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Building a Community Art Garden: A Participatory Eco-Arts Based Educational Research Project

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Graduate Program in Education

A thesis submitted in partial fulfillment of the requirements for the degree in Master of Education

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Building a Community Art Garden:
A Participatory Eco-Arts-Based Educational Research Project

(Thesis format: Monograph)

by

Beryl Cohen

Graduate Program in Education

A thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Education

The School of Graduate and Postdoctoral Studies
The University of Western Ontario
London, Ontario, Canada

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Abstract

The purpose of this study is to explore how a community comes to understand their sense of place as they create a school art garden, and then consider their relationship to it, and to the natural world. Using qualitative arts-based methods of inquiry and A/r/tography, I weave and construct text and visual images, which portray human actions and experiences within the framework of Environmental Inquiry. As a participant, I also respond to the project through the creation of artwork.

Rich community narratives and data analysis resulted in the following themes: Teaching and Learning; Activism; Connection to Nature; Health and Healing; Problems Facing Society; Food Production; and Community.

A discussion of the findings, along with recommendations for practice and research, complete the study. The discussion includes how to incorporate gardening into school communities, and how gardening assists with anxiety reduction and in developing positive life-long skills.

Keywords

A/r/tography, Arts-based educational research, environmental literacy, experiential learning, participatory research, place-based learning, stewardship.

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Chapter 1

1 Groundwork: Preparing the Soil

This chapter lays the groundwork for my participatory arts-based educational research project. Working alongside my school community, I was given the privilege to co-create an outdoor space which includes artwork and gardens. Prior to starting the project I had already established an active art and eco club with over 80 participants. I had also made a commitment to the school community to establish a garden at the site.

1.1 Introduction

This inquiry delves into environmental and social awareness, Arts-Based Educational Research, A/r/tography, and Environmental Inquiry. There are three major components to this work. Firstly, there were the planning stages. Secondly, I explored the integration of arts-based education and environmental education with students, Grades 6 through Grade 8, who are from a large, suburban, middle- to upper-middle-class community. Looking to Chiarotto (2011) and Stone (2005) for an environmental framework, and Gude (2007, 2013) and Gablik (1991) for a postmodern art framework, I forged a series of eco-art responses in collaboration with my student participants, visiting artist, and a student intern. Additionally as a participant myself, I responded to this work as an A/r/tographer¹ and created sculptures, as well as other artworks, including an altered book. The third component of this project was the inquiry itself, where I followed the framework of arts-based educational research (Barone & Eisner, 2006) and

¹ Throughout this research project I have kept a journal, created an altered book, created a website, and forged metal sculpture from bicycles. Within the journal, I have commented about the process undertaken throughout the creation of the art-garden project. My journal entries, student and participant writings, and thoughts are sown throughout the text to form rhizomatic connections. Times Italic font type

A/r/tography (Irwin & Springgay, 2008). There are overlaps between the latter two components of the project as the art and garden provided data within this living inquiry².

This project developed partly due to my desire to expand our eco-schools program and to continue to explore environmental art making with my students. I was interested in using inquiry to drive my art and eco club programs and wanted to invite parents and other community members to collaborate with me and the student participants.

The school site is in a middle-class suburban area and is adjacent to a ravine which has a series of paths used by both humans and animals. The garden that we established sits in the middle of a circular driveway at the end of a dead-end street. The fusion butterfly garden is next to the front door of the school. Interspersed throughout the front yard are a series of five raised boxes. These now are home to both fruit and vegetable gardens. The front lawn hosts an outdoor classroom which includes 13 large stones that sit in a circular formation. Surrounding the periphery are a variety of trees that provide shade for numerous outdoor activities.

Most students are carpoled, or travel on public transit to the site where they attend a specialized school for the arts, as they generally don't live within walking distance.

1.2 The Seeds of My Journey

While attending an outdoor trade show, I was first introduced to the term, “nature deficit disorder” by an outdoor education college instructor, who highly recommended Louv’s (2005) book, *Last Child in the Woods*. At the same trade show, I bought the T-shirt which proudly states, “Ask your teacher to take you outside.” This slogan speaks to my pedagogical philosophy, as I believe that teaching outdoors offers students much more than fresh air.

