



RE-ENGAGING WITH NATURE

AS EVIDENCED BY NATURE JOURNALING

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June 5, 2022

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“Wonder is what fuels us, what propels us to achieve. We need the light of our imaginations to make life worth living.” (Wagamese, 2011, p.119)



ACKNOWLEDGEMENTS

I have many people and places to thank as I have worked through this journey of completing a Master of Education in Imaginative Education and Curriculum Design. I would like to thank my parents Patricia Pearce and Patrick Farley who have supported me without fail through the trials and tribulations of life. My parents showed me my first tide pools and taught me how to recognize the sound of a meadowlark or spot an eagle soaring over mountain peaks. To my sister, Sarah Farley who has helped me keep everything in perspective, I am grateful. I would like to thank my partner, Sunil Singal who has patiently listened to me reread parts of essays and kept the teapot full through online classes.

I am grateful for my critical friend group Alyssa Millar, Sarah Plaisant and Jenna Sandhu who have been there to offer ideas or simply listen to frustration. These women have been exceptionally optimistic and supportive as we have all worked towards completing a Master's degree.

I am very grateful for the support of Lindsay Zebrowski who, without hesitation, offered her class for me to complete my action research. I am so thankful for your patience in responding to emails and video calls and supporting me in your classroom as I led my action research project. I would like to acknowledge the students of Division 10 at the elementary school for being enthusiastic and open minded with a new teacher leading lessons in their classroom. I am thankful for their willingness to explore and try new learning opportunities outdoors.

I would like to thank my professors at Simon Fraser University who have guided me through this Master's for the past two years. I am exceptionally grateful to Michael Datura who supported me through the passing of my father this past year and offered calm, reasonable next steps as I worked through this project. I am thankful to Dr. Gillian Judson for opening my eyes to Imaginative Ecological Education and giving me the words and theories to advocate for what I find important in teaching.

Lastly, I would like to acknowledge my past classes of students from Northeast Calgary who started me off on my teaching career and who demonstrated such resilience. I move forward in my teaching career thinking of them all.

LAND ACKNOWLEDGEMENT

In 2020, I moved from the traditional land of Mohkinstsis, home of the Blackfoot Confederacy (Siksika, Kainai, Piikani), the Tsuut'ina, the Îyâxe Nakoda Nations, the Métis Nation (Region 3), and all people who make their homes in the Treaty 7 region of Southern Alberta. I left prairie sage, chirping meadowlarks, and the magnificent peaks of the Rocky Mountains. I drove past the winding rivers and towering mountains and have found my new home for now, nestled on the ancestral, and unceded territory of the səłilwətaʔł təməx^w (Tsleil-Waututh), x^wməθk^wəyəm (Musqueam), Stz'uminus (Chemainus), Kwantlen, Qayqayt and S'ólh Téméxw (Stó: lō) peoples. I am thankful to these first stewards of the land for their care and knowledge of these places.

Here I am thankful for the monumental cedar trees, the delicate hanging lichen, the soft, lush moss and the struggling, tenacious salmon. I am grateful for the opportunity to explore, reflect and refresh myself in the natural world surrounding me. I am grateful for the space afforded to me to wander, wonder and seek delicate curiosities. To respect the land I call home, I will step gently and seek opportunities to show care for my surroundings and I will always demonstrate this care to the students I am working with.

ABSTRACT

Children are spending less and less time engaging with the natural world and instead are occupied with screens and indoor activities. Learning can take place in a multitude of environment but very rarely do students venture outside for instruction during a day at school. As Dr. Gillian Judson explains, “Wilderness is everywhere and the potential for learning mandated curriculum virtually limitless if we are open to the possibilities. The more we get students outside, the more, too, we help them develop emotional connections to nature and community” (Judson, 2020, p.7). Within this paper I explore the possibilities and importance of bringing students outdoors for meaningful learning and connection to nature. I used nature journals with students as a means of providing them with a tangible way to

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document their thoughts and learning. The journals also were a valuable assessment tool from a teacher's perspective.

OPENING VIGNETTE

A couple of years ago, when I was teaching Grade One and Two, the first snow of the year fell outside on the playground. As usual the students were excited that the slide would be extra slippery and the snow sticky enough to make snowmen. As a teacher, I thought it was the perfect opportunity to introduce Wilson Bentley, the first person to successfully photograph snowflakes and prove that each snowflake was unique. I was excited to share with the students the story of the persistent farmer/photographer and relate it to patterning in mathematics and the science curriculum. When the students saw the incredible snowflake photographs from over one hundred years ago on the screen they were impressed. We spent the morning looking at the images, sketching them and identifying the patterns within each snowflake. We discussed the tenacity of Wilson Bentley and marveled at his sense of wonderment in the beauty of each snowflake.



Figure 1: Snowflake crystals sit at top a dead flower.



Figure 2: Students explore and play in the snow.

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However, the real magic happened when the students were heading home for the day. Waiting outside for their parents, it started to snow again. Instead of immediately playing tag or running around to catch snowflakes, the students were peering intently at each other's jackets. They eagerly exclaimed that they could see the actual snowflake crystals like Wilson Bentley! The students were absolutely enamored with looking at each flake. I remember one little girl telling me that she did not think that those snowflakes we saw inside actually existed in the real world. I came to slowly realize that for most of the students sitting in front of me, their experiences away from screens and witnessing the real world were limited.

MY BACKGROUND AS A TEACHER

Having grown up closely connected to nature myself and perceiving the natural world as full of curiosities and joy, I was concerned about my students. As a child I had always found wonder, beauty, and knowledge in observing nature. Perhaps I was privileged in my youth as I relished in opportunities to hang over docks with a net and see what creatures I could find in the ocean. I was always flipping over rocks, creating ant homes, digging in the garden and delicately touching lichens. I lived in an environment that invited me outdoors and had a family who supported my curiosity.

I realized when I was teaching in a low socio-economic neighborhood that a child who lives in a basement suite with parents who are both working to make ends meet, may not have the opportunity to play or linger outdoors or to have the rich experiences that Vygotsky suggested were critical for a developing mind. He advocated that, "The creative activity of the imagination depends directly on the richness and variety of a person's previous experience because this experience provides the material from which the products of fantasy are constructed. The richer a person's experience, the richer is the material his imagination has access to" (Vygotsky, 2004, p.4). I have noticed however, that even in higher socio-economic situations, many children are still disconnected from their natural environment for a variety of other reasons - perhaps there is still little time for a family to experience the outdoors together or schedules for planned activities interfere.

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RESEARCH QUESTION

For my action research project, I decided to explore how I might re-engage students with the natural world through use of nature journals. I chose to use nature journals because I thought they would provide a tangible means for students to document and explore the natural spaces we ventured to as a class and to reflect on their thinking and learning.

MAKE UP OF CLASSROOM

I was fortunate to work with Lindsay Zebrowski's Grade Two and Three class at an elementary school in central Burnaby, British Columbia. I was nervous to dive into an action research project with students I had never met before in a new school. Division 10 was composed of twenty-one students with eight girls and thirteen boys. From my initial observations, the students were very energetic and very social. As in many classrooms, there were varying academic levels and diverse needs. Sitting and observing the class at the beginning of this project, I noticed that students were very talkative, social, and constantly out of their seats to interact with other students during work time. Many of the boys needed gentle reminders from Zebrowski to stay on task and were more successful with multiple check-ins from their teacher as they progressed through their work.

I consulted with Zebrowski prior to starting this project to design activities that would be engaging and meet the needs of the learners. During an interview on April 14th, 2022, with Zebrowski, she spoke about how her class had a lot of reluctant writers and how she was initially worried about how they would complete work outdoors. When describing the class, Zebrowski noted that, "this class is overall more socially/emotionally needy than academically needy, although there are a few specific students with academic needs. At the beginning of the year, we struggled with a lot of arguments and generally how to "be together" in the classroom" (Zebrowski, personal communication, February 5, 2022).

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Zebrowski had not yet taken the students outside this school year and so we were both curious as to how the students would react to learning outdoors. Students were always bouncing with excitement when the recess bell rang to get outside but had not yet ventured outside for an academic purpose. Zebrowski noted that she was planning to start the Walking Curriculum Challenge, led by Dr. Gillian Judson, after I finished my project in her classroom. When asked if they had ever gone outside for a lesson in school, Student H explained, “I did once in Grade 1; we went to a park. I liked it, we played games with hula hoops.” In the same focus group, Student J commented, “I went to a field trip at a pumpkin patch once. I didn’t like it.” From my discussions with students during the initial focus group, students had not had much time learning outdoors thus far in their school experience.

PROJECT RATIONALE

Spending time in nature can have a multitude of positive benefits. In his book *Last Child in the Woods*, Richard Louv writes, “nature inspires creativity in a child by demanding visualization and the full use of the senses” (2008, p.7). Through spending time in the natural world, I was curious to see if students could learn observation skills and deepen their curiosity about the world around them. I was also interested in exploring the links between students having rich, somatic and sensory experiences in nature and them developing a rich database of images to draw upon for future learning. (Egan, 1997) My goal for this project was to provide opportunities for these Grade Two and Three students to deepen their appreciation and knowledge of the world around them and to begin to see their place within it. Van Dijk-Wesselius et al explain, “Children need experiences to wonder, explore, give meaning, take risks, feel comfortable, be challenged, and physically modify the world around them. These sensory-motor experiences are well-known to support children’s physical, cognitive and social-emotional development and well-being” (2018, p.15). I was excited to work with this class outdoors and to re-engage the students back to the natural world.

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In addition to supporting students in developing a rich database of images, spending time in nature is beneficial for students' physical and mental health. Louv writes, "As one scientist puts it, we can now assume that just as children need good nutrition and adequate sleep, they may very well need contact with nature" (2008, p.3). Being in nature can offer benefits that are long lasting and diverse. As Julia Torquati and Julie Ernst reference in their 2013 article, there is, "a growing body of research that provides evidence that spending time in natural environments can benefit physical, cognitive, social, and emotional development" (2013, p.193). In general, many children now are spending more time behind screens and less time outdoors. Driessnack references a study in her article that shows, "...that direct experience with/in nature increased children's attention spans and abilities to focus, their creative thought processes, problem-solving abilities, self-discipline, and self-regulation" (2009, p.73). There are many articles, studies, books, podcasts, and workshops all pointing to the crucial importance of children spending more time outdoors to benefit their physical and mental health.

As a human being, a teacher, and a researcher, I am passionate about spending time in nature and offering opportunities for students to explore and connect on an emotional level to their place in the natural world. Judson writes, "We can afford students opportunities through all grades to somatically experience the natural world around them and, thus, support their development of emotional connections and knowledge of their local natural contexts"(2014, p.13). I hoped that students would develop their understanding of the natural world and begin to experience their local environment as budding naturalists observing, participating, and documenting their thinking and learning. Over time, they would potentially develop a sense of curiosity and empathy towards nature. In the age of climate crisis, I believe students who care about nature will have a stronger will to protect it. Louv references a study by Cornell University researchers Nancy Wells and Kristi Lekies, who looked at adults who have concern for the environment that, "derive[d] directly from participating in such single 'wild nature' activities as playing independently in the woods, hiking, fishing, and hunting before the age of eleven" (Louv, 2008, p.150). They suggest that concern for the environment may be nurtured from a young age and that it could be significant to fostering activism in the protection of the environment.

