas. Participants saw the outdoor environment and nature as freeing physically, and as an opportunity for a mental break. I then looked at the photos and transcripts once again and found quotes that supported these categories. This same process continued for the subsequent categories which were named amplification of attention and awareness, teacher-student wellbeing links, connections to self, improves relationships with others (students, parents, EAs), curricular links and learning connections. This iterative process could be compared to a circle zooming in for codes, then expanding back out for the whole picture when I returned to the transcripts and photos. After several repetitions I was satisfied and moved on to actively looking for themes (Table 2).

Table 2  
*From Codes to Categories to Themes*

<i>CODES</i>	<i>CATEGORIES</i>	<i>THEMES</i>
joyful, excited, happy, friendly, feel great, energized, enjoyment, feel good, lit up worried, stressed	Builds and broadens 'activated' positive emotions	Theme 1: Nature Nurtures Positive Emotion
calm, relaxed, reflective, comforted, rejuvenated, renewed, balanced, centered, nurtured, peaceful, revitalized, appreciative, regrouped, recharged	Builds and broadens 'de-activated' positive emotions	
creative, playful, inspired	Encourages creativity and playfulness	
Pace slower/more peaceful We didn't want to go back Get away from to-do list Mind not buzzing Less thinking about regrets or worries Reflective time Less behaviour management Release from clock, structure Magically evolved – nature as teacher Impromptu teaching	Mental break	Theme 2: Nature Provides a Physical and Mental Escape (Space & Pace)
Breathing deeper/slower Less tense	Outdoor environment is freeing	

<i>CODES</i>	<i>CATEGORIES</i>	<i>THEMES</i>
Roominess, space to move Escape fluorescent light Natural colours, diversity Warmth of sun Wind/breeze and fresh air to breathe Love the aromas Student noise dissipated Fewer interruptions Love sounds of nature (bird songs, water)	Outdoor environment is freeing (Cont.)	Theme 2 (Cont.)
Present awareness In the moment Embodied awareness Heightened senses	Amplifies attention and awareness	Theme 3: Nature Magnifies Mental Health and Wellbeing Links Between Teachers & Students
Student laughter, cheering, and giggling Kids love to be outside Students' joy/excitement elicits teacher joy Students focused, engaged, attentive Best part of the week for all Feel successful when kids doing well	Teacher-student wellbeing links	
Feel energy from nature and more alive Tune into myself so I can do the job best for kids Spiritual connection Easier to see/feel connections in nature	Connections to self	Theme 4: Nature Deepens Intrapersonal, Interpersonal, and Curricular/Learning Connections
Prosocial behaviours (friendly, patient, teamwork) Students more connected to each other with positive energy Students with SE problems socialize/self-regulate better Opportunity for teachers-adults(parents/EA) to engage Teacher-student bonding stronger outside	Improves relationships with others (students, parents, EAs)	
Interdisciplinary Easy to connect curricular content and competencies with nature	Curricular Links	
Connects people with place (appreciation, interest) Tactile connections with Land, water, plants, animals Kids playful, engaged Reflexive thinking/learning	Learning connections	

### ***Themes and Sub-themes***

A theme is an outcome of coding, not coded itself (Saldana, 2016). From the categories I noticed clusters of meaning that appeared common to the mindful nature experiences, and these led me to develop themes that related to the deeper, human nature of my participants experiences (refer back to Table 2). These themes were then placed into the text to ensure that they fit. I searched for particularly vivid illustrations from the data that exemplified these. A

number of sub-themes further fleshed out the ways in which participant mindful nature experiences impacted teacher mental health and wellbeing, which was the focus of the study (Table 3). Theme one, Nature Nurtures Positive Emotion, branched into four sub-themes: Benefits Now, Future Benefits, Positive Emotion Prompts Positive Actions and Expanding Outwards. Theme two, Nature Provides a Physical and Mental Escape, has two sub-themes: Physical Escape (fresh air and natural light, opportunity to move and pleasant soundscape) and Mental Escape. The third theme, Nature Magnifies Mental Health/Wellbeing Links Between Teachers & Students includes three sub-themes: Awareness Of and Attentiveness To Student Wellbeing, Perceived Student Benefits of Teaching and Learning With and In Nature and Teacher-Student Wellbeing Links. Finally, the fourth theme, Nature Deepens Intrapersonal, Interpersonal and Curricular/Learning Connections includes sub-themes outlining each of these connections separately. This theme originally was a theme of relationships as I first noticed that relationships in general were strengthened when teaching with and in nature, but a variety of curricular content and competency connections became apparent as well. These included cross-curricular planning/teaching, hands-on, place-based, student-centered, and inquiry based learning which provided enough data to warrant a switch to the connections theme which included curricular links and learning connections. By working with these themes and sub-themes during data analysis, I was able to develop a textural description to explain "What happened during the mindful nature experiences" and a more narrative description of "How" it was experienced and its felt impact on participant teachers.

Table 3  
*Themes and Sub-themes*

THEME	SUB-THEMES
1. Nature Nurtures Positive Emotion	<ol style="list-style-type: none"> <li>1. Benefits Now</li> <li>2. Future Benefits</li> <li>3. Positive Emotion Prompts Positive Action</li> <li>4. Expanding Outward</li> </ol>
2. Nature Provides a Physical and Mental Escape (Space & Pace)	<ol style="list-style-type: none"> <li>1. Physical Escape (Space)               <ol style="list-style-type: none"> <li>a. Fresh Air and Natural Light</li> <li>b. Opportunity To Move</li> <li>c. Pleasant Soundscape</li> </ol> </li> <li>2. Mental Escape (Pace)</li> </ol>
3. Nature Magnifies Mental Health and Wellbeing Links Between Teachers & Students	<ol style="list-style-type: none"> <li>1. Awareness Of and Attentiveness To Student Wellbeing</li> <li>2. Perceived Student Benefits of Teaching and Learning With and In Nature               <ol style="list-style-type: none"> <li>a. Positive Emotion</li> <li>b. Increased Levels of Engagement</li> <li>c. Prosocial Behaviours</li> </ol> </li> <li>3. Teacher - Student Wellbeing Links</li> </ol>
4. Nature Deepens Intrapersonal, Interpersonal, and Curricular/Learning Connections	<ol style="list-style-type: none"> <li>1. Intrapersonal Connections</li> <li>2. Interpersonal Connections</li> <li>3. Curriculum and Learning Connections               <ol style="list-style-type: none"> <li>a. A Kindergarten Perspective</li> <li>b. A Grade 4/5 Perspective</li> <li>c. A Grade 3 Perspective</li> <li>d. A Prep Teacher Perspective</li> </ol> </li> </ol>

### Trustworthiness

Knowing that no research path is perfect, and that there are multiple perspectives and multiple truths that can come out of qualitative research, how does one know that research, and this research in particular is trustworthy. This is an important consideration, and one that relates to Lincoln and Guba's (1985) question to researchers querying how researchers can convince their audience that their research is worth paying attention to.

Trustworthiness is a term often used in reference to qualitative research as a guiding feature to ensure accuracy in a research study, which includes the way the study was designed, how data was collected and analyzed, and what research findings are presented. A study that is

trustworthy is designed to ensure that participant reflections provide clear understanding of the phenomena being studied as well as the context that it is studied in, and that the researcher's interpretation of data is attentive, consistent, and believable (Barone & Eisner, 1997; Denzin & Lincoln, 2005; Lincoln and Guba, 1982; Saldana, 2016; Tracy, 2010). The term 'trustworthy' is in-line with a socio-constructivist perspective, whereas similar terms 'reliable' and 'valid' are paired with a positivist paradigm.

When discussing trustworthiness with respect to the design of my study, I come back first to Denzin (2011) for guidance, as he reminds us that the choice of a research approach depends on the questions that are asked and the context within which the research will be carried out. And so, in an effort to increase the overall trustworthiness of my study, I aimed for methodological harmony connecting my research question to methodology, data collection, and data analysis (Bloomberg & Volpe, 2012; Creswell, 2003). In the case of researching teacher wellbeing and mindful nature experiences, each participant's experiences of wellbeing were understood from within their own personal and professional context. I understood that their experiences of mental health and wellbeing within these contexts were formed and informed within the larger context of their classes, schools, districts, and the broader system of education and society in general. Using a relational lens was thus imperative. As a researcher aiming to gain an understanding of her participants' sense of wellbeing within these nested and complex systems, my choice of a hybrid arts-based phenomenological research approach reflected an intention of connecting to and with the various parts and pieces of participants' experiences in relation to the complexity of the whole as they and I made sense of what it meant to support and promote wellbeing through mindful nature experience. Further, since self-reflexive practice

is key throughout the research process, I examined my own self and position within my research prior to beginning and throughout the study (Richardson, 2000).

In designing my study around the research question and context, and through the process of examining my own self and positionality, I saw the necessity of resisting dichotomies and again turned to Richardson (2000) and Ellingson (2009) who signal that crystallization of social constructivist approaches and artistic interpretive approaches are complementary and provide essential pieces of meaning to a research puzzle. Crystallization in research is an innovative approach to sense making and representation that “brings together multiple methods and multiple genres simultaneously to enrich findings and to demonstrate the inherent limitations of all knowledge; each partial account compliments the other” (Ellingson, 2009, p.1). Inspired by Ellingson’s (2013) qualitative continuum, I saw the strength in gaining knowledge through the arts which allows for situating embodied knowledge, an important aspect in studying mental health. Ellingson’s continuum encourages crystallizing artistic and social constructivist genres to increase trustworthiness and provide space for researcher reflexivity.

When determining trustworthiness of my data collection and analysis, I turned to Lincoln and Guba’s (1982) four tenets of trustworthiness - credibility, confirmability, dependability, and transferability for some guidance. Credible data is representative of one’s study participants and their experiences and this can be confirmed using several techniques. One way of increasing trustworthiness is to collect data from multiple sources. I gathered data from one-on-one interviews, participant shared articles/resources, and the arts-based method of mandala along with my own researcher journal to deepen reflection which informed theme development and enriched overall understanding. As a result of combining different sources of

data and genres of research I was able to generate opportunities for participants to engage in experiences and interviews that provided alternate spaces for emotion and deep reflective thought which enriched my data (Ellingson, 2008; Richardson, 2000). Polkinghorne (1983) attests that more trustworthy studies include descriptive details characterized by qualities such as vividness, richness, and accuracy which often result from researchers utilizing multiple data sources.

I ensured that the data I collected was credible and accurate by inviting my participants to read over their own transcripts, which were emailed to them. Saldana (2016) reminds researchers who code interviews that they must be rigorously ethical to ensure trustworthiness which involves maintaining scholarly integrity by not ignoring or deleting problematic passages of text. Interviews were transcribed fully and I chose the technique of member checking to allow my participants to confirm/validate the data collected during interviews, provide feedback and/or clarify their thoughts and experiences. Like Lincoln and Guba (1982), Creswell (2007) points out that research credibility is also improved when researchers include written reasons for theoretical, methodological, and analytical choices throughout the study. I indeed included this so others can understand how and why decisions were made. Following recommendations that qualitative researchers demonstrate that their data analysis has been conducted in a precise, consistent, and exhaustive manner I recorded, systematized, and disclosed my methods of analysis in detail which further establishes dependability. Ellingson (2009) highlights that linking systematic analysis with creative genres of representation offers value to researchers as it helps them think in different ways. I was self-critical when I examined the strengths and weaknesses of the findings as per Kapitan's (2018) suggestions and purposely

included participant voices in direct quotes throughout the findings chapter to highlight connections between their experiences and the ways that I interpreted them during analysis.

Transferability, one of Lincoln and Guba's (1982) tenets of trustworthiness, is actually performed by the readers of research. Readers need to be provided with enough detail about the research situation and methods to be able to compare it to an environment or situation that they are familiar with. I presented detailed information about my participants, the research context and my methods to improve the likelihood of transferability, and like Eisner (2017), I also believe that by learning something not known at the outset, we can achieve consciousness of it and thus can look for it in other places. Finding enough similarities, readers may be able to transfer results to their own context.

### **Limitations**

This study has a number of limitations beginning with the small study sample size of four, middle class, white, female participants teaching classes of children that were similar in background to themselves. As such, there was a marked absence of diversity in terms of socio-cultural and racial/ethnic identity. This does not reflect the diversity of students or of teachers in general, however it does predominantly reflect the educators working within the school district that this study took place. Another limitation of note is the geographical location of the study. It took place entirely on the unceded ancestral territory of the Syilx People in neighbourhoods that had ready access to clean air, clean water, and green space. This is a contextual privilege. Further, as a past teaching colleague from the district myself, I had an emic perspective which signals potential bias and limitations due to researcher subjectivity.

## Chapter Summary

In this chapter I outlined why I chose a hybrid arts-based phenomenological approach to inquire into the question of how mindful nature experiences influence teacher wellbeing and explained how I carried out the study. Though this hybrid methodology I was able to offer my participants different opportunities for sharing their experiences which created rich spaces for interpretation and meaning-making and it allowed me to see many connections between various parts and the whole. Care was taken to collect data with tools (conversational interviews, participant artifacts and the ABR method of eco-mandala) that supported the complexity of the topic and allowed for flexibility and multifaceted reflection. I summarized my own researcher involvement, provided information on participant recruitment, data collection, data analysis and rounded out the chapter with a section on trustworthiness and an overview of the study limitations. My efforts to be self-reflexive, transparent, and honest about my own personal biases, goals, and background along with how these played a role in the way that I conducted this research, indicate an intention to bring a genuineness to this work. In the next chapter I offer a detailed description of the study. Portraits of the four participant teachers are shared, each mindful nature experience is elaborated upon, and the eco-mandala process is animated to provide context to the research and the study findings.

## CHAPTER FOUR: STUDY ENACTMENT

In this chapter, I provide portraits of each of my four teacher participants, describe each of their chosen mindful nature experiences in detail, and recount their reflective and experiential process of creating an eco-mandala during the second interview. By portraying each of these in depth, I bring the study to life and offer the necessary context upon which the findings are built.

### **Teacher Participant Introductions**

In the next section, I share relevant background about each teacher participant including their own understanding of wellbeing and mental health, their teaching assignment and their class composition, how they incorporate mindfulness into their day, and I briefly touch upon their relationship with nature and experience with the natural environment. I want to emphasize that all the mindful nature experiences that these four white female teachers engaged in took place on the unceded ancestral and traditional territories of the Syilx People and that the teachers' relationships with nature were informed by a settler colonial perspective.

### ***Grace***

Grace takes time to collect her thoughts before speaking in a quiet and gentle voice. Our conversational interviews were relaxed, unrushed, and heartfelt. Grace, a 52 year old single mother of two, is a third generation white settler with twenty-eight years of teaching experience in primary classrooms. Near the beginning of her career she decided to upgrade her teaching diploma with a fifth year to increase her salary. Grace lives within walking distance of her present school, of which she has been at for fifteen years. Grace understands teaching to

be a stressful profession where it is easy to forget about ourselves as teachers as our focus is on helping others. Over time, she has become more attuned to her own wellbeing and explained that “I am starting to realize that I can’t help others if I don’t take care of my own wellbeing.” She is aware of what being in balance feels like and knows how to bring herself back when not.

Wellbeing, for Grace, is being healthy mentally, physically, emotionally, and spiritually. She sees it as part of the bigger picture of what is needed to be the kind of teacher that she wants to be, which is someone who responds rather than reacts and is light, calm, patient, kind, creative, and happy with the kids. Grace checks in with herself daily and finds that she is able to recognize her own level of overall wellbeing best when she is with her class. On days that she feels tense, overwhelmed, and impatient she knows to push back on her to do lists and try to slow things down. Outside of working hours she walks five times a week, exercises, and meditates to take care of her own wellbeing. She regularly integrates mindfulness strategies into her classroom using picture books/resources such as *Sitting Still Like a Frog*. Mental health to Grace is “brain health where you are in the green zone instead of being overwhelmed by life.”

Grace has been teaching grade three the past five years and aims to instill a love of learning in her students. She shared that she is happy and excited about teaching when her class is happy. Her class has been particularly challenging this year, however, as there are a number of children diagnosed with ADHD and others with social/emotional issues resulting in lots of behaviour problems. Her class in general is “very loud and wiggly.” She believes that the situation with COVID has compounded this and while her administration is supportive, she has the impression that the district isn’t very concerned with wellbeing or teacher mental health.

Grace often chooses to teach in an interdisciplinary way, connecting subjects such as science, math, reading, and writing. Her lessons are a mix of paper/pencil tasks and experiential learning.

With the arrival of better weather in the spring, Grace took her class outside for Daily Physical Activity (DPA) two to three times a week, for buddy reading, and to garden. The frequency of going outdoors during the year of this study increased due to COVID. She is a little apprehensive about taking her class off the school grounds and thus prefers to stay on school property where she is most comfortable. Despite her hesitancy to venture further afield with her class of children, she decided to schedule a weekly forty-five minute field trip to a nearby nature area which coincided with the arrival of spring and her participation in this study. Grace enjoys collecting nature items such as rocks to use in her classroom and is a self-proclaimed lover of trees who walks on nature trails numerous times a week after work.

### ***Mia***

Mia's high energy level fuels her busy life. She is fast-paced, good at multitasking, and has a gregarious personality. Squeezing in our interviews to her already full schedule required rescheduling and flexibility to allow for interruptions. A 44 year old widow, Mia feels driven to learn and challenge herself while at the same time be there in every way for her two active children. Mia is currently completing her diploma in video production while teaching full time. She already holds a B.A. in History and English, a B.Ed., and a M.Ed. focused on health education. After earning her degrees she returned to her hometown where her grandparents settled after immigrating from Europe. Mia has taught students in every elementary grade throughout her nineteen year career. For the first seven years she taught in kindergarten and

grade three/four classrooms with some part-time music prep thrown in and then, despite having no formal background in the arts, she took on teaching music at her current school to avoid being force transferred. Mia feels most successful as a teacher and satisfied with her job when she is helping others and when her students are engaged and having fun with her. "I'm not a teacher who just watches, I actually do!" Being so active and busy, she admits that reflection is not something that she has made time for.

Mia defines wellbeing as "a state of being healthy and happy." She understands wellbeing to be comprised of physical, social, mental and emotional health. Socially, Mia needs to feel connected to family and friends and enjoys using social media in her spare time to do this. For Mia, part of wellbeing is also personal growth and feeling emotionally well. Mia explained that if she takes care of her physical health by exercising, stretching, eating well, and sleeping. She considers mental and emotional health to be pretty much the same and feels that her own is quite positive. Mia believes that "positive mental health helps us to think and feel good" and that taking care of ourselves allows us to "handle big changes, stress or loss better."

In the classroom, mindfulness strategies such as pausing and breathing have helped Mia to stay calm instead of allowing things to get to her. She describes herself as a pretty optimistic person with a "glass half full type of mentality." These traits are important because she has a "weird in-out-in-out type of job." Mia considers herself a realist and not very creative which she thinks is funny because she teaches creative arts to all the classes at her school in a music/drama/dance position. Her original part-time role has evolved for 11 years to become full-time requiring her to now teach eight classes a day in blocks thirty to fifty minutes long. Mia integrates First People's Principles of Learning and Indigenous content into her teaching and

aims to provide authentic learning experiences that engage all her students. Her classes are loud, lively, curriculum driven, and often theme based.

When Mia first came to her school twelve years ago she was one of the only classroom teachers who brought students outdoors to learn. She went rain or shine and wasn't afraid to take even the youngest children around the neighborhood or to nearby nature areas to teach math and science. Mia has fond memories of spending all day outside as a child herself and has recently taught other teachers how to incorporate learning outside of the classroom. While she can no longer go on extended forays outdoors in her current role, she has incorporated nature into her creative arts classes during the warmer months in the fall and late spring. Conscious of covering the curriculum content first, Mia predominantly teaches the prescribed learning outcomes indoors and then opens her door to the field to allow her students to head outside to practice.

### ***Claire***

Claire is positive, hopeful, organized, and detail oriented. Her friendly exchange of open responses and listening created an easy rhythm to our conversational interviews. Claire, a 45 year old, white, married mother of two, has been teaching for twenty years in intermediate and primary classrooms. She earned a M.Ed. degree five years after completing her B.Ed. and has only taught in her current school district. Claire has been at the same school for eleven years, with the last six in a kindergarten classroom. For Claire, teaching is all about nurturing the kids. "I love being at work because I love being with the kids." Always focused on the children and what is going on around her, she rarely turns her attention inward. "I don't think of me. I think of the kids."

Wellbeing for Claire means how she stays healthy and active. She cites her diet, outdoor exercise, and connection with friends and family as important in maintaining her own wellbeing. She misses the camaraderie with school staff this past year due to COVID. Her feel-good activities, which occur outside in nature, include hiking, mountain biking, snowshoeing, and skiing. She shared that they settle down any negative thoughts. The term mental health makes her “think about people who struggle with depression or anxiety [and] feel overwhelmed.” She doesn’t really think about her own mental health and she feels lucky to have very little stress in her life. Claire is content and full of appreciation for where she lives and teaches.

While not always the case, Claire has a wonderful class this year with “just nice kids that get along.” Some kids are high academically, some are low, but in general the dynamics are good resulting in very few behaviour issues and teaching days that flow easily. Claire enjoys the flexibility of a kindergarten classroom where she doesn’t have to push a curriculum agenda and sees herself staying put for possibility the rest of her career. She teaches mindfulness strategies to her students through picture books such as *Breathe Like a Bear*. Her present administrators are understanding and supportive and she often has parents volunteering to join the class in activities out-of-doors. Knowing how easy it is to get caught up in getting things done inside, she schedules outside time daily to ensure that it happens.

Claire’s class spends a lot of time outside because she believes that it is important to provide opportunities for children to connect with nature. Growing up, Claire did a lot of activities outside such as hiking, camping, and backpacking. In her opinion kids need extra fresh air and unprescribed learning time. In nature there is “always something new to learn” and

Claire pointed out that “we are hitting a lot of the core competencies.” They spend thirty minutes outside after lunch every day, often watching the birds, looking at the trees, or engaging in free play on the playground or field. Regardless of weather, she also has a standing field trip on Fridays throughout the year at a fenced nature park across the street from the school. This weekly nature visit is cherished by Claire and she has been told by her students that it is a highlight of their year. Claire admits that she doesn’t know her cones, seeds, and trees very well, but feels comfortable in the park’s natural environment and allows her students to lead and explore while there. She also has a nature center in her room where she rotates themed items such as bird nests, wood, fossils, and rocks.

### ***Lana***

Lana is driven, passionate, has keen observation skills and due to the high bar that she sets for herself, exhausted. Lana is also a self-proclaimed “verbal processor” who talks in order to think, so it wasn’t a surprise that our interviews turned into lengthy, honest conversations. As a 50 year old single mother of three busy kids, Lana juggles a lot between work and home. She readily admits that organization is not her strong point and that paperwork associated with her job as a teacher is overwhelming. Skiing, mountain biking, and hiking provide physical escapes when time allows. Her family lineage is British, Irish, and Scottish and while her parents are accomplished artists she chose to attend university to get a B.A. in Psychology and Geography, a B.Ed., and an M.Ed. focused on mindfulness. Lana has spent her entire 21 year career teaching in intermediate classrooms and has chosen to remain in her grade 4/5 “sweet spot” for the past six years. At the same school for the past 18 years she is known to care deeply about her students and their wellbeing. Lana explained that “teaching is a hard job. You

are always on” and “you are never done.” At times she feels that no matter how hard she tries she can’t meet the needs of all her students. Lana has started reminding herself that she can only do her best and appreciative feedback from parents and students alike give her a boost when she starts feeling like she’s not doing a good job.

For Lana, wellbeing means balance. She says that you know you have achieved a balanced state when you are “happy, calm, and at peace” and are “not stretched too thin.” When you are balanced you also “feel energetic [and] have the ability to love what is in front of you. But mostly, you feel healthy and strong. A balance between mental and physical health.” Lana explains that feeling harmonious is linked to eating well, hydrating, and making good lifestyle choices. She believes that mental health has to do with thinking and the “ability to be present and consciously aware” and further emphasizes that patterns of unhelpful thinking lead to mental health problems. “People don’t realize that their thoughts are not the truth” and that judgement and resisting reality are sources of their own suffering. She practices mindfulness regularly in her personal and professional life.

Lana’s class of twenty-five this year “is off the charts high needs” with nine students displaying severe behaviours, four on individualized education plans (ADHD, OCD, oppositional defiance disorder, autism) and another five referred to counselling for mental health issues regarding depression and anxiety. She explains that there are not enough school counsellors to give the kids the support they need. Lana believes that her active programming and inclusion of outdoor activities is partly why she is assigned students over the allowable limit. “All the kids that really move and are really bouncy and can’t self-regulate they send them to me. And now they are sending way too many to me.” Lana explains that her students in general just can’t get

along and that she teaches mindfulness strategies in the heat of the moment to help students with social and emotional issues. She describes herself as an educator that “doesn’t teach in perfect little units” or “apply an overly structured, regimented teaching style” because she values hands-on, inquiry-based teaching and learning. Curriculum content and competencies drive the interdisciplinary experiences she plans, and she tries to let her “teaching flow from what motivates or bothers the students.”

Lana is concerned that her students and their families are not spending enough time in nature and feels like her “familiarity and comfort in nature is something [she] can share.” Her administrators are supportive of her weekly 2-3 hour class hikes in the wilderness of a provincial park despite the presence of cliffs, bears, cougars, snakes, and ticks. These hike days occur throughout the year regardless of the weather and Lana is adamant “that almost every subject is covered when [they] are out there.” She always integrates Indigenous Knowledge into these experiences and has invited special guests such as Aboriginal Elders to join in on the hikes to share their wisdom. Parents also have an open invitation to attend and contribute. In addition to the scheduled hikes, Lana takes her class outside each day on the school grounds for DPA, science related activities, and to read under the trees.