² Living Inquiry is described by Irwin and Springgay (2008) as “the ongoing living practices of being an artist, researcher, and educator” (p. xxix). They have also defined living inquiry as a commitment to education and the arts through the participatory act of inquiry.

In today's increasingly urbanized and technologically plugged-in world, many children do not engage with the natural world as often as they should. I believe that this is a problem not only plaguing our youth, but rather a problem facing our urban and suburban society as a whole. I know that I am not alone in my thinking. Orr, (2005) states that the "ecological crisis is in every way a crisis of education" (p. x).

Having grown up on the Canadian prairies, close to farmland, I was never inside, but always out and about, mapping the best bike routes in the neighbourhood. I had a grounded sense of my region, as I rode freely through nearby fields, and undeveloped land. My friends and I built forts in the woods, where we played for hours. Back at home, I would study the garden, and was forever pinching cherry tomatoes off the vine. During my youth, everyone went outside and everyone had a vegetable garden. This is not so in the large urban centre where I currently live and work.

My parents instilled the teachings of "*tikkun olam*", a Jewish concept which translates into repairing the world through engagement in social and environmental action. As a child, we held tree-planting ceremonies on *Tu' Bishvat*, the Festival of the Trees. During my youth, I went on extended canoe trips at a summer camp, followed by several weeks with my family vacationing in a log cabin in Minnesota's Lake Itaska State Park. I clearly remember this park and our wilderness drives amongst the Douglas fir trees, where as children we would witness the deer drinking from the stream at dusk. I returned to Lake Itaska in my mid-twenties and vividly remember how I felt physically, emotionally, and spiritually when I approached the groves of Douglas fir. There were many reasons why my parents taught their children to love and respect the earth.

I also recall, while on an overnight canoe trip in Lake of the Woods as a young teen, my camp counsellor explaining what the white foam on the shoreline was. Although the white foam, remnants from the near by pulp and paper mill, was aesthetic, it made me uneasy, and I wanted to find out more. How would fish react to swimming in foam that looked like it belonged in a washing machine? I had many questions and wanted answers; I turned to books.

Soon after my encounter with water pollution and after reading *Diet for a Small Planet* (Lappe, 1971), to the chagrin of my family, at age thirteen I became a self-proclaimed vegan. At the time, I needed to do my part in helping to solve the world's economic food crisis. As I understood it, plants and grains were much healthier, and grain-fed meat contributed to an imbalance in the world's food distribution, not to mention increased methane gases. During my teens I stopped worrying about justifying my lifestyle choices and continued to read and collect recipes for meatless dishes. Today, I still eat very low on the food chain, and avoid red and white meat.

Between submitting my research proposal and beginning this inquiry, I was at a point where my husband and I needed to rejuvenate. Two years as a distance learner graduate student and full-time teacher kept me chained to my computer. I was in need of reconnecting with the natural world, and after speaking with a few acquaintances for advice, we booked a two-week holiday in the summer of 2012 to one of the most environmentally responsible countries in the world: Costa Rica. For the first time we paid for a carbon offset on our airfare³.

Visiting the cloud forest in Monteverde, a private environmental school in Dominical, and staying at the Harmony eco-hotel in Nosara were just a few highlights. For our evening

³ Individuals can purchase carbon offsets to lessen their greenhouse gas emissions from sources such as transportation. An individual may purchase carbon offsets for air travel. Information on how to do this is outlined on the Air Canada website at <http://www.aircanada.com/en/travelinfo/traveller/zfp.html>

entertainment we'd sit outside on a porch and listen to the sounds of the jungle. This disconnect from technology, with the exception of my camera for documenting the trip, allowed me to relax, and breathe. I purchased the book *Ecological Literacy: Educating Our Children for a Sustainable World* (Stone & Barlow, 2005) from the quaint bookstore and gift shop at the Harmony Hotel⁴. I spent the first few days investigating my surroundings and the wildlife, which included a number of iguanas, a green poisonous snake, Halloween crabs, hummingbirds, a white-nosed coati, and (what turned out to be) a squirrel.

I mentioned to the wonderful staff that it would be prudent on their part to offer an educational program so that those visiting might learn to respect the beauty of the grounds. I firmly believe that I was witnessing children who were suffering from Nature Deficit Disorder (Louv, 2005). I watched several youth as they sat poolside, spending their time playing games on their iPads. Here I was on holiday, and I wanted to teach others to see what was living up in the trees and down in the soil. These children simply appeared to have lost touch with the earth.