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NATURE JOURNALING

TEACHING AND LEARNING

As an indicator of student engagement and learning, I utilized nature journals throughout this project. I had previously had some experience with nature journaling but mostly had focused on sketching outdoors with students. I was excited to learn more about intentional ways of using journaling outside to document observations and as a metacognitive tool. As John Laws writes, “Nature journaling is one way to make the discipline of science more accessible to all students. This authentic use of a real scientific tool helps students understand what science is and to think of themselves as scientists” (2020, p.10). Many famous scientists and historical figures have utilized nature journaling as a means of documenting the world. In her 2021 article, Irida Tsevreni notes Aristotle, Leonardo da Vinci, Charles Darwin, Henry David Thoreau, John Muir, Rachel Carson, and Jane Goodall all kept nature journals. Tsevreni comments that, “journaling with children of ages 2-6 years old has been explored as a process and an experience that strengthens children’s sense of wonder and connection to the natural environment”(2021, p.16).

CONNECTIONS TO THE BC CURRICULUM

There are many opportunities to connect the new BC curriculum to learning outdoors. I focused on the Grade Two and Three curriculums. However, upon reading through other grades, I believe there are ample opportunities to connect learning outdoors to all grades. The use of nature journals provides documentation for students as well as a rich source of assessment for teachers. Below are some of the curricular outcomes I was meeting while working with the students in Zebrowski’s class.



Figure 3: A student explores outdoors with her nature journal.

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Big Ideas from Grade 2 BC Science Curriculum:

- “Living things have life cycles adapted to their environment.”

Big Ideas from Grade 3 BC Science Curriculum:

- “Living things are diverse, can be grouped, and can interact with their ecosystems.”

Big Ideas from Applied Design, Skills, and Technologies

- “Designs grow out of natural curiosity.”
- “Skills can be developed through play.”

Big Ideas from Grade 2 Art Curriculum:

- “Creative expression develops our unique identity and voice.”
- “Inquiry through the arts creates opportunities for risk taking.”

Big Ideas from Grade 3 Art Curriculum:

- “Creative experiences involve interplay between exploration, inquiry and purposeful choice.”
- “The arts connect our experiences to the experiences of others.”

Big Ideas from Grade 2 BC Language Arts Curriculum:

- “Through listening and speaking, we connect with others and share our world.”
- “Curiosity and wonder lead us to new discoveries about ourselves and the world around us.”

Big Ideas from Grade 3 BC Language Arts Curriculum:

- “Language and story can be a source of creativity and joy.”

LOGISTICS

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As a teacher, balancing classroom management and introducing new ways of learning can be a challenge. Throughout the course of this project, I learned some helpful tips to make nature journaling more successful with students. Firstly, using smaller sketchbooks was important so that students could physically hold them and stand to draw at the same time. As well, it was helpful to show images to the students of other nature journals prior to starting. This gave students ideas of how nature journals might look and may have lessened the stress that they needed to look 'perfect'. Zebrowski also noted in her interview that she appreciated having the prompts and questions glued into all the student journals prior to going outside. (L. Zebrowski, personal communication). We both agreed that this was effective for helping students stay on task outdoors. Being organized with bags of supplies (pencils, erasers, fine point pens) for each student also helped in the efficiency of getting outside and starting to learn. For one lesson we had to change plans quickly because of heavy rain. Being flexible and bringing students to the undercover area to learn, demonstrated to students that learning outside can still happen despite different weather.

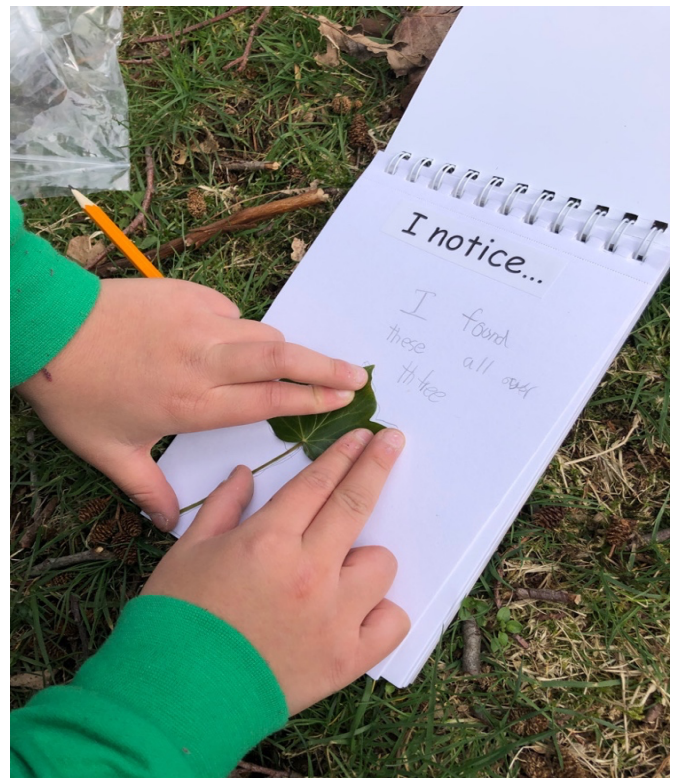


Figure 4: Student utilizing nature journal.

RESEARCH METHODOLOGY

RESEARCH ETHICS

Prior to starting this action research project, I attended an online session with Candase Jensen from the SFU Office of Research Ethics. Jensen provided an overview of some ethical questions and concepts regarding action research. Following this session, I

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completed the Tri-Council Policy 2 CORE tutorial. Throughout my action research project, I worked diligently to ensure that I was meeting all ethical standards including keeping anonymity of all student participants in my writing and sending home a letter of informed consent to students' families.

DATA COLLECTION METHODS

Throughout this project I used a variety of data collection methods to record and reflect upon the progression of the work and to use in my final paper. I kept a running research journal where I hurriedly wrote down student quotes, observations, and summaries of the learning each day. I spent time after each lesson reflecting on the responses of the students to the outdoor activities and planning my next steps.

To gather information from students, I designed a survey that students responded to at the beginning of the project and at the end of the project. I designed the survey to have open-ended questions that students could interpret as they saw fit. I included a space for students to draw a tree. My intention for this was to gather data on the level of detail and imagery students had before and after this project when thinking of a simple part of nature - a tree.

I purposely used nature journaling as a means for students to record their thinking and as a means for me to reflect and design next lessons. I found that the nature journals offered clear evidence for those students who were making detailed observations and drawings and allowed me to focus on those students who were struggling to make observations.

A fourth method of data collection I utilized was having a small focus group. With Zebrowski's input, I selected students based on a range of responses from the initial survey. I chose students who clearly had quite a strong connection to nature and had written detailed responses of their memories of nature, as well as students who wrote one or two words and seemed uninterested in the natural world. The initial focus group was a bit of a challenge perhaps because students were not familiar with me and were not used to talking about the topic of the natural world. I found it challenging to get the students to fully

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respond to the questions but did get small insights into the reasoning behind their survey responses.

THEORETICAL FRAMEWORK

MEETING STUDENTS WHERE THEY ARE AT

Vygotsky suggested that learning is enhanced when teachers pay attention to the student's knowledge and beliefs. He recommended teachers use these as a starting point for instruction and monitor student's changing conceptions as the instruction proceeds. This was the basis for me having students complete a survey as to their beginning understandings and some participating in a focus group about learning in the natural world. I was curious as to whether spending instructional time dwelling in the natural environment would alter student perceptions of the outdoor world and their sense of connection to it.

MEDIATING AGENTS

Kozulin discusses the importance of mediating agents in children's learning, explaining, "Vygotskian theory stipulates that the development of the child's higher mental processes depends on the presence of mediating agents in the child's interaction with the environment" (1998, p.17) As a teacher who sees the value of having students reengage with nature, I tried to take on the role of a Vygotskian mediator. This involved trying to establish conditions for mediated learning including intentionality, reciprocity and transcendency. I was declaring the purpose of each learning activity in the outdoors to the students, responding to student voice, and looking to begin to engender some desire in the students to carry the work and attitudes fostered therein, into the future. With stories of my childhood in the outdoors, I was modeling attitudes about the natural world.

I provided enthusiastic feedback about the students' work and conversation, and, with the use of nature journals, I was helping students to organize their thinking and to reflect on their own learning. In surveys of environmental leaders, "most attributed their commitment to a combination of two sources in childhood or adolescents: many hours spent outdoors in 'keenly remembered' wild or semi-wild places, and a mentoring adult who taught respect for nature" (Louv, 2008, p.151).

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Figure 5: Exploring the woods as a child.



Figure 6: Heading up Nose Hill with my sister in Calgary, AB

BUILDING CULTURAL CAPITAL AND DEVELOPING MENTAL IMAGERY

Many students I have taught previously have shown a very narrow range of recalled images. I remember asking a class of Grade Two students to write adventure stories. I was excited to have them describe the settings of their stories as being in jungles, deserts, mountains, or forests. Many blank stares from the students met me on the carpet after describing the task. I slowly started realizing how limited the recalled images were of the students and therefore how limited the imaginative images would be. Most students had never been in a wild green forest or looked up at mountain peaks. Students had very few real-life experiences away from the screens of their iPads or from the aisles of Walmart.

Vygotsky spent considerable time describing the importance of cognitive development and creation of cultural capital. He stated that, “the creative activity of the imagination depends directly on the richness and variety of a person’s previous experience

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because this experience provides the material from which the products of fantasy are constructed. The richer a person's experience, the richer is the material his imagination has access to" (Vygotsky, 2004, p.14). My thinking is that it is critical for teachers to provide rich experiences to try to build on students' cultural capital, whether in the form of guest speakers, field trips to art galleries or museums, school residencies, or spending time outdoors. My focus for this project would be on enriching students' cultural capital through immersion in the natural world and supporting students to build mental images along the way.

It is important for students to create and collect many mental images so that they may interpret, play, and reference these as they grow. Judson explains, "through imagery we can dig deeply into individual relationships, experiencing them as vividly and somatically as possible, but we can also step back to 'observe' how we are engaged in a larger web of relationships"(2014, p.10). In the same article, Judson references Elliot Eisner's idea of recalled images and imaginative images. Eisner describes recalled images as those drawn from memory and imaginative images as those that combine experiences and knowledge to create a new image. Having a wealth of images to draw upon may help students draw conclusions, write, describe the world around them, hypothesize and create connections.

One of my goals in bringing students outdoors was to provide opportunities for them to add to their mental images of the natural world. I found it interesting to look at initial student reflections in their nature journals. As Student JH wrote on March 10, 2022, "This tree reminds me of Minecraft because in Minecraft there is trees in nature." This quote exemplified to me, the reference point from which many students drew their images. The student was using the secondhand experience of an online game to give context to what he was seeing firsthand in real life. In his book *The Necessity of Experience*, Edward Reed explains, "it is on firsthand experience - direct contact with things, places, events, and people - that all our knowledge and feeling ultimately rest. The meaning of secondhand experience derives from and is dependent on primary experience" (1996, p.3). This child has his experiences reversed; for him firsthand meaning was dependent on secondhand experience.