### **Participant Mindful Nature Experience Narratives**

This section places a spotlight on each mindful nature experience (MNE) chosen by participants. Beginning with Grace and then moving on to Mia, Claire and finally Lana, we are brought into each teacher’s world to gain a better understanding of where they went with their class, what they did with and in nature, and how they experienced it. Photographs support the MNE narratives (Appendix C).

### ***Grace's Forest and Garden Experiences***

Grace's first two experiences involved visits to nearby Discovery Forest and her third was a gardening activity on school grounds. All three were in the month of April.

**MNE#1 Introducing Discovery Forest.** It couldn't have been a nicer spring day for Grace's first visit with her class to Discovery Forest, a natural space within walking distance of her school. Bodies were warmed by the sunshine and caressed by a soft breeze for the entire forty-five minutes they were out of the school. Grace was a bit concerned about potential behaviour issues that could result from taking her class off school property as her class consisted of "quite a few very immature boys that would probably not make the best choices." As a result of this concern she decided that her first mindful nature experience really needed to lay the groundwork for all potential future trips to Discovery Forest and so she was very explicit about her expectations and associated consequences. Grace loved breathing the fresh air as she walked the trails with the children, touring the grounds through swaying grasses, bushes, and newly budding trees. They "talked about how it is someone's home – the animals and the plants. And to be respectful when entering someone's home just like you would at a friend's house. Just to get them aware that this is a special place." The children were instructed to stay on the trail and to not take anything from the forest. Birds were singing in the background as Grace discussed different scenarios that could hold the potential for problems and what would be a good choice. She did not let the children off on their own. After they did the tour they sat together on some logs while Grace read the last chapter of the class novel, *Poppy*. Grace really enjoyed the experience as a whole and thought reading outside in nature was great closure for

their book. The children also loved their first experience and displayed a keen interest in returning to Discovery Forest as soon as possible.

**MNE#2 Discovery Forest Take Two.** Encouraged by the success of her first visit to Discovery Forest, Grace returned for her second mindful nature experience a week later. She planned to let her students off on their own for part of the forty-five minutes and hoped they would behave respectfully. The children, bursting with excitement, highly anticipated this visit prompting Grace to liken their energy to Christmas morning upon their arrival. It was quite a hot day, considering that it was only spring, and Grace recalled thinking how good the sun felt as she began their visit with a personal story about the man who donated Discovery Forest to the public. Her soft voice competed with the loudly singing birds and she was surprised that the children listened so intently, interested in the history of the forest space. Grace had fun sharing her memories and was happy to “see [the children] showing that respect and interest for the area and how appreciative they were for this man who did that.” At this point, Grace set the students free for ten minutes and watched them explore the old barn, run on the trails or climb trees. To wrap-up their experience they met at the logs once again and Grace “told them that [she] just wanted them to sit and listen for a few minutes and just to hear, not to say anything. Just to hear all the sounds that they notice.” On the walk back to the school Grace found herself thinking about how enjoyable their experience was and she began making plans for future visits.

**MNE#3 Gardening.** Grace’s third mindful nature experience took place on school property at the multi-plot garden site. A garden expert was there that sunny morning sharing teaching responsibilities with Grace which allowed her the opportunity to step back and

observe her students for part of the hour session. Grace felt quite comfortable in the familiar environment and since “someone was kind of teaching them [she] could be on the periphery watching behaviour.” Sitting on the grassy bank, the class listened politely to the gardener speak about the garden, how to grow vegetables, and what they were going to plant that day. After the initial discussion as a whole class Grace divided the nineteen students present that day up into three smaller groups. She explained “group A would work in the garden and group B and C just down by the pit could play tag...Group A planted the potatoes in the center of the bed then they went and got the straw to put over top. Then group B came and they did the nasturtiums and planted them...Then the next group came and planted the lettuce and the radishes.” When all groups had their turn they met as a whole class once again to share where everything was in the garden bed. Grace noted that the kids loved getting into the dirt to garden, managed their time well in both locations, and got along with each other. Prior to heading back inside for lunch, Grace carefully collected some of the leftover seeds with the intention of using them in her eco-mandala.

### ***Mia’s Drumming, Dancing and Art Experiences***

Mia’s experiences all occurred on the school field in April, but involved a different class and different fine arts activity, moving from drumming to hoop dancing to finally nature inspired art and contemporary dance.

**MNE#1 Drumming.** Under a grey overcast sky and braving a chilly breeze, Mia brought one of her primary music classes outside to drum for her first mindful nature experience. In the half hour block she taught them a Blackfoot song called “I Love You, Mom” and explained that the First Nations People “would have wanted it to be performed outside being one with nature

while you are playing those kind of drums.” Children in hoodies and spring jackets created a large class circle on the school field close to deciduous trees that were cautiously unfurling their tender spring leaves. Swaying and moving to the strong beat, students drummed on handheld fibre-skin drums, and sang and danced to the powerful beat for fifteen minutes. Mia explained that “this kind of drumming I only do outdoors... The drums vibrate louder than most instruments...and you want it to be loud.” Mia thought it was easy to feel the pulse and the vibrations as they resonated within her body and she was pleased that the children were able to maintain a steady beat and complex rhythm which was her curricular objective. She recalled “thinking about [her] joy and contentment” during this experience outdoors as she watched how engaged and happy her students were. She figured that “a big part of that [was] because they [were] outside.” Another class saw them through their classroom windows. Interested and excited by what they saw, they asked if they too could get a turn.

**MNE#2 Hoop Dancing.** In bright sunshine, with fluffy white clouds overhead, the children’s colourful T-shirts stood out against the newly green grass and the pale background of the school during Mia’s second mindful nature experience. After teaching some hoop moves in her fine-arts classroom, Mia had brought another one of her primary classes outdoors to practice hoop dancing a week after her drumming experience. She grouped her students close together on a flat grassy space just outside of her classroom and had them practice “this trick where you stick your leg inside the hoop and bring it up your body really quickly.” The children, smiling widely, caught on quickly and were all able to dance with their hoops simultaneously. Mia remembered smelling the freshness of the air as she hoop danced with the kids and took video and pictures. This activity was followed up with free hoop play with students hula

hooping, chasing hoops, or making up their own hoop related games either individually or in small groups. Hula hoop races were then spontaneously started by some of her students which evolved into a whole class fun competition.

**MNE#3 Art/Contemporary Dance.** Mia's third mindful nature experience was a two-part lesson with grade four students that involved drawing and contemporary dance on consecutive days. This activity was newly designed by Mia and she did not let the students know ahead of time that they were drawing for dance. Vivid blue skies and sunshine greeted Mia and the students both days when they stepped outside the school. For their first thirty minute block together Mia explained, "I went outside with them and just said, I want you to sit and smell and hear and listen and look, then draw five things you see...[It wasn't until] after we were done I said the next day we are going to change [the drawings] into contemporary dances." The children followed her instructions and gathered around a grouping of large flat rocks in the school grounds to sit, lean or crouch while drawing five things they noticed in nature. Like Mia, they could hear birds, feel the warmth of the sunshine, see the soft greens of new buds and trees displaying their tender leaves, and smell the fresh air. Their drawings included items such as birds, clouds, trees, the school garden shed, and the garden arch. After happily watching her students use their time well, Mia gave early finishers the opportunity to engage in free play near the gardens, rocks, and under the trees. The following day, when they created contemporary style dances outside based on their drawings, was equally as successful. Mia thought the grade fours were the perfect age for this mindful nature experience and took note that "one boy who doesn't normally dance and participate was actually doing it outside

and another boy who usually tattles on him then had nothing to tattle about.” Mia saved the children’s drawings thinking she may wish to use them in her mandala.

### ***Claire’s Seasonal Explorations***

Each of Claire’s experiences took place during February at a local nature area a short distance from the school.

**MNE#1 The Stranger in the Woods.** Claire felt “like it all came together that day” on the first of her mindful nature experiences. She named this initial experience ‘The Stranger in the Woods’ because what her students did “reminded [her] of the story of the kids in the woods building the snowman and all the animals wondering what is going on.” It was a cool winter day despite the sun shining down and all the kindergarten children were well-bundled in their outdoor gear. Upon arriving to the nature area after a brief walk, the first thing Claire noticed was how untouched the forest was as the snow was pristine, marred only by deer hoof prints. The kids also noted the deer prints, but additionally pointed out the little piles of deer poo. She “played on what the kids gravitated towards that day” allowing her class the freedom to do what they wanted in the outdoor space which quickly developed into snowball rolling and snowman building as the freshly fallen snow had the perfect stickiness to make these activities successful. Claire thought there was a current of excitement and a pervading feeling of cheerfulness in the brisk fresh air during the 45 minutes that they were there. Taking pictures, Claire captured students first making snow angels, then sitting on giant snowballs they built, and finally building unique snowmen together. She thought about how much she enjoyed the cheering and joyfulness of the children working happily together in their little student-organized teams.

**MNE#2 The Great Awakening.** A week after the first experience Claire took her class back to the same natural area. It had snowed the night prior once again, but the sun's rays felt stronger, warming bodies and melting the snow off trees and bushes. Claire explained why she named this experience "The Great Awakening." "It was warmth and sunshine finally, an awakening right. It felt like spring was near." The children's activities over the course of their 45 minute visit changed, adapting naturally to the changes in snow quality. When they first arrived, with extra parent volunteers in tow, they came across one of their giant snowballs from the week prior sporting a multitude of sticks. The students discussed how it looked like the COVID-19 virus for a few minutes then ran to climb on the remaining giant balls of snow, lying and leapfrogging over them. Eventually a group of boys gravitated to the stumps set in a large circle in the clearing and became engrossed in brushing the snow off the tops. They noticed that each stump had different designs on the surface which was emphasized by the thin remnants of snow left behind by their mittens. Claire listened to how imaginative and creative they were. "This looks like a bike, and this looks like a volcano, and let's see what this looks like..." Their voices attracted the rest of the children who joined in clearing off the stumps. During this time, the snow was plopping to the ground in wet mounds and melting to glistening drops on the branches. Within a half an hour the stump designs were gone, and a huge pile of mitts, gloves and toques thrown on the ground needed to find their owners before the class could head back to the school for recess.

**MNE#3 Rediscovery.** Spring had definitely sprung for Claire's third mindful nature experience as all of the snow had melted uncovering hidden pleasures such as pretend caves under rose bushes, tree branches to climb, and sticks and grasses to collect. Claire came to the

same natural area once again but was the only adult with a smaller class in tow that day as her education assistant and a number of her students were away. The children present engaged in a “different kind of playing - rediscovering the forest.” Recognizing that she was mostly attuned to what the children were doing in the first two mindful nature experiences, Claire decided that “I want to really pay attention to what I am feeling and what observations I notice.” A variety of exuberant birds were singing that day, blending their songs with children’s laughter. Her students were so busy climbing trees and playing creatively that Claire felt she could take the time to read some of the nature quotes found on the grounds. Three quotes in particular (pictures of which are shown in her mandala) spoke to her during this experience and she thought deeply about how much she and the children loved being in nature before returning to her classroom.

### ***Lana’s Hiking Tales***

All of Lana’s mindful nature experiences were two-three hours long, covering approximately 5 km of provincial park trails in the month of February.

**MNE#1 It’s Raining Snow.** It was a rough start. After getting the children organized and to the edge of school property one of Lana’s students with behaviour problems decided she didn’t want to go on the hike. The delay involved a discussion with the principal and a lengthy phone call home. Lana’s stress from this incident melted away though once they hit the park trail and the freshness of the air embraced her. For Lana, “that day was SOOO fresh. Especially that day in the forest. The air was fresh and fragrant because all the snow was falling from Ponderosas and Douglas Firs.” The cool, humid air caressed her skin and moisturized her throat. Sunshine was melting the snow from the tree canopy, causing it to rain only in the forest and

big chunks of snow were falling on everyone as they passed by underneath the trees. Sounds of excited squealing and laughter from the children echoed down the trail. One student with mental health problems who rarely smiled couldn't stop laughing when a pile of snow landed on Lana's head. Lana then invited the class to huddle underneath a small bendy Ponderosa tree to spend 30 seconds in silence listening to the woods and she marked the end of the time by shaking the tree causing more snow and water drops to fall all over everyone. Giggling together they continued onward to a lookout to inspect rock layers in different outcroppings and to collect samples of sedimentary rock before rolling snowballs off a huge cliff. On the way back they were told about a recent cougar kill from a passing hiker. Pointing out the circling vultures to the children, Lana led them off trail towards the remains of a deer and found a leg partially eaten. The last stop of the hike before returning for lunch was to check a geocache to see if anyone responded to their class note. The children, including the girl who refused to come at the start of the day, yelled "NOOOO!" when Lana said it was time to go back.

**MNE#2 Camouflage and Creativity.** With snow melting off branches onto her head and tight new hiking boots on her feet Lana led her class on a path through the trees towards a site where there was space to play Camouflage. It was the second Friday in February and the sun's beams surprisingly carried some warmth heating the backs of necks and causing eyes to water. Lana relished breathing in the fresh cool air and not having a mask pulling on her ears but found herself preoccupied at the start of the hike with a boy in her class who had been struggling with his behaviour socially during the week. Watching him, she thought about what she could say to build him up. From behind her there were happy sounds of laughter and the chatter of students as they made their way up the hill. The children aren't usually allowed to walk in front of her

because she sets the pace and her education assistant always brings up the rear. After an hour of hiking, the Camouflage game began in earnest. Lana excitedly explained, "One kid counts, and they all go and hide. It is a big hide and seek game. Then you say 'fire' and they count to 20 in French - that's how we practice our French. They all have to come from their place, touch the counter and go back to their hiding space. The counter then has a chance to see someone. They say their name if they see them. It's just the simplest game, but they just LOVE it. They are just running. Running through the forest finding a hiding spot. What is better than that!" Following the game, the students had the opportunity to create things using found natural items like fallen branches, sticks and rocks. One of the students built a fort and proudly conducted a tour for the class before they returned to the trail to hike back to the school.

**MNE#3 Caves, Berries, and Bears.** Wearing toques, mittens, winter jackets, and boots the class set off without delay into the forest shortly after the morning announcements. It was a longer hike to a lookout where they were met with views of the landscape stretched out in front of them. A serene lake reflected the blue sky and fluffy white clouds above. At the lookout Lana and her class found a small cave that they explored, debating what animals could have made it their home. They then went down into a ravine with low lying junipers to study and taste juniper berries. Lana explained to her class that junipers were medicinal trees and how the Land "was an amazing grocery store for the Syilx Nation." Wanting to check on the decomposition of a baby bear that had died in the park, Lana adjusted their route to swing by its remains. "The bones were clean enough to touch [having] been cleaned by the snow and rain" over several months. Lana allowed the children to pick up the bones and they discussed the skeletal system, identifying as many bones as possible. The children asked probing

questions, oooing and ahing while connecting their learning. On the trail out of the park the class was tasked with identifying winter tree branches using a tree identification chart. Lana and her class exuded enthusiasm throughout their shared mindful nature experience and according to Lana, returned to the school calm and happy.

### **Eco-Mandalas as Process and Outcome**

In this section we first learn about the three stages of creating a mandala and how these stages related to the structure of the second interview. From this foundation, each teacher's eco-mandala creation experience is then shared and the final outcome is presented through photos. These eco-mandala stories shed light on how each participant engaged in a process of deep reflection and connection-making. This, in turn, led them to see the many connections between various parts and the whole regarding nature and their own mental health and wellbeing. As a rich space for interpretation and meaning-making, the mandala experience provided insight for all participants as well as myself as researcher. Comments made by participating teachers indicated they found the process to be enjoyable and illuminating; however, it bears mentioning that I did not pointedly ask participants to share what they thought was negative about their eco-mandala experience. Negativity was expressed during the mandala making process through flashes of frustration displayed by two participants when they thought their mandala was not turning out as they hoped. Further, one teacher mentioned that the experience was "good, but not amazing" for her as she did not consider herself to be artistic. By describing the context of this mandala creation experience in detail below we can better understand how some of the findings grew from this flexible, embodied method.

### ***Three Mandala Stages***

In Eastern, Indigenous, and Western contexts the process of creating a mandala involves three stages - preparation, creative experience, and post-reflection with each considered to be an elemental learning tool (Kopytin, 2017; Cajete, 1994). These three stages, in addition to a way of collecting data, were also meant to be mindful nature experiences unto themselves for the participants. As outlined in the description of key terms, participant 'experience' with nature involved an intentional state of contact with nature in terms of proximity, activity, and time. This occurred in the preparation stage when teachers collected their artifacts in the field, then during the creative experience and post-reflection stages when they engaged with and related to their nature items during and after the eco-mandala creation. Participants were also encouraged to be 'mindful' by purposefully honing their attentional skills, inner and outer non-judgmental awareness and presence as a conscious practice to help them note connection with nature, their own body sensations, thoughts, emotions, and senses.

**Stage One: Preparation.** This stage involved the thoughtful gathering of materials. I provided instructions and suggestions to each participant to help them prepare for the eco-mandala making interview. For example, during orientation teachers were asked to gather artifacts (natural objects, photos, notes, etc.) from their mindful nature experiences to help them create their eco-mandala during our second interview time. All teachers collected natural objects and took pictures, and some had saved personal notes or student work.

**Stage Two: Mandala Creation.** The act of physically forming the mandala is the second stage. To begin the mandala making process I re-explained to each teacher that they had artistic freedom to create their eco-mandala in any way it called to them and that there was no

right or wrong. In a light-hearted manner I reminded my participants that I was not analyzing their eco-mandala in terms of its artistic flair. I did not want my participating teachers to worry about their artistic ability. I explained that the creative process of forming their mandala was intended more so to aid their reflection and to help them notice and communicate ideas, emotions, and feelings.

Each participant was invited to use all or some of their collected items and find a spot that provided them with enough space, like a large table or even the floor. For all four teachers it was a bit tricky to set up the computer screen or their phone for me to see the process and I joked that my participants were actually my research assistants at the same time. In each interview we laughed about how COVID has necessitated flexibility and we made the best of the situation despite the technology demands. Aside from adjusting the cameras to ensure visibility, I also asked the teachers to take pictures of their collected items and their mandalas before, during, and after their creation from different angles and perspectives. They sent their photos to me through email.

To learn how each teacher experienced this activity I invited them to speak when something arose for them, be it during the mandala creation and/or afterward, and reminded them to consider both their inner and outer awareness. I hoped that by providing them choice and agency, the experience would be more meaningful for them and in my own words I said, “I am just going to leave it in your hands now – what you want to share, when you want to share it and how you want to create it. It is all up to you.” While creating the mandalas teachers alternated between speaking to themselves, manipulating items in silence, and engaging me in more of a conversation style dialogue. Regardless of their approach to reflection and

communication, I began to learn why they placed items the way they did, what their collected items evoked in them, and what they noticed and thought about while interacting with them during this stage. The next stage, post-reflection, solidified these understandings.

**Stage Three: Post-reflection.** In this stage of post-reflection participant mandalas acted as vehicles enabling further communication and insight. The teachers viewed and reflected on what they designed. This stage was a compilation of participant awareness which embraced emotions, sensations, and thoughts exclusive to each individual. At the end of each eco-mandala interview and following final photographs, teachers swept their mandalas away. Acknowledging that creating a mandala was very much an ‘in the moment’ experience, Lana and Claire questioned whether it would be the same if they repeated the creative process. This was an interesting reflection because for Tibetan monks, the destruction of a mandala signifies that nothing is permanent and everything changes (Van Gordon et al., 2017).

### ***Participant Eco-Mandala Stories***

The process of creating a mandala is very personal, which was mirrored in the stories the participants told about their mindful nature experiences, wellbeing, and their role as educators. Built from the center outwards, the four teachers’ mandala stories wove together their past, present, and future.

**Lana’s Mandala Story.** Lana created her mandala at home at her kitchen table on the first day of spring break. She welcomed the break from work and was hoping the time off would help her recuperate from what she thought was adrenal fatigue.

**Preparation.** The day prior to her mandala creation, when Lana was in the forest with her class, she noticed that “just collecting the items was presence training.” Noticing different

aspects of the natural items required an in-the-moment awareness and focus. Knowing herself, Lana had worried she would forget these nature items at school. Those items were indeed accidentally left in the classroom. In a matter-of-fact way, she stated, “Well, I forgot my items at school again. Honestly, I was so exhausted.” Lana rectified this by going on a quick scavenger hunt in her backyard right before her scheduled mandala creation interview time. She collected eight items including dried lavender sprigs, juniper and blue spruce needles, little juniper berries, pinecones, and tulip parts separated into stamens, stems, and petals.

***Creative experience.*** Lana spent seventy-five minutes creating her mandala (Figure 1). She started forming her mandala in silence, placing the lavender in the middle and taking her time to ensure that the center was round. As she further manipulated the lavender and added tulip stems, she told stories about student behaviour and how this impacted her mental health and enjoyment of her job. At one point in her story telling she explicitly commented on her mandala stating, “This isn’t really working out how I wanted it.” She was trying not to bump the delicate pieces and thought the oak table under her mandala was too dark of a background colour. Lana noticed the paddle shape of her tulip pieces and then thought about the long line of artists in her family. Focused on the process, Lana expressed, “I didn’t even visualize it ahead or anything. Most art is like that for me. I see this as a real artistic activity. I would say it is very calming.” Lana’s thoughts then turned to her class trips to the forest as she layered pieces of juniper over her waxy tulip petals in a spoke shape. Her reflections then rolled from a recent trip to the hospital for chest pains and numbness in her hands related to her high level of exhaustion, to her desire to make a difference in her students’ lives, and finally to frustrations with her job relating to her own wellbeing and mental health.



Figure 1: Lana's Eco-Mandala

**Post-reflection.** The process of creating the eco-mandala was “very relaxing and therapeutic” for Lana and she noticed that it allowed for “a different state of mind” which was “freeing in the sense that your brain gets to take a break from thinking about anything else.” It was for these reasons that she felt her artistic experience was significant. The length of time Lana spent engaged in the activity was also significant for her and she enjoyed the creative “ad lib” nature of the experience. She postulated that she could relax due to the tactile aspect of the collected items and realized that she had been quite attentive to texture of her items throughout the process. In fact, she explained that “there are unexpected things that happen when you use three dimensional objects because they sit a certain way.” In this way she recognized that her mandala took on a life of its own beyond her. She also could not recall pulling apart flowers and feeling all the different pieces of them prior to this experience but

doing so made her think about the times that she attends to detail when hiking with her class pointing “out the small micro beauty to the kids” because there is great benefit in attending to detail.

**Grace’s Mandala Story.** Grace was eager to try creating an eco-mandala despite having no background in art and chose to schedule her mandala creation interview for when she was at school a half an hour after her students were dismissed. She had cleared off a large classroom table to ensure that she had enough space.

**Preparation.** Grace took her time to collect her nature items with considerable thought. She gathered leaves, a dandelion, and sweet smelling lilacs near Discovery Forest on the day of her mandala interview to ensure that they stayed fresh and green. In preparation for her mandala Grace had also collected rocks on the school grounds because she integrates rock stories and activities into her teaching. Grace also had saved bean seeds and brown, black, and white sunflower seeds because they were the seeds she planted with her class in the third mindful nature experience. A garden picture and a photo of a special school yard tree were taken ahead of time and printed off as she said they were important additions to her mandala. In fact, her deep love of trees and their relationship to her own wellbeing did not come to light in the first interview.

**Creative Experience.** Grace began her mandala by carefully placing her sunflower seeds in the center of the lightly coloured table creating a tightly filled circle. She added the bean seeds on the outside of this sunflower circle and spent a few minutes manipulating them in silence. Grace pointed out that she “started with the seeds in the middle because that is where it all starts – with the seeds.” Next, Grace placed the greenery around the seeds and added the

two pictures of the garden and the special tree. Again, she spent several minutes arranging and rearranging these items introspectively. Happy with how her mandala was developing, Grace moved on to the lilacs and to her little pile of rocks which represented the earth. Grace was deeply focussed on her mandala now and another minute of silence went by broken only by her exclaiming:

There! Can you see that? The earth covers the seeds. Then I have a layer of the things that are growing from the seeds. You know the lilacs come from seeds, the branches from the trees and I have a picture of the tree and garden because seeds can grow into vegetables and into plants and trees.

Grace spent thirteen minutes actively creating her mandala and ensured that it was symmetrical before stating that she was finished (Figure 2).



Figure 2: Grace's Eco-Mandala

**Post-reflection.** Grace provided me with more insight into how her mindful nature experiences impacted her own mental health and wellbeing during this stage which lasted for twenty minutes. Her focus on manipulating her collected items was driven by how it felt internally to her. Grace continued to demonstrate that she was quite attuned to her senses and emotions as indicated in her first interview. While creating the eco-mandala she noticed the smells, colours, and textures of her items and recognized that they brought up emotions, thoughts, and happy personal connections. Grace reflected that her classroom was like an ecosystem as represented by the eco-mandala. “The ecosystem is like how we are too. How everything builds on everything else and is connected...It relates to when you are in your classroom and how things can work together, but in nature it is just so easy, right.” Her mandala was a metaphor that explained how the wellbeing of everyone in the classroom including herself was interconnected and dependent. She realized that moving her own classroom ecosystem into nature made it easier to feel good and function well. Grace pointed out that creating a mandala allowed for metacognition which helped her contemplate her own wellbeing in a circular way. “Working back to find out where these feelings are coming from. Like doing something like this I wouldn’t have thought those things...So you experience it but then you think about how and why they [the nature experiences] are evoking these feelings. Rather than just going in and not being so aware.” As such, the mandala creation experience led her to understand her own wellbeing better.

**Mia’s Mandala Story.** Mia created her eco-mandala in her living room at home at the end of a school day. She was not feeling great as she had just got her COVID vaccine the day

prior. Also, Mia was distracted during the interview answering texts and phone calls and ended up finishing early due to a parenting duty.

**Preparation.** The night prior to creating her mandala Mia had spent time reflecting on her mindful nature experiences and created a word web on blue paper. She had also selected four of her favorite student drawings from her third MNE and printed off six photos of her activities. Mia had been in a rush to collect her nature items after school though and asked her son to help her. She admitted that she didn't put a lot of thought into it aside from making sure that they came from the outdoor space where she teaches. Her nature items included pea gravel found near the school garden, a dandelion, lilacs, a chive from the garden, a leaf from a maple tree, and some grass.