My worldview, which has been shaped by my life journey, has travelled with me into my professional life. As a teacher, I have always focused my curriculum on healthy living and respect for the environment. This love and respect for living things explains why I instill the principles of biophilia⁵, as well as inquiry, within my eco-schools programming.

As humans we have many facets to our identities. Throughout this inquiry, I have had to work hard on balancing my artist, researcher, and teacher self. This has been especially so at my

4 The Harmony Hotel is an eco-lodge on the Pacific Coast of Playa Guiones, Guanacaste, Costa Rica near Nosara. They are committed to sustainable practice through an organic field-to-table project where eighty percent of the foods they serve at the juice bar and restaurant comes from either their own farm or nearby fields. During my visit I had a tour of their compost facility; all the waste from the restaurant is worked back into the land.

5 The term Biophilia implies the bond and love between humans and all living systems. It was first coined by Eric Fromm, but introduced and popularized in 1984 by Edward O. Wilson, in his book, *Biophilia*, where he proposed that humans have a biological need to connect with nature.

place of work where I am perceived by most as the art teacher. My artist self has always meshed with my teacher persona, and so as all artists do, I seek out my own kind to gather ideas, to engage in ways of making sense of the world, and to create. This is simply a part of my ontological way of being.

1.3 Planting the Seeds: A New Garden is Born

“Think globally, build and plant locally” (Louv, 2011, p. 29)

After several informal discussions with parents and students, I began to discover that many of the students I taught didn't know how to garden and didn't have parents/guardians who gardened. This is somewhat problematic for these students, as they are generally unaware of where food comes from, and what is required to bring it from field to table.

In the past our staff joined with parents and their children for a community planting. The end result was ill-planned garden beds which offered overgrown perennials mixed with voracious weeds. To nourish the prospect of hosting a vegetable and butterfly garden I approached our District School Board's Grounds Committee. After hearing their recommendations, and consulting with my principal and like-minded parents, I took a leap of faith and “dug into” this project.

The students eagerly dug in alongside of me. One student connected me to my gardening mentor, Carol. As a long time community gardener, Carol excitedly offered me seeds of wisdom. She worked with me, providing suggestions and advice as to which plants would thrive where, how to connect to other community members, and how to engage parents in our summer watering program.

1.4 Eco-Art Education

Six years ago when we opened the school where I currently work, I became involved in my District School Board's Eco-Schools Program, as I needed to nourish my growing interest in environmental art education. Often I wished I could take my students outdoors to learn. With the help of a group of parents and a supportive principal, within a year we managed to have an outdoor classroom funded and built at our school. In less than a week after it was completed, teachers started taking students to the outdoor classroom for a variety of subjects and community teachings. At lunch, students sit and socialize on the rocks.

At the time, I didn't realize that working on funding and planning the outdoor classroom was the beginning of this project. Our garden space was in dire need of work and was far from inviting. It bothered me that the exterior of our arts-based school was unaesthetic. As a Masters student with a focus on curriculum in Visual Arts, I had a vision, and I quietly set out on a mission, knowing that along my path, a community of like-minded participants would find their way into this inquiry.

A few summers before I moved to my current school, I took a workshop with Dr. Hilary Inwood, where I became acquainted with environmental artists and art making. During September of 2004, I introduced my students to artists such as Andy Goldsworthy and Edward Burtynsky, and realized that the students thoroughly enjoyed connecting to, and making art in, nature. I have always believed in teaching through the arts and using Visual Art as a tool to engage my students and to encourage them to illustrate their understanding of the world around them.

I have since fueled my interest in eco-art making by attending several outdoor education workshops, working with Eco-Schools and The Brickworks to create curriculum for a middle

schools conference, and writing Ontario Ministry Curriculum for EduGAINS Differentiated Instruction with a focus on Visual Arts and the Environment.