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As part of the surveys I facilitated with the students, I asked them to draw a tree. I specifically wanted to know what images students had of trees. In the first survey, quite a few students drew cartoonish trees or very simplistic trees with basic shapes. Very few students drew trees with multiple branches or leaves and no students drew bark, roots, lichen, or specific types of trees they might find in their communities. To me, this reflected the extent of their recalled images and experiences in nature. Although my time working with the students in Zebrowski's classroom was brief, I did notice some changes in their drawings of trees. After spending six classes outside and having lessons specifically on observing and closely paying attention to detail, some students' trees changed on the second survey. Below are some examples of the images of trees drawn by students in Zebrowski's class in March and then again in April.



Figure 7: Student example of tree sketch completed beginning of March 2022.

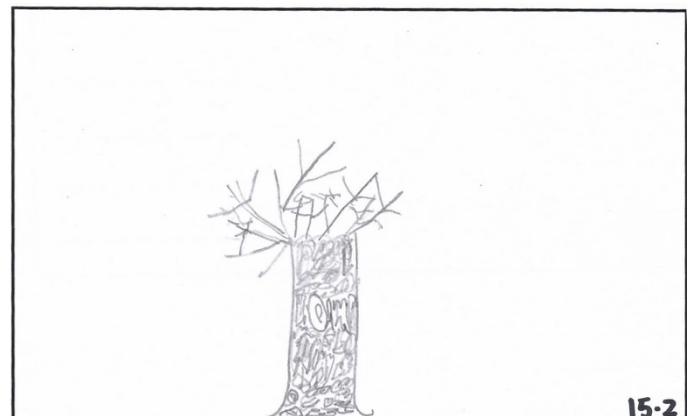
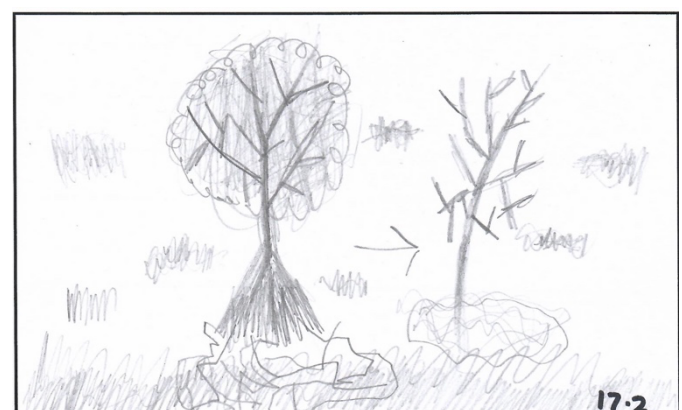
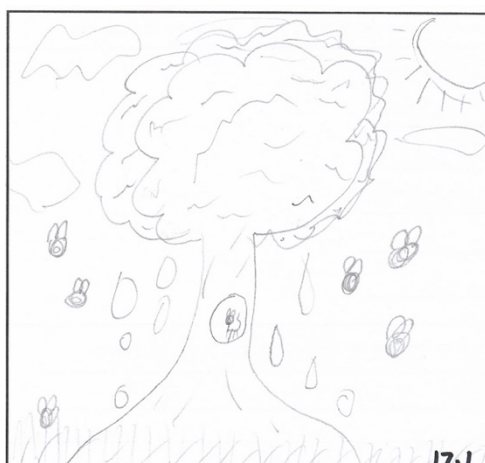


Figure 8: Same student example of tree sketch completed end of April



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Figure #: Student example of tree sketch completed in March 2022.



Figure 11: Student example of tree sketch completed beginning of March



Figure 12: Student example of tree sketch completed end of April 2022.

SOCIAL EMOTIONAL LEARNING

Social emotional skills such as self-awareness, empathy, curiosity, responsibility, and respect can be nurtured when learning from nature. Jardine speaks of “coming to realize the deep affinity between ‘the wild’ and our own renewal” (2012, p.5). Louv discusses whole new fields of ecopsychology that are determining effects of nature on the human psyche, and he references the work of Chawla who states, “the positive effects of involvement with nature on health, concentration, creative play, and a developing bond with the natural world [that] can form a foundation for environmental stewardship” (Louv, 2008, p.82).

The nurturance of ecological imagination can lead to enhanced self-awareness and the development of empathy. Judson writes, “Imagination affords us the possibility to experience an alternative perspective, to extend ourselves into the situation of another person, place, or time. Envisioning alternative realities not only offers our students a sense of freedom and emotional satisfaction, but can broaden both the scope and flexibility of their understanding” (2010, p.35). This is crucial in the development of students’ connection empathically to others and to the natural world.

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IMAGINATIVE EDUCATION

Egan & Judson write, "...the imagination should be invoked at any time and in all curriculum areas to enrich and make all students' learning - and all teaching - more effective" (2015, p.4). Egan has written about several cognitive tools to intentionally engage students in learning and development of their imaginations. Egan and Judson explain, "Imaginative teachers attend to the imagination of their students...they not only consider the curricular content and concepts they are dealing with, but also think about the emotions, images, stories, metaphors, sense of wonder, heroic narratives, and other cognitive tools that can give these concepts and content life and energy" (2015, p.8). I found it exciting and rewarding to experiment with these cognitive tools in planning units for my courses as well as in planning my lessons for this classroom experience.

In this inquiry project, I did my best to utilize as many cognitive tools as possible to expand the learning of the students and spark curiosity and joy in learning outdoors. I employed story, emotions, perspective taking, and heroic qualities. I found certain cognitive tools very helpful for building empathy, shifting perspectives, and allowing students to fully embrace being outdoors.

From the beginning of this project, I shared images of myself in nature as a little girl. I began the 'story' of how I had come to love the natural world. Egan writes, "we 'storify' events, whether fictional, real, or mixed as daydreams, in order to understand them in a particular way" (1997, p.64). I found that telling students specific memories I had from my own experiences in nature was helpful in building enthusiasm about venturing outside.

COGNITIVE TOOLS

SOMATIC UNDERSTANDING

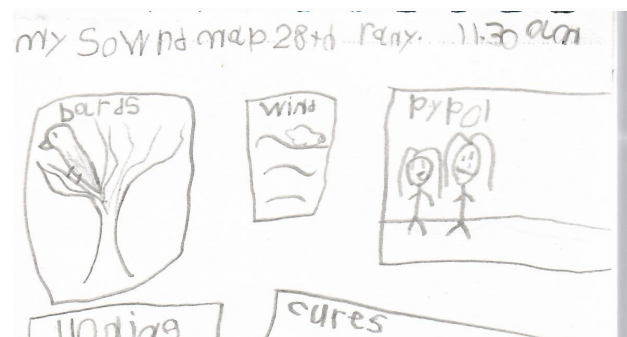
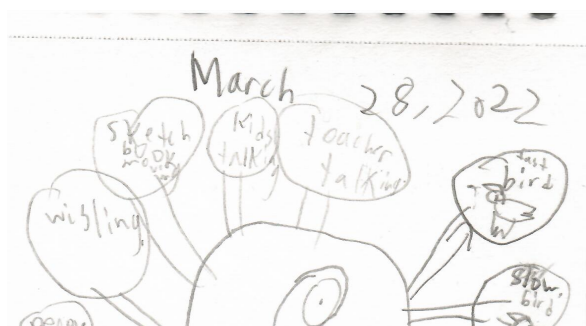
For every lesson, the students and I would head to a lovely park with big trees behind the school. Although this park was close by, some students acknowledged that they had not been there before or did not remember visiting the park. On the first visit, I encouraged all the students to explore the area, to feel the trees, breathe the air and listen to what creatures might share the space. Judson writes, "We can afford students opportunities through all grades to somatically experience the natural world around them

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and, thus, support their development of emotional connections and knowledge of their local natural contexts”(2014, p.13). During the next lesson, students spent time writing and drawing what they noticed, wondered and what their special spots reminded them of in the park. Louv stresses the importance of somatic experience, “The postmodern notion that reality is only a construct - that we are what we program- suggests limitless human possibilities; but as the young spend less and less of their lives in natural surroundings, their senses narrow physiologically and psychologically and this reduces the richness of human experience” (2008, p.3).

I believe that having students fully immersed in the forest near the school allowed for important, firsthand experience of a wild place close to them. In a subsequent lesson, students created sound maps with the purpose of listening intentionally and documenting every small sound they heard.

All of these activities were designed to allow students to somatically experience the space through their senses. Judson explains, “the senses are the body’s “tools of observation” through which we understand the world in detail” (2010, p.40). Below are two examples of students’ sound maps.



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During one of the lessons, I asked the students to draw their sit spots from their perspectives. Following this, I asked students to take on the perspective of another creature that might share that spot in the park. Some of the creatures included wood bugs, ants, robins, and racoons. Students crouched down with magnifying glasses to imagine how the world may look from the perspective of an ant. I prompted students to think about what their creature may enjoy or fear in that space. By taking different perspectives and creating metaphors for their observations, students had a richer learning experience outdoors. Students were emotionally connected to the experiences of the creatures that may have shared their special spots. Chatting Student J during this lesson he explained, “He (an ant) might be scared of me stepping on him here because I would kill him.” Student R sat and watched a robin running around on the grass and explained to me that, “I think that a robin might like this spot because there is nobody around here and it’s not scary and (there are) lots of good hiding spots”.

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I thoroughly enjoyed reading Egan's explanation of romantic understanding in *The Educated Mind*. He writes, "romantic understanding is lively, energetic, less concerned with systemic structures than with the unexpected connections and the delight they can bring" (1997, p.102). I found that students overwhelmingly seemed joyful when learning outdoors. They immediately spread out and were fascinated by many of their discoveries. In one of my lessons, I talked to students about the qualities of a hero. As Egan writes, "the hero lives, like the rest of us, within the constraints of the everyday world but, unlike the rest of us, manages somehow to transcend the constraints that hem us in" (1997, p.88). Students listed different heroic qualities such as possessing superpowers, helping people, bravery, politeness, generosity, and persistence.

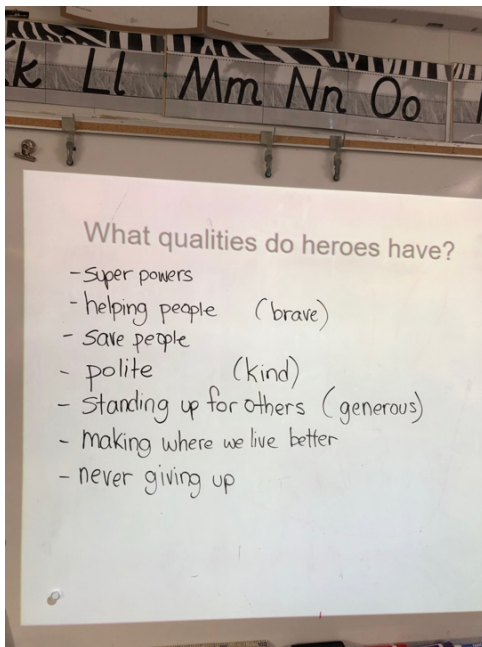


Figure 17: Ideas from students about the qualities of heroes.