**Creative experience.** Mia began the process of creating her eco-mandala by placing her blue word web in the center. She explained that she spent a lot of time reflecting about the words that were printed on it and shared that her base words "mindful, calm, fresh air and breathe" were partly why she brought students outside. She pointed out that nature made her and her students calmer and that they all laugh loudly outside without worrying about volume. Looking closely at her word choice, Mia noticed that she did not have the word "playful" represented and promptly got a pen to add it. She then spread her collected nature items around the words. Touching the leaf prompted her to sing a song she taught her classes under the trees in the fall and she expressed how much her students loved authentic activities like that. Turning her attention to the six photos Mia said her students were all engaged. "That is the nice thing about the arts and outside. Them being engaged might look different, their own image of engagement might look different depending on the child. But they really are all

engaged.” Mia then paused and laughed at her eco-mandala remarking that she had not preplanned the placement of her items and that it was not very pretty (Figure 3). She was okay with that though because art to her is personal. This stage took seven minutes.



Figure 3: Mia's Eco-Mandala

**Post-reflection.** Mia reflected upon her mandala experience for eighteen minutes, considerably longer than the time she spent creating it. She spoke about each MNE and elaborated about the “positive energy” that teaching with and in nature generated. She stated that there was a reciprocity in this as she noticed that she felt better when her students were doing well and vice versa. Touching the rocks, flowers, leaves, and blades of grass also engaged her senses and brought back memories of her childhood when she spent her days outdoors collecting things. Focusing her attention on her nature items, Mia murmured, “because I collected them I think I will be more aware of them in my environment. Or because I took time to notice them I wouldn’t be surprised if I noticed them more. Definitely noticed the smells and

touch as I had to manipulate them.” Mia felt that the process of creating her eco-mandala made her happy, but the time she spent reflecting as part of the preparation phase was the most significant for her. She found the reflective capacity of the experience contributed to her own personal growth and wellbeing.

**Claire’s Mandala Story.** Claire’s mandala creation interview took place at school an hour after her kindergarten class went home. Claire shared that while she did not have an artistic background she had envisioned her mandala a bit beforehand. She used metaphor to help describe how her eco-mandala related to her students and her own wellbeing.

**Preparation.** Claire had organized her carefully selected items in piles on one of her classroom tables. There were neatly cut out photos of the Coronavirus snowball, photos of six snow covered stumps, and photos of two quotes all of which related to her mindful nature experiences. She had also collected seed pods, cones and fallen branches taken from trees her students played in, and maple seeds that reminded her of angel wings. Claire elaborated upon those stating they represented the wings teachers give their students when they sow seeds of knowledge and teach them how to fly on their own.

**Creative experience.** Claire created her mandala in a deliberate manner over a period of eleven minutes. She began her eco-mandala by placing the Coronavirus snowball picture in the middle because it represented the year for her. She then lay the Rachel Carson quote below it and spaced the stump pictures in a circle mentioning that was where her strong memories were and where she was closest to the kids. The seed pods and the maple seeds were thoughtfully placed next. Claire expressed that she wished she had chosen a different background table colour and had collected more seeds as she wanted more of a balanced look. She then lay the

cones, the second quote, and two types of coniferous branches down. Looking intently at her eco-mandala, Claire spent a few moments manipulating the artifacts before stating she was done (Figure 4).



Figure 4: Claire's Eco-Mandala

**Post-reflection.** Without this post-reflection stage, which lasted twenty-four minutes, I would not have had much insight into how Claire experienced this activity. Claire admitted that when she started creating her eco-mandala she was worried a bit about whether it was “balanced or equal” because she liked “things very neat and orderly.” She also shared that as she created her mandala she reflected about her students and their joy and engagement with nature during their mindful nature experiences. She realized how much she cherished those times and considered herself lucky to have such a lovely class. While she had been keen on keeping her collected items lined up and symmetrical she was clearly aware of her thoughts

and emotions including a sense of happiness regarding her nature memories. She additionally mentioned that she paid some attention to her sense of touch. This was due to the delicateness of her collected natural items as she did not want her dry, brittle maple seeds to break. She noticed that her pinecones were pokey, but then she “was annoyed that [she] didn’t pick perfect pinecones.” At this point, she shared that she was quite OCD at school which made her pretty tired by the time she got home at the end of the day. Making the mandala allowed Claire to keep herself in the present, which she thought was beneficial. This ‘presentness’ allowed her to deviate from what she planned to do ahead of time and once she began to manipulate her collected items she noticed a sense of calm come over herself.

### **Chapter Summary**

This chapter provided an entry into each teacher participants’ world to better understand who they are, what their mindful nature experiences entailed, and how they experienced the process of creating an eco-mandala. Through these rich descriptions I aimed to bring the study to life through their experiences and offered the context from within which the findings of this study emerged. The findings, as offered in the next chapter, emerged from my analysis of the teachers’ descriptions of and reflections on their experiences.

## CHAPTER FIVE: FINDINGS – DESCRIBED, INTERPRETED AND SYNTHESIZED

This study of teacher wellbeing included three participant-chosen mindful nature experiences (MNE) and an eco-mandala reflective activity that allowed an exploration into how nature can help promote, protect, and restore teacher mental health and wellbeing in our educational institutions. By delving deeper into how participant thoughts, emotions, sensations, and senses were influenced by these experiences with and in nature, I learned about the range of wellbeing benefits that can come from including mindful nature experiences in a teaching day. Research investigating the connection between nature and wellbeing has predominantly come from disciplines other than education and a further gap exists connecting the relationship between nature and wellbeing to mindful awareness. Keeping in mind the context and the small homogeneous sample of participating educators, this exploratory study offers new knowledge for improving teacher mental health and wellbeing through mindful nature experiences.

In this chapter, I weave together my participants' stories of what it was like for them to mindfully engage with and in nature as part of their teaching day and how these experiences while unique to each teacher, class, time, and place contributed to their mental health and wellbeing. Using a wholistic and relational lens, I listened closely to what was said and looked intently at what was shown and created. Then through the subsequent analysis of this data along with comparisons with literature that framed and aligned with this research, I was able to delve further into the main question guiding this study: In what ways does mindful nature experience offer mental health benefits that contribute to teachers' sense of wellbeing?

Throughout this chapter I provide a description of the themes that emerged through data analysis using excerpts from the transcripts that highlight these teachers' perceptions of their experiences which were supported by photographs of events, collected artifacts, mandalas and teacher journal notes, and from my own reflections as researcher. Taken together, the data informed my understanding of the ways in which their chosen mindful nature experiences benefitted their mental health and wellbeing. Nature-wellbeing studies and research on teacher wellbeing and mindfulness provided a theoretical base that I drew from as I engaged in the research with an open mind and open heart. Four overarching themes and several sub-themes eventually emerged through the analysis process (Table 4).

Table 4

*Mindful Nature Experience Benefits: Themes and Sub-themes*

<b>THEME 1: NURTURES POSITIVE EMOTION</b>	<b>THEME 2: PHYSICAL AND MENTAL ESCAPE</b>	<b>THEME 3: MAGNIFIES MENTAL HEALTH AND WELLBEING LINKS BETWEEN TEACHERS &amp; STUDENTS</b>	<b>THEME 4: DEEPENS INTRAPERSONAL, INTERPERSONAL &amp; CURRICULAR/ LEARNING CONNECTIONS</b>
<u>Sub-themes:</u> 1. Benefits Now 2. Future Benefits 3. Positive Emotion Prompts Positive Action 4. Expanding Outward	<u>Sub-themes:</u> 1. Physical Escape (Space) <ol style="list-style-type: none"> <li>a. Fresh Air and Natural Light</li> <li>b. Opportunity To Move</li> <li>c. Pleasant Soundscape</li> </ol> 2. Mental Escape (Pace)	<u>Sub-themes:</u> 1. Awareness Of and Attentiveness To Student Wellbeing 2. Perceived Student Benefits of Teaching and Learning With and In Nature <ol style="list-style-type: none"> <li>a. Positive Emotion</li> <li>b. Increased Levels of Engagement</li> <li>c. Prosocial Behaviours</li> </ol> 3. Teacher - Student Wellbeing Links	<u>Sub-themes:</u> 1. Intrapersonal Connections 2. Interpersonal Connections 3. Curriculum and Learning Connections <ol style="list-style-type: none"> <li>a. A Kindergarten Perspective</li> <li>b. A Grade 4/5 Perspective</li> <li>c. A Grade 3 Perspective</li> <li>d. A Prep Teacher Perspective</li> </ol>

Of note, there was originally a fifth theme – challenges and barriers related to mindful nature experiences, but after careful consideration I decided this theme would best serve its purpose in the final chapter as the teacher participants connected these challenges to their own suggestions and recommendations. I purposely gave voice to the teachers on this topic in the discussion chapter in the section titled 'Practical Recommendations from Participants' in

which the shared challenges (teacher confidence and familiarity with nature/outdoors, safety considerations, student behaviour, weather concerns and associated gear, negative perceptions by others, and time for curriculum) are also outlined.

In the next section I provide an overview of the four overarching themes using examples from the teachers' stories to portray the interconnected and multidimensional impacts mindful nature experiences had on teacher mental health and wellbeing.

Through the iterative process of analyzing the data, I first noticed a pattern related to positive emotion. The first theme, Nature Nurtures Positive Emotion, was reflected in teacher participant stories and comments made in all interviews. As I further explored the idea of nature nurturing positive emotion, I noticed four sub-themes emerging that described how positive emotion such as happiness, joy, excitement, contentment, and calm was built and broadened. The first sub-theme discusses how participant improvements in mental health and wellbeing were sensed in the moment. The second describes the ways in which these emotions offered future benefits, staying with teachers after their mindful nature experiences were over. In the third sub-theme I explain how positive emotion prompted actions such as playfulness, exploration, inspiration, and creativity, and finally the fourth sub-theme reveals how these emotions expanded outward growing positive emotion in others and creating a feedback loop that engendered further positivity in the teachers themselves.

The second theme, Nature Provides a Physical and Mental Escape (Space & Pace), describes how the participants equated teaching with and in nature with a sense of freedom and ultimately an escape from work structures and routines. Based on participant stories, nature was found to be freeing in two important ways when it came to teacher mental health

and wellbeing, hence the physical escape (space) and a mental escape (pace) sub-themes. Throughout their stories, I noticed examples of how participants voiced the importance of fresh air and natural light, having an opportunity to move, and being exposed to an enjoyable soundscape. These became key points under the sub-theme physical escape as they were seen by the teachers as remedies to interpersonal and environmental situations related to physical space that worked against their wellbeing. The second sub-theme, mental escape, describes how nature helped these teachers set a peaceful pace, slowed down their busy minds and provided a needed mental break from deadlines, perfectly organized lessons, and never ending 'to do' lists.

The third theme, Nature Magnifies Mental Health and Wellbeing Links Between Teachers and Students, highlights the how teacher-student mental health and wellbeing is intertwined. As I further delved into this theme, three sub-themes emerged which taken together help explain how nature magnified this link in a way that was beneficial for teachers. The first sub-theme discusses how aware and attentive teachers were to their students' wellbeing during the mindful nature experiences. The second sub-theme outlines participant perception of student benefits when teaching with and in nature. These perceived benefits included student positive emotion, increased levels of engagement, and prosocial behaviour (meaning student actions that are kind, accepting, helpful, and cooperative). The third sub-theme then discusses teacher-student wellbeing links emphasizing how teacher happiness and sense of achievement was magnified during mindful nature experiences when participants perceived their students feeling better, acting better and learning better.

Finally, in the fourth theme, Nature Deepens Intrapersonal, Interpersonal, and Curricular/Learning Connections, I heard stories and examples from the participants of how nature helped them deepen key connections related to their mental health and wellbeing. Three subthemes emerged – intrapersonal, interpersonal, and curricular/learning connections. In the intrapersonal sub-theme, participants voiced a reconnection with their sense of self including a better understanding of their values and wellbeing needs. The intrapersonal sub-theme highlights examples of improved relational connections with those they worked with and for. And lastly, the third sub-theme outlines curricular and learning connections for students which ultimately made their lives easier as teachers.

Admittedly, the teachers' experiences interacting with nature tended to be positive, which is reflected within the findings presented herein. This is not surprising considering how Indigenous knowledge highlights the importance of place, recognizing our natural environment as a necessary condition for wellbeing (De Leeuw, 2018; Johnson, 2019; Wagamese, 2016; Armstrong, 1995). There is also strong evidence from hundreds of studies from a variety of disciplines including medicine, psychology, architecture, and business that nature supports mental health and wellbeing (Rugel, 2015; Capaldi et al., 2015; Keniger et al., 2013; Cooper, Boyko & Codinoto, 2008) and an almost inexistence of studies reporting the opposite. Further, these teachers were given the autonomy to choose experiences that worked for them, in their own context, knowing that educators who undertake professional development that is meaningful to them tend to consider their experiences more relevant and impactful (Cherkowski, 2018).

The four themes that are presented in this chapter arose through our personal conversations about mental health and wellbeing, their three mindful nature experiences, the relevance of their collected articles, and their mandala making experience. These created a portrait that offers insight into the research question. Set within the context of this study, teacher narratives explain the ways in which mindful nature experiences play a role in improving teacher mental health and wellbeing.

### **Theme One: Nature Nurtures Positive Emotion**

Experiences that involve purposeful engagement with nature appear capable of building and broadening positive emotion for teachers. All documented mindful nature experiences (each teacher's three self-chosen experiences as well as their eco-mandala creation experience) tell stories in which positive emotion takes center stage. Teacher experiences with and in nature engendered feelings of happiness, joy, excitement, contentment, and calm.

Positive emotions such as these are markers of wellbeing. Positive emotions are also emotions that we typically find pleasurable or pleasant to experience. Further, we know that positive emotions occur on a continuum ranging from activated (excited and joyful) to deactivated (relaxed and calm). This aligns with two dominant models used in psychology to better understand emotion: Watson and Tellegen's (1985) Positive Activation-Negative Activation Model and Russell's (1980) Circumplex Model of Affect which proposes that all affective states are related to valence (a pleasure–displeasure continuum) and arousal (activation-deactivation continuum). Each emotion can be understood as a combination of valence and arousal. In psychology some researchers, such as Russell, use the terms pleasant/unpleasant instead of positive/negative emotion to signal that all emotions contain

some degree of both negativity and positivity. For the sake of consistency with literature cited within this dissertation I chose to use the word 'positive' emotion instead of Russell's 'pleasant' emotion. All positive emotions, regardless of arousal level help build resilience, not just reflect it, which is important as resilience allows people to cope with adversity and is an indicator of mental health.

While keeping in mind that wellbeing is a process and not an outcome, and that the balance of an individual's positive to negative emotions changes over time, we know that overall subjective wellbeing improves the more time one has experiencing positive emotions. With positive emotions promoting flourishing and negative emotions thought to characterize and advance poor mental health (Morris, Bylsma, & Rottenberg, 2009), we can link positive emotion to reductions in depression, stress, and anxiety (Soga, Gaston & Yamura, 2017). More specifically, this means positive emotion can improve self-coping skills and overall positive affect which are thought to predict gains in life satisfaction contributing to a flourishing life (Fredrickson & Joiner, 2018). In fact, happiness is one of the five pillars of Positive Psychology, considered by Seligman (2011) to be essential for fulfillment. We also know that having a positive mood is associated with emotional wellbeing, which is one component of mental health (Galderisi et al., 2015; Keyes, 2014). Worth noting, psychologists believe that experiences that build positive emotion contribute to wellbeing and mental health restoratively as well as preventatively (Seligman & Csikszentmihalyi, 2014). In educative settings, examining emotions is useful to better understand how individuals relate to their environment in circumstances in which change is initiated (Karami-Akkary, Mahfouz, & Mansour, 2019).

When it comes to promoting, protecting, and restoring mental health and wellbeing of teachers, finding nature capable of nurturing positive emotion is important for three reasons. First, positive emotion has immediate wellbeing benefits; second, these benefits are also future oriented as they carry the capacity to transform individuals after the fact; and finally, positive emotion prompts actions that further aid wellbeing in an upward spiralling effect. This is explained through the four sub-themes (Table 5). For teacher participants, nature provided predominantly uplifting and rejuvenating experiences which are demonstrated by their comments in the next section illuminating how positive emotional benefits were received in the moment and extended into the future for the participants. These emotional benefits then led to further actions shown through participant stories illustrating how playfulness, exploration, inspiration, and creativity arose from their experiences in nature. Finally, we hear participant teachers explain how this expanding circle of wellbeing extends further into the system itself.

Table 5

*Mindful Nature Experience Benefits: Theme 1 and Sub-themes*

THEME 1	SUB-THEMES
<b>Nature Nurtures Positive Emotion</b>	1. Benefits Now 2. Future Benefits 3. Positive Emotion Prompts Positive Action 4. Expanding Outward

### ***Benefits Now***

Activities and experiences that promote positivity are building blocks of wellbeing with immediate benefits capable of improving mental and physical health (Ballew & Omoto, 2018; Seligman & Csikszentmihalyi, 2000). Claire, Mia, Grace and Lana all mentioned numerous times in their interviews that positive emotions arose for them during their mindful nature

experiences. For example, discussing her experiences that all took place at the same natural area near her school Claire recognized that the feelings that arose were all positive:

Lots of time when you go to the same place, even though the experience is different...the feeling is always the same. For me, I love going there. The joy of going there. It makes me happy. It is a happy part of my week (C1).

While reviewing her own journal notes during our interview Claire highlighted “the cheerfulness of it. I wrote that quite a few times. The excitement and cheerfulness” (C1).

Grace mentioned the word “joy” in all three of her interviews, highlighting that her mindful nature experiences, including her mandala experience, were enjoyable and brought happiness into her day. Being quite aware of her own body sensations and emotions, Grace was able to explain in detail how her positive emotions that arose while creating her mandala impacted her wellbeing:

Breathing is deeper [as] you aren’t tensing up or anything. And joy. When you have that you are lighter. It connects to all the memories too. [It was] peaceful. And the creative part. Trying to make it look the way I want. And excited. Excited to see how it came about, right. How it was shaped...[It was] enjoyable. It was fun just moving things around to see how they would work better or how they would make me feel better. But it wasn’t like an OCD thing were you are like that one is not in the right spot; I have to move it. It was more oh that might look a little better this way and then I’d just move it and feel how it feels. (G2)

Joy and happiness were also mentioned by Mia. While conversing with Mia about her nature experiences and related emotions Mia pointed out that she felt “obviously joyful” and

that working in nature brought forth both “joy and contentment” for her. In her first interview Mia shared that taking all grades of her fine arts classes outside made her “happier [because] it is a nicer way to teach”.

Lana anticipated the rejuvenating effects of her outdoor hikes on Fridays and looked forward to that regularly scheduled time. She expressed how time in nature impacted her:

I feel instantly calmed. All I have to do is sit by the water or the ocean or a stream. I can just completely regroup. It takes me, it calms me down, I feel happier, I can put things in perspective easier. I am just so appreciative of it. I don't know if other people have that, but. I think that with kids that is where they should be. They should be in nature. (L3)

These findings align with past research examining the connections between forest/garden activities and wellbeing, indicating that nature's capability of eliciting positive emotion can improve participant happiness and overall affect (Clatworthy et al., 2013; Dutt, 2012; van den Berg & Custers, 2011).

Three of the teachers were further attuned to how their positive emotional and mental states were combined with their bodily physical reactions. For example, Grace reflected:

We all know that it is good to go out, but actually spending some time to think about the WHY and HOW it is affecting [us is important]. Well, like noting how you are...How it is affecting those areas. Like physically, you heart rate slows down, you are less stressed, your shoulders are dropped. You know those sort of things. Emotionally, feeling excited and joy and inspired. (G3)

Lana too recognized that her enjoyment in taking part in her mindful nature activities including the mandala creation experience made her whole body feel calmer. She described what she noticed while manipulating her lavender, tulip pieces and cedar branches:

I would say it is very calming. Just, not sure if I am breathing a whole lot of lavender, but my whole body actually feels calmer. Since I started. Like my, I don't know. My breathing has slowed. I feel warm and comforted. (L2)

Mia tied her positive emotional state with physical wellbeing in nature as well as mentioning that “exercise, laughter, and positive energy” (M2) arose during her mindful nature experiences along with a sense of calmness because “outside feels calmer for [her]” (M1). Through repeat experiences, these personal responses as described by the participants contributed to their overall health and future wellbeing.

### ***Future Benefits***

Beyond helping individuals feel good in the present moment, positive emotions may secondarily increase the chance that they will feel good in the future (Fredrickson, 2004). Teacher participants did indeed notice that positive emotions grown through their engagement with nature helped them after the fact.

Mia noticed a difference in how she felt comparatively between being in the classroom versus teaching outside, and recognized that even a short stint outdoors contributed to her sense of wellbeing for the whole week:

It doesn't even need to be all day, all the time. But when I can get outdoors it makes me feel so much better. Like I really noticed the difference the last few years not having my once a week...I just notice a big difference in how I feel (M1).

Grace, too, understood that the positive emotions she felt while working in nature carried into the future and explained that this is the case for her:

Because it elevates you, it does carry with me after I leave. The rest of my day it is with me. Like if you are in traffic and someone cuts you off or whatever and I have been mediating, walking in the park and exercising, it is like 'oh' you are not reacting... I am happier too. So when I am happy, the way I respond to others and how I put myself out there reflects my inside. Like I was listening to Wayne Dyer. That thing with the orange. When you squeeze an orange, orange juice comes out. When you squeeze someone, whatever is inside them will come out. If you have anger inside, all you need is certain situations and you get squeezed, that is what is going to come out. But if you have been working on yourself and you are at a place where you are more at peace and you have that joy, if something were to happen, that is what is going to come out. Not the anger."

(G3)

Lana also had beneficial residual effects lasting beyond the time that she was actually hiking with her class. She mentioned that she sometimes is questioned by other teacher colleagues if her morning hikes in nature make her more exhausted, especially at the end of the week. She explained that she is actually able to finish the week strong as a result:

They [other teachers] also say why do you do it on Fridays? Isn't that the day you are most tired of the week? I say yah, I am really tired on Friday and that is the thing that stops me from becoming exhausted because it is so rejuvenating and calming. (L3)

Positive emotions grown through their mindful nature experiences helped these teachers feel good once their time teaching with and in nature ended and impacted their future actions.

### ***Positive Emotion Prompts Positive Action***

Nature's ability to nurture positive emotion is important for a third key reason which relates to action that stems from positive emotion. Fredrickson & Joiner's research in positive psychology (2011) has demonstrated that activities and experiences that cultivate a range of positive emotions additionally invite action which aids in psychological growth and noticeable increases in emotional wellbeing and improved health over time. For example, happiness and joy are thought to spark the urge to play and increased interest leads to an urge to explore. Inspiration, creativity, and social bonds springboard from these activities aiding individuals by strengthening their social and emotional skills and increasing understanding and resilience (Fredrickson, 2004). Teacher participants provided examples of how playfulness, exploration, inspiration, and creativity arose from their experiences in nature.

Claire and Mia enthusiastically shared some playful events that occurred during their mindful nature experiences. Claire recognized that her class nature experiences engendered play and she believes that "there is value in the playfulness" they afford (C3). When she and her students discovered snails in their nature area their joy turned into play and exploration:

Like today for example when we were over there, there were snails. There were hundreds. So today was snail day. Just the kids watching the snails on the glass and holding the snails and playing with the little snails antennae and feelers. Watching the slime and one climb over the other. That's the great thing when you do the experiences with the younger grades where play and the observations are such a big part (C3).

Experiences such as this make her think about how lucky she is. Claire noticed how creative her students get while they are playing and exploring together, and she lets their interests take the

lead in her teaching and their learning for their shared nature time. She calls it “Fun Fabulous Friday. Everything is fun!” (C1).

Mia also highlighted the playfulness she and her students felt when they were happily engaged in learning with and in nature. While creating her mandala Mia spoke about feeling happy, content and calm while teaching outdoors and then added the word playful to her word web. “I noticed that I don’t have the word playful on there. That should be one as well” (M2). She explained that being in nature is not just an “opportunity for students to be playful” (M1) as she feels more playful as well. For example, after watching her students roll their hoops down the hill during their hoop dancing practice outside on the field, Mia embraced the chance to play with them:

I am not a teacher that just watches, I actually do. I’m like who wants a hoop competition? We compete. I feel really stimulated in this hula hoop unit because I am moving and I am doing it. Once again there is obviously excitement and contentment. We are doing stuff and smelling the fresh air and seeing the joy of the kids. Even if they are not good at hula hooping I teach like 10 different moves. The one easy move that I teach that looks complex all of them are able to achieve. They are all successful and they definitely love it. This is the first year that I did the races and I don’t know how that got initiated, but I loved it so much that with this one class we actually spent the whole time doing it. (M1)

Grace and Lana mentioned feeling “rejuvenated” and “revitalized” while in nature and spoke about how their experiences inspired further teaching opportunities. For Lana, nature itself guides her teaching, and she explained “I am constantly developing the program. It seems

like it's on the fly a bit. Because you don't know what you are going to run into" (L1). Lana is inspired to teach about what she finds in nature, be it a decomposing bear carcass, the sediment seen flowing from the creek into the bay or identification of plants. Grace discussed how nature makes her feel "calm and more peaceful" and how she is "excited to have all those sensations" when she is teaching (G1). She explained that feeling this way makes her more creative. Her "inspiration comes from nature and a lot of the ideas that [she] likes to do in the classroom" (G3) come from nature as a result:

More creative thoughts come...when you are calm and in that space, those ideas can come to you. When you are just managing and going, putting out fires, and getting the next thing done, you don't have time to think or absorb the creative ideas that come to you. When it is quieter and you are outside, things kind of come up like 'oh it would be fun if next time we come to the forest we can do this.' Or noticing what the kids are doing, you have more time to think and to have creative thoughts, inspiration (G3).