Today, I see a greater need for educators to not only plan curriculum which will empower and prepare our young adults to deal with some of the world's environmental problems, but to reintroduce our youth to the outdoor world. Louv (2011) refers to teachers with this ideology as those "who intuitively or experientially understand the role that nature experience can play in education" (p. 262). As Inwood (2008) states:

Little systematic inquiry [has been] done in creating, implementing and analyzing eco-art curriculum and pedagogy in classrooms. What is sorely needed is sustained research on the praxis of eco-art education, highlighting how the theoretical groundwork merges with an appropriate pedagogy to define classroom practice. (p. 67)

Learning outside on a daily basis is somewhat difficult to do as a regular classroom teacher unless it is mandated as an integral component at the school level and the proper setting is in place. As I was conducting research in my own school community, I opted to integrate eco-art education through extracurricular programming. The Art Club and Eco-Club members collaborated to create much of this work.

My research addresses the following questions:

- What are the pedagogical implications and elements of a curriculum grounded in environmentally-themed, co-operative art projects and a community garden whose goals are to promote environmental life-style changes, ecological literacy, and environmental stewardship?
- What are the experiences of students, artists, teachers, and parents, as they create environmentally-themed, co-operative art projects and a community art garden?

My interests also stemmed from wanting to gain additional understanding of how parents, teachers, and teacher candidates engage with children in the natural world, and what their perceptions are regarding their own personal environmental footprint. I was also interested to see if my participants would experience change in their behaviour towards how they interact in the environment as a result of their participation in this project.

1.5 Overview of the Thesis

As I present my inquiry, I address these questions, drawing rhizomatic connections between environmental education and literacy, a critical place-based pedagogy, 21st Century Postmodern art making, and eco-art. Chapter 2, my literature review, offers three distinct areas of discussion. There is a focus on Environmental Education and Community Gardening; Environmental Artists and their Artwork; and Eco-Art Education. These areas provide knowledge, ideas, and historical context for the reader. They connect to the questions and strengthen my reason for conducting this inquiry.

Environmental Education focuses on Critical Place-Based Education and the four tenets of Environmental Literacy as outlined by Chiarotto (2011). Through the act of building a school art garden, my goal was to plant the seeds in hopes of fostering stewardship, environmental inquiry, and experiential learning. Looking to Duncan (2011), Garion (1998), Orr (2005), Sobel (2004), Chiarotto, (2011), and others, I engaged in place-based, real world contexts, along with the community of students, family members, and teachers who I invited to become involved in shaping their outdoor school environment during the project stages of this inquiry.

What follows is a June 2013 journal entry as I reflected on the art garden project:

I have joined the guerilla gardening movement. I enthusiastically tore up the grass in front of our home, and have planted a fusion garden with many native

species. I have shared my plants with neighbours, they with me, and then offspring has found its way to the school community garden. I see potential for plants on every street corner.

Guerilla gardening is often taken on by groups to build community connections. As we cultivated ideas, I became more aware of myself as an environmentalist, artist, teacher, and researcher. There were many hills to climb, and much digging, and designing; all of which I know would have never taken root had I worked on my own.

This inquiry also provides some insight why we teachers need to take our students outside and how it impacts their mental and physical health, and their collaborative skills. Through individual and group experiences we are provided with a glimpse into the world of youth. We see their ideas, hear their fears and their passion for the earth. This is the opinion or student voice⁶ that Inwood (2009) suggests is missing from much research in “eco-art learning.” The students’, parents’, and teachers’ experiences offer us insight as to how curriculum grounded in environmentally-themed, collaborative art projects can promote ecological literacy, environmental stewardship (Inwood, 2009), and life-style changes amongst many participants. As a teacher, it is important to hear the students’ views to understand how to structure curriculum. The student participants’ feedback helped to guide decisions as the project unfolded. This aligns with a social constructivist (Vygotsky, 1930-1934/1978) approach as students build upon their prior knowledge.

⁶ Within this qualitative inquiry, it is important to consider the valuable information that is generated by listening to and viewing student voice.

Each individual is limited by his or her experience in the world. Therefore the voice of the participants represents their worldview and how they see, feel, and interact with their environment. Retelling the story of others does impose limits, as meaning can be reshaped by the reporter. However, the artwork of each individual also is a form of expression, or voice. “Artistically rendered forms contribute to the enlargement of human understanding because they do what poetry has been said to do, to say in words what words can never say” (Barone & Eisner, 2012, p. 159). Therefore, Arts-Based research allows the reader to engage in understanding using a variety of senses.