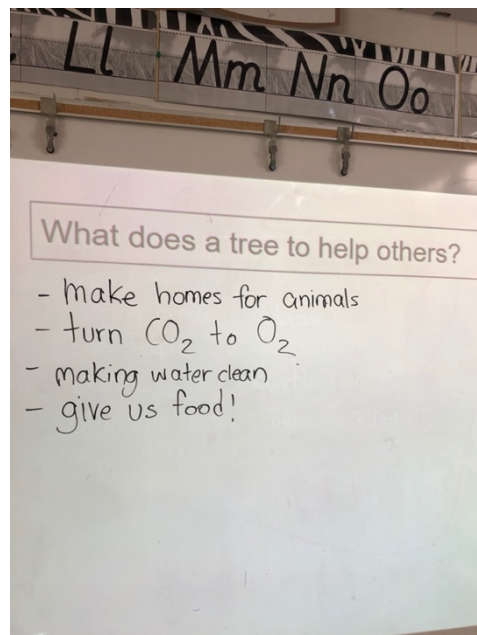


Figure 18: Students' ideas about how trees can help others.

We then discussed whether trees could be considered heroes. Students listed reasons why trees could be considered heroes and then outside, wrote about one heroic quality of a tree. Below are some of the reasons students wrote as to why trees could be considered heroes:

"A tree is generous because it gives to us without getting something in return. A tree is patient because he stays in the same spot" – Student T

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"A tree is generous because it gives us a lot of shade from the sun and gives us fresh air to breathe and good homes for animals" – Student H

"A tree is generous because it gives us fresh air and it is doing all the work to make the world a better place. Well maybe not the WORLD but our world." – Student E

"A tree is a hero because trees give us oxygen. We need trees to live. If trees weren't on the land we wouldn't be living probably. They also block heat waves." – Student A

"A tree is a hero because it gives us health." – Student J

"A tree is generous because it gives oxygen, it gives shade, it gives bark to make stuff. It gives wood." – Student D

"A tree is generous because it gives you air with nothing in return. It gives you shade with nothing in return. It gives you a sound barrier with nothing in return." – Student C

Students viewed the trees differently after applying heroic traits to them. The conversation was richer, and I was impressed by students extending the qualities of generosity and patience to trees.

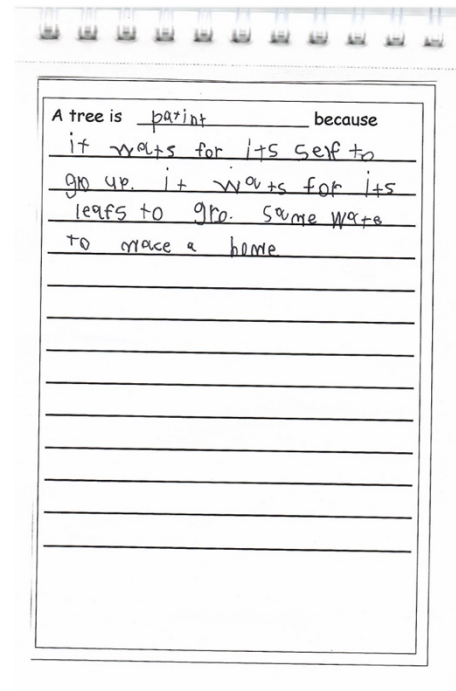
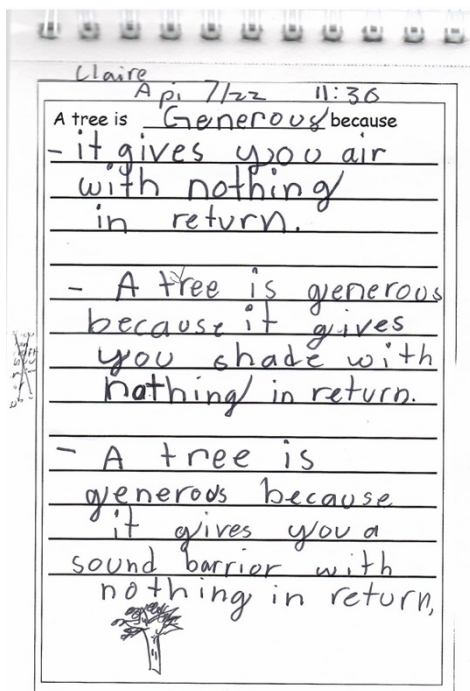


Figure 19: Student writing about the heroic traits of a tree. Figure 20: Student writing about the heroic traits of a tree. We were thankful for before heading back to the school. One perceptive student said, "I just want to say thank you to the trees and sorry for chopping you down to get the paper for our nature journals."

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Egan writes in reference to a romantic type of understanding, “..we can also identify emotions in unlikely topics, by describing, say, weeds on a rock face in terms of tenacity or earthworms slithering through damp soil in terms of aesthetic joy” (1997, p.259). Seeing the world from the perspectives of the animals, imagining how tall the blades of grass would be or articulating the worries of being stepped on from the perspective of ant demonstrated to me that students were able to view the world from different perspectives. I asked Student U how a wood bug might move through the space he occupied. He replied, “He (the wood bug) would walk so slow because he is so tiny, he might get lost because the leaves are so big.” The student also added, “the wood bug would say, ‘hey, where am I?’, ‘I’m confused, there’s a huge leaf!’, ‘I see a huge branch that could be a bridge’. That’s what he would be saying.” Some students were able to imagine the world from the perspective of their animal. When imagining the life of an ant, Student E explained, “He/She would see giant pieces of grass and chunks of bark. They could smell water, grass and dirt. They can hear trucks, cars, people, teachers, children. They might be scared of birds and us.”

IMAGINATIVE ECOLOGICAL EDUCATION

After this inquiry project, my copy of Dr. Gillian Judson’s book *A Walking Curriculum* had notes written in the margins, page markers, and sticky notes on several pages, indicative of my frequent reference to it. Judson describes Imaginative Ecological Education as, “Evoking feeling and imagination [is] paired with engagement of the body in local natural and cultural contexts” (2020, p.7).

Taking student learning into the outdoors develops a strong sense of place and a sense of belonging within the natural world. Louv addresses the concern that many children are being raised as ‘containerized kids’ where they not only are spending limited time outdoors, their indoor spaces to live are also restricted. He says, “Clearly the childhood break from nature is part of a larger dislocation - physical restriction of childhood in a rapidly urbanizing world, with nature experience a major casualty” (2008, p.76). Learning in the natural world can lead to an integration of the natural and human worlds. Judson explains how understanding the relationship of humans within the natural world can be a fertile ground for developing ecological imagination.

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I was also inspired by Sean Blenkinsop's explanation of imagination. As he states, "imagination may well lead to inventions, but imagination itself is not about adding to the world, but about connecting with it" (2009, p.10). He also spoke of imagination "as a kind of freshness of vision" (2009, p.10). I wondered whether immersing student learning in a natural environment could foster that 'freshness of vision', stimulate thinking, develop imagination, and create emotional connections. Was it possible that the students would begin to see themselves as a part of the natural world, connect with it and care about it?

I worked to build a sense of place with students in Zebrowski's class. Judson describes a Sense of Place as having an emotional connection to a part of the natural world that is familiar to a student. She writes, "Sense of Place is what can change how our students understand the world of which they are a part – it can help them reimagine their relationship with the natural and cultural communities they live in" (2020, p.1). By building a strong sense of place, some students became more enthusiastic to return and explore the park.

Student K: "Is today about the special spot again?"

Me: "Yep"

Student: "Oh ok, I went to mine (special spot) on the weekend just to see if I could find it."

Me: "That's great! Did you find it?"

Student: "Yep, I knew exactly where it was. I remembered the trees and what it looked like."

Judson stresses the importance of developing this strong sense of place writing, "emotional connection is the source of deep understanding of Place" (Judson, 2020, p.6). Some students expressed positive emotions about being outdoors. When asked what feelings they had in their special spots outdoors, one student wrote on his final survey, "I felt happy because my special spot is my favorite. I love it there and I never want it to change." Perhaps this student might even care enough to wish to protect that space in future.

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WHILING

David Jardine writes, “we are a part of the Earth’s fabric, its weaves, its texts, and textures and that this can be experienced, understood and we can learn to live with this reality” (2012, p. 16). Learning, playing, exploring, and dwelling in nature is crucial to a child building this connection with the natural world. The outdoors can invoke new stimuli, new curiosities, new connections, and a springboard for cognitive and imaginative development with a creative view towards the future.

In Jardine’s 2008 article on the process of ‘whiling’, he discusses taking the time to cultivate new experiences with children. He writes, “As anyone rapt of the Earth’s ways will understand, it takes quite a while to experience the while of the Earth and its ways.”(Jardine, 2012, p.14). David Sobel queries, “What is it that children actually do with and in trees? Well, they climb them, build forts in them, read in them, hug them, make nests with their leaves, create carnival rides on their branches, play with dolls in their shade, gaze at the sky through their leaves, smell them, become friends with them.” (2008, p.19). Immersed in nature and acquiring the tools to explore and question, students began to answer the initial prompts but soon were discovering more and asking deeper questions. For example, when asked to observe their special spot, students wrote and drew the images below:

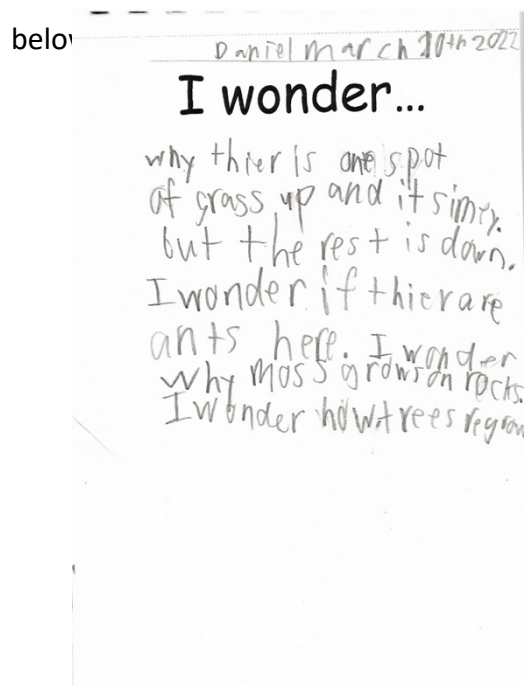


Figure 21: Nature journal depicting a student’s observations when visiting his

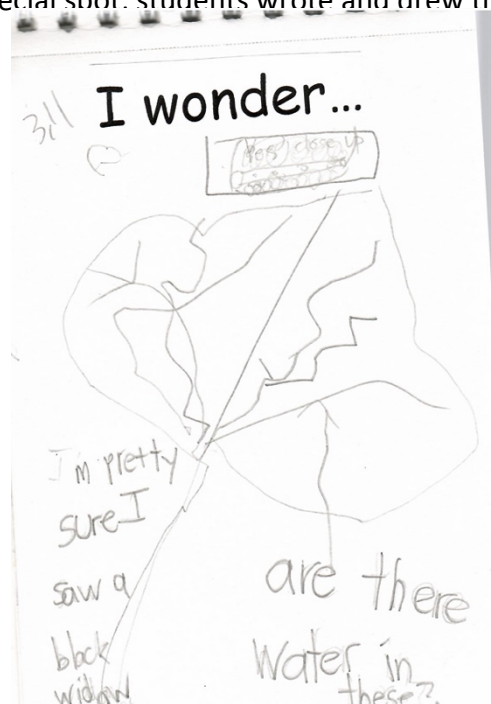
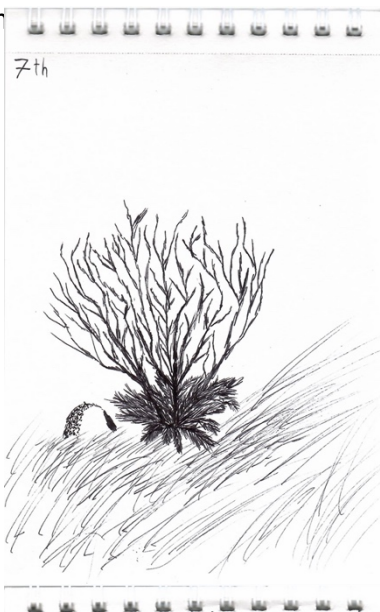
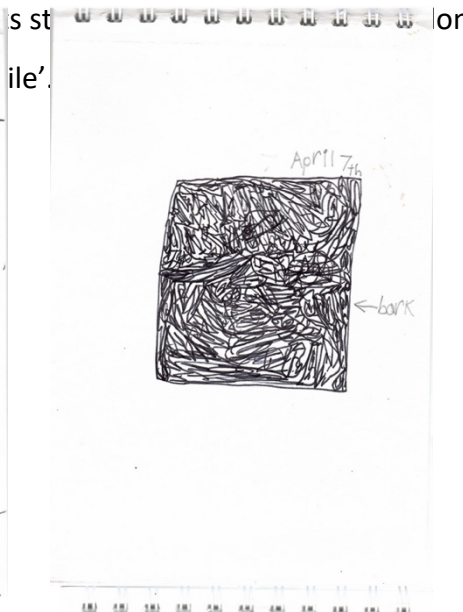


Figure 22: Nature journal depicting a student’s observations when visiting his sit spot.

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Though my project was brief, I can see the potential of spending greater amounts of time with students outdoors and getting to the deep quiet of 'dwelling' and reengaging with a natural space. Jardine writes, "Many of the tasks asked of students in schools are not worthwhile in this particular sense: they are not worth lingering over, mediating upon, remembering, and returning to. They don't gather us together and demand gathering of us (an archaic way of saying 'knowing') but rather they isolate and pathologize and accelerate attention into scatter-shot pursuit" (2012, p.174). There were points during the lessons in which I witnessed students dwelling and slowing down to observe the world around them. In one lesson about trees, I decided to take out a of couple activities and games from my lesson plan with the hope that students would be able to delve deeper into sketching and writing about their trees. I was pleasantly surprised that the quality of student work



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FIELD WORK

Student T: “Are we doing nature today?”

Me: “Yep”

Student T: “Yay!”

INTRODUCTION TO FIELD WORK

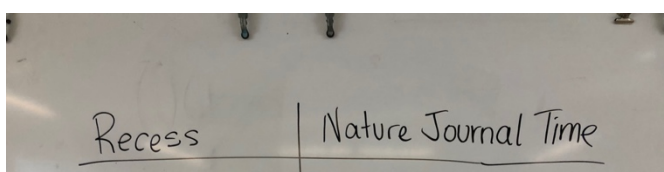
Prior to starting my field work for this action research project, I met with Zebrowski to discuss her class and specific learning needs so that I could design lessons based on the needs and interests of the students. I planned each activity in advance but made changes during and after completing the lessons based on reactions from students. Below are summaries of each activity I completed with Division 10 along with my observations of the student learning and highlights and challenges of each lesson.

LESSON ONE

Date: March 3rd, 2022

Purpose: To introduce myself to students, introduce the plans for learning outdoors and visit the space where we would be learning on the school grounds.

Activity Summary: I introduced myself and shared pictures of myself growing up spending time in nature. I explained the purpose of my visits to the students’ classroom, and we brainstormed the different expectations between playing outside during recess and learning outside. Students completed an initial survey so that I could gain insight into their prior experiences in nature, feelings towards nature and ability to visualize images of nature. We



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walked to the forested area behind the school to explore the space and have students to find their own special spots.



Figure 25: Two students outside nature journaling.

Highlights: Students were able to discern differences between expected behavior when learning outside compared to playing at recess outside. Many students expressed excitement about the possibility of going outside to learn. Students were most successful in the forest when we did a sharing circle, practiced deep breathing, and reviewed expectations.

Challenges: Students needed quite a few reminders when we were outside regarding the difference between recess and learning outdoors. Initially when we arrived, some students expressed frustration that they could not play tag or run and hide in the forest. Some students picked leaves and flowers, so we had to have a conversation about taking items from the forest.

LESSON TWO

Date: March 10, 2022

Purpose: To introduce students to nature journaling and to have students explore different ways of observing and making connections in the natural world.

Activity Summary: In this lesson, I reviewed the expectations for outside learning and introduced the idea of a nature journal. We talked about how different people (scientists,

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artists, botanists etc.) might use nature journals. I gave students their own nature journals and we headed outside. I had glued prompts inside their journals (I notice, I wonder, and This reminds me of) and students were asked to go back to their special spots to spend some time observing. Following this, we did a sharing circle to close our time outside.

Highlights: Students were able stay in the same spot for most of the time and appeared to be focused on their work. When observing a specific student, Zebrowski noted that, “this [was] the calmest that I have ever seen T”. When circulating, the students were eager to share their work.

“The trees remind me of going camping with my family.” – Student H

“This spiky stick reminds me of my sharp pencil and this rock reminds me of my hard books at home.” – Student A

Challenges: Although I had put prompts in students’ journals, some students had a difficult time noticing any detail in their special spots. It was challenging for some students to make observations other than noting the trees, grass, and sticks. I found it beneficial to circulate often and to have a few regroupings with the class to review what other students had observed and really compliment those students who had noticed more details or had made interesting connections.

LESSON THREE

Date: March 28th, 2022

Purpose: To have students develop a stronger sense of place through map making in various forms.

Activity Summary: Students engaged in map making and place building activities in the undercover area of the school. It was a pouring rain day, and most students were not enthusiastic at first to go outside. As a warmup to map making, students each got a stick which they had to draw in their journals with the utmost attention to detail. The purpose of this was to support students in learning how to space out, plot and map what they were

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observing. After the students had each drawn their sticks, I mixed up all the sticks and students had to collectively find which stick matched the drawing based on their observations. Following this, we went outside, and students were tasked with sitting in one spot and drawing a basic map of what they saw around them. Then students made a sound map of what they heard outside. We did a closing circle at the end to share.

Highlights: Students really worked hard to draw the details of the sticks in the first mapping activity. When we ventured outside, students were able to draw some of what they saw in front of them. After quite a bit of prompting, students were able to listen carefully to what was around them and document what they heard.

Challenges: This was a challenging day due in part, to the rain and students not feeling confident in their map making skills. Many students had a difficult time identifying where they were sitting in relation to what was around them. I found that as a teacher, I needed to have a lot of support on entirely. It was interesting that as soon as

students did
write it down
was beside,

March 28, 2022
stick sketch warm
up

hey would make sounds to then be able to quickly
students found it challenging to understand what

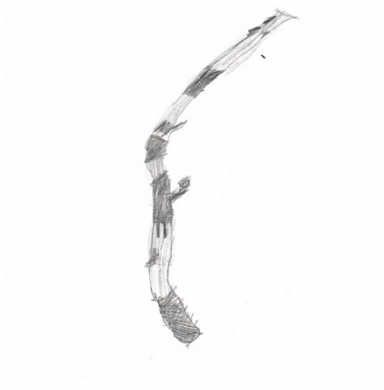


Figure 26: Example of student stick sketch.

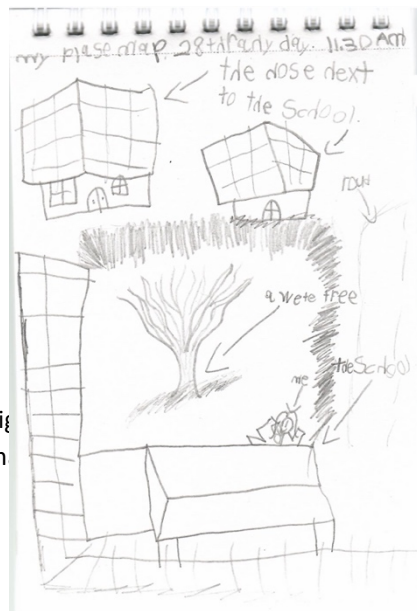


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Date: March 31, 2022

Purpose: To explore perspective taking with students and create stories related to those animals or plants that might share students' special spots outside.

Activity Summary: Before heading outside, we had a class discussion about the word 'perspective'. I discussed with students how changing your perspective might help you understand a place and appreciate it more. We talked about how different animals might use their special spots. We looked at different images and I prompted students to guess what animal might have that perspective. Following this we went outside, and each student had a square paper frame in which they had to draw and map out everything they saw from their perspective. Afterwards, we regrouped and students shared their drawings and then went back to draw their frame and answer questions from the perspective of either a raccoon, hummingbird, ant, wood bug, or a robin picture in their journals.

Some of the question prompts:

- What would your animal see?
- What might they see or smell?
- What might they use this space for?
- How might they travel through this space?
- What might make your animal scared in this spot?
- What might your animal enjoy about this space?

Highlights: It was interesting that some students immediately understood how an animal might have a different perspective. With some prompting, many students were able to identify some risks or dangers to their



Figure 29: Student outside with nature journal.

Figure 28: Student nature journal showing some answers to animal perspective prompts

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animals in their spots and some students were able to articulate that through writing or drawing. I think that this exercise garnered student empathy for the different animals and was a step towards students caring about their special spots.

Challenges: For some students it was quite challenging to take on the perspective of an animal. Some of the students had never seen the animal that they were supposed to take the perspective of and had a hard time making any connection. As well, quite a few of the students assumed that since they could not see the animal there at the time, that no one else would share their special spot. Time was also a challenge with this activity, and I think it would have been a richer experience if students could have spent time researching and really understanding their animal before attempting to take its perspective.



Figure 30: Student spends time sketching tree outside.

LESSON FIVE

Date: April 7th, 2022

Purpose: To discuss the heroic traits of trees and for students to develop an appreciation of them.

Activity Summary: I started this lesson by asking students if all heroes had to be humans. We talked about the traits of a hero and brainstormed different heroes students knew. We then discussed whether trees could be considered heroes considering everything they do in an ecosystem. Students were then tasked with choosing a tree in the forested area near their school and drawing a part of it in detail. Following this observation period, students wrote 2-3 sentences about how a tree could be considered a hero.