Taken together, positive emotions are beneficial for improving health and wellbeing in the moment and they are further geared to helping teachers develop resilience to stress and improve their overall wellbeing in the future. Positivity begets positivity, leading to further action that develops new qualities. This expanding circle of wellbeing is also seen to extend further.

### ***Expanding Outward***

While positive emotions clearly benefit each individual teacher, there is an appreciable ripple effect that moves outward touching all those that an educator interacts with. Considering that educators directly influence the culture of their own classroom and school, their attitude

and emotions have an effect on their students and the adults they interact with. Teacher happiness, optimism, and excitement, and qualities such as creativity, playfulness, and patience help those in their community. In fact, teachers who exhibit positive emotions and attitudes at work are often found to have better attitudes towards their work which in turn contributes to a work culture that supports growth moving beyond survival mode to flourishing (Cherkowski, 2018; Williams, Kern, & Waters, 2017). Research in organizational wellbeing and psychology indicate that individual satisfaction, resilience, happiness, and positive emotions benefit education systems as a whole leading to renewed energy, commitment, and organisational health (Lencioni, 2012; Seligman, 2011; Seligman & Csikszentmihalyi, 2014).

Lana spoke at length about how her class nature experiences impacted others besides herself. Her joy and enthusiasm taking her class outside to learn on their nature hikes was contagious as her students also loved it, as did her Education Assistant (EA) as shared below:

My EA, she can't wait to do that hike. Even the kids, even the ones who complain in the morning, an hour into the hike up the mountain I say now how do you feel. They say I'm good now. It turns them right around. My EA, talking about wellness, she is spread so thin, there aren't enough EAs in the building, there is no coverage if one has a day off. She can't wait to do the hikes. She says it is so good! She looks forward to it and the parents who come frequently, they look forward to it. They really do appreciate someone who is willing to get them going. (L3)

Lana's students also shared their enthusiasm with their parents who were not able to volunteer on the class hikes. The children's hike stories prompted parents to reach out to Lana and then expanded into family hikes on weekends:

I get messages from parents that were like ‘oh so and so was so excited about the hike and now wants to take me there. Can you give me directions.’ Those are the moments when I’m like ‘ok, that was worth it, you know.’” (L2)

This message was reiterated during student-parent-teacher interviews as parents made a point of vocalizing their appreciation. “There were so many families that ended the call with ‘We really want to thank you for everything you are doing, especially taking them outside all the time. We really appreciate it’” (L3). Their comments and compliments made Lana even happier and she got quite emotional while sharing this information during our third interview. Lana also explained that other teachers are excited to learn about what she is doing and stated that “there are people that are inspired by it [such as] the new teacher at our school this year” (L1). The positive emotion generated during Lana’s hiking experiences are prime examples of this ripple effect, expanding outwards to students, parents, classroom assistants and other educators.

Ripple effects were also noted by Claire. Claire pointed out that parents who volunteered appeared to benefit from taking part in the mindful nature experiences. She demonstrated this point with a small story about one mom in particular:

I have one mom who has been a tough mom to figure out, but she enjoys coming and the nice thing is with her coming I’ve been able to crack the shell a bit. That was good... And this is a mom who was anxious at the beginning of the year with lots of coddling. She’s got twins and lots of babying. To see them flourishing was really good for her. (C1)

Nature appeared capable of nurturing positive emotion for these teachers and its influence was seen to expand outward creating a ripple effect that impacted students and the

adults that the teachers worked with. Positivity appeared to beget positivity impacting overall affect of those involved.

Through teacher participant stories we learned that teaching with and in nature provided positive emotional experiences which benefited teachers in the present moment and extended into the future. Teacher participants provided examples of how playfulness, exploration, inspiration, and creativity arose from their experiences in nature and they explained how positive emotion created an expanding circle of wellbeing that extended into the system itself touching students, parents, and coworkers alike. Leading into the second finding, these teachers also found that the restorative quality of nature provided a sense of freedom and ultimately a physical and mental escape helping them overcome some of the challenges associated with their jobs.

### **Theme Two: Nature Provides a Physical and Mental Escape (Space & Pace)**

Teachers have a challenging job that can be overwhelming at times, and according to participants, nature offered a warranted escape. Escaping to teach with and in nature was equated with freedom for participant teachers. Based on participant stories, nature was found to be freeing in two important ways when it came to teacher mental health and wellbeing – it provided a physical escape and a mental escape in terms of space and pace. Firstly, teaching with and in nature allowed for a physical escape and freedom from the four walls of the classroom. These teachers appreciated leaving behind the florescent lighting, stale air, imposed daily schedules and structures preventing movement, and the excess noise and behaviour management related to keeping students quiet in classrooms. In fact, all four women noted that numerous aspects of their wellbeing were improved through this form of escape including

their physical wellbeing which was associated with increased space and freedom to move outdoors. Secondly, Claire, Mia, Grace, and Lana also recognized that nature provided a mental escape as it helped them set a peaceful pace, slowed down their busy minds and granted a needed mental break. Mindful nature experiences allowed the teachers to get away from feelings of pressure related to deadlines, to-do lists, and planning/executing the next lesson. Considering the physical and mental escape that nature provides, hearing that teachers and students alike did not want to end their mindful nature experiences was not surprising.

Participants chose words such as freedom, escape, getting out, open space, and not confined to explain what getting out of the classroom and into nature felt like. These words align with the definition of 'escape' and allude to some of the ways in which nature can be considered restorative. As stated in the Merriam-Webster dictionary (2021) the word escape means to break free from confinement, evade something undesirable, and find relief from routine. Nature can be viewed as an escape as it meets the requirements of a restorative environment and is considered to be a form of getting away where "the sense of being away does not require that the setting be distant" (Kaplan, 1995, p. 174). In literature on restorative environments researchers have shown that individuals tend to select natural environments with open green space and a lack of loud, distracting noises as a means of shifting negative psychological states to positive (Bratman et al., 2015; Korpela et al., 2001; Hartig & Staats, 2003; Herzog, 2003). Further to this, we also know that as part of a reactive or proactive coping process, the freedom that nature provides helps individuals by reducing stress and recovering from mental fatigue (Kaplan, 1995). Seeing nature as an escape additionally aligns with two recent studies conducted in Europe and Asia during the COVID-19 pandemic that found nature

to be viewed by participants as an escape from stress (Dzhambov et al., 2021; Lu, Zhao, We & Lo, 2020) and as shown in previous studies, an effective coping strategy for people facing stressful events and environments (Austenfled & Stanton, 2004; Taylor & Stanton, 2007). Teacher participants similarly noted that disengaging from their perceived problematic classroom environments to a natural environment, even for a short time, lead to renewed energy and a refreshed outlook.

Participant comments indicating a need for escape from work structures and routines are highlighted under the subheadings physical escape and mental escape in this finding (Table 6). First, under the subheading physical escape, we learn that these teachers identified the key benefits of teaching with and in nature to be fresh air and natural light, an opportunity to move, and pleasant soundscapes. Second, under mental escape, teacher participants expressed how nature slows down their busy teacher minds. Taken together, these statements illuminate how space and pace relating to nature provided a sense of freedom that contributed to their mental health and overall wellbeing.

Table 6

*Mindful Nature Experience Benefits: Theme 2 and Sub-themes*

THEME 2	SUB-THEMES
<b>Nature Provides a Physical and Mental Escape (Space &amp; Pace)</b>	1. Physical Escape (Space) <ul style="list-style-type: none"> <li>a. Fresh Air and Natural Light</li> <li>b. Opportunity To Move</li> <li>c. Pleasant Soundscape</li> </ul> 2. Mental Escape (Pace)

### ***Physical Escape - Space***

Finding a personal escape to a situation that is not ideal depends on what one is escaping from. In the case of educators, the structures and demands of a typical school day are

part of their physical work environment and may be considered problematic. Lana's quote aptly highlights this point:

We are so programmed to be stuck in this box and follow the structured routines, but I don't actually even think the traditional setting is very healthy. There are lots of teachers who are just stressed all the time. You wonder why – well what other work setting would you be in pretty high noise level all the time, loud bells going off, chaotic moments where you are trying to get the place cleaned or trying to manage behaviour all day. It is not natural for people. It is uncomfortable. (L3)

Due to the general context of an educator's work environment, teacher participants mentioned feeling exposed and susceptible to interpersonal and environmental situations related to physical space that worked against their wellbeing and that seeking out the green of nature helped reduce exposure to these adverse stressors. Lana's comments above resonate with findings from a study conducted by Douglas et al. (2020) where poor participant wellbeing from exposure to non-desirable interpersonal and environmental situations such as unwanted noise, poor air, crowding, and negative interpersonal behaviour improved when participants removed themselves from the setting and visited urban greenspaces.

Understanding now what educators perceive they are escaping from; we can turn our attention to what they see themselves escaping to. Teachers reported fresh air, natural light, freedom to move, and a pleasant soundscape as a few of the benefits that came with escaping to nature.

**Fresh Air and Natural Light.** Beginning with fresh air and natural light, Claire, Mia, Grace, and Lana all noted a link between how their bodies felt and teaching in a natural space

with fresh air and sunlight. For example, Claire realized that when she doesn't get outside enough during the day she does not feel her best:

Being outside – I mean I am not an indoor person. I am an outdoor person. As long as the weather is not too cold I love being outside. Sometimes I think I don't get outside enough and then it's like why am I feeling so blah. Then I realize when I am outside it is like yah! This is good. It clears my head. It feels good on my body. My body feels good...And the importance of the fresh air. Sometimes we are inside SO much at school. (C3)

Claire emphasized this point later in the interview reiterating that part of the escape "for [her] it is the fresh air, getting out of a stale classroom with lights" (C3).

While engaging in her mindful nature experiences Mia noted that being indoors is more exhausting for her and that the fresh air feels great. She thought of nature and the natural environment as restorative. "I think it renews. It renews how you feel and how the kids feel. It helps everybody to breath better, feel better, have better wellbeing, gets blood flowing, fresh air, getting vitamin D" (M3). The fresh air in particular raised her body's sense of calmness and she mentioned that she always felt so much better after spending some time outside vs. the whole day inside the school. Fresh air and breathing was highlighted as part of her mandala as well. Mia explained the importance of this while she created her mandala:

I will start off with this [blue sheet with word web]. This took the longest with thinking about. It is everything that I reflected on. Mindful, calm, fresh air, and breathe are actually my base words. Part of that is why I bring kids outside. Especially it makes me calmer and makes them calmer. Breathing in the fresh air, being more mindful. (M2)

Lana and Grace made similar comments about their mindful nature experiences. Lana stated that one reason “you feel better [is] because you are getting more vitamin D and fresh air”(L3). Grace had also brought up the natural light, the fresh air and how it contributed to her wellbeing. She found herself “feeling more centered” and “breathing more deeply [in] the open space” during her mindful nature experiences (G1), but for her she thought this was related to the engagement of her senses:

You know, it is because you have all the senses. You have the sounds of the birds, you have space. And you have fresh air and a little bit of a breeze. All your senses are being used rather than being in bright lights, in a smaller room, an enclosed room, not fresh air. (G1)

Like fresh air and natural light, all four teacher participants mentioned that having the opportunity to move contributed to their sense of physical escape and freedom they felt when engaged with and in nature.

**Opportunity To Move.** The freedom to move during mindful nature experiences was important to teacher wellbeing in a direct sense. For example, Grace mentioned how teaching in and with nature increased her own movement during the school day which contributed to her health. “I move around more and am not confined to one small space” (G1). “Walking and not having to sit or stand in one spot. It feels good. There is less pressure, more freedom” (G1).

Lana also relished the break nature provided as opposed to spending so much of her day stationary. She stated that “your body gets a break from sitting in a chair. You are moving your body the whole time. You are exercising and increasing your cardiovascular [health]” (L3).

Mia relished exercise as well and makes an effort to incorporate movement into her lessons. By bringing her classes outside for activities such as dancing, drumming, and hoop games, movement was increased which upped her own stimulation, involvement, and enjoyment. She stated:

Well because you are moving...I feel really stimulated in this hula hoop unit because I am moving, and I am doing it. Once again there is obviously excitement and contentment. We are doing stuff and smelling the fresh air. (M1)

Like the three other participants, Claire linked being active with her own health stating “the exercise piece is really important for my wellbeing” (C1), but she focused more on how the freedom to move in nature was helpful to her students’ wellbeing “I feel like it is developing their physical health too. Body awareness and spatial awareness” (C1). The freedom to move was one of two oft mentioned physical space challenges found within the four walls of a classroom, the other being noise.

**Pleasant Soundscape.** Nature sounds and natural soundscapes have been increasingly identified as key pieces of a restorative environment aiding mental health and wellbeing (Francis et al., 2017; Ratcliffe et al., 2020). The perceived pleasantness of sounds is relevant as the properties of individual sounds are related to perceptions of restorativeness. For example, research has found that loud people and the sound of technology are considered draining, whereas the sounds of familiar bird songs and the wind are considered peaceful and uplifting (Pheasant et al., 2008; Ratcliffe et al., 2020). In the case of the teacher participants, nature provided a more peaceful environment by reducing certain sounds heard regularly in the classroom setting and replacing some of these sounds with pleasant sounds. This relates to the

concept of relative tranquility. Pheasant et al. explain that a peaceful or “tranquil space” involves a reconciliation between mental space and the physical and social spaces we work and live in and that the “extent to which a place is considered to be tranquil is defined by how much individuals think a particular setting is a quiet, peaceful, and attractive place to be, i.e., a place to get away” (2008, p.1446).

Teachers certainly were attuned to bird song and they enjoyed the sounds of nature emphasizing how teaching with and in nature buffered and reduced unwanted student noise. For instance, because Mia often works with students in groups in her fine arts classes she found student energy and volume outdoors easier to deal with because students can be loud and it does not matter. She explained:

When kids are in groups they are mixing with their friends, it is exciting. Even if they are with people they don't know as well there is this anxious excitement. In small groups there is more energy, excitement, and more volume. So as a teacher even though I expect it a little more coming from my room, I am respectful of the classes down the hall. But when we are outside they can work in small groups. In fact, like when they do air bands I kick them outside and say go...As a teacher it is definitely easier not having to worry about that noise. (M1)

Grace was quite specific about how teaching with and in nature helped her cope with the noisiness of her students which she thought negatively impacted her wellbeing on a daily basis. She explained that when they were outside it was not as loud because the noise dissipated. This is contrasted to inside where

...on a regular basis [she] would say to a few of them 'you need to turn your volume down. Your volume is set for outside. You need to turn it to inside.' I don't have to say 'SHHH' all the time... I didn't notice saying 'turn your volume down.' I don't have to say, 'stay in your seat,' 'eyes on me,' 'focus.' (G1)

While continuing to discuss her loud class, Grace described when she was teaching in nature she also avoided her body getting tighter and tighter, an anticipatory response of knowing that she will need to quieten the class down again when the noise level increases in her classroom.

Like Grace, Lana felt like student noise was detrimental to her wellbeing and that teaching in nature benefitted her mental health by reducing this noise along with associated constant interrupting. Lana explained how this played out during their class hikes:

They are still interrupting, but it is different because you are outside and there is more freedom, and they can talk the whole time. So when I stop to teach them something, I get them all quiet to listen and they don't interrupt the same way. There are adults and they are standing up and they are stimulated by just being out there. They are breathing heavily. It is just different -they don't interrupt me the same way. I don't think it is healthy, teachers don't feel healthy because no one is ever listening. We don't feel listened to. (L3)

Lana had made similar references to student noise and interruptions in her first interview in which she emphasized that teaching on the hikes was easier for her. "Honestly, it is easier. The kids aren't in desks and...they can be as loud as they want" (L1).

In addition to hearing the restorative sounds of nature, participants shared that teaching with and in nature was important for them because it allowed loud student voices to dissipate,

and removed teacher worry of creating too much noise for other classes or noise-sensitive students. All of which benefited these teachers' mental health and wellbeing.

The mindful nature experiences chosen by each educator offered a get-away from the four walls of their classrooms bestowing them with fresh air, natural light, freedom to move, and more pleasant soundscapes. This highlights how the environmental context that teachers work in impacts their wellbeing in numerous ways related to physical space. The elements of escape do not end there however because the context of a teacher's physical work environment can also impact mental pace, as indicated in participant interviews and discussed below.

### ***Mental Escape - Pace***

Participant teachers reported that nature helped them set a peaceful pace, slowed down their busy minds and provided a needed mental break. While engaging in their mindful nature experiences teachers felt like they were able to get away from pressures related to to-do lists, deadlines and perfectly organized lessons. While Mia and Grace alluded to it, Claire and Lana made a point of stating that their time teaching with and in nature always felt like it was up too soon.

Finding that nature is capable of slowing down busy teacher minds aligns with other nature-related studies that indicate nature can provide a mental break and reduce rumination (which is repetition of thoughts focusing on the past or future). For example, a neurobiological study conducted by van Elk et al. (2019) using both phenomenological reports and MRI scans of the brain indicated nature decreases activation in brain areas related to the Default Mode Network which involves mind-wandering and self-referential rumination. Another neuroscience

study by Bratman et al. (2015) examining brain activity along with self-report measures found that nature experiences reduce maladaptive thoughts that occur during rumination. Data such as this indicate that one's reaction to nature can be considered responsible for reductions in ruminating thought which could explain why the teachers felt that their minds slowed down and that their pace slowed. Kaplan's (1995) Attention Restoration Theory explains that the captivating, immersive, and attention-grabbing qualities of nature all reduce one's proclivity to ruminate. Further to this, one's openness to experience and intentional awareness are considered to be predictors of the intensity of how we experience nature (Silvia et al., 2015; van Elk et al., 2016) and being that each teacher was specifically asked to attend to their experiences using the Triangle of Awareness and all their senses, we can posit that their awareness was likely to be heightened to the qualities of nature, thus offsetting rumination tendencies. From studies investigating the consequences of a slower mental pace, we know that this particular effect of nature allows one to be more present and does indeed impact wellbeing beneficially (Howell et al., 2011; Zhang, Howell & Iyer, 2014).

Grace, Lana, and Claire spoke about how nature slowed their hurried mental pace during the school day. For Grace, this was quite important for her wellbeing because regularly when she was teaching she would catch herself breathing shallowly. This related to her feeling like she was always in a hurry during her workday. She noticed that during all her mindful nature experiences she breathed deeper and slower:

I was breathing deeper, not as shallow. Just noticing the breeze on my face and body.

Breathing in more deep. Deeply. [Feeling] calm. More peaceful. Things were slowed down

a little more. And being in an open space, right. And being excited to have all those sensations. Rather than being indoors. (G1)

Grace explained that the slower pace provided by their experiences at Discovery Forest and the class garden took away pressure and self-imposed deadlines which benefitted her “mentally too because you don’t feel as much pressure for things. There aren’t really deadlines then” (G1). In her third interview Grace connected the slower mental pace of her mindful nature experiences with her ability to respond thoughtfully to her students. She noticed that she was able to “actually respond rather than just react” allowing her to be “more thoughtful in [her] responses and just being slowed down with the kids” (G3). Grace emphasized that that was part of what she needed to be the kind of teacher she wanted to be.

Lana was also aware of the never ending to-do lists that paraded through her thoughts. Lana made a point of stating that when she was creating her mandala her busy mind slowed down and she was able to remain more present:

My mind isn’t elsewhere. My mind is not buzzing with everything that I have to do. My mind sort of stopped thinking about everything. I am always in a hurry. You know, it’s because I always have too much on my plate. So, it’s like a little escape from that, that kind of thinking where you’re – I gotta get this done, I gotta get this done or this will happen. It is a break. My mind kind of goes blank, let’s put it that way. Like a blank feeling where you just let your mind rest for a bit. (L2)

Claire made a similar comment. She shared that her mindful nature experiences allowed her to get away from her mental list of must-dos that run through her head when teaching

indoors. Claire explained that “in a school you can get so caught up in getting this done and getting that done and doing this”(C3) whereas when she involved nature this fell away.

These explanations of how nature helped teachers set a peaceful pace also connected to the sense of getting away from pressures associated with perfectly organized lessons.

Nature was also mentally freeing when it came to planning and teaching lessons. Claire’s lessons evolved easily as she followed the kids lead when they were engaging with nature which took pressure off her to plan every last second of the day. “It just magically evolved. That is the one thing I like about going over there. I never really plan anything. I always have little things that I do, but I just kind of follow the kids lead that day” (C1).

Lana echoed this sentiment stating that nature helped her teach because it encouraged the kids to lead, allowing her to step back with planning and teaching lessons which in turn benefitted her mental health:

I think the mental health piece is so important. It is MY mental health too. I mean it is a hard job. It is exhausting. You are always on. Maybe it is my style. I talk too much when I teach. I have been trying for a long time to let them lead...I look forward to that [hiking] day. It is just freer. I don’t have to follow the clock so closely. I don’t have to be on in the same way. I am on in terms of keeping them safe. I am more on about keeping them safe and following the safety rules. But when it comes to teaching it is a lot more free flowing. Like ‘get into your discussion groups, and here is the topic’. They can all talk at once and everyone can hear each other, right. They are leading more. (L3)

Lana found her mindful nature experiences to be more free-flowing and freeing in terms of planning and teaching leading to a slower mental pace and feeling of escape.

Considering the freedom that was associated with each teachers' mindful nature experiences it wasn't surprising to hear that the time spent in nature was up too soon. Claire recalled that "we didn't want to go back" and Lana had comparable experiences in which the time in nature flew by. From Lana's perspective, her students felt similarly to her. "They get it. They don't want to leave. They don't want to leave there. It is just so pleasant" (L3). Teachers and students alike recognized that spending part of the school day learning with and in nature was a welcome change. This leads to the third finding where we learn from participants that their mental health and wellbeing was also influenced by their students' wellbeing and that nature played a role in magnifying this link in a beneficial way.

### **Theme Three: Nature Magnifies Mental Health and Wellbeing Links Between Teachers & Students**

Teachers felt an additional boost to their mental health and wellbeing when they observed how their chosen mindful nature experiences impacted their students positively. Understanding that there is a bidirectional link between teacher wellbeing and student wellbeing is a key piece when considering how mindful nature experiences contribute to teacher mental health and wellbeing because as students feel better, act better, and learn better, teachers do too (Aldrupt et al., 2018; Aloe et al., 2014; Guardino et al., 2019; Hagenauer et al., 2015; Skaalvik & Skaalvik, 2010). Additionally, we know that teachers are more apt to flourish if they believe they are making a difference in their students' lives (Cherkowski & Walker, 2018, 2016). These two points are reflected in participant stories where teacher participants perceived that their students benefitted from interacting with and in nature and as a result teachers felt increased happiness and a marked sense of achievement relating to their

role as educators. It is in this way that the positive effects of nature appeared to be magnified for teachers. This finding relates to both eudaimonic (psychological and social) aspects of teacher wellbeing – living a meaningful, fulfilled life, and hedonic (emotional) aspects of wellbeing – positive emotion, which taken together constitute mental health.

To better comprehend how nature magnifies mental health and wellbeing links between teachers and their students in a beneficial way this theme is divided into three sub-themes (Table 7). Beginning with the first sub-theme, I discuss teacher awareness and attentiveness to student wellbeing during the mindful nature experiences. From here we are invited to see and hear through teacher participant eyes and ears to understand how teachers perceived student engagement with and in nature to be beneficial. It is from this foundation that we then turn to participant teacher explanations that highlight how teacher wellbeing is magnified by students' wellbeing during mindful nature experiences.

Table 7

*Mindful Nature Experience Benefits: Theme 3 and Sub-themes*

THEME 3	SUB-THEMES
<b>Nature Magnifies Mental Health and Wellbeing Links Between Teachers &amp; Students</b>	<ol style="list-style-type: none"> <li>1. Awareness Of and Attentiveness To Student Wellbeing</li> <li>2. Perceived Student Benefits of Teaching and Learning With and In Nature               <ol style="list-style-type: none"> <li>a. Positive Emotion</li> <li>b. Increased Levels of Engagement</li> <li>c. Prosocial Behaviours</li> </ol> </li> <li>3. Teacher-Student Wellbeing Links</li> </ol>

### ***Awareness Of and Attentiveness To Student Wellbeing***

Asked to attend to their mindful nature experiences using the Triangle of Awareness, participating teachers were able to notice and reflect upon a number of inner and outer observations in detail. While they were not told to specifically focus upon or comment on their students' involvement with nature they demonstrated that were very attuned to what and how

their students were doing. Teacher awareness of and attentiveness to student wellbeing is highlighted by the great detail provided in the quotes found under positive emotion, increased level of engagement and prosocial behaviours sections of this finding. Attunement to this degree is likely related to the aforementioned bidirectional link between students and teachers, but also could be further explained by Hay, Roberson, and Lawrence's work (2015) which found that being in nature heightens attention, increases awareness, and evokes an ecological responsiveness that helps cultivate attunement and stimulate reflexivity. Heightened attention and increased awareness are also products of mindfulness and combined together with nature the two may work as a matrix supporting wellbeing as they help us remain 'present' and in the moment (Wolsko & Lindberg, 2013). While there was variety between participants in where they directed their attention between their thoughts, body sensations, emotions, and senses, there was consistency with all teachers being very attuned to their students' emotions and behaviours as described below, which is relevant to this finding. Through awareness and attentiveness to their students' interactions with nature, teachers noted higher levels of happiness, engagement, and prosocial behaviours amongst perceived student benefits. These benefits are expanded upon by all participant teachers in the following section and can be related to their aims as educators.