Whitaker⁷, age 11, in conversation with two other boys while spray painting:

When I get older, I will be a survivor. I will know how to plant a garden, and how to save seeds so I can grow things. Do you know what the price of gas will be? How will food be delivered hundreds of miles to people, and who will be able to afford that food? I'll be fine. I'll know how to feed myself, I'll know how to garden, and I won't eat GMO food. I'll know how to survive!

Community Gardening is a way to learn about where food comes from, how to grow, weed, harvest, and create meals with organic food, Stone (2009). It is also a way to learn to collect and save seeds, as well as maintain pesticide-free, healthy soil. Furthermore, gardening is an excellent way for students to connect to one another and cultivate “relationships with place and community” (Stone, 2009, p. 36).

Chiarotto (2011), Inwood (2007), and Uptis (2007), emphasize that when members of the community work together, relationships are formed between one another and the land.

Uptis, in her *Four Strong Schools: Developing a Sense of Place through School Architecture*

⁷ All participants have been assigned pseudonyms

(2007), cites four case studies portraying how schools can provide students with opportunities to develop ecological awareness through practical activities that are enhanced by natural environments. She suggests, like Richmond (2005), that it is important to bring nature into our daily lives.

The final element of my literature review discusses eco-art and art education. At the elementary and middle school level, art making has been used widely as a cross-curricular tool. Orr (1992) and Graham (2007) stress the need for arts-based education to help students to express their understanding of the world around them. “Art education offers a dynamic way to increase the power and relevancy of environmental education by providing an alternative means for furthering learners’ ecological literacy” (Orr, 1992, p. 6).

As Inwood (2008) suggests, social constructivism along with reconstructivist postmodernism are “more conducive in nurturing” (p. 63) the field of eco-art education.

Reconstructivism is defined by Clark (1996) in his *Art Education: Issues in Postmodern Pedagogy*, where he discusses the reformist and reconstructivist views of postmodernism. The latter as Clark (1996) describes is based on the concept that art education is an avenue for social transformation. The goal of the art garden project was to discern if through eco-art making and gardening the participants experienced a form of transformation.

Many of the art making components of this project are aligned with the theories of 21st century artist and educator, Olivia Gude. In her postmodern *Principles of Possibility*⁸ (2007), she refers to her understandings of the practice and research of those who work in the field of visual and media arts. Discussed later under my literature review, I aligned the student

⁸ Olivia Gude is an Associate Professor and the Coordinator of Art Education at the School of Art and Design, University of Illinois, Chicago. She is well known for her intergenerational public artwork and for her Contemporary Community Curriculum Initiative, a program where art teachers collaboratively develop curriculum based on community issues and postmodern art.

participants' art projects with Gude's worldview, which has a specific focus on postmodern principles. These principles include but are not limited to attentive living, playing, investigating community themes, and reconstructing social spaces. The participants in this project worked to design a garden, and create artistic responses to their surroundings, discussions, PowerPoint digital slideshows, and readings on the website. As well, I was influenced by the writings of Maxine Greene and Suzie Gablik, two feminist art educators who are both spiritually committed to raising moral consciousness through art by connecting it to daily living.

Through collaborative art making, narrative, and gardening, along side of my participants, I formed rhizomatic connections which have grown and have been influenced by existing theories in art and environmental education. Similar to Inwood's approach (2009), art has been used to inspire social change. I have also included film and website readings to further enhance environmental and social concepts. Inspired by Springgay, Irwin, Leggo, and Gouzouasis (2008), I also engaged in A/r/tography while struggling to form rhizomatic connections within my identity as an artist, researcher, and teacher. The interplay of these connections is significant to my research as I was also the teacher of the students, and a member of the school community where I serve on a daily basis. As an insider to the school culture I was afforded a bountiful harvest.

In Chapter 3, I discuss the methodology of the project. I explore literature on qualitative arts-based educational research and A/r/tography. Included are discussions addressing the trustworthiness and ethical considerations of the study. I describe the design of the project, including data collection methods and analysis. The various data forms include the art process and art integration through a variety of media and poetry. The emergent and democratic participatory nature of this project afforded me rhizomatic (Irwin et al., 2008) connections

between the project activities, the data collection, and the data analysis. There is also a triad of connections as artist, researcher, and teacher which I explore through my narrative as an A/r/tographer. The student work and the garden is explored through the framework of environmental education, Gude's (2007) framework for postmodern art education, and the criteria for arts-based educational research.