Highlights: I think students were comfortable with discussing trees and had clear images of trees formed prior to this lesson. Students were quickly able to list what trees did for the

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environment and people. Students were eager to sketch their chosen trees and stayed focused for the entirety of the lesson outdoors. I think having a more tangible activity with the image of trees being heroes was something that students could fully grasp and explore. Students also expressed appreciation and concern for the trees which was exciting.

Challenges: Overall this was a successful lesson and students were able to express how trees were heroes. One small change I would have liked to address was that many of the heroic traits students identified were in relation to how trees were heroes for humans. I would like to have had students explore further how trees were heroes for other animals and plants.

LESSON SIX

Date: April 14th, 2022

“Don’t step on the mushrooms!” - Student K

Purpose: To give space for students to express their appreciation for their special spots and reflect on the time spent in the space.

Activity Summary: I was purposeful in this activity to give students time to just dwell in their special spots and the freedom to draw or write their thoughts. I gave students some prompts to think about if they chose:

- **What did you learn outside?**
- **What did you learn from your special spot?**
- **What are your favorite memories?**
- **Will you visit your special spot again?**
- **How could you take care of your spot?**

Highlights: Giving students time to themselves in their special spots was beneficial because

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they could just have time to explore and have some freedom in nature. I think this was a good closing activity because it encouraged students to think about how they could care for their special spots and nature in general.

Challenges: Students were very energetic when we did this lesson and many needed redirecting multiple times. For certain students, having less direction was beneficial and they seemed to enjoy spending uninterrupted time in their special spots. Some students got off task quickly and did not seem to show any appreciation for their spots outside.

“You can take care of your special spot by not littering” Student R

“I learned with a magnifying glass that a tree is way more interesting.” Student Y

REFLECTION ON FIELD WORK

Overall, the field work part of this action research project was really enjoyable. Each activity I planned was grounded in aspects of Imaginative Education and I purposely tried to utilize certain cognitive tools to strengthen the lessons. I learned a variety of different nature journaling techniques along with how to set them up to be successful with students. I also learned the importance of giving students time to dwell in activities and not rush through them for the sake of a completed, tangible product. I found that, like learning indoors, on certain days students needed more redirection and refocusing prompts.

A positive outcome of education set in the outdoors, is the ease with which one can cross curricular topics. I emphasized to students that their drawings reflected the close observation skills of a scientist, but we also discussed the heroic qualities in trees and the perspective of looking at their special spot from an alternate and creative point of view (such as a worm’s). Many outcomes across the curricula could be introduced in a lesson along with attitudinal and affective objectives. Using nature journals lent itself to different curricular areas such as language arts, science, and art. As Jardine says, “This points to the

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ecological being of things always already everywhere...It points to the being of knowledge itself, where every topic entrusted to teachers and students in schools is always already everywhere, never an isolated thing but always an opening into a living topography" (2012, p.134). Students were dwelling in their special spots in the school forest while writing, sketching, observing, and breathing the nature around them.

RESULTS






It is important to note that the span of this action research project was short. I was visiting a class for the first time and had not worked with the students before. The project lasted about 6 weeks and every Thursday I would visit Division 10 for about two hours. I had time to observe the class, administer surveys, facilitate focus groups, and lead lessons in nature. However, potentially due in part to the short time span of this project, the survey and focus group results did not change too much. In addition, I believe that written surveys were only informative to a certain extent due to the age of the students in this project. Many students were easily distracted, some had problems reading the questions and some students simply did not engage with the survey.

FIRST STUDENT SURVEY: MARCH 3, 2022

The first survey was completed on March 3, 2022. Students had about fifteen minutes to complete the survey. Students were asked to circle an emoji depicting their level of enthusiasm about spending time in nature as well as answer a series of questions about their feelings towards nature and memories of time spent in nature. The final part of the survey was to draw a tree. I specifically put this prompt in to gain an understanding of the extent to which students could communicate and share an image of a tree. Below is the summary of the first survey results. Twenty students completed this survey.

Initial Survey Results

Tell me how you feel about learning outside?

				
0	1	4	5	10

March 2022: When I think of nature I think of?

- Trees (15)	- Branches (1)	- Silence (1)
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When I am in nature I feel _____ because _____.

"Free, because there is a lot of fresh air and I feel calm and relaxed."	"Bor[ed] because it takes a while to walk."
"Happy, because it is fun to be outside."	"Bored because there is nothing to do."
"Excited and relaxed because I like animals so much and there is fresh air."	"Bored because there is nothing to do there."
"Excited, I like the way the fresh air goes through my lungs and I like water."	"Bored because I am not the type of person that can find things to do with things outside."

"Calm and good because nature is very quiet."	"Bored, because I don't have any video games."
"Amazing because I love hiking."	
"Happy because it is fun."	
"Excited, because I love nature because it's the best. I see rocks or flowers it makes me happy."	
"Calm and happy because I don't have to do anything."	
"Happy and super excited because I love nature and nature gives us air."	

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REFLECTION ON INITIAL SURVEY FINDINGS

When I administered the initial survey I explained the questions one at a time and stressed to students that there were no wrong answers. I was surprised to see how many students expressed negative views towards spending time in nature. There were specific reasons explained by students who had a dislike for nature such as feeling bored in nature because, “there are no video games” and, “I am not the type of person who can find things to do in nature”. Many students expressed feeling calm, free, and happy in nature. It was interesting to note that while students expressed positive feelings about spending time in nature, many students did not have a memory of being in nature to share. Most of the drawings depicted quite cartoonish style trees with little detail or realism.

INITIAL FOCUS GROUP: MARCH 10TH, 2022

Completing the focus group with the students in Division 10 was a challenge. Firstly, I was a new person to the students and did not have an established teacher-student relationship and secondly, we were talking about topics that students did not seem to have discussed before. After reviewing the surveys and discussing with Zebrowski, I selected five students to have in the first focus group. I explained the nature of the focus group as non-judgmental with no wrong answers. Most of the students were hesitant to share and mostly

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offered one-word answers or sometimes short sentences. Since the focus group was at lunch, most of the students in the group were also anxious to participate in recess.

Below are some samples of responses offered by these five students during the initial twenty-minute focus group.

Can you tell me more about your answers on the surveys?

Student H: "I feel relaxed in nature because there is shade under the tree. I drew a picture of an apple tree."

Student T: "I feel bored because I'm kind of allergic to nature and I like video games."

Student D: "I'm not creative to be outside, if you aren't creative you can't come up with many things outside."

Student HL: "I feel calm because you can hear all the different birds. I was watching a tv show once and saw a bird come up to the window."

Student J: "I don't go outside much so I have no memories, I just don't like going outside because there are bugs."

Have you ever gone outside for a lesson in school?

Student H: "I did once in Grade 1 we went to a park. I liked it, we played games with hula hoops."

Student D: "I did once too, we got a lot of free time."

Student J: "I went to a field trip at a pumpkin patch. I didn't really like it."

Student T: "I went outside once at my preschool; I fell on a pumpkin at a pumpkin patch."

Do you think nature is important?

Student D: "I think it's important because we can use it for a lot of things and without nature you don't get oxygen."

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Student J: "If you don't have nature, you would be dead. Flower comes out of nature and if the bees don't have nature then we don't have honey and then we don't have fruit either and then we will die in 10 years."

Student H: "I think nature is important because you can experience new stuff, like you can experience flowers and trees. You can learn about them."

Student J: "Everything is nature. Everything is made from nature or else the world wouldn't exist. Humans wouldn't be here, and animals wouldn't be here."

Student T: "we wouldn't live without nature; trees clean the air and then the air we breathe we need that."

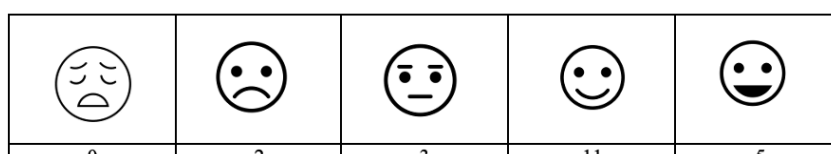
REFLECTION ON INITIAL FOCUS GROUP:

I was surprised by the students who expressed little interest in spending time in nature and who had few memories in nature when all had indicated that nature was important. I was also surprised by half of the students saying that they did not like the huge trees on the school property because they limited play space. It seemed that many students viewed nature purely from the vantage point of what it could do for humans. Generally, the students had little to share about any experiences in nature they had had in school.

FINAL STUDENT SURVEY: APRIL 14TH, 2022

Due to the short timeline of this project, for the final survey, I asked a few more questions to specifically learn how students felt about the nature journaling process. I also was curious to learn if they felt differently towards nature or if they believed nature could teach them. Below are the results of the final survey.

Final Survey Results April 2022
Tell me how you feel about learning outside?



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Would you continue to use your nature journal?

Yes	No	Not Sure
<p>“Yes because I want to practice writing AND I like nature.”</p> <p>“Yes I would and drawing”</p> <p>“I would because I like to draw nature.”</p> <p>“Yes I like working with it and it’s really good”</p> <p>“Yes so I can sketch”</p> <p>“Yes because I can draw some other stuff in it”</p> <p>“Yes because for drawing flags”</p> <p>“Yes because it is calm”</p> <p>“Yes because I like going outside and the bugs”</p> <p>“Yes because I like to draw”</p> <p>“I might use it if I need to draw a tree or something in nature”</p> <p>“Yes because I want to draw more nature and improve”</p> <p>“Yes because I want to write or draw the things I do”</p> <p>“Yes because when I see something I did not see before I would write it down”</p> <p>“Yes because it could teach us how to be grateful and respect”</p> <p>“</p>	<p>“No because I don’t want to”</p> <p>“I would not because it is too wet”</p> <p>“No because I do not like it so much it is horrible”</p>	<p>“I don’t know because today is the last day of nature.”</p> <p>“If I can find time”</p>

Do you think you can learn from nature? Why or why not?

Yes	No
“Yes there are lots of parts of nature”	“no because I don’t like nature”
“Yes how animals survive”	“no because I do not like going outside”
“Yes a little bit”	
“Yes, you can learn about animals”	
“Going out each day”	
“That blue whales can shoot water two stories tall”	
“Yes you can learn to be quiet and you can learn to enjoy outdoors and to learn to listen”	
“Yes because I look close at things”	
“Yes because I can learn new things about nature”	
“Yes because you can learn about bugs”	
“yes you can learn what animals do. You can learn what bugs do, but don’t let them get too close because they are creepy”	
“Yes because I can learn to draw a tree”	
“I learned about sound maps”	
“Yes because you can learn from nature by knowing more about it and keeping it clean”	

Figure 34: Depicts more results from final survey of students.

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What feelings did you have in your special spot outdoors?

+
"Calm feelings"
"I didn't have one"
"Nothing"
"Good"
"I felt that nature cared for me. So, I felt happy."
"Relaxation and peace"
"It was really calm and quiet"
"Good"
"Happy because I won't step on small animals anymore"
"Mad and frustrated"
"When is this over?"
"Calm because the wind and the rocks underneath me"
"Annoyed and happy"
"I felt comfortable"
"Calm"
"Confident feelings when I was in the grass"
"Happy because my special spot is my favourite. I love it there and I never want it to change"
"Happiness"
"Mad"
"Happy"
"I felt relaxed, sometimes a little mad, happy and peaceful."