### ***Perceived Student Benefits of Teaching and Learning With/In Nature***

With teachers responsible for and actively working towards growing student wellbeing at school, teachers took note of the benefits to students of teaching and learning with and in nature. These benefits align with teacher goals of helping their students feel better, act better and learn better, thereby making a appreciable difference in their lives. Many teachers consider

student wellbeing to be characterised by engagement with learning, their satisfaction with life at school, and their social-emotional behaviour with optimal mental health and wellbeing indicated by “predominantly positive feelings and attitude, positive relationships at school, resilience, self-optimization and a high level of satisfaction with learning experiences” (Roffey, 2012, p.9). These considerations are reflected further below in the comments made by teacher participants who noticed their students displayed positive emotion, became more engaged, and demonstrated prosocial behaviours (i.e. helping, cooperating, concern for others) when involved in the mindful nature experiences. Of note, the students in the teachers’ classes lacked diversity as they were predominantly white middle-class children. None of the four teacher participants mentioned having a First Nations student or students of other races/cultures in their class.

**Positive Emotion.** Similar to Finding #1 which explains how nature nurtured participant positive emotion, all four teachers perceived that student positive emotion was also built and broadened in nature, resulting in elevated student happiness, joy and excitement. Grace explained:

I just notice that whenever they go there, to them it seems like Christmas morning. They are just so excited they, you know, especially if I let them run for 10 min on the trails. Then they break off and maybe climb. There is a tree there that they can just climb - it is not very high off the ground. There is one tree that they like to go under, and they wanted me to take pictures of them in there. And go into the barn and check out all the pictures in there. It is like that. It is like a fun place. The trails and places to hide and run and explore. (G1)

This is echoed by the other teachers. For example, Lana bubbled, “the kids change and light up out there” (L3). Lana shared photos and videos of what this looked and sounded like. She explained why she thought her students lit up so much in nature:

I think that naturally, when you get kids out into nature something happens, and they become calmer and happier. I feel like that is where they should be. They want to climb trees. They want to run around. They want to play. They want to chat. They want to lie in the dirt. They want to get muddy. It is just natural. So, it is kind of magic that way, I guess.  
(L1)

She further explained that during her mindful nature experiences “there is a lot of laughter” from all including the

...worst behaviour issue kid that has everything - ADD, OCD, and all these mood disorders. He’s up down up down. He’s such a sweet little kid but he get these temper tantrums and rampages the room...He is so much happier and more curious out there. Part of my wellbeing is just seeing the kids happier. (L1)

Mia also mentioned that her students often ask when they can do the class outside. During her mandala experience she reflected that “they are just excited to be out there” (M2). Mia was very aware of their laughter and energy and purposely wrote these words in large letters on her mandala word web as can be seen in the pictures of her mandala.

Claire emphasized that her class loved to be outside and explained that her first mindful nature experience that occurred after a freshly fallen snow evolved like magic, bringing happiness to all:

It just magically evolved...The biggest thing that I kept writing down is the excitement, the cheering. As the snowball got bigger, they got more excited. They are 5 and 6 years old. Just that joy! The innocence...When you see that and when you see that and hear that you feel it yourself, right. The way the kids are reflects on how you feel. (C1).

Positive emotion, one aspect of student wellbeing that teachers were attuned to, then led to teachers mentioning the high level of absorption students had when learning in nature.

**Increased Levels of Engagement.** Participants reported that their students were engaged, focused, motivated, and curious during the mindful nature experiences. Mia believed that the level of engagement was directly related to being outside in nature:

Just the fact that they are engaged, and they want to be doing it. A big part of that is because they are outside. I just find, I mean typically the kids in my room are engaged, but when we are outside they are even more engaged. I think part of it is that they are in a different space. But the other part of it is they are getting all the senses too. They are smelling the fresh air and feeling the breeze. (M1)

Mia chose to share a hoop dancing photo as one of her mindful nature experience artifacts, specifically because it showed student engagement:

I chose the hoop one because it is a larger group photo, but I love to see that when the kids are doing these sorts of activities. If you look at every single photo. They are all engaged. That is the nice thing about the arts and outside. Them being engaged might look different, their own image of engagement might look different depending on the child. But they really are all engaged. That is one of the things I love best about the arts and outdoors. (M2)

Lana too recognized that all her class had higher levels of engagement when learning in and with nature including the children with attention issues and behaviour challenges. Students played, explored, touched objects of interest, and collected items. They demonstrated interest in a variety of ways:

There are those really tactile kids that love building things, you find out right away who those kids are because they pick up stuff, they start building stuff. They start putting twigs together, they start finding logs in a certain shape. They always have stuff in their hands either collecting it or wanting to build something with it. (L1)

Claire noted that her kindergarten students were highly engaged during all three mindful experiences. Given freedom to play and explore they kept themselves busy for forty-five minutes each time. For example, Claire described how focused and engaged her students were with nature during their third experience, which she titled 'Rediscovery.' Some of her students were away ill and she did not have any other adults to help her that day, so it was just Claire and sixteen 5 year olds:

All the snow had melted and so they went back to the trees. It was all about rediscovering trees and sticks. What they noticed was what was hiding underneath the snow. They were happy to start climbing the trees again and gathering the sticks...Back to a different kind of different kind of playing. Rediscovering the forest. They talked about the deer poop that day. For so long the grasses were trampled, the stumps were covered so everything was clear again. They climbed trees. The interesting thing I wrote that day was because there were so few kids I didn't even interact with the kids that day. I let them go, I mean I went around and saw what they were doing. (C1)

Grace also noted that her students were eager to explore while they were at Discovery Forest and “they were excited to learn about [the person who donated the property] and see all the things in the barn” (G1). A number of children ran to tell Grace what they noticed, learned and found when they looked in the barn and ran on the trails. Students were self-motivated to learn and they engaged with nature with a positive mindset which noticeably spilled over into their interpersonal interactions as well.

**Prosocial Behaviours.** Teachers perceived that their students demonstrated more prosocial behaviours such as kindness, acceptance, helpfulness, and cooperativeness during their mindful nature experiences. During their first mindful nature experience with the impromptu snowman building Claire emphasized how well all the children worked together:

The kids started rolling the snow and then they realized that it was perfect weather for rolling it. Then it was then how many kids do they need to roll the snowball, some needed 3-4 kids. Then it turned into everybody wanting to make snowmen. The next thing you know, I had two parents that day, is all these kids making snowmen in the forest and finding things to make them from. For the next 45 minutes that was what the focus was. You know the simplicity of going to find some twigs and what can we use for...there were no rocks, so they were finding pinecones or sticks and using what is around you. The biggest thing for me that day was seeing the teamwork with the kids. The way they worked together. There was no fighting. (C1).

Grace found her mindful nature experiences contributed to prosocial behaviours as well. She had quite a few boys with behaviour issues in her class and was so happy that all her

students, even her kids with self-regulation issues, were well behaved during the mindful nature experiences. She had imagined it differently:

Well I have quite a few very immature boys that would probably make not the best choices. [I thought] they would come across those logs and try to put them down another one's pants or shirt or throw it at them. I have quite a few boys working on self-regulation. The problem is when they get together, well there aren't as many role models, so they are modelling after inappropriate behaviour. (G1)

Instead of this scenario occurring, Grace found her students to be good listeners, respectful, and cooperative. She thought this was "because they REALLY want to be there" (G1).

Mia also noticed the engagement and energy levels of her students, and how they got along. She spoke about it while she was creating her mandala:

I just find that outside it is more positive. First of all because they are engaged, but secondly because, I feel like they can be more energetic. So it is more positive. I find that with them being engaged is it pretty good. The energy is usually good. (M2)

Lana believed that her nature hikes were important for socialization. "They calm down by it. They come back they are calm. They get all their socializing out; they can be together. I just think that it is so valuable." (L1). This observation by Lana was in sharp contrast to the poor social behaviours she described in the classroom where she commonly found herself intervening during student arguments.

A number of studies support the teacher participants' perception that their students' wellbeing benefitted by learning with and in nature. For example, Davis et al.'s (2021) review of forty-five studies indicated a positive correlation between exposure to the natural environment

and childhood mental health and wellbeing. Specifically, these studies indicated that the children were happier, had improvements in self-esteem and physical health, felt more satisfied, were more attentive, had less aggressive behaviour and hyperactivity, and demonstrated prosocial behaviour when they engaged with nature. This aligns with other studies which found that nature experiences deepened a sense of inclusion, connection, and belonging thus enabling students to form supportive social groups and studies in which teachers reported perceived benefits to mental, social, and emotional health and wellbeing of children involved in nature based activities (Chawla et al., 2014; Lam, Romses & Renwick, 2019; Maller & Townsend, 2006; Maller, 2009).

Establishing how teachers perceived student engagement with and in nature to be beneficial, we can now turn to participant teacher explanations that highlight how their own wellbeing was mediated by their students' wellbeing during their mindful nature experiences. It is here that we learn how the positive effects of nature were magnified for teachers due to teacher-student wellbeing links.

### ***Teacher - Student Wellbeing Links***

Considering that teacher-student relationships play an impactful role in teacher wellbeing, strengthening this connection is thought to support teacher wellbeing (Aldrup et al., 2018; Klassen et al., 2012). Building strong teacher-student relationships is a common goal of educators and often becomes an aspect of their professional identity which leads to work enthusiasm and enjoyment (van der Want et al., 2014). When this relationship is lacking teachers have reported feeling rejected and dejected (Hargreaves, 2000; Nurmi & Kiuru, 2015).

When teachers observed their students thriving and happy during the mindful nature experiences they felt a corresponding happiness and a sense of connection and achievement regarding their role as educators. Mia, Claire, Lana, and Grace all shared that when their students felt better, acted better, and learned better they felt better too.

Claire loved taking her class to the forested area because it was the happiest part of the week for everyone, including her. "It is just that excitement that the kids have, and the joy is the big thing. The joy that it brings you" (C2). She explicitly linked her wellbeing with her students' excitement. "When you see that and hear that you feel it yourself, right. The way the kids are reflects on how you feel" (C1). Later, while creating her mandala and manipulating the pinecones and branches, Claire spent some time considering her role as an educator. As shared, she realized that by providing opportunities for her students to connect with the natural environment she was helping them thrive which made her feel great:

Obviously when we go over there we have really positive experiences. That was really positive! I felt good about that. Very metaphorically speaking, in a sense I guess, when I found the seeds I was thinking that that is what we as teachers do. We plant seeds and obviously we want kids to grow and we nurture them. And then at the end we hope that we give them wings and teach them how to fly, right. I thought a lot about the kids as I was doing it. Just how much I cherish the times that we go over there. Because the kids love it. They are happy there, right. They love being there. There is excitement in their voices. There is always something new to learn... I love just listening to the kids under the trees. That made me think about that. (C2)

Mia, Grace, and Lana expressed similar sentiments to Claire. Mia stated, “I usually feel what my students are feeling. If they are doing well then I am too. And vice versa” (M2). During her first interview she also related this to her effectiveness as a teacher and explained what she meant by this using the drumming experience as an example:

Definitely with this particular one, hearing the kids singing and the drumming. Umm, it just. I don’t know. I don’t know how to explain what it makes me feel. It makes me feel like a sense of achievement or something. I don’t know how to explain it... Probably there is an emotional feeling too. Feeling like. They are happy out there and they are engaged. I then feel like I am more successful as a teacher. (M1)

Grace mentioned that she felt good during her trips to Discovery Forest because her class was excited, engaged, and well-behaved. “They were hearing the expectations and what I wanted from them. And them being excited about it was good.” Grace also felt a deepened connection with her students while she told them personal stories related to Discovery Forest. The Land held memories for her that she was eager to share based on her students’ reactions:

It was fun to share my memories and have the kids listen and get excited about that [her personal story]. Just to see them showing that respect and interest for the area that they were at. Just to see how appreciative they were [for the Land]. (G1)

Surprised and pleased about the level of respect her students showed, Grace was inspired to continue connecting with them in a very personal way through her land-based childhood stories.

Lana said that “part of [her] wellbeing is just seeing the kids happier” (L1) and by taking them into nature to learn they became happier and more energized together. Trying to explain

what she meant by her mindful nature experiences strengthening teacher-student links, Lana became quite animated:

YOU WILL NEVER GET THE SAME LEVEL OF BONDING! There is only so much bonding that you can do with your class and understanding their individual personalities and needs. They will walk with you and tell you so much stuff that you would never learn. You become so much closer to them because they have a chance to just share. So there is that part of mental health. A lot of times they are fighting to be up front like you can't get past me and then you realize they are trying to connect. They are trying to share and tell me. It is their chance to tell me. When are you ever going to do that in a classroom setting? Never. (L3)

Through their stories all four teachers openly communicated the impact their students' wellbeing had on their own wellbeing. While diverse in terms of activities, their nature experiences brought everyone joy and helped the teachers feel like they were making a difference in the children's lives.

Hearing participant teachers explain how their wellbeing was influenced by their students' wellbeing aligns with research on emotional contagion, which is the tendency to inadvertently adopt other people's emotions (Becker et al., 2014; Hatfield et al., 1994; Hawk et al., 2009; Oberle & Schonert-Reichl, 2016; Van Kleef, 2009). Teacher explanations also align with an expansive number of studies investigating links between student behavior and teacher wellbeing (Aldrup et al., 2018; Aloe et al., 2014; Hagenauer et al., 2015; Skaalvik & Skaalvik, 2010). For example, Aloe et al.'s (2014) meta-analysis on the correlation between student behaviour (which includes motivational behaviour perceived as level of engagement, social, and

emotional behaviours) and teacher wellbeing found that teachers report an increase in stress and poorer wellbeing when they perceive student behaviour as inattentive, disrespectful, and disengaged. These negative student behaviours correlate with elements of teacher burnout such as emotional exhaustion and lack of personal accomplishment (Aldrupt et al., 2018; Hagenauer et al., 2015; Skaalvik & Skaalvik, 2010).

This finding explains how nature magnifies the mental health and wellbeing links between teachers and students in a way that results in mental health and wellbeing boosts to teachers. Teacher participants were attuned to their students, aware of how they were feeling, acting and learning while engaged in their mindful nature experiences. Seeing and hearing positive emotion, engagement, and prosocial behaviour, teachers perceived that their students benefitted from interacting with and in nature. As a result, teachers felt increased happiness and a marked sense of achievement relating to their role as educators. This demonstrates a third way that mindful nature experiences offer mental health benefits that contribute to a teacher's sense of wellbeing and is a segue way into the fourth finding which outlines nature's ability to deepen connections.

#### **Theme Four: Nature Deepens Intrapersonal, Interpersonal & Curricular/Learning Connections**

Mindful nature experiences appeared capable of deepening connections for these teachers in three main ways which contributed to their mental health and wellbeing as described in each of the three sub-themes (Table 8). Participant teachers spoke about how nature helped them reconnect with their sense of self, enhanced relational connections with those they worked with and for, and provided curricular and learning connections for students. They believed these, in turn, made their lives easier as teachers. Beginning with deepened

intrapersonal connections with their sense of self, chosen mindful nature experiences helped teachers discover more about their own values and wellbeing needs. Participant teachers also found that their interpersonal relationships were strengthened with their students, as were their relationships with their students' parents and education assistants. Finally, participants noted that curricular and learning connections were deepened as nature acted as a teaching partner bridging mindful nature experiences with curriculum content and competencies.

Unforced cross-curricular opportunities arose naturally allowing students to connect with their learning across subject matter in a variety of ways. Taken together, the intrapersonal, interpersonal, and curricular/learning connections that were deepened through participants' mindful nature experiences led to mental health and wellbeing benefits as explained in each section below.

Table 8

*Mindful Nature Experience Benefits: Theme 4 and Sub-themes*

THEME 4	SUB-THEMES
<b>Nature Deepens Intrapersonal, Interpersonal, and Curricular/Learning Connections</b>	1. Intrapersonal Connections 2. Interpersonal Connections 3. Curriculum and Learning Connections <ol style="list-style-type: none"> <li>a. A Kindergarten Perspective</li> <li>b. A Grade 4/5 Perspective</li> <li>c. A Grade 3 Perspective</li> <li>d. A Prep Teacher Perspective</li> </ol>

### ***Intrapersonal Connections***

Teacher participants expressed that their mindful nature experiences helped them deepen connections with their sense of self leading them to discover more about their own values and wellbeing needs. The restorative and reflective nature of their experiences prompted participants to look at their personal and work lives in a different context and make

connections between concepts that were possibly not considered in depth before. This aligns with Kaplan and Kaplan's (1989, p197) research on nature and attention which found that "a deeply restorative experience is likely to include reflections on one's life, on one's priorities, and possibilities, on one's actions and one's goals" and Svendsen et al.'s (2016) work which pointed out that personal experiences and interactions with and in nature can help uncover an individual's values and make meaning. Meaning making was very personal for participants. For example, two teachers, Lana and Grace, mentioned that their spiritual connections were deepened through their mindful nature experiences. This observation ties to Indigenous knowledge linking nature with spiritual wellbeing (Armstrong, 1995; Cajete, 1994; Kelly, 2019; Wagamese, 2016). Emergent Western research also supports the claim that nature can also contribute to a sense of spiritual wellbeing (Heintzman, 2009, 2010; Irvine et al., 2013; Svendsen et al., 2016). All four teachers highlighted how the reflective capacity of their mindful nature experiences supported their intrapersonal connection-making which strengthened their overall wellbeing, as shown in the quotes below. The concept of reflection has long been employed in the field of teacher education and teacher professional development as an important step in improving teaching practices, helping translate experience into learning and boosting self-awareness (Dewey, 1933; Leitch & Day, 2000; Loughran, 2002). In this section we learn from each teacher in turn about the ways in which their mindful nature experiences helped them reconnect with themselves to strengthen their mental health and wellbeing.

Lana found that her mindful nature experiences provided valuable time for reflection which allowed her to connect with herself in a variety of ways including her physical, spiritual, psychological and emotional wellbeing. She shared:

I guess it makes me feel strong. Not just physically. It is more like spiritual. It is more like umm. I'm not sure what words to put to that. Umm. It is more like energy. You are more alive... So I guess, connect to yourself. It just gives you time to reflect. I mean, I reflect about the week of teaching when I am out there. (L3)

Lana expressed that as a result of these experiences she was even more committed to outdoor learning and teaching and could now confidently explain how the kids were getting what they needed by including nature in her programming. She also pointed out that she realized how important the mental health piece was for her own wellbeing as a teacher too:

Well it [the mindful nature experiences] helped me reflect on it. I mean, WHY I am doing this. It kind of helped to solidify or confirm why I am doing it. I have never sat down and thought as deeply about it. I just know that I like it...And it has made me realize that I am really proud of it...I didn't really think that before. It was always more I am the only one doing this, should I be doing this? It really does make you feel like you are breaking away from the usual. (L3)

In addition to the benefits of reflecting about her values, Lana found that there was also something of a spiritual connection for her in nature which related to her strong belief that she was doing something important for her students by incorporating nature into the school day:

As soon as I hear the water...I get a tingling in the body. I even get an emotional reaction. So I think we are connected. We are made of water and minerals that are in the ground. If they [kids] don't have any time in nature and there is no appreciation for nature I don't know, we are changing into something we are not. But I don't know if anyone else gets that – those feelings. (L3)

Grace actually got those embodied feelings related to spiritual wellbeing too and found that her mindful nature experiences allowed her to connect with her sense of self and helped her create meaning. Recognizing that nature enhanced her embodied awareness and sense of “knowing,” she felt that nature helped her be a better teacher because you “need to be tuned into yourself to be able to do the job best for the kids.” Grace aimed to respond thoughtfully to her students instead of reacting. Having a calm, patient manner was a critical part of her teacher identity. She shared that she was drawn to trees in particular as they helped her focus on these important things. While creating her mandala Grace figured that the use of her senses helped her connect with herself and engage with nature more, and also helped her connect to her memories. Without mentioning the word ‘metacognition’ Grace described how nature helped her reflect and connect with herself:

You know sometimes when you work from the back. When you are out there and are experiencing it. But then going backwards I think. I don’t know if I am explaining this. Working back to find out where these feelings are coming from. Like doing something like this I wouldn’t have thought those things. So kind of working from the end, back [coming full circle]. So you experience it but then you think about how and why they are evoking these feelings. Thinking about your thinking, right. Rather than just going in and not being so aware. Like being aware you are feeling it, but not why. (G2)

For Grace, this awareness was physical, emotional, and spiritual as nature helped her with those connections. Grace struggled to explain what she meant by nature helping her connect with her spirit, but the creation of the mandala helped her get her point across:

Like the physical part is separate from my soul I guess. So just having that awareness and that connection. You know, when I meditate and you get things. Well for me anyways, that connection to a higher source. Feeling connected to my source which is not physical but spiritual. Guiding me in that direction. When you get really busy sometimes you can't hear that source. You can't hear it because you are too far HERE. (G2)

She explained that nature's stillness and quietness helped her do this and enabled her to know the difference between just thinking a thought and embodied knowing.

Nature allowed her to connect

...more with feelings. It is hard to explain. Kind of just a knowing. A knowing and a feeling...like when you feel joy or peace. It is just a connected feeling [that] comes from within. I feel it so I know it when I feel it. For me it's just I KNOW it. And I know how to get there if I am not. (G2)

When I asked if it was easier to connect to this aspect of herself in nature she answered "Oh for sure. Well that is where that is. It is in nature" (G2). For Grace engaging with nature, as she did in her mindful nature experiences, was identified as a key ingredient to her happiness and helped her make meaning in her life.

Mia realized just how important the outdoors was to her as a result of her mindful nature experiences and in recognizing this vowed to become more purposeful in including outdoor experiences for herself as well as the kids during the teaching day. She believed that these experiences impacted her wellbeing most by providing her with time to reflect. In fact, she highlighted this because reflecting was not something she typically made time for:

It allowed me time to reflect. I know that the one component where I wrote down all the main words [for the mandala], that was the biggest piece. Just thinking about the outdoors. I have actually now, I know I have been purposely doing things outside. I think about how much I love the outdoors. (M3)

Mia understood that reflection was strongly tied to her mandala creation experience and it reminded her of the benefits of reflecting. “It kind of triggered that – I thought Oh right – yah, reflection” (M3). Remembering the value of it for her, she shared that she was going to make the effort to continue to reflect somehow. Creating the mandala brought forward thoughts on personal growth and Mia recognized that part of her wellbeing was connected to learning new things and helping others. While gazing at her eco-mandala and gently touching her artifacts Mia stated:

I think the most significant thing is learning a new activity and then reflecting- it [her third mindful nature experience] went really well. So just seeing this makes me kind of happy. While you are learning I am learning too. I had to reach for something that was new...it allowed me time to reflect, but I also knew that I was helping you with your work and education, discovering something new, and collecting all these items. I guess part of wellbeing is also growing and feeling emotionally well. It made me feel better. Personal growth would be part of learning. I know for me learning has always been a huge part of who I am. (M2)

Mia’s mindful nature experiences helped boost her self-awareness, set new goals, and recognize how much being in nature impacted her wellbeing.

Like the other teacher participants, Claire felt that the restorative and reflective nature of her mindful nature experiences prompted her to consider what was important to her and helped her connect to what she considered to be one of her purposes as an educator. Claire had also not considered how nature influenced her wellbeing. Not one to think about herself much, Claire shared what the mindful nature experiences helped her realize:

I think the big thing was I realized what an important piece being outside is for me. I just really realized that is a piece that I can't get rid of. I need that not only for the kids, but I need that for me. When we go there it is not just for them, it is for everyone. (C3)

Two poetry quotes she incorporated in her mandala really helped highlight how teaching outside in nature was significant for Claire. While creating her mandala, Claire first took time to explain that she included a quote from Rachel Carson (1956) found in the barn during her third mindful nature experience. She felt that the quote spoke the truth about the importance of embracing a childlike curiosity of the world and nodded to her own desire of helping students connect with nature:

'The child's world is fresh and new, and beautiful, and full of wonder and excitement.' I kept thinking about that. And it says later on about 'rediscovering the excitement and the mystery of the world we live in.' And then when I saw these guys [maple seeds] I thought oh my gosh. I always think of the kids as giving them wings. Teaching them how to fly. You know the whole teacher metaphor that we give them wings and teach them how to fly and sowing seeds of knowledge. (C2)

These words tied to the items that Claire collected for her mandala and helped her vocalize that she was trying to nurture a love of nature in the children in her class. Also included in the

mandala was a picture of a second quote that she had reflected upon from the same mindful nature experience. Claire loved the words “Nourishment for the soul, Consolation for the heart and Inspiration for the mind” and felt they related to how nature contributed to different aspects of her own wellbeing. Overall, her mindful nature experiences elicited a realization that she was pretty content in her work and personal life.

Overall, teacher participants shared that they discovered more about their own selves including their values and wellbeing needs through their mindful nature experiences. The restorative and reflective nature of their experiences deepened these intrapersonal connections prompting participants to consider/reconsider goals and priorities. Nature’s ability to deepen connections for participants did not stop there as these teachers also noted how their interpersonal connections were strengthened. This is highlighted in the following section.

### ***Interpersonal Connections***

Participant teachers spoke openly about how interpersonal connections were enhanced during their mindful nature experiences and they shared the ways in which this impacted their sense of wellbeing. Participants told stories of how they perceived their interpersonal relationships were strengthened with their students, parents, and other adults they worked with. Considering that theme three detailed how these connections magnified the mental health and wellbeing links between teachers and students, this sub-section focuses on nature’s potential to deepen interpersonal connections with parents and support staff.

Reflecting on the need for belonging and based on the assumption that positive relationships impact human functioning and wellbeing (Deci & Ryan, 2002), finding that mindful nature experiences are capable of deepening interpersonal connections indicates that they can

contribute to job satisfaction and positive emotion (Hargreaves, 2000). It also aligns with research on teacher resilience (Day & Gu, 2014) which indicates that warm and close relationships within the context of work can help teachers cope with stress. Research focussing specifically on nature experiences has revealed that nature promotes social contact (Maas et al., 2009) and that the authentic, reflective, relational, and affective aspects of these experiences add to a sense of connection between people (Gray, 2018).

As mentioned, theme three was dedicated to learning from these four teachers about nature's role in deepening their interpersonal connections with students. In this sub-section we hear from two of the teacher participants that connections with parents have the potential to be deepened as well. Grace and Mia did not have parent helpers however, Lana and Claire had invited parents to participate and took note of their own connection with these other adults involved in their mindful nature experiences. Claire had a number of parents join the class during the first and second nature experiences. Keeping in mind that COVID prevented parents from being inside the school Claire observed:

Some were engaged and some just enjoyed it – to visit with each other. But you know the nice thing is when you do have lots of parents it is a time to connect with them because you can't connect with them this year. (C1)

She also agreed that it was easier to connect with parents outdoors because it was less of a formal environment to build a relationship.