In Chapter 4, I first describe the art projects and present my data, both visual and written. I share the accounts of the participants' involvement in the art-garden and art studio. I address my questions and share my voice as an artist and teacher. I also analyze my data by examining the experiences of my participants while looking for common roots and understandings. As I reap through the harvest of material, I work to find patterns that emerge as a result of my questionnaires, interviews, and participants' artwork. I discuss pedagogy and its implications in this inquiry, mapping out the curriculum, collaboration, eco-arts integration, and the effects of an Ecological Arts-Based Participatory Research Framework.

My final chapter, "Food to Table," summarizes my results. I consider the contribution of this inquiry, how my findings support the theories of others, and its limits. I also examine the implications for arts-based participatory eco projects within the current structure of the school system and discuss considerations for what to plan for on the site and beyond.

Chapter 2

2 Literature Review: Sowing the Seeds

With the propagation of eco-schools programs throughout Ontario, teachers have seen a greater opportunity for environmental literacy integration through both the curriculum and extracurricular activities through eco-club programs (Ontario Ecoschools, 2014). From observations in my own teaching practice I have noticed a shift whereby some teachers are embracing project-based learning, inquiry, and integration. For example, in my school, I have witnessed the power of student learning when science and other core subjects are taught through the arts.

The three significant themes that represent the areas of focus in this inquiry include: Environmental Education and Community Gardening; Environmental Artists and their Artwork; and Eco-Art and Art Education. Particular educators', artists', and environmentalists' work have influenced me and have helped shape my decision of how to frame this study. Their inspiration and insight have provided me with the grounding required to undertake this project and inquiry. Additionally, in subsequent chapters, further literature is reviewed as it pertains to areas including methodology and data.

2.1 Environmental Education

Environmental Education is a relatively new branch of knowledge that connects activism with the study of nature (Chawla, 2009). Its original goals were drafted in 1969 by William B. Stapp, who first defined environmental education in the first issue of *The Journal of Environmental Education*, wherein the authors posited the following:

Environmental education is aimed at producing a citizenry that is knowledgeable concerning the biophysical, environmental and its associated problems, aware of

how to help solve these problems and motivated to act toward their solution. . . .

For environmental education to achieve its greatest impact, it must: 1) provide factual information which will lead to understanding of the total biophysical environment; 2) develop a concern for environmental quality which will motivate citizens to work toward solutions to biophysical environmental problems; and 3) inform citizens as to how they can play an effective role in achieving the goals derived from their attitudes. (pp. 34-35)

Today's movement towards teaching for sustainability requires that environmental education focus on "connections between people, places and nature," (Orr, as cited by Stone & Barlow, 2005, p. 1). I have noted in my own teaching practice that climate change and the ensuing consequences including tornados, tsunamis, and melting polar ice caps are difficult and frightening for students to fully comprehend due to their lack of direct experience and real life connection to the issues. This is not to say that we shouldn't gently inform students of how climate change is affecting the planet. Simply focusing on environmental problems as a form of education is being progressively replaced by a more holistic approach that realizes the need for students to develop a caring relationship with nature if they are to become responsible stewards of the environment (Orr, 1994, 2004; Sobel, 1996).

Orr (2004) and Sobel (1996) both use the term "environmental education", which refers to environmental learning. It encompasses sustainable schooling with an emphasis on real world experience in the local environment. According to Stone, Bennett, Goleman, Barlow, and Capra (2009, p. 9), the four main principles for sustainable schooling include:

- Nature is our teacher;
- Sustainability is a community practice;
- The real world is the optimal learning environment; and

- Sustainable living is rooted in a deep knowledge of place.