Can you share a memory from your special spot?

"It was by two trees"
"journaling"
"Badminton in my house and it was quiet"
"I drew bark"
"I remember the bird was on my tree"
"Yes, using the magnifying glass to look at the tall and slimy grass that was very green"
"No"
"No"
"Well, I saw that grass is always up around other grass"
"I found a big spot of straight grass"
"I do know but I don't know how to share it all"
"When I saw a giant cockroach"
"I liked it when I saw some pink flowers on a tree that was not cherry blossoms"
"Reading and drawing"
"A bug landed on it"
"I found lots of little bugs"
"No thanks"

Figure 35: Results of final survey from students.

REFLECTION ON RESULTS OF FINAL SURVEY

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I was not that surprised that many of the students' answers had not changed significantly during this project due to the fact that it was only six weeks. However, I was encouraged by the fact that most of the students were enthusiastic to continue nature journaling. When asked what he learned from nature journaling in the final survey, one student wrote, "I learned to draw things in detail and to look and step closer to nature." Some students were able to share memories from their special spots as well as describe how they might be able to learn from nature. I felt that this was a significant step in initiating students' thinking about their place in nature.

FINAL FOCUS GROUP: APRIL 14TH, 2022

Due to the short timeline of this project, I decided to slightly alter the questions for the second focus group. I believed that this would be more successful for gathering information from students. This focus group happened at lunch again and one student decided to leave halfway through because he did not want to miss recess. Below are some excerpts from the final focus group.

How did you feel in your special spot outside?

Student D: "I felt happy because we were doing activities and I am usually bored outside, and it made me happy I actually had something to do."

Student T: "I felt mad because I didn't have any video games to play."

Student HL: "I felt happy because everyone was doing activities and I liked sketching."

What is something you learned from nature journaling?

Student D: "I learned to look closely to things and if you look closely, you will see way more than if you just look at things normally."

Student T: "I learned nothing."

Student HL: "I learned that you could take your time to do things."

Student J: "I learned that I have a pollen allergy."

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Would you continue to use your nature journal? Why/why not?

Student D: "I would maybe use my nature journal once in a while because it helps me remember to look closely at things to see big possibilities".

Student HL: "Probably from time to time, I would use it to calm myself down because you can just look at stuff around you."

Student HL: "I probably would go there but it would have to be outside of school. I could get my sister to bring games."

Student T: "I wouldn't because I don't like nature journaling and I don't like going outdoors."

Student H: "I would probably go back."

REFLECTION ON RESULTS OF FINAL FOCUS GROUP

Despite having a short period of time for this project, I was still curious to learn what the students thought of spending time learning outside and using the nature journals. I was disappointed by some of the short responses of students but reminded myself of the circumstances of this project. One of the responses that I thought was interesting was when I asked a student if he would like to go outside more during school time. Student J's response was, "I would rather not because I don't have time for fun then at home, in class if we stay inside then we can get our work done and I won't have to do it at home. When I get home, I have to do all my work, do chores, wait for my auntie and then I can think more about what to say when my auntie comes." I found this response really interesting. Clearly this student did not see outdoor learning as 'work' or as academic learning that could be valued. He seemed stressed that he would be wasting time outside and not have enough time to get his 'real' work done in class before going home.

REFLECTION ON USE OF NATURE JOURNALS WITH DIVISION 10

Throughout the course of this project, I found that students benefited from having tangible activities to do outdoors such as sketching or writing. I think this provided a comforting step for those students who were unsure about whether they could 'learn' in the

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outdoors. When asked if he would continue to use his nature journal after this project, one student in the final focus group commented, “I would maybe use my nature journal once in a while because it helps me remember to look closely at things to see big possibilities”. The same student also commented in reference to nature journaling, “I learned to look closely to things and if you look closely, you will see way more than if you just look at things normally.” When interviewing Zebrowski at the end of the project, she commented, “I think [nature journals] were really effective, the fact that it was a sketchbook and not a notebook let them feel more free. I think it encouraged them to sketch or draw in more detail than they would have in a word book.” (L. Zebrowski, personal communication). Using nature journals allowed for students to document their understanding and gave myself as a teacher and the students, opportunities to see the progression of their learning.

POVERTY AND LEARNING OUTDOORS

My very first teaching assignment was in a Grade One & Two classroom in Northeast Calgary, Alberta. Many of the students who attended this school were from low socio-economic backgrounds and many were new to Canada. Most days started with making sure that everyone had had breakfast, finding socks for certain students, and checking in with stressed parents regarding when food bank hampers would be arriving and updating them on potential community resources for their situations. Many of these students spent a lot of time indoors, at shopping malls, and playing games on iPads. Poverty was a reality for many of the students I taught, and their parents and caregivers spent most of their time working to make ends meet. Most of these students had few experiences outside Northeast Calgary and were experientially impoverished.

In addition to being impoverished, many of these students were at least a grade level behind academically, were just beginning to learn English or had multiple learning disabilities. In my classroom, there were four students diagnosed on the Autism Spectrum and two students with exceptional behavioral needs. When I read through different books about education in the outdoors, very few address the realities of students from low-income schools. Rarely is there mention of how to get students who have lost connection with nature back to being enthusiastic and curious about the natural world. Lastly, there is no

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mention of how to support students with exceptional learning needs outdoors. I found the idea of taking my class outside overwhelming.

One September, my teaching partner and I decided to take the students out for a community walk to find patterns in nature. We were hoping to use this walk as a starting point for our inquiry into patterning in mathematics. The students groaned and showed a lack of enthusiasm to walk outside for this activity. When we were outdoors, many wandered around and quickly said there was nothing there and persistently asked to go back inside.

Being a low-income school with limited funds, the school yard was stark and did not really contain many natural spaces. There was a small garden at the front of the school and a large field behind. In addition to the students being uninspired to venture outside, many did not have the proper clothing or footwear to enjoy being outside. I had not realized the privilege of having warm winter boots and quality snow jackets to wear outside and being warm enough to enjoy nature. As a teaching team we sought donated jackets and secondhand winter boots so that students could have the bare minimum of warm clothes to go outdoors. Once we had ensured that all fingers and toes would be warm throughout the fall and winter months, we were able to start our Walking Wednesdays.

At first, I was frustrated because I had been determined that these community walks were a brilliant idea. I slowly realized that the students were very uncomfortable being outside with the purpose of engaging with nature and that they did not know how to closely observe the natural world. I felt sadness for the students I was working with who saw 'nothing' and were anxious to get back to an indoor classroom.

CONCLUSION

After completing this inquiry project, I still do not believe there is enough literature that addresses the complexities of students learning in a natural setting. Many articles and books I read for this project stressed the importance and benefits of children exploring forests near their homes and parents spending time camping, fishing, and exploring urban parks with their children. I found there were underlying assumptions that students would

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have families that had the resources, time, or knowledge to access the outdoors. Some authors assumed that classes are neurotypical and or that students would be immediately enthusiastic to explore the outdoors. Students living in poverty, those with learning disabilities or those children who are very intimidated by nature would benefit from having opportunities to dwell in nature but there are several factors that must be considered. Practicalities such as appropriate clothing and footwear, having an interesting natural area available, having educational assistants along to assist with diverse learning needs of some students, budgets for nature journals, having parental support for learning curricula outdoors all require addressing.

I found it interesting that educational research in this area is largely human-centric. Education in the outdoors continues to be about what nature can provide for us rather than how we might share this planet with other species and work to benefit and protect them. As a teacher and as a human being who shares this planet with other species, I would like to share with my students the beauty of stepping gently and caring for this planet. I will continue to look for opportunities embedded within the curriculum to share empathy for the natural world.

Reflecting on this project, I think that there would have been many opportunities to incorporate Indigenous knowledge. With more time, I could have invited an Indigenous person to teach students about the different plants and animals, seasons, and ways of being in the natural world. This would have provided a valuable different perspective on our relationship with nature.

The idea for this project was inspired by the students I worked with in the beginning of my teaching career in Northeast Calgary. The students who regularly visited the food bank, who never had new clothes and who rarely had opportunities to explore the natural world with a mediating adult. These students were resilient, positive, and outgoing and after lots of coaxing and planning, eventually engaged in weekly community walks demonstrating curiosity and extraordinary learning. Perhaps the students would have even taken something away into their future lives regarding their relationship with the natural world. I was inspired by them to delve deeper into how to re-engage students with the outdoors and how to create meaningful, curriculum-based learning opportunities outdoors. Sobel writes,

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“Elementary-age children, now more than ever, need opportunities to be in their bodies in the world-jump roping, bicycling, stream hopping, and fort building. It’s in this engagement between the limbs of the body and the bones of the earth where true balance and centeredness emerge” (2008, p.65).

I am excited to bring what I learned through this Master’s project into my future classrooms. I look forward to spending more time outdoors with students and creating meaningful opportunities for them to connect with the natural world. I would like to spend more time with students helping them to build empathy for the natural world and see their place in our shared eco-systems.

As a teacher and as a human being who cares for this planet, I need to remain optimistic that children will continue to be in awe of the natural world and eventually care deeply about it. Like my experience with the students of Division 10, some students may take quite a bit of coaxing to be comfortable and reintroduced to wild places. As Jardine writes, “All we can do is practice and invite our students and colleagues into the rich lift of the world that comes from thinking rigorously and deeply and well” (2012, p.230). As a teacher, I am excited by the possibilities of learning outdoors with students and seeking opportunities to follow students’ interests while illuminating the richness of curriculum. Sobel writes, “The intersection of twenty children’s concerns and interests, the teacher’s passion, the cultural milieu, and the prescribed curriculum in all its permutations and combinations should generate some new species of curricular flowers” (2008, p.25).

Life can be so full of small wonders and discoveries. One of my favorite authors Richard Wagamese wrote, “Teachings come from everywhere when you open yourself to them. That’s the trick of it really, to open yourself to everything and everything opens itself to you” (2011, p.58). As a relatively new teacher, I am excited to move forward in my career with eyes wide open and to seek opportunities with my students to discover and engage with our truly extraordinary world.

APPENDICES

APPENDIX A: LETTER TO PARENTS AND GUARDIANS

APPENDIX B: FIELD WORK

FOCUS GROUP TRANSCRIPTS

March 10th, 2022: Transcript of Initial Focus Group

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Can you tell me more about your answers on the surveys?

Student H: "I feel relaxed in nature because there is shade under the tree. I drew a picture of an apple tree."

Student T: "I feel bored because I'm kind of allergic to nature and I like video games."

Student D: "I'm not creative to be outside, if you aren't creative you can't come up with many things outside."

Student HL: "I feel calm because you can hear all the different birds. I was watching a tv show once and saw a bird come up to the window."

Student J: "I don't go outside much so I have no memories, I just don't like going outside because there are bugs."

What would you like to do more of in nature?

Student D: "I would like to do more activities, like I don't really know. Like maybe tubing."

Student H: "Sketching"

Student T: "Tubing and playing in snow."

What would you like to learn more about in nature?

Student T: "nothing"

Who do you spend time in nature with?

Student H: "I spend time with my sister, and we ride our bikes."