Like Claire, Lana sought parent volunteers. Lana had parents join on their class hikes from time to time and there was always an open invitation for anyone to come. She felt her mindful nature experiences provided an opportunity for parents to connect with her and vice

versa, and also connect with the students because “parents can just come out and share their expertise.” This contrasts to “when parents come to the classroom, they are just so quiet and don’t say anything.”

Lana also had the support of an Education Assistant (EA) during all three of her mindful nature experiences and commented directly on how working together outdoors helped them connect. In the classroom the two of them are too busy to talk, but Lana explained that during the hikes “as soon as we get a chance to stop for snack time or an activity her and I can talk...I just realized that right now - part of mental health and wellbeing is also a chance to connect with other adults that you are working with” (L3). Lana was clearly aware of her strengthened interpersonal connection with her EA and made the link with her own wellbeing.

While Lana made a point of discussing the opportunity to connect with her EA, this sub-finding related to nature’s potential to deepen interpersonal connections with support staff is limited. Mia did not have an EA assigned to her during her three mindful nature experiences. Claire mentioned in passing that an education assistant joined her during one of their mindful nature experiences and Grace had invited a school support worker to join her on their first visit to Discovery Forest. No additional information was shared and I admittedly missed the opportunity to learn more about these relationships during the interview process by not asking follow-up questions.

According to participant teachers, mindful nature experiences hold the potential to promote social contact and add to relational development between individuals. These teachers noted deepened interpersonal connections with their students, as well as some parents and an Education Assistant that took part in the shared experiences. Feeling closer to others,

participants shared that their sense of wellbeing was improved. Teacher-student relational interconnections also extend into curricular enactment which leads us to the final section that discusses how deepened curriculum and learning connections relate to teacher mental health and wellbeing. Teacher quotes follow, highlighting a variety of grade level perspectives on how mindful nature experiences strengthen curricular and learning connections.

### ***Curriculum and Learning Connections***

Committed and caring teachers in British Columbia (BC), such as Grace, Claire, Lana and Mia, are dedicated to providing the best learning opportunities for their students with the goal of promoting their wholistic growth and intellectual, personal, and social development. In fact, BC's curriculum is designed to support this key goal of educators and represents a wholistic and unifying approach to learning. Teachers are bound by professional standards to follow the curriculum, and it is no secret that finding innovate and meaningful means and ways of supporting student learning is helpful when it comes to planning and teaching lessons. Teacher participants, always aware of connecting the learning to curriculum, pointed out how their chosen mindful nature experiences tied to BC's curriculum content and competencies.

Informed by the principles embedded in the Goals of Education, the Educated Citizen, and the First Peoples' Principles of Learning (FPPL), BC's curriculum model consists of Content (what students are expected to know), Curricular Competencies (what students are expected to do), and Big Ideas (what students are expected to understand). Core Competencies include intellectual, personal, social, and emotional proficiencies which cover thinking, communication, and social and personal competencies. The curricular competencies and content work together to form the learning standards which emphasize the deeper understanding of concepts and

application of processes more than memorization of information. Teachers have autonomy to combine the three elements in ways they see fit to personalize learning in their classrooms. Throughout this K-12 Curriculum document there are implicit and explicit references to Indigenous Knowledge and perspectives to aid educators in understanding where First Peoples' Principles of Learning intersect with the curriculum in every area of learning at every grade level. In addition to the emphasis on integrating Indigenous Ways of Knowing, highlights of BC's curriculum include personalized learning, representation of environmental learning and incorporation of place-based experiences into all areas of learning, and opportunity for teachers to create flexible, engaging, and innovative lessons. Cross-curricular competencies are considered an integral part of BC's curriculum and can be found imbedded in the curriculum.

With mindful nature experiences appearing to deepen curriculum and learning connections, the key goal of maximizing personal growth and learning gains for students felt easier to attain for these teachers. This ties to research as well as national and international initiatives focused on 21st Century learning which have indicated that environmental experiences can potentially enhance teacher efficiency and effectiveness as it involves an interdisciplinary lens (BC Ministry of Education, 2009). It is here that there is an important link because when teachers perceive that their students are learning and thriving under their guidance, and that their teaching goals are being met, their mental health and wellbeing is impacted positively (Aldrapt et al., 2018; Aloe et al., 2014; Cherkowski & Walker, 2016, 2018; Guardino et al., 2019; Hagenauer et al., 2015; Skaalvik & Skaalvik, 2010). This connects to teacher sense of fulfillment and purpose impacting their eudaimonic (psychological and social) hedonic (emotional) wellbeing. Participants told stories of how nature helped them make their

job easier when it came to planning and teaching and they shared how nature influenced learning because it encouraged cross-curricular connections and provided increased opportunity for inquiry-based, place-based, and student-led learning. Two of the teachers also noted that it was easy to tie Indigenous Ways of Knowing with their mindful nature experiences indicating the potential for MNE to contribute toward reconciliation. Incorporating nature and outdoor learning into the teaching day to improve student achievement through cross-curricular learning experiences is well recognized, however understanding that it can positively impact mental health and wellbeing makes it newly significant.

Hearing from participants that curriculum and learning connections are deepened doesn't come as a surprise as this finding aligns with a wealth of literature showing that nature-based learning is consistently associated with student development. Earlier studies commonly focused on academic achievement and/or physical activity, with more recent literature supporting gains in social-emotional development (Gray, 2018; Kuo et al., 2019; Louv, 2012; Rugel, 2015; Swank & Swank, 2013). Kuo et al. (2019) drew on scientific evidence from a large range of peer-reviewed studies to find that nature does indeed influence learning outcomes in direct and indirect ways to maximize learning gains possibly because it is calming and encourages connection. Learning gains have been noted in student focus, concentration, critical and creative thinking, prosocial behavior and attitude, and lowered stress and anxiety. For example, Eick (2012) found that engaging with nature outdoors provided a real-world context for children's learning that linked strongly with mandated curriculum while at the same time improved student attitude and memory retention. Wells (2015) also found that even the presence of nature surrounding schools predicted achievement in students. Nature does seem

capable of helping educators attain their key goals by providing learning opportunities that promote wholistic student growth connected to the required curriculum.

For the purposes of this finding, we focus on how engaging with nature strengthens curricular/learning connections as shown through participant quotes. Teacher participant perception that nature is capable of deepening curricular and learning connections is backed by empirical studies. Again, the key goal of maximizing personal growth and learning gains for students while attending to curricular requirements appeared to be aided through their chosen mindful nature experiences. Nature appeared to deepen curriculum and learning connections as it linked to and between curricular content and competencies. Participant teachers spoke how curriculum content and competency connections provided by nature allowed for flexibility and let them teach in an organic way. This was found to take pressure off them for planning and teaching. Each teacher provided her own grade related perspective on how nature became a springboard to interdisciplinary teaching and learning.

**A Kindergarten Perspective.** Claire spent some time in all three interviews discussing how curricular and learning connections were deepened. During her first interview she described her three mindful nature experiences and explained how the curriculum fit in:

And you can think about the curriculum too and all the things it [nature] hits...It's not like classroom learning which is so different. And maybe because I teach kindergarten I feel like I don't have to push a curriculum agenda because the flexibility of a kindergarten classroom lends itself so nicely to that. It lends itself so nicely to the curriculum too, right. Observations, seasonal changes... (C1)

While manipulating her pinecones and branches during her eco-mandala experience she was reminded of how her students just played together, laughing and talking under the trees using their imagination. This reflection led to her expanding upon what she said in the first interview:

There is always something new to learn and it's not like curriculum. I mean it is curriculum based in a lot of ways, like when we think about the new curriculum we are hitting a lot of the core competencies and all that, but it is not like I'm sitting there saying. 'Ok, today we are going over there to learn about the life cycle of the seed.' It is a different kind of learning experience I guess...It is not a prescribed lesson plan. (C2)

Claire admitted that she did not go to the nature area with a set lesson plan for her mindful nature experiences because she believed that the children were going to learn so much that a lesson plan was not necessary. She expanded upon this in her third interview:

Teaching kindergarten, the flexibility that K has you don't feel as guilty. Because so many of the K outcomes can be taught through it. You are hitting all the outcomes without feeling like you have to have the report or project when you get to the older grades. Or you feel like you have to hit some sort of outcome. (C3)

As a prior intermediate teacher, it was interesting to hear that she used to feel the pressure of a report or project when engaging with nature and does not anymore as a kindergarten teacher. It demonstrates the stress educators feel trying to cover the curriculum.

**A Grade 4/5 Perspective.** Claire's point regarding the curriculum pressure relates to an internal struggle that Lana shared while she was discussing how her class hikes supported the curriculum and vice versa in her third interview:

I am doing curriculum out there, right. There is this panic of trying to cover it. It is a bit better now because they changed the curriculum and reduced the content and now it is all competencies. So even more reason [to go on hikes]. It is all about competencies. (L3)

Lana went on to explain that it was easier for her to teach the curriculum in and with nature:

You are covering curriculum the whole time whether you are talking or not. I really think that. Think about how much they take in when they are in the classroom. I mean some kids do absolutely nothing. All morning. They don't accomplish any of the tasks, they are trying to socialize, they can't sit still, they aren't interested. The most boring concepts you are trying to cover become not boring if you do them outside. (L3)

After explaining about her three mindful nature experiences in detail during the first interview Lana emphasized that “there are so many different topics happening at the same time. There is socials, science mental wellbeing, math – fractions, art, art projects” (L1). “I don't have pretty units. I have topics and it keeps fluctuating” (L1). She explained that she considers what the students are interested in and what presents itself that day and tries to allow the students to lead. The use of a First Nations Ethnobotany Guide helped Lana tie in Indigenous connections with the Land, plants, and animals. Lana was convinced that her students' memories are better when they learn with and in nature. She attributes this to how they engage their senses. “When your senses are stimulated and you can smell and hear nature and when you touch things, whatever you are trying to learn your memory will be way stronger for it” (L3).

**A Grade 3 Perspective.** For Grace, creating the eco-mandala was an opportunity to highlight connections and it demonstrated how nature inspired her to teach in a cross-curricular way. Grace saw everything as connected and dependent on each other and spoke

about how nature prompted her to include a variety of interdisciplinary experiences related to the grade 3 curriculum. For example, the rocks she collected made her think about how the children ran to collect them during the two experiences at Discovery Forest and how she used them in the classroom. She explained:

We do activities with the rocks and the kids like playing with them. I have a book that I read to the kids about rocks - If You Find a Rock. I like collecting rocks and I use rocks in my class. I have this here [she lifted up a container filled with pretty rocks]. They use them for math. For multiplication. (G2)

Grace also took her time to explain why the types of seeds were included in the middle of her mandala:

I've got some seeds from the garden that we planted. We made little compostable pots to plant our bean seeds in, in the classroom. We are doing Jack and the Beanstalk stories. We are growing beans in the classroom and right now they are experimenting with the beans wrapped in paper towel. I found some STEM activities to do with Jack and the Beanstalk as well. So we are doing some science stuff and some math stuff as well.

The sunflower seeds, they harvested them themselves and took them off the sunflowers...We did that with C's class. Her class had them and they did seed selling. We helped harvest those seeds. We took them off and sifted them through and did a little bit of math to find out how much we made. The whole school is taking care of the garden, so we are all helping, right. (G2)

Grace felt that nature supported connection making things easier for her as a teacher and also helped the children enjoy the learning process:

You know, they say that you just want kids to have a love of learning, right. So. It is kind of nice to have that. It is a different kind of learning too. Not just a pencil/paper kind of learning. How important that is. (G3)

**A Prep Teacher Perspective.** Finally, Mia explained how the K-7 Fine Arts curriculum directed her teaching, but she allowed half of each class block in nature to unfold naturally. This reduced planning and direct teaching time:

Usually about 50% of it. I'll do like some kind of curriculum outside then I let them explore naturally. The other 50% is the structured curriculum content that I had preorganized to make sure that I am covering the curriculum. (M3)

Her eco-mandala creation experience provided additional detail on how nature helped her create a cross-curricular lesson. She had gazed at the student art and photos while placing them in her mandala and stated:

I love having art samples because they are so sweet. These kids didn't know that they were drawing for dance. I went outside with them and just said, I want you to sit and smell and hear and listen and look. Then draw five things you see. I don't think I told them. Then after we were done I said now we are, the next day we are going to change them into contemporary dances. (M2)

This two part lesson was a success, with the children's' dance choreography reflecting what they observed in nature. During the first interview, Mia expressed that she had a sense of achievement when she witnessed student learning and success with respect to the curricular outcomes. The results from her First Nations drumming, singing, and dancing lesson in nature

were similarly successful. She attributed the cross-curricular successes in part to being outside in nature and being engaged with a sense of place, calling it “authentic learning.”

Bound by professional standards to follow the curriculum and driven by the goal of maximizing student growth and learning, participant teachers recognized that mindful nature experiences deepened curricular and learning connections. This ultimately made their job easier and supported them in attaining their professional goals, contributing to their own mental health and wellbeing.

Overall, this finding highlighted how mindful nature experiences deepened intrapersonal, interpersonal, and curricular/learning connections which benefitted the mental health and wellbeing of participant teachers. We heard from these teachers that nature helped them reconnect with their sense of self, enhanced relational connections with those they worked with and for, and provided curricular and learning connections for students.

### **Chapter Summary**

In this chapter I highlighted four themes and associated sub-themes that emerged through data analysis using teachers’ narratives and reflections supported by photographs of events, participant collected artifacts, eco-mandalas, and teacher notes to portray the interconnected and multidimensional impacts mindful nature experiences had on teacher mental health and wellbeing. Reading the participants’ interviews through a wholistic and relational lens offered a way of seeing, feeling, and hearing how teaching mindfully with and in nature influenced their wellbeing. Impacting eudaimonic (psychological and social) aspects of teacher wellbeing – living a meaningful, fulfilled life, and hedonic (emotional) aspects of wellbeing – positive emotion, nature nurtured positive emotion, provided a physical and mental

escape, magnified teacher-student wellbeing links, and deepened intrapersonal, interpersonal, and curricular/learning connections. Finally, through their narratives, I found that participant teachers came to understand and value nature as an important element that contributed to their own wellbeing.

In the final chapter, I take up a discussion of these findings in relation to the research literature that formed the conceptual framework for this study, provide recommendations, address challenges and limitations, and finally offer some concluding thoughts.

## CHAPTER 6: DISCUSSION AND CONCLUSION

As I reread all of the narrative experiences gathered through this study, reacquainted myself with the visuals that supported these stories, and reflected on the main themes that emerged in relation to the existing research on nature, wellbeing and mindfulness, I realized that once again I was engaged in 'circare,' going round and circling back as part of the research process. (Re)searching teacher mental health and wellbeing in our education system through a wholistic and relational lens helped me consider how the pieces fit together. In this final chapter I begin by reviewing the limitations of this study, then revisit the purpose of the research, further discuss how the findings are intertwined with the literature on nature, mindfulness, and wellbeing, and highlight this study's contributions to the field. Circling back in this way positions us to move forward with field, methodological, and practical recommendations. In closing, I offer my reflections on the role of qualitative research for social change and justice, and reflect upon our roles as researchers as an opportunity to delve into our own responsibility for moving toward reconciliation and contributing to more just, equitable, and inclusive societies.

### **Limitations**

Qualitative research, as with any type of research, is not without its limitations and no research approach is perfect. I am also reminded by Denzin (2011) that reality can never be fully comprehended by a researcher despite one's best efforts to be open, reflexive, and attentive when working with participants.

I have considered that as a researcher colleague, I was a known person to all participants meaning that participants may have joined the study because they knew me and

may have been inclined to please me. As an educator myself within the school district I also had an emic perspective which signals potential bias and limitations due to researcher subjectivity even though I actively listened with focus and compassion, and made a point of not jumping to conclusions based on my own experiences as a classroom teacher. Having established trusting relationships with these participants in a prior mindfulness inquiry project, participants may have also chosen to disclose socially desirable reflections distorting the perception of their experiences (Rieger et al., 2020). Further, it was necessary to continually check and recheck my bias when I engaged with reading, analyzing, and interpreting the data as I sought to understand my participants' stories. This reflexive process was important because a researcher's perceptive ability influences the research itself as what one reflects and acts upon personally impacts overall understanding. Instead of thinking that the role of the researcher is a potential liability in qualitative research, Eisner (2017) emphasizes the importance of researcher 'connoisseurship' in this context, highlighting that those with skill and even personal experience with the subject matter learn to see and not just look when undertaking their research turning it into a potential strength when searching for meaning.

From the outset I recognized that the participant sample was limited in terms of diversity as the four volunteers were all white, middle-class women teaching classes of children that were similar in background to themselves in school settings with privileged access to the Land (unceded Syilx territory). As the study was designed to understand participant experiences deeply from a relational and wholistic perspective, a small sample size was purposely chosen to structure multiple experiences and interviews with each participant. However, the group from which the participants were selected was a relatively small and homogenous group of twelve

teachers to begin with, and those who agreed to participate were all middle-class white women ranging in age from 44 to 52 with 19-28 years of teaching experience. While this sample does predominantly reflect the teaching force within the district from which the participants were drawn, it does not reflect a diverse demographic of educators in general, and tends to provide a sample of teachers who may not, themselves, have experiences or perspectives of teaching within diverse communities. School demographics and geography also indicate that the location for the nature experiences were in more prosperous neighborhoods with easily accessible green space.

It is important to note that, although in Canada we are currently in a time of awareness and conversation about the importance of Truth and Reconciliation, as well as the underpinnings of the BC curriculum reflecting First Peoples Principles of Learning and Indigenous Worldviews, the participant responses highlighted a relatively insignificant level of attention paid to Indigenous education, ways of knowing, or attention to Land. This may be because the teachers were focused on discussing their own mental health and wellbeing and the social-emotional needs of their students during the study, and likely none of them would identify as First Nations students. Recognizing the role of research and researchers in perpetuating Eurocentric biases and worldviews, it is important for me here to acknowledge a missed opportunity to connect with these participants to learn more about why they did or did not share how they incorporate FPPL and Indigenous Worldviews in their teaching. This could be an area for furthering this research.

To develop a fuller picture of the role that nature plays in promoting, protecting, and restoring teacher mental health and wellbeing a larger variety of nature experiences involving

different mindful nature activities and natural environments (i.e. desert, tropical rainforests, wetlands etc.) would also be beneficial. Considering that this study was short-term in duration, research addressing potential long-term effects of regular on-going mindful nature experiences on teacher mental health and wellbeing is needed.

Limitations also surface with respect to the generalizability and validity of qualitative research and with the inclusion of an arts-based methodology. Generalizability, often mentioned as a qualitative research limitation, has been a contested concept. With both educational life and mental health/wellbeing being very complex topics, a claim could certainly be made for this research not needing to be generalizable. In fact, it was not my intention to generalize. Eisner (2017) explains that by learning something not known at the outset, we have achieved consciousness of it and thus can look for it in other places. In this way, research on teacher wellbeing is more aligned with naturalistic generalization where knowledge can be gathered to refine perception and deepen meaning instead of finding a generalizable 'truth.' While combining methodologies is thought to increase validity, arts-based researchers also suggest that their research should be judged less on the traditional concept of validity and more so on whether the research is plausible, engaging, informative, and/or emotionally evocative (Ellingson, 2013). With regard to the inclusion of an arts-based approach, another limitation is some participants may feel uncomfortable if they think they are not artistic resulting in a sense of self-judgement and vulnerability when sharing created artwork (Lillyman et al., 2011). To further address questions on validity I invited my participants to review and confirm my work to ensure that it matched their experiences and meaning. Moustakas (1994)

called this “intersubjective validity” whereby the findings are checked and refined through participant feedback.

As a researcher I also recognize that there were voices that were not heard in this study. In particular, I am speaking about the voices of the students in each of my participants’ classes. On-going feedback from students is commonly sought from teachers to support teaching and learning, but students were not asked for their perspectives. This is because the study was structured to focus on teachers’ inner worlds (emotions, thoughts, sensations) and outer worlds through their senses. As an inexperienced researcher reflecting on how the inclusion of their voices could have added another layer of depth to the research process, I made decisions to frame my research solely from the participating teachers’ perspectives. Links identified between teacher and student wellbeing in the findings could be explored and enriched further with the inclusion of student perspectives in future studies.

Keeping the aforementioned limitations in mind, I reiterate that the aim of this research was to explore mindful nature experiences within a small sample to develop a rich understanding of teachers’ experiences connected to improving wellbeing. Recognising that the sample of four, middle class, white women living with access to relatively unpolluted natural environments, is not representative of larger, more diverse samples, I aimed for transferability of my findings, not generalizability. While generalizability was not my goal, it is worth noting that arts-based research creates somewhat of a paradox in terms of its generalizability because while art is individual, some believe that it can reveal what is universal (Eisner, 2005). Transferability instead, one of Lincoln and Guba’s (1982) tenets of trustworthiness, is offered through a narrative that is sufficiently rich in detail about participants, the research context,

and methods so that readers may be able to compare it to an environment or situation with which they are familiar.

### **Circling Back to Move Forward**

The purpose of this research was to explore the potential of mindful nature experiences to support and grow teacher mental health and wellbeing within the context of teachers' work environments. Looking for ways to promote, protect, and restore teacher mental health and wellbeing in our educational institutions, I turned to nature to see if incorporating it mindfully into the teaching day impacted educators' ability to cope with stresses associated with the job and benefitted their mental health and wellbeing. Considering that an enlarging body of research (Cherkowski, 2018; Skaalivk & Skaalivk, 2017; Svane et al., 2019; Turner & Thielking, 2019; Roeser et al., 2012) has highlighted ongoing issues with teacher wellbeing and that many educators have reported having little access to or understanding of mental health coping strategies (BCTF, 2020), I was surprised that the supportive aspects of our natural environment for improving teacher wellbeing had yet to be meaningfully studied in detail. By linking nature with teacher wellbeing in this way I looked beyond the social determinants of health that are privileged in research and policy (De Leeuw, 2018) and acknowledged that an educator's environment is also an influential element of their health (Council, 2015; WHO, 2020). Thus, this study extends research which has highlighted ways in which educational institutions could develop and support the resilience of teachers (Acton & Glasgow, 2015; Cherkowski, 2018; Cherkowski & Walker, 2016, 2018; Greenberg, Brown & Abenavoli, 2016; Gu, 2006; Jennings & Greenberg, 2009; Katz, Mahfouz, & Romas, 2020; Lantieri & Nabiar, 2012; Meiklejohn et al., 2012; Turner & Thielking, 2019).

This study was designed around my overarching research question – *In what ways do mindful nature experiences offer mental health benefits that contribute to teachers' sense of wellbeing*. It was supported by a theoretical framework that incorporated nature, mindfulness, and wellbeing, took into consideration the broad and multifaceted dimensions of wellbeing, and recognized that emotional, psychological, and social wellbeing together comprise mental health (Centre for Addiction and Mental Health, 2014; Centers for Disease Control and Prevention, 2021; Westerhof & Keyes, 2010; WHO, 2014). By delving deeper into how participant thoughts, emotions, sensations, and senses were influenced by teaching in and with nature I was able to determine some ways in which nature was restorative as shared through the four themes and associated subthemes. Teacher reflections on mindful nature experiences were supported by photographs of events, collected artifacts, eco-mandala creation, and teacher notes. Taken all together, the data informed my understanding of the ways in which their chosen mindful nature experiences benefitted their mental health and wellbeing.

Targeting teacher mental health and wellbeing helps more than the teachers themselves. In addition to teachers having a fundamental right to mental health, we know that their wellbeing directly impacts student wellbeing and learning, and school culture in general (Cherkowski & Walker, 2018; Collie et al., 2015; Gray et al., 2017; Harding et al., 2019; Jennings et al., 2013; Oberle & Schonert-Reichl, 2016). Educational stakeholders and researchers alike have identified a great need for finding practical ways to target wellbeing and mental health in our education systems (White, 2017). Situating this study within the larger education system and society, we are reminded that understanding promising practices in wellness requires looking deeper into the structures that support wellness or conversely detract from it

(McConnell Foundation, 2020). Seeing mindful nature experiences as a panacea for system demands on teachers without considering the system itself is not my intention. Nor is placing the onus on teachers to control their stress through self-help and by changing their environment. Ministries of education along with school districts need to promote and support wellbeing as a priority in schools, and need to provide resources and attention to ensure wellness is sustainably embedded as a priority focus across and within education communities despite competing priorities (McConnell Foundation, 2020). More work and attention is needed to address systemic inequities, and more research is needed to support this shift. Keeping the bigger picture in mind, this study nods to a small piece of the greater whole when it comes to promoting, protecting, and restoring teacher mental health and wellbeing through encouraging and supporting teachers to engage with and in nature in their work in ways that are possible and meaningful for them.

As I circled back through the study I also reflected on what was not shared by participants. I noted that there was little discussion of First Peoples' Principles of Learning (FPPL) or about the ways in which participants integrated Indigenous Ways of Knowing and Being into the curriculum despite their chosen mindful nature experiences (MNE) providing authentic place-based opportunities to do so. As I indicated previously, there were moments in their stories where Indigenous perspectives were purposely connected with their teaching. However, I note that the lack of conversation about the inclusion of Indigenous Worldviews in their MNE with students points to an opportunity for ongoing professional learning and development to ensure that respectful, appropriate, and relevant cultural learning experiences are consistently provided. As part of moving forward we must all work towards reconciliation

and decolonizing our teaching and learning. This is admittedly not easy, as it is rife with emotion, may make people uncomfortable, and requires both patience and understanding. It also requires 'unlearning' messaging that we have grown up with. This takes ongoing commitment and time, and a knowing that we will sometimes get it wrong along the way despite our best intentions as people and as educators. I am left wondering how we can close the gap between settler educators and First Peoples' Perspectives. Donald (2021, p.60) writes that this gap is "symptomatic of the perpetuation of colonial logics founded upon relationship denial." This insight highlighting the role of relationships and relational experiences in re-storying our individual and collective selves, especially as a settler educators, may help us interrogate our own identity and become a starting place for these conversations.