With a focus on place-based education, more educators are realizing that when students are working within their own community, they are motivated to “portray positive components of the neighbourhood from which they draw inspiration for artmaking” (Russel & Hutzler, 2007, p. 9). Place-based education can focus on learning through participation in service projects for the local school and/or community. Greenwood (2009) encourages educators to adopt local place-based inquiry to expand their landscape of learning opportunities between students, teachers, and community members. Greenwood (2008), Graham, (2007), and Sobel (2004, 1998) have used the term “place-based learning” and “critical place-based learning” which emphasize the familiarity of neighbourhood and community spaces as the most suitable locale for students to begin to understand the natural world.

As the founding director for the Center for Ecoliteracy in Berkley, California, Capra (2005) is best known for disseminating knowledge about ecoliteracy, and for speaking to the fundamental concepts of sustainable living through the synthesis of theory and practice. UNESCO (2005) promotes the notion of education for sustainability worldwide. In 2013, for example, UNESCO declared the International Year of Water Cooperation, which engages youth on many levels. According to their website, they are the lead agency for the UN Decade of Education for Sustainable Development (2005-2014), and support their many partners, including teachers and youth.

Stone’s (2005) discussion of the principles of environmental project-based learning provides evidence of the growing trends in the eco-education movement. Stone describes the project as *Students and Teachers Restoring a Watershed (STRAW)*, which began in 1992 by a school and community in California. Here, educators use the local creek as a tool to teach and as

an outdoor classroom whilst restoring the watershed. Stone (2005) demonstrates how the following five guiding principles are put into action:

- Curriculum structured around the knowledge and skills necessary to complete a meaningful and complex real-world project, often in service to the local social and environmental community;
- A high degree of student initiative, leadership, and participation in defining problems and in selecting and managing projects to address them;
- Learning in which results are not predetermined nor fully predictable;
- Teachers as resources, fellow learners, and problem solvers rather than as dispensers of knowledge; and
- Attention to skills such as setting goals and priorities, managing time, problem solving, and working with others. (p. 162)

Chiarotto (2011) outlines a similar framework with a pedagogical focus on the four goals of Environmental Inquiry which is outlined in the following quotation. She states that, “Building a school garden of edible plants is a surefire way to create learning experiences that dovetail all four goals of Environmental Inquiry: Inquiry-based Learning, Experiential Learning, Integrated Learning, and Stewardship” (p. 140).

Within this project, I aligned my teaching with Stone’s concepts of critical place-based learning (2005). As well, I looked to Environmental Inquiry as a pedagogical framework for Environmental Education (Chiarotto, 2011), because I appreciate her emphasis on democratic, student-centered curriculum that allows students the opportunity to co-design the curriculum through their questions which power the learning process, thus fostering a spirit of collaboration because the teacher becomes part of the team of learners.

Inquiry based learning is similar to Reggio Emilia's⁹ ideology in that students, teachers, and parents have active input in designing or constructing the curriculum (Kocher, 2014). Engagement in critical problem-solving is afforded both through academic and social pursuits, providing the students with the time to reflect upon and interpret information, connect it to their own lives and worldview, develop critical thinking skills by posing questions to confirm their understanding as they build upon each other's knowledge, and work within a collaborative group whilst learning to respect a number of different points of views (Chiarotto, 2011).

Chiarotto defines experiential learning as an opportunity to learn about the environment through direct contact within the environment (2011). This includes allowing for opportunities for students to witness and be with nature, and to engage in haptics¹⁰ through sensory experiences such as digging, planting, and weeding our garden. Furthermore, their knowledge is not derived from textbooks, but rather from their engagement within the world around them (Dewey, 1938), where students require the time to reflect, journal, and discuss their previously held beliefs, and if their experiences could influence their future behaviour and newly-formed knowledge (Kolb, 1984; Vygotsky, 1930-1934/1978).

The third branch of Environmental Inquiry outlined by Chiarotto (2011) is Integrated Learning. She stresses that there are five different ways to build integration into a program that include, "Subject Integration, Stand Integration, Successive Integration and Perspective Integration" (p. 44).

9 Reggio Emilia curriculum was introduced in Italy after World War 2. I was first introduced to this philosophy while on a tour with a group of early childhood educators in Israel. The particular *Kibbutz* we visited had implemented the Reggio Emilia principles of community, respect, and responsibility for their children within a program that was based on the interests of the children. The kibbutz members had created a school in a former children's house, and explained that their enriched curriculum allowed for much outdoor play, drama, and art with a focus on environmental stewardship.