Student T: "I spend time with my sister."

Student J: "I spend time with my family, and we play tag and stuff, it's fun."

Student D: "I spend time with my family, we do walks and play frisbee."

Have you ever gone outside for a lesson in school?

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Student H: "I did once in Grade 1 we went to a park. I liked it, we played games with hula hoops."

Student D: "I did once too, we got a lot of free time."

Student J: "I went to a field trip at a pumpkin patch. I didn't really like it."

Student T: "I went outside once at my preschool; I fell on a pumpkin at a pumpkin patch."

Do you think nature is important?

Student D: "I think it's important because we can use it for a lot of things and without nature you don't get oxygen."

Student J: "If you don't have nature, you would be dead. Flower comes out of nature and if the bees don't have nature then we don't have honey and then we don't have fruit either and then we will die in 10 years."

Student H: "I think nature is important because you can experience new stuff, like you can't Student experience flowers and trees. You can learn about them."

Student J: "Everything is nature. Everything is made from nature or else the world wouldn't exist. Humans wouldn't be here, and animals wouldn't be here."

Student T: "we wouldn't live without nature; trees clean the air and then the air we breathe we need that."

Do you like having big trees on your playground?

Student T: "I don't like the big trees because there is less space for playing. I hate them."

Student J: "I don't like them because it's kind of stopping us and we have to go around, and the trees block your way."

Student D: "I don't like having them."

Student H: "I like having them because they can give me shade."

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Student HL: "I like them because they can turn into blossoms sometimes."

Do you think it's important to have nature around us? Why or why not?

Student D: "I think yes because without nature most things wouldn't be interesting, because there are somethings we made without nature, but most things are made with nature."

Student T: "without nature we wouldn't have wood to build houses."

Student J: "look, everything is made with nature, like your computer. You need iron and smelting. Iron is from nature."

April 14th: Final Focus Group Transcript

Now when you think of nature what do you think of?

Student HL: "I think of trees and I'm not sure, maybe animals, I usually hear a lot of birds chirping."

Student D: "I think about trees, grass, leaves and of animals."

Student T: "I think of trees and grass, I also think about video games that I can play in nature, where people run through nature."

When you are outside what do you feel?

Student HL: "I feel relaxed because it's usually really quiet."

Student D: "I feel calm because you can hear wind and birds chirping."

Student T: "I don't feel anything, except wind."

How did you feel in your special spot outside?

Student D: "I felt happy because we were doing activities and I am usually bored outside, and it made me happy I actually had something to do."

Student T: "I felt mad because I didn't have any video games to play."

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Student HL: "I felt happy because everyone was doing activities and I liked sketching."

What is something you learned from nature journaling?

Student T: "I learned nothing."

Student D: "I learned to look closely to things and if you look closely, you will see way more than if you just look at things normally."

Student HL: "I learned that you could take your time to do things."

Student J: "I learned that I have a pollen allergy."

Would you continue to use your nature journal? Why/why not?

Student T: "I wouldn't because I don't like nature journaling and I don't like going outdoors."

Student D: "I would maybe use my nature journal once in a while because it helps me remember to look closely at things to see big possibilities".

Student HL: "Probably from time to time, I would use it to calm myself down because you can just look at stuff around you."

Do you like having big trees on your playground? Why / why not?

Student J: "I like them because I get hot all the time and I can just go under them. Sometimes when my auntie takes us under the playground, I can just have a picnic with her under the tree."

Student D: "Yes I like them because if there are small branches at the bottom, I can climb them."

Student HL: "I like having them because you can go under them and relax."

Student T: "I don't like the trees because they are too tall."

Would you like to go outside more in school?

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Student T: "I would like to have more soccer time."

Student D: "It would depend on what we do outside, there are some things I find fun and interesting like playing games and nature journaling, but there are other things like walking everywhere that I don't like."

Student H: "It usually depends on what day it's like outside, if it's nice I would like to go outside more in school, because we usually don't really go."

Student J: "I would rather not because I don't have time for fun then at home, in class if we stay inside then we can get our work done and I won't have to do it at home. When I get home, I have to do all my work, do chores, wait for my auntie and then I can think more about what to say when my auntie comes."

Will you return to your special spot? Tell me more. Why is it important to you?

Student D: "Probably not, I would find a different special spot at my housing co-op where there is a forest."

Student J: "I would go there if I had time, but I don't have time because I have homework."

Student HL: "I probably would go there but it would have to be outside of school. I could bring my sister to bring games."

Student H: "I would probably go back."

COPY OF SURVEY ONE

Survey #1

March 2022

Name: _____

Tell me how you feel about learning outside? Circle one of the emojis.

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1

2

3

4

5

When I think of nature I think of....

Draw or write your ideas.

<hr/>	
<hr/>	
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<hr/>	
<hr/>	

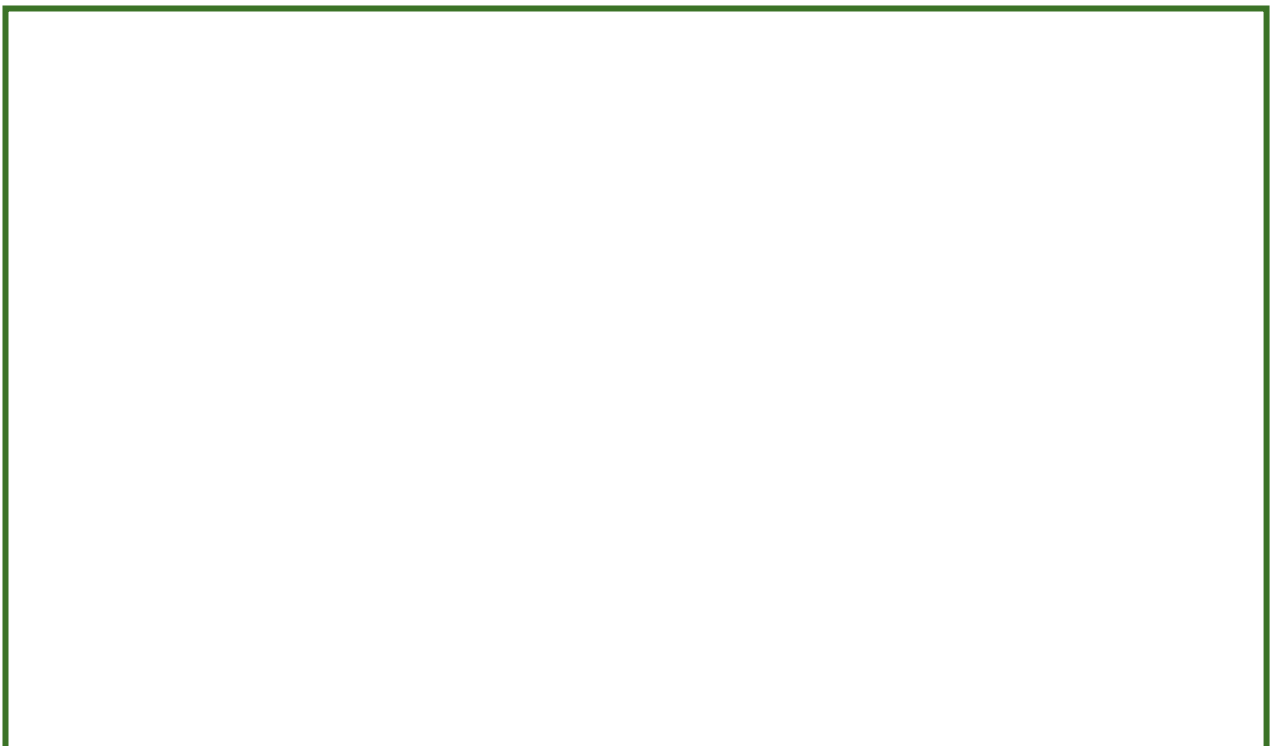
When I am in nature I feel _____ because

<hr/>	
<hr/>	
<hr/>	

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One memory I have of being in nature is ...

Draw a picture of a tree.



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Survey #2

April 2022

Name: _____

Tell me how you feel about learning outside? Circle one of the emojis.



1



2



3



4



5

When I think of nature I think of....

Draw or write your ideas.

Would you continue to use your nature journal? Why or why not?

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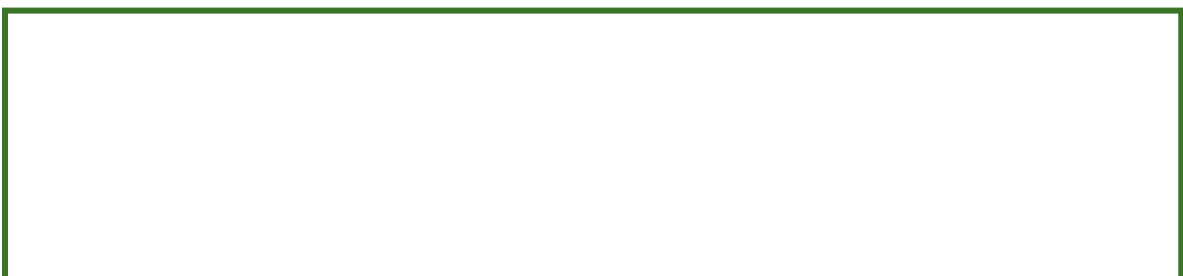
What are some things that you learned from nature journaling?

Do you think you can learn from nature? Why or why not?

What feelings did you have in your special spot?

Can you share a memory from your special spot?

Draw a picture of a tree.



APPENDIX C: RELEVANT CHILDREN'S LITERATURE

Alderfer, Jonathan - National Geographic Kids Bird Guide of North America (National Geographic, 2018)

Aston, Dianna - A Nest is Noisy (Chronicle Books, 2017)

Baker, Jeannie - Home (Greenwillow Books, 2004)

Baker, Jeannie - Window (Greenwillow Books, 1991)

Baylor Byrd - The Table Where Rich People Sit (Aladdin Books, 1998)

Cherry, Lynne - The Great Kapok Tree (Clarion Books, 1990)

Christian, Peggy - If You Find a Rock (Clarion, Books 2008)

Cole, Henry - On Meadowview Street (Greenwillow Books, 2007)

French, Vivian - Yucky Worms (Candlewick Press, 2012)

Lewis, J. Patrick - Nature Poetry (National Geographic Kids, 2015)

Messner, Kate - Up in the Garden and Down in the Dirt (Chronicle Books 2017)

Messner, Kate - Over and Under the Pond (Chronicle Books, 2017)

Rubin, Laurie - To Look Closely: Science and Literacy in the Natural World (Stenhouse, 2013)

Serafini, Frank - Looking Closely Through the Forest (Kids Can Press, 2008)

Serafini, Frank - Looking Closely Around the Pond (Kids Can Press, 2010)

Sidman, Joyce - Swirl by Swirl: Spirals in Nature (Houghton Mifflin, 2011)

Sidman, Joyce - Dear Treefrog (Clarion Books, 2021)

Sidman, Joyce - Song of the water boatman and other pond poems (Clarion Books, 2005)

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Stewart, Melissa - A Place for Birds (Peachtree Publishers, 2015)

Wenzel, Brendan - A Stone Sat Still (Chronicle Books, 2019)

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