### ***Study Findings and Literature Intertwined***

I am aware that the theories, research, and literature underpinning this study tended to focus on the benefits of nature and mindfulness when it came to human wellbeing and mental health. It was not my intention from the outset to engage in a positive study, but upon delving deeper into the findings shared in articles and books, I noticed that researchers rarely mentioned any detriments of engaging with nature. Participants in my study similarly shared stories about their mindful nature experiences that did not bring many negatives to the foreground. The potential detrimental aspects of engaging mindfully with and in nature remain to be studied in the future. Additionally, with our ongoing climate and environmental issues there may be opportunities to research mindfulness, nature, and wellbeing in relation to our climate crisis.

In turning to the findings from this study, I presented four themes and associated sub-themes supported by quotes from my participant teachers' stories to portray the multidimensional and interconnected benefits that the mindful nature experiences had on their mental health and wellbeing. These themes were Nature Nurtures Positive Emotion, Nature Provides a Physical and Mental Escape, Nature Magnifies Mental Health and Wellbeing Links Between Teacher and Students, and Nature Deepens Intrapersonal, Interpersonal, and Curricular/Learning Connections. Jointly, the themes ultimately answered my overarching research question. In this section I intertwine the findings with literature highlighting ways in which the study aligns with, extends or contradicts other research.

**Alignment and Extensions Related to the Study as a Whole.** This study's findings support and confirm that nature and our natural environment has a role in supporting human wellbeing (Capaldi et al., 2015; Cooper, Boyko & Codinhoto, 2008; Keniger et al., 2013; Maller et al., 2006; Rugel, 2015; Tyrvaainen et al., 2014) and extends the context to education settings. The teacher-chosen mindful nature experiences additionally extend the qualitative descriptions of nature interaction found in the literature. It also highlights the innate wisdom of Indigenous Peoples who have known for thousands of years that a strong relationship with nature brings balance and wellness mentally, physically, and spiritually (Armstrong, 1995, Cajete, 1994; De Leeuw, 2018; Johnson, 2019; Kelly, 2015; Wagamese, 2016). Further, the findings are in line with Seligman's (2011) PERMA model as teacher wellbeing was grown with and in nature through positive emotion, engagement, relationships, and meaning/accomplishment. Findings also provide a new context that supports the theoretical tenets of Attention Restoration Theory (Kaplan, 1995) and Ulrich's Stress Reduction Hypothesis (Ulrich et al., 1991).

Results from this study align with research conducted by Rugel (2015) and Maller (2009) with the overall population which found that different types of nature activities were beneficial for psychological, emotional, and social wellbeing and further extends this understanding to teachers. It provides additional details about natural features, nature interaction and the process of attending during nature interaction. I was also able to extend previous nature-wellbeing education research conducted with students in nature by Dutt (2012) and Guardino (2019) to teachers and highlight that freedom, joy, and social connection were benefits felt by adults.

While the matrix of nature-wellbeing-mindfulness appears fruitful for increasing wellbeing benefits, there is abundant room for further progress in determining how the degree that one experiences nature is influenced by one's personal attunement to attitudes, feelings, and levels of attention. Similar to other researchers (Ballew & Omoto, 2018; Bratman et al., 2019; Buzzell & Chalquist, 2009; Mantler & Logan, 2015; Seymour, 2016; Unsworth et al., 2016; Wolsko & Lindberg, 2013), and based on the small and particular sample of participant experiences in this study, I suggest that mindful attention may offer opportunities for gaining capacities for intentional noticing of nature in ways that open the space for additional wellbeing benefits. Questions still remain on how nature-wellbeing-mindful attention coalesce.

**Alignment and Extensions Specific to Theme One.** The first theme, Nature Nurtures Positive Emotion, illustrated that a continuum of positive emotion, from activated (i.e. excitement) to deactivated (ie. calm) was built and broadened as a result of each teacher's mindful nature experiences. These findings align with past research examining the connections between forest/garden activities and wellbeing, indicating that nature's capability of eliciting

positive emotion can improve participant happiness and overall affect (Clatworthy et al.,2013; van den Berg & Custers, 2011). It extends these studies by highlighting that a continuum of positive emotion was elicited during the mindful nature experiences. This continuum then aligns with Russell's (1980) Circumplex Model of Affect and Watson and Tellegen's (1985) Positive Activation-Negative Activation Model indicating that a range of positive (pleasant) emotions contribute to wellbeing.

The sub-themes related to this finding explained the benefits related to increasing teacher positive emotion. The first sub-theme discussed how the benefits were felt immediately and the second described the ways in which positive emotions lingered after the mindful nature experiences were over, the third explained how positive emotion prompts actions such as play, exploration, inspiration, and creativity, and finally the fourth sub-theme revealed how these emotions expanded outward growing positive emotion in others and creating a feedback loop that contributed to even further positive emotion in the teachers themselves. These sub-themes relate to Frederickson's (2004) and Frederickson and Joiner's (2018) work in positive psychology and extends it to qualitative research in education settings indicating that positive emotion can be carried into the future and increase actions beneficial to mental health and wellbeing. Turning towards other ways of knowing and being, and respectfully acknowledging Indigenous perspectives, the first theme's results are consistent with Armstrong's (1995) work in which she explained that the Land teaches emotion or feeling because it intersects inside of our beings and becomes part of us prioritizing wholeness and wellness.

**Alignment and Extensions Specific to Theme Two.** The theme, Nature Provides a Physical and Mental Escape, outlined how nature was found to be freeing in terms of physical space and mental pace. These findings are in agreement with those obtained by Douglas et al. (2020) indicating that participant wellbeing improves when participants remove themselves from non-desirable interpersonal and environmental situations such as unwanted noise, poor air, crowding, and negative interpersonal behaviour and visited urban greenspaces. The results are in-line with literature on restorative environments where researchers have shown that individuals tend to select natural environments with open green space and a lack of loud, distracting noises as a means of shifting negative psychological states to positive (Bratman et al., 2015; Korpela et al., 2001; Hartig & Staats, 2003; Herzog, 2003). My study extends this work into an education context. It additionally emphasized how loud noise in classrooms negatively impacted the participant educators, and prompts suggestions that further studies on noise reduction through classroom sound proofing and playing ambient nature sounds indoors would be helpful to further understanding in this area. Participants emphasized how nature gave them the opportunity to breathe fresh air, see in natural light, listen to pleasant soundscapes, and move about freely. These points, as discussed in the sub-theme physical escape, were seen as remedies to interpersonal and environmental situations that worked against participant wellbeing.

The second sub-theme, mental escape, described how nature helped these teachers set a peaceful pace, slowed down their busy minds and provided a needed mental break. These findings align with and extend research conducted in Korea and Japan on Shinrin-yoku where participants were immersed in a forest mindfully using all five senses (Hansen et al., 2011;

Ochiai et al., 2015; Park et al., 2017). While not representing the broad diversity of teachers in Canada, this study offers a Canadian context, adds further detail to describe forested settings, and extends the list of positive psychological impacts noted by the small number of participants.

**Alignment and Extensions Specific to Theme Three.** The third theme, Nature Magnifies Mental Health and Wellbeing Links Between Teachers and Students, highlighted how teacher-student mental health and wellbeing is intertwined. These results further support studies that have indicated a bidirectional link exists between teacher wellbeing and student wellbeing (Aldrapt et al., 2018; Aloe et al., 2014; Guardino et al., 2019; Hagenauer et al., 2015; Skaalvik & Skaalvik, 2010). It is a key piece when considering how mindful nature experiences contribute to teacher mental health and wellbeing because as students feel better, act better, and learn better, teachers do too. Based on teacher perception of student positive emotion, increased levels of engagement and prosocial behaviour, participants believed their students were benefiting from being involved in their mindful nature experiences. As such they felt they were making a difference in the students' lives. This finding indicates that mindful nature experiences do more than impact teachers directly. The teacher participants appeared to receive secondary benefits to their mental health and wellbeing via their students during mindful nature experiences. This is a finding that did not arise in the analyzed nature-wellbeing studies in other discipline areas (medicine, psychology, business, architecture) as adult participants involved in those studies were not held responsible for others while engaging with nature.

Relying on teacher perceptions, it appeared that learning with and in nature is capable of supporting student wellbeing which is worth noting even though it was not the focus of this

study. It aligns with and extends findings from studies where principals and teachers reported perceived benefits to mental, social, and emotional wellbeing of children involved in outdoor hands-on nature-based activities (Chawla et al., 2014; Guardino et al., 2019, Maller & Townsend, 2006; Maller, 2009). While the majority of literature on students and nature in the past has focused on academic learning, a number of studies looking specifically at how student experiences with nature benefit wellbeing and mental health back up these teacher perceptions (Kuo, Barnes & Jordan, 2019; Lam, Romses & Renwick, 2019; Reese, Webster & Biles, 2019; Song & Bang, 2017; Swank & Swank, 2013). Mental health and wellbeing benefits have included a sense of inclusion, connection, and belonging, increased self-esteem, decreased stress, improved self-regulation, student focus, concentration, critical and creative thinking, and prosocial behavior. It seems possible that these results are due to both engagement with nature and the connection felt with teachers who are also benefiting from teaching with and in nature.

**Alignment and Extensions Specific to Theme Four.** Finally, the fourth theme, Nature Deepens Intrapersonal, Interpersonal, and Curricular/Learning Connections explained how nature helped participants deepen key connections related to their mental health and wellbeing. Participants voiced they gained a better understanding of themselves, specifically reconnecting with their own values and wellbeing needs after engaging in and reflecting upon their mindful nature experiences. They also spoke openly about how interpersonal connections were enhanced while they were teaching with and in nature and shared the ways in which this impacted their sense of wellbeing. And lastly, participants outlined how nature deepened curricular and learning connections for students ultimately making their teaching jobs easier. As

mentioned, there is a deep research pool that has indicated outdoor learning improves academic achievement however, recognizing that it is beneficial for mental health and wellbeing makes it newly important.

Finding that nature is capable of deepening relationships to self, others, and to one's environment to support wellbeing is not surprising considering that Indigenous knowledge recognizes place and the interconnectedness of humans and environment as a necessary condition for understanding and wholistic wellbeing (Armstrong, 1995; De Leeuw, 2018; Kelly, 2015; Johnson, 2019; Wagamese, 2016). This is an important link with wellbeing research in education. The incorporation of mindful nature experiences into our schools could also potentially impact the wellbeing of Indigenous students and create authentic links with their families/communities. These experiences may also support the development of healthy relationships between Indigenous and non-Indigenous students and teachers. More research is needed in this area. Considering the many steps that need to be taken in Canada toward reconciling our failings and horrific colonial history that includes genocide in education settings, this could be one small step in the right direction.

Using a wholistic lens for this research allowed space for two participants to feel and express that spiritual connections were deepened through their mindful nature experiences. This ties to Indigenous World Views whereby wellbeing encompasses the heart, mind, body, and spirit (Archibald, 2008) and to emergent Western research supporting the claim that nature can also contribute to a sense of spiritual wellbeing (Heintzman, 2009, 2010; Irvine et al., 2013; Svendsen et al., 2016). These studies on the relationship between nature and spiritual wellbeing were conducted with the general population, and at this point no research was found

on this topic in education. Recent studies conducted in school settings have found however, that nature experiences deepen a sense of belonging and enable students to form supportive bonds and this study extends the sense of connectivity to teachers (Chawla et al., 2014; Lam, Romses & Renwick, 2019).

**Contradictions.** It is important to mention that in some circumstances and settings nature may not contribute to improved mental health and wellbeing. Australian research has highlighted that visible environmental degradation negatively impacts mental health (Dean et al., 2018) and provokes a loss of sense of place (Mantler & Logan, 2015). Additionally, not all environments are cognitively or emotionally restorative when perceptions of safety are compromised (Rugel, 2015). Examples include exposure to an object that is the source of fear like a snake or spider, or a context such as a wilderness setting where there is poor visibility, no escape route, and places for perceived predators to hide (Andrews & Gatersleben, 2010; Ulrich, 1993). Psychologists Van den Berg and Ter Heijne (2005) found that fearful experiences with nature do not necessarily need to be viewed negatively for mental health however, as these experiences not only teach people more about themselves, but they may also help to create a bond with nature and illustrate that fear of nature is ultimately psychological. Other studies have also shown that overcoming the physical and psychological challenges of nature lead to a sense of enhanced wellbeing and self-esteem (Kaplan & Kaplan, 1989). Safety and perceptions of fear were considered by participant teachers when they choose settings for their mindful nature experiences. These teachers engaged in mindful nature experiences in locations that spoke to their comfort levels. Even with a small sample of teachers in this study, it was obvious that teacher familiarity and confidence when teaching with and in nature varies in relation to

safety perception. Future studies that occur in settings with environmental degradation and with a larger and more diverse sample of teachers and associated students will shed further light on the significance of these contradictions.

### ***Three Supplemental Research Questions***

While the overarching research question was answered by the four themes and discussed at length, the remaining three questions that additionally guided the study require some further attention.

Questions remaining:

1. When teaching with and in nature, what do teachers notice internally and externally when they are asked to be 'mindfully aware'?
2. What qualities and characteristics of nature interaction do teachers seek out and why?
3. How does providing an opportunity for participants to reflect through an alternate means (the eco-mandala) impact their own understanding of their mindful nature experiences and offer further insight to myself as researcher?

From the outset, I was curious to learn more about what teachers noticed internally and externally when they were asked to be 'mindfully aware' while teaching with and in nature. This curiosity related to learning more about the process of how nature influences wellbeing which is underrepresented in research. Based on participant conversations, and my initial data analysis guided by smartEducation's (2015) Triangle of Awareness, I noticed that while all participants were able to reflect upon their inner and outer awareness some aspects were more commonly mentioned than others. In terms of inner awareness, participants appeared most aware of their thoughts, followed by their emotions, and then body sensations. Regarding their outer awareness, sight was the dominant sense mentioned, followed by hearing, then touch, smell, and finally taste which teachers did not mention during this study. This ties to

both Kellert's (2018) and Messer Diehl's (2009) work on sensory stimulation which found that the more senses that are aroused, the more likely nature is able to influence wellbeing. Then considering inner and outer awareness together, participants appeared most aware of their thoughts, followed by emotions and then their sense of sight. This may be because I asked participants to focus on themselves to learn more about the ways in which their mindful nature experiences impacted their mental health and wellbeing. It was also interesting to note that some participants were more attuned to their body sensations than others.

Another question I had while undertaking this study related to what qualities and characteristics of nature were sought out by teachers. I wondered what type of interactions they would pick and why. This question was answered by the types of mindful nature experiences that teachers chose and during conversations where the challenges/barriers to undertaking mindful nature experiences were discussed. Participant teachers predominantly took into consideration safety, their own confidence, time, and curriculum goals when determining the quality and characteristics of their nature interactions. This is discussed further in the participant recommendations section of this final chapter.

I discuss my final question, *How does providing an opportunity for participants to reflect through an alternate means (the eco-mandala) impact their own understanding of their mindful nature experiences and offer further insight to myself as researcher?* in the next section, Contributions to the Field, under the heading methodological recommendations where I outline how the study could advance arts-based methodological approaches to research.

### **Contributions to the Field**

Given the current issues and mental health concerns associated with the Covid-19 pandemic along with past and current national and international calls for ways to address the growing problem with teacher mental health and wellbeing (Turner & Thielking, 2019; Roeser et al., 2012), this study offers insights for ways teachers may improve wellbeing through mindful experiences in and with nature. Although the findings of this study are limited by the small, homogenous sample size, the connections between wellbeing, nature, and education are highlighted as potential for further examination of the benefits of bringing together interdisciplinary findings and approaches to grow teacher wellbeing.

Interdisciplinary studies explain that nature and our natural environment has a role in supporting human wellbeing (Capaldi et al., 2015; Cooper, Boyko & Codinhoto, 2008; Keniger et al., 2013; Louv, 2012; Maller et al., 2006; Rugel, 2015; Tyrvaainen et al., 2014), but what they do not explain is the process of nature engagement. Rugel (2015) noticed the same gap in the three meta analyses and 43 studies she reviewed. Through my study I aimed to explore some of the particulars of what it meant to engage with nature as I examined these teachers' mindful experiences. From these teachers, we can see the importance of relational processes and experiences that are interwoven in and bolstered by their mindful nature experiences. These teachers provided insights about the benefits and potentials of art-based approaches to mindfulness and the ways that they appreciated opportunities to engage in reflection on their wellbeing through these processes. Finally, the experiences of these teachers offered insights into the benefits and potential of supporting opportunities for mindful engagement with and in nature during a school day as an opportunity for supporting and growing teacher wellbeing that

can come from teachers themselves as part of their professional autonomy and not necessarily dependent on outside resources, supports, or experts (CMHA, 2019).

The inclusion of eco-mandalas, an arts-based approach to data collection, may offer additional insights for continuing to grow research and practices for teacher wellbeing. This hybrid arts-based research/phenomenological approach seemed to add meaning, creativity, and impact to these teachers' wellbeing stories and highlights the importance of paying attention to teachers' lived experiences as rich spaces of learning about teacher wellbeing. I found that the use of arts-based research elicited teacher awareness of what supports and protects their wellbeing and offered me opportunities to learn with and from participants as I paid attention to what and how they shared about this experience. Arts-based approaches to researching teacher wellbeing may offer new ways of engaging wholistically, mindfully, and compassionately as a teacher and researcher (Mahar et al., 2021) to continue to promote and support teacher wellbeing in schools.

### ***MEND Model***

From my findings, I have developed a conceptual model (Figure 5) that describes the effects that mindful nature experiences had on these teacher participants with each letter representing one of the four themes: '**M**'agnifies mental health and wellbeing links between teachers & students, '**E**'scape in terms of space and pace, '**N**'urtures positive emotion and '**D**'eepens connections. Taken together, MEND represents a reminder **M**indfully **E**xperience **N**ature **D**aily to promote and sustain teacher wellbeing.

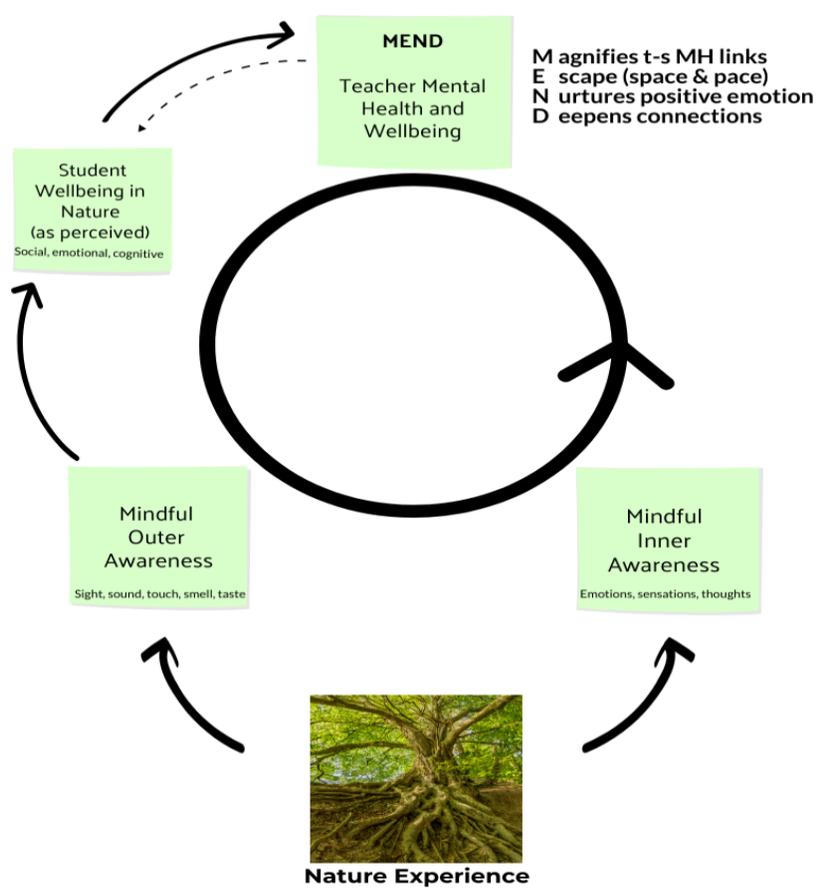
The complexity of my participants' experiences is difficult to convey in a conceptual framework, and I recognize that a 2D visual cannot capture the emotion, interdependency, and

multi-dimensionality of the mindful nature experiences and their effects on the teachers.

However, the model explains the interpreted mediating pathways between nature experiences and the benefits these teachers seemed to gain by mindfully engaging with and in nature during their teaching day. Relational and wholistic, it illustrates how each experience, while unique to the teacher, class, time, and place, contributed to these teachers feeling good and functioning well, essentially helping them MEND when it comes to their mental health and wellbeing. Based on their stories, shared artifacts, and eco-mandala creations, I learned that each teacher was different in their attentiveness to their surroundings with some more focused on their senses and others more attuned to their own inner thoughts, emotions, and sensations. This explains the different entrances into the feedback loop in which teacher nature experiences generated positive emotion, a feeling of escape, deepened connections, and magnified the wellbeing link with their students. Once in nature's circle, the benefits as identified in the four themes became part of the experience.

Of special note, there appears to be a synergy between teachers and students as described by the third theme which has not been addressed previously in nature-wellbeing studies. Research that has explored the relationship between mental health/wellbeing and nature has focused on the felt impacts to individuals who only have had to care about themselves while engaging with nature. A teacher's job however is to carefully consider and care for students as well, and so this finding has offered a new perspective as it suggests that social capital is also pertinent when we conduct further studies on this topic with teachers. There are links between teachers and students that are bidirectional and this study demonstrated that when teachers perceive that their students benefit from learning with and

in nature, their own happiness and sense of purpose is magnified. In this way their mental health and wellbeing benefits from their mindful nature experiences twice.



**Figure 5: MEND Model**

While I do not make any claims beyond this study, the MEND model that emerged from the findings based on the experiences of this particular group of teachers and context may have usefulness within other school and classroom contexts. Keeping the limitations of this study in mind, the model and findings may also be of interest to others within the education system including policy makers, school leaders, and teacher educators.

### ***A Path Forward: System-Wide Suggestions***

As we move further into the twenty first century, the importance of mental health and wellbeing has become increasingly illuminated. This is not an issue that is going away, in fact, it appears to be accelerating due to a variety of challenges, including but not limited to socio-economic issues, discrimination and social injustice, media, the presence of a global health crisis, and ongoing concern about climate change and its repercussions. Teachers do not work in a bubble and are faced with these issues in addition to the pressures associated with their job. The attrition rates and high levels of teacher reported stress indicate that the pressure is becoming untenable (Action & Glasgow, 2015; Turner & Thielking, 2019; Roeser et al., 2012, Skaalivk & Skaalivk, 2017; Yin et al., 2016). As such, I consider how MEND may be one way of attending to teacher mental health and wellbeing concerns and propose several recommendations for policymakers, school districts and school leaders, educators, and those involved in teacher education. Evidence for this intuition is compelling as a large body of interdisciplinary and transcultural literature on the links between nature and wellbeing has accrued. MEND is not a cure for systemic inequities. Strengthening mental health and wellbeing in schools and our education systems as a whole will require a collective effort which involves movement away from a neoliberal approach that values performance, competition, and Western centering (Smith, 2013).

**Policy Makers.** Despite education systems being considered the best setting for promoting mental health, little investment is made in this area which is partly due to a lack of an easily understood and practical framework to facilitate implementation (CMHA, 2019). The first suggestion speaks to this issue and proposes that ‘mindfully experiencing nature daily’

(MEND) has the potential to be implemented in the same way as physical health promotion interventions. For example, when BC's Ministry of Education implemented a policy in which K-12 students must participate in physical activity they reasoned this policy was necessary to develop good habits, and because activity helps students be happier and learn better (BC Ministry of Education, 2021). This reasoning could also apply to mental health and MEND. Currently very little is included in the BC curricular area of Physical and Health Education to improve mental health in an accessible and tangible way. Further, BC's Mental Health in Schools Strategy (2021) emphasizes 'compassionate leadership' and 'building capacity' in social emotional learning, mental health literacy, and trauma-informed practice to do this. Teachers are expected to address these mental wellness topics by linking teaching to the core competencies, but many do not have the skill set to know how or when. Attention to mental health by MEND may provide one way to do so and could be introduced to education systems in a similar way to daily physical activity. As a socially responsible policy aimed at health and learning, it could be shared by schools, as well as family and community. Despite MEND's potential, more research is suggested to explore how MEND impacts teachers of differing backgrounds in a variety of school and geographical contexts.

**School Districts and School Leaders.** A second suggestion targets school districts and school leaders where wellbeing goals need to be developed in concert with educators. Teachers need to know that wellbeing is valued by their school districts and that mindfully incorporating nature into their teaching plans is supported and acknowledged as beneficial for mental health and wellbeing. This is because the beliefs and values upheld by those that educators work with and for within the education system all influence how a teacher does their job (Barth, 2013;

Greenberg et al., 2016) and ultimately whether teachers feel they have the permission or encouragement to engage with nature. Further investment from school districts could help target the lack of information and create opportunities to learn about and share strategies of teaching with and in nature, along with successes and challenges, and to make future action plans.

At a school level, establishing a culture of wellbeing that includes mindful nature experiences would again require administrators to acknowledge that nature has the potential to benefit mental health and wellbeing. In many cases teachers would need encouragement and examples to practice incorporating nature into daily routines. Also, providing outlets for teachers to share the challenges and successes of learning about and implementing mindful nature experiences in their work would be helpful. This could even lead to teacher-developed and -led professional learning which tends to be more meaningful, relevant, and impactful (Cherkowski, 2018). These suggestions highlight the influence that school district leaders and administrators have when it comes to capacity building and initiating change.

**Professional Development (Pro-D).** Closely associated with the school district and school leader suggestions, Pro-D opportunities for teachers could be made available to highlight connections between theory-practice and offer practical ideas for incorporating a range of mindful nature experiences into the day for different grades. Again, this suggestion is tentative considering this study's limitations and select grades this study covered. Many teachers may not be aware of the wide range of interdisciplinary studies that indicate nature's restorative ability and may need help choosing experiences that are meaningful for them with consideration of the environmental setting that they work in. Having teachers play with and

experience these activities first during Pro-D prior to integrating into classroom lessons could potentially boost their own wellbeing and confidence at the same time. Developing capacities for mindful attention and awareness of one's natural surroundings and oneself, along with the intention of engaging 'with' nature instead of 'using' it are additional suggestions.

**Teacher Education.** The fourth suggestion applies to teacher education. New teachers are especially vulnerable to stress and have the highest rates of attrition after entering the work force (Acton & Glasgow, 2015). By highlighting connections between nature-wellbeing-mindful attention in both theory and practice, educators-to-be could be given experiences and tools to support mental health and wellbeing for themselves and their students. Further, linking mindful nature experiences with interdisciplinary learning, social-emotional learning, and First Peoples' Principles of Learning could further strengthen educator understanding of the interconnectedness of these curricular areas.

Taken together, these four recommendations all include greater attention to and acknowledgement of the necessity of promoting, protecting, and restoring mental health and wellbeing in our education systems. The results generated from this study, while aligning with, supporting, and extending other nature-wellbeing studies, are limited due to both context and sample size/homogeneity. Policy makers, school districts, education leaders, teachers, and those involved in teacher education all have a role to play if we hope to make advances.

### **Recommendations for Future Research - Field Related**

Recognizing that the general field of mental health promotion is continuing to evolve, and that education is still trying to chart a path forward to respond to mental health and wellbeing challenges, I offer some recommendations for future research on nature-wellbeing

studies in education, linking nature-wellbeing-mindfulness, and using transcultural perspectives to build literature reviews.

### ***Nature-Wellbeing Studies in Education***

With human health influenced by the physical environment that surrounds us (Council, 2015; WHO, 2020b) nature has already been acknowledged as having a role in supporting human wellbeing as backed by strong empirical, theoretical, and anecdotal evidence. However, more research is needed connecting nature with mental health and wellbeing in the education sector as the vast majority of the studies to date have been in other contexts and/or completed by researchers from other disciplines (Bratman et al., 2019; Capaldi et al., 2015; Cooper, Boyko & Codinhoto, 2008; Keniger et al., 2013; Mantler & Logan, 2015; Rugel, 2015). In the field of education research, studies involving nature tend to focus on student academic learning (Kuo, Barnes & Jordan, 2019; Swank & Swank, 2013) with very little attention paid to the connection between nature and teacher or student wellbeing. Like Lam, Romses, and Renwick (2019) who undertook research looking at the relationship between gardening and student mental wellbeing, Maller and Townsend (2006) who looked at the ways that nature influences student social emotional learning, and Maller (2009) who studied the link between outdoor classrooms and student wellbeing, I suggest that this area of research is worthwhile pursuing further. I also suggest that further studies look closer at the links between teacher-student wellbeing in nature.

With the restorative potential of nature appearing to help educators cope with stresses, taking a teacher's surrounding environment into consideration appears to be a necessary piece when studying teacher wellbeing (Gulwadi, 2006). It is here that a crucial gap in research exists

as the supportive aspects of nature in an educator's physical environment has yet to be meaningfully studied in relation to improving teacher wellbeing. While this study aimed to address this gap, future studies should incorporate teachers who do not have background experience with nature, who teach in more urban settings, and who represent a diverse range of intersectional identities. Studies still need to be conducted on how experiencing nature inside classrooms impacts mental health and wellbeing of those in schools. With all four teacher participants choosing outdoor mindful nature experiences, these gaps were not addressed in this study.

### ***Linking Nature-Wellbeing-Mindfulness***

The number of studies linking mindfulness and nature together with wellbeing are small, suggesting the field is still in its infancy (Ballew & Omoto, 2018; Howell et al., 2011; Mantler & Logan, 2015; Unsworth et al., 2016). While this study looked at the ways in which mindful nature experiences benefited teacher mental health and wellbeing, the restorative potential of nature paired with mindful awareness may be a fruitful avenue for further investigation when it comes to promoting and supporting mental health and wellbeing in all disciplines. In the field of education Bratman et al. (2019) suggested that studies involving teacher wellbeing and mental health consider the characteristics and dynamics of nature experiences. This study explored this, but more are necessary to broaden our understanding.

### ***Building Literature Reviews Using Transcultural Perspectives to Support Research***

The bulk of research and study on the relationship between nature and health, while interdisciplinary, is done from a Western perspective which narrows our overall understanding of how nature exposure contributes to universal human wellbeing. This acknowledgement

relates to the necessity of examining cultural capital with regard to mental health and wellbeing in particular and research in general. Culturally embedded knowledge has been obstructed in academia and for many years pervasively ignored or undermined. This practice is slowly changing. Indigenous scholars such as Cajete, Kelly, and Donald along with others emphasize the necessity of creating a shared knowledge system. Teachers and researchers need to make an effort to move away from the bias of Western thinking, recognizing that there are strong cultural links to nature, mindfulness, and wellbeing that already exist and can be built on. As such, I purposely included Indigenous and Eastern literature and research studies in the literature that framed this study. I saw this as an opportunity to expand relational knowledge, which is critical, especially when dealing with subjects that require a systems approach such as health.

Due in part to its philosophical underpinnings, there is room for qualitative research to play a role in social change and creating a more socially just society (Tracy, 2010). As part of my own commitment to social justice, I am learning to see qualitative research as capable of opening eyes and hearts toward a more inclusive, equitable way of living in community with others. In the next section I further delve into the opportunities through arts-based methodologies for unpacking privilege and addressing tensions between where we are now and where we want to go when it comes to social justice.

### **Methodological Recommendations**

This study, which embraced arts-based research as part of a hybrid methodology, highlights some new possibilities for teacher wellbeing research. As suggested by Ellingson (2013), blending or 'crystallizing' genres provides opportunities a single methodology cannot.

This can be likened to Denzin's (2011) research concept of montage where images, sounds, and understandings are superimposed allowing a blending of qualities and roominess to include alternate ways of knowing. Adopting an approach such as this appears to have much value when research explores, analyzes, and represents individuals' experiences, perspectives and understanding about complex phenomena (Ewing & Hughes, 2008). Using Barone and Eisner's (1997) suggestion for researchers, I suggest this hybrid form of arts-based research was illuminating (sheds light on teacher mental health and wellbeing), generative (prompts new questions within a cycle of inquiry), and incisive (creates opportunities for readers to connect with the research). Research conducted by arts-based educators, arts-based psychotherapists, and medical practitioners amongst others has also contributed to the development and understanding of ABR as a beneficial approach in studying mental health and wellbeing (Buchalter, 2012; Jung, 2009; Jung, 1973; Mahar et al., 2012; Palmer et al., 2014; Potash et al., 2016; Takai, 2015). This strengthens my recommendation of including ABR to explore teacher wellbeing despite the lack of studies to do so in education.

Considered universal and embraced by all cultures, art is also inclusive which is important within the context of education as teachers and students have a range of backgrounds and beliefs. This inclusivity extends to arts-based methods. Eisner recognized this and further reminds us that "art provides the conditions for awakening to the world around us" as well as directing "our attention inward to what we believe or feel" (Eisner, 2005, p. 10). By choosing arts-based methods to study teacher wellbeing participants have a chance to play a part of the qualitative research experience which would not be possible if a traditional research approach was selected. As part of play, ABR gives unspoken permission to

participants to explore with no pressure for a 'correct' answer. Cajete refers to the process of art-making as "perceptive play" which initiates introspection and transformation (1994, p.160). By embracing the potential of play, reflection, learning growth, and wellbeing are strengthened (Macintyre Latta et al., 2017). The playful and contemplative process of creating art gave my busy teacher participants a chance to slow down and attend to the qualities of their experiences with all their senses opening up opportunities to reflect deeply. Arts-based research thus provides an opening for teachers to p(l)ay attention for their own benefit and for the benefit of researchers seeking to advance wellbeing knowledge.

### ***Eco-Mandalas***

Using the eco-mandala creation as a research method provided both the researcher and participants with insights into how wellbeing connects with nature and the natural environment. In this study the creation of a personal eco-mandala gave participant teachers an opportunity to see the interconnections between their outer and inner experiences as well as reflect on the relationship between the two. This is particularly important in the field of education as schools are inherently relational and teachers function because they are inextricably linked to others. As an elicitation method, the eco-mandalas generated data highlighting how they were useful tools for linking, bridging, and enriching pieces drawn from the bigger whole. They also connected well with conversational interviewing. Similar to Palmer et al. (2014) I also found that the mandalas provided new information and gave physical form to reflection and embodied knowing. Of interest for researchers who aim for reciprocity, some individuals need guidance and practice to make embodied connections having ignored this form of knowing throughout their lives. By choosing mandala, participants are exposed to and can

practice embodied awareness (Eisner, 2005) which is said to be critical for healthy human development and wellbeing (Fogel, 2011; Sagen, 2014). Indigenous, Eastern, and Western perspectives indicate that mandalas aid in healing and transformative growth (Buchalter, 2012; Cajete, 1994; Dirks, 1998; Jung, 2009; Loizzo, 2018; Maher et al., 2012; Potash et al., 2016; Rigg, 2018; Takai, 2015). This study offers the use of eco-mandalas as a visual arts-based method in education research providing a new way to study the links between nature and wellbeing.

As we aim for greater attention to relationality and make efforts to move towards a more equitable and inclusive society, I also consider how providing creative reflective opportunities such as the eco-mandala in teacher education programs and our schools may help with sense-making and conversation around sensitive topics such as reconciliation and other acts of social justice. The eco-mandala's creative reflective process may allow an opening for pre-service teachers and those already in the profession to discuss 'What are my personal values and beliefs' and 'What am I doing now?' From here we can venture into reflecting on questions such as 'What can I do better?' 'Is it possible to take more of a decolonizing approach in education?' and 'Is there a way of doing things differently that challenges colonial influence which reinforces 'using nature,' 'mind-body dualism,' and 'singular ways of knowing?' This process may help us acknowledge historical injustices and marginalized voices and explore how race, culture, gender, and class influences teaching and learning.

The eco-mandala's Indigenous, Eastern, and Western ties highlight its potential to increase human understanding, empathy for others, connection to place, and to aid in transformation. Cajete offers an Indigenous perspective and explains that the primary reason for creating a mandala is to "engender a process that recognize(s) the relatedness of elements

in a specific context to a person, place or group. Mandalas show the relationships of elements to problems that are being addressed.” (Cajete, 1994, p. 151). Art is also considered to be capable of resisting oppression by Eurocentric paradigms, raising critical awareness of inequities, challenging stereotypes, and has been used in the past by researchers concerned with social justice (Chilton & Leavy, 2014). Ellingson (2013) emphasizes that art and compassion are intertwined which inspires us to nurture ourselves, our communities, and our planet.

Reflecting on the use of the eco-mandalas in this study, I see the potential for this arts-based approach to serve as a small act of reconciliation, drawing attention to people, places, and Land in a personal yet relational way, prompting a questioning of assumptions about nature, mindfulness, wellbeing, and what these all mean to us moving forward towards more socially just, inclusive, and healthy communities. It may help us awaken from our illusion that human beings are separate from each other and nature, and understand that our actions have consequences for all. As a white settler researcher who is wrestling with her own privilege, it is important to first and foremost educate myself about the Land and Peoples on whose Territory I work and live as a first step on a path of building respectful and reciprocal learning relationships. This learning path towards reconciliation is one that all teachers in British Columbia have been called to; this study reflects both an attempt to move towards reconciliation and a recognition that there is so much more to learn and do.

### ***Relationship Building and Giving Back as Part of My (Re)searching Journey***

I recognize that the way we research has consequences and knew that researching mental health and wellbeing would open the door to great vulnerability on behalf of my teacher participants because this topic is so deeply personal. I was determined to find ways and

means of giving back to my participants instead of just taking. And so, by providing choices and encouraging my participants to make their mindful nature experiences work for them in their own context I set out to create an atmosphere where they too could learn playfully and grow. By honoring their stories, providing a range of multimodal opportunities for reflections, and engaging in heart-centered conversation I was able to help these teachers circle back and reflect on their own wellbeing at the same time that I was (re)searching my questions. Based on their comments at the end of the study, the hybrid methodological approach that I chose did support reciprocity, while building respectful relationships. As a novice researcher I learned that the methodologies we choose are indeed capable of serving us as well as our participants and by choosing wisely they can become part of a relational process that contributes to wholeness and healing.

### **Practical Recommendations from Participants**

Acknowledging the expertise and experience of my teacher participants, I have chosen to include practical recommendations from them in this section. While unusual, I realized after reading and rereading the transcripts searching for quotes to support potential themes that my participants made three key recommendations that address the challenges and barriers they noted with respect to incorporating mindful nature experiences into the teaching day. The obstacles that may be faced when incorporating mindful nature experiences into the teaching day included teacher confidence and familiarity with nature and the outdoors, safety considerations, student behaviour, weather concerns and associated gear, negative perceptions by others, and time for curriculum.

In their own way and through their own stories, all four teachers involved in this study freely offered the following tips to teachers looking to improve their mental health and wellbeing while teaching with and in nature: access what is close and familiar to you; start small with the intention to build up over time; and schedule the experiences to ensure consistency. These suggestions spoke to the challenges that were mentioned by participants. Woven together, the participant recommendations provide a starting point for those interested in integrating their own mindful nature experiences into teaching plans. Participant teachers also recognized their privilege in having nature easily accessible to them and provided ideas for those that had more limited nature availability.

#### ***Access What is Close and Familiar to You***

The first recommendation, access what is close and familiar to you, relates to teacher confidence and addresses safety concerns. Grace suggested “feeling” your way into mindful nature experiences. “When you [begin] see how it feels. From there you are going to know ok- this feels good. So what else can I do?” Honoring how you feel and considering what your own comfort level is, especially when taking classes outdoors, will help teachers determine what to plan. Lana shared that teachers do not need to be scared if they start with what they know and that confidence develops over time. Reflecting on her class nature hikes she expressed, “the more you do outside, it just becomes less and less of a big deal.” Grace embraced “what was at [her] fingertips” as location and time also guided her to choose something that was manageable and not too far away. “When I take them off school grounds I have a little more apprehensiveness because I am away from the school. Being on the school grounds is a little different because I am more familiar with it.” In an effort to get her students out more, Claire

too looked at “venturing out to places where [she] felt comfortable.” Always conscious of safety, Claire preferred to keep her students close and in an enclosed area. Mia suggested familiarizing oneself with the school grounds and checking out locations ahead of time. “As far as onsite, do a perimeter walk because you might be surprised when you go to an area of the building that you have never been to...A section of the school building might also be covered and could be used under any weather circumstances.” Lana explained that she only takes her students to areas that she is familiar with. That way she can ensure her students are safe after pointing out anything potentially dangerous. She stated that teachers “need to know their way around...where they are going to go and how long it’s going to take.” Teacher participants recognized that teachers who grew up in a big city or did not grow up doing things outside, should build up their confidence over time while paying attention to their own comfort levels, which leads to the next recommendation.

### ***Start Small with the Intention to Build Up Over Time***

The second suggestion, start small and build from there, is meant to prevent teachers new to mindful nature experiences from becoming overwhelmed and is a solution to multiple identified challenges. All four participants provided this advice without hesitation. For example, Grace explained:

I would say just start off small. From there I think you just get inspired and think ok now where else can I go? Rather than think big first and go in. Start small and then things will start falling into place and you will start moving in a different direction. It is like taking steps. Take the first step, then pause and then take another. Then take another. Don’t

look far ahead and say I am going to plan this field trip and go here and then go here. Just take one little step. You will then eventually get to the bigger part. (G3)

Lana provided a personal example of this, as over time she took her class on longer and longer hikes further into the forest, building confidence in her own ability to navigate the trails and ensure the safety of her students when faced with potential safety issues related to location. Successful experiences built over time are noted by administration and parents bolstering support. As for inclement weather and gear issues, Lana found that garbage bags worked wonders for waterproofing jackets. “They said ‘oh it’s raining, we aren’t going to go today’ I’m like ‘There is no such thing as bad weather, just bad equipment. Do you have a raincoat? If no, they got a garbage bag” (L1). Claire and Mia also emphasized that mindful nature experiences do not need to be big and fancy to be beneficial for teachers and students. Like-minded, these four teachers also recommended that when educators are ready to expand beyond small experiences, they should turn to nature for inspiration to come up with activities to do with their students.

### ***Schedule the Experiences to Ensure Consistency***

The third recommendation is related to scheduling experiences to ensure consistency. By making mindful nature experiences part of a regular schedule it becomes part of a teachers’ repertoire, reduces time needed to repeat class expectations, and makes communication with administration, parents, and colleagues easier especially if teaching with and in nature requires offsite permission. With consistent weekly nature hikes, Lana found that her effort to plan, organize, and communicate details was streamlined and that the schedule allowed an open invitation for parents to join in when available. Concerned about others’ perception of her

spending class time outdoors, Lana also made it known to parents, administration, and other teachers that they were covering curricular content and competencies through their mindful nature experiences. By inviting other teachers to join in on scheduled experiences these educators also felt less isolated. There was thought that this could potentially lead to the development of a professional learning community. Claire felt that scheduling mindful nature experiences forced her to make the time for something she deemed important and thus suggested strongly to make it part of a routine. Mia too felt that scheduling nature into her teaching plans helped her prioritize different aspects of the curriculum.

In their own way, these teachers also highlighted that regularly scheduled mindful nature experiences helped with class management as students knew expectations for behaviour. Having spent extra time to show and explain what was expected from students when introducing her mindful nature experiences, Grace noticed that these explanations were remembered and followed during future nature interactions. With students enjoying the experiences so much they did not want to miss out on future experiences either. Additionally, Lana who had an incredibly challenging class, shared that if there are worries about student behaviour, it is less of a management issue than you think because students are usually calmer and more focused.

### ***Limited Nature Availability? Do Not Despair!***

While those that teach in inner cities and in neighborhoods with limited nature access will not have the same experiences as described in this study, there are still opportunities for including nature into the teaching day in a mindful way. Participants suggested that seeing the outdoors as an extension of the classroom is one way to do this. Bringing elements of nature

into the classroom such as little plants or found natural items is another. All four teachers emphasized using observational skills in the school grounds, looking up at the sky, and taking short walks outdoors focusing on your senses. Mia stated that “until you start looking, you may not realize all of the opportunities that are around you.” These teachers further emphasized the importance of ‘presence training’ in nature whereby students and teachers practice engaging each of their senses and noticing their thoughts, emotions, and body sensations. Lana explained:

Just look for interesting things around you. Listen to the noises you hear. Notice what it feels like on your skin. What does the air feel like in your lungs? What does it feel like coming in your mouth and down your throat? What thoughts are coming to you? Go inside your body and feel what is there. Feel any spots where you feel tension. (L1)

Participants pointed out that teachers can do these things with students even if they only go outdoors for free time or to do something as simple as quiet reading or writing outside. Limited green space should not preclude teachers from having mindful nature experiences.

### **Reflections on the Role of Research**

Research is political, exposes biases, and holds the potential to be transformative. It is not possible for a qualitative researcher to be uninvolved because what we say and how we say it has consequences: “When we speak out, we move beyond the important work of knowledge creation and theory building to apply our scholarly resources to benefit people more directly” (Ellingson, 2013, p.606). Cajete (2020) emphasizes that to decolonize all research, not just Indigenous research, Indigenous voices and knowledge needs to be included and that insights can be gained from using a relational ontology. Ellingson (2013) also points out that researchers

who draw from methodologies across the qualitative continuum are able to address social inequities and work for positive change. I recognize that there is power present in the process of research, and by choosing to elevate other ways of knowing and being (Indigenous, Eastern, and embodied) I used this power to challenge Eurocentrism where Western knowledge is privileged, where we are taught to listen to our thoughts more than our bodies, and where the arts have been historically marginalized. As McHugh (2014, p.36) writes “the transformation of society begins with a transformation of our understanding of how and what we can know.” As a researcher, this transformation actually began with me and I recognize that my research process was an activity of hope for the future.

### **Final Reflections**

As teachers, we know that the greatest gifts we can offer our students is our presence and our ability to see, accept, and support them, but many of us struggle with how we can best provide our students with these gifts because the demands of teaching often cause stress in ourselves. For the teachers in this study, the restorative power of nature appeared to grow their sense of wellbeing and contribute to their mental health. Grace used the metaphor of a healthy vibrant ecosystem to highlight the wholistic and relational characteristics of this transformation. A dialogic excerpt from her third interview exemplifies the cyclical and positive growth that can result from just one small mindful step into nature:

*Grace - And even if you think you can't go anywhere, just step out onto your school grounds. Step out there and do something out there. It is like one little ripple. Then it will start spreading out.*

*Me - Like a little ripple?*

*Grace - Yah. Just start and then it will start rippling out. People sometimes just want to be at the far edge of the ripple. Right at the edge. That is overwhelming, right.*

*Me - That reminds me of a mandala, starting in the middle and then gradually moving out.*

*Grace - Yah. Yah! It is also like a seed that you plant and then it starts to grow. As it grows things come like the birds and the bees. Everything else comes when you make that first initial step.*

I set out on this dissertation journey with a genuine and heartfelt interest in (re)searching how teacher mental health and wellbeing concerns could be proactively addressed in our education systems. It is indeed, one small step, but I am hopeful that it will circle outwards, having the power to begin transforming something broken in our education systems. Through this study, I learned more about what can happen when teachers engage in mindful nature experiences which led to a deeper understanding of the ways in which these experiences are capable of benefiting mental health and wellbeing for educators. As these stories accumulate our knowledge too will expand. Mindful nature experiences appear to have the potential to be a wellbeing intervention in schools, a means of wellbeing promotion, and also an opportunity for mindfully exploring the deep connection between 'out there and in here.' Pausing long enough to engage with nature in a mindful way may well be an important key in MENDING ourselves as well as our planet.

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## APPENDICES

## Appendix A Initial Zoom Conversation Visuals

## Nature experience examples:

3 mindful experiences – choose what works for you and your work context!

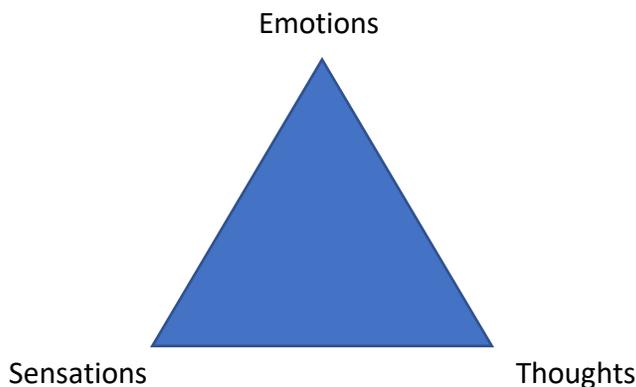
- **Suggestions: Can be active or passive practices.**
  - outdoor classrooms, class gardening, nature walks, nature inquiry projects outdoors, incorporating art, music, and movement/physical activity into nature experiences
  - growing plants inside, nature inquiry projects indoors, highlighting window views, and visiting nature centres

Gather artifacts (objects, photos, notes, etc) from your nature experiences. We will use these in our interviews and to develop your reflective mandala during our second interview time.

## How to engage 'mindfully'

- Be attuned to your thoughts, feelings, and body sensations.
- Try to include the intention to engage from a perspective of inquiry with a quiet mind and alert senses, becoming aware of the subtle, not just the obvious, in both yourself and in nature
- There is no right or wrong approach!

## Appendix B Triangle of Awareness and smartEducation



### Triangle of Awareness

The Triangle of Awareness works as a check-in process helping individuals to mindfully tune inward to one's own body sensations, emotions, and thoughts (SET), and tune outwards toward what/whom one is engaging with. It is also a part of the pause practice as outlined in smartEducation (2015). The Triangle of Awareness is meant to support a 'being' mode vs. a 'doing' mode thus encouraging individuals to be openly aware of their experience without judgement and to be grounded in the present moment.

### smartEducation

smartEducation is a mindfulness-based initiative for educators designed to support resilience through self-care practices such as mindful movement and pause practice, and to better understand the physiology of emotions, and attend to/control breath. This program was developed from SMARTinEDUCATION which was a course and training manual designed by Cullen and Wallace in 2007 and funded by the Impact Foundation and Passageworks in Colorado (Ragoonaden, 2017). A subject of research studies in Canada and the United States (Roeser et al., 2013, 2012), SMARTin EDUCATION was found to support teacher resiliency through the practice of mindfulness. The rights to this curriculum were transferred to UBCO and resulted in the development of the smartUBC Curriculum which also incorporates material from other evidenced-based research such as the Mindfulness Based Stress Reduction Program (smartEducation, 2015). The smartEducation curriculum was then operationalized, piloted, and implemented in UBCO's Teacher Education program (Ergas & Ragoonaden, 2020). A study conducted with UBCO preservice teachers using smartEducation resulted in qualitative data that supported the inclusion of mindfulness strategies to help educators cultivate awareness of thoughts, emotions, and body sensations to improve wellbeing (Ragoonaden, 2017).

## Appendix C Mindful Nature Experience Photos

### Grace - Discovery Forest and Gardening Experiences



Discovery Forest



Garden Site

### Mia - Drumming, Dancing, and Art Experiences



Drumming



Hoop Dancing



Art and Contemporary Dance

Claire - Seasonal Explorations



Stranger in the Woods



The Great Awakening



Rediscovery

### Lana - Hiking Tales



It's Raining Snow



Camouflage and Creativity



Caves, Berries, and Bears