10 Haptics is a form of nonverbal communication that involves kinesthetic movement, and bodily sensations.

Orr (2004) says that, “All education is environmental education. By what is included or excluded, students are taught that they are part of or apart from the natural world” (p. 12).

Integrated learning offers a holistic approach where students are encouraged to use content from across disciplines, transfer skills from subjects across the curriculum, explore relationships between areas of study, and explore topics from different points of view. (Chiarotto, 2011).

Within the revised Ontario Grade 7 Geography curriculum, as an example, students come to understand economic, social, political, cultural, and environmental causes, as well as the effects of human interaction (Ontario Curriculum, 2013). The curriculum therefore reinforces Stapp, et al. (1969), where in their outline for *The Concept of Environmental Education*, it clearly states that, “a broad understanding of the biophysical environment, both natural and man-made, and its role in contemporary society” (p. 34) is important for students to comprehend.

Chiarotto’s final component of her framework is environmental stewardship that refers to the actions of humans that affect the sustainable future for all life (2011). According to Bucklin-Sporer and Pringle (2010), “school gardens instill an environmental stewardship ethic” (p. 32). This ethic is exemplified by the attitudes of students from a UBC intergenerational gardening project where students expressed that they had an increased sense of responsibility and understanding of how to care for the environment (Mayer-Smith, Bartosh & Peterat, 2007).

From an environmental viewpoint, Chiarotto (2011) emphasizes that stewardship recognizes that through human interactions, we can make choices which can contribute to sustainable living and to a sustainable future for all species of plants, animals and people. She states that interactions “grow from a deep respect for, and desire to protect, the balance of nature within the Earth’s biosphere” (p. 54). According to Chiarotto, we can reinforce the ideas of stewardship if we employ the three learning conditions within our curriculum. These concepts

include: spending time in a natural setting, a linking of stewardship actions to classroom (or in this case extra-curricular learning); and student voice and collaboration throughout their learning process.

At the Center for Ecoliteracy, Stone (2009) explains that woven into the students' academics are the theories of place-based and integrated learning. As a result, hands-on experience, ecological awareness, and an ethic of care are developed. Chawla, (2009) and Goleman, Bennett and Barlow (2012) assert that ecological understanding is universal and can expand beyond the self to others, and then to all living networks.

The Ontario Ministry of Education offers its own policy framework for Education in Ontario schools, much of which echoes what has been previously discussed above. However, it is noteworthy that in *Reach Every Student: Energizing Ontario Education* (2008), the Ministry has stated that, "Research has shown that environmental education not only increases students' environmental literacy but also contributes to higher academic achievement for all students" (OME, 2008). This is significant to this study because it further substantiates that with greater environmental awareness students will likely be more environmentally responsible, aware, and be able to articulate their understanding as well as make decisions that reflect stewardship (Stone, 2009). He goes on to state that "Students who learn nature's principles in gardens and serve their communities through civic participation become more engaged in their studies and score better on tests of independent thinking, and in diverse subjects, including science, reading and writing (p. 5).

Within their *Acting Today, Shaping Tomorrow: A Policy Framework for Environmental Education in Ontario Schools* (2009), the Ministry also stresses that Environmental Education supports their character development initiative. Character growth includes a level of

responsibility and participation or civic duty, which Goleman, Bennett, and Barlow (2012) discuss as helping students to “strengthen and extend their capacity to live sustainably” (p. 9). In *Shaping our Schools, Shaping Our Future* (2007), it is noted that Environmental education requires students, teachers, and others within the system to investigate environmental issues both locally and globally. The Ministry asserts within this document that students will be challenged to expand upon “the knowledge, skills, and attitudes they will need to cope with an increasingly complex world and [will] enable them to find new solutions in building a healthy society” (p. 17).

In, *Acting Today Shaping Tomorrow: A Policy Framework for Environmental Education in Ontario Schools* (2009), the Ministry expects environmental education at the school level to include several components that I have included in my inquiry. These include:

- Learning enrichment through the usage of information technology, including connecting to others via e-communities that focus on environmental issues (supported by my website);
- The creation of opportunities for students to address environmental issues within their community; and
- Partnerships and action research which promotes stewardship and other environmental education concepts and principles.

To paraphrase Capra (2005), a garden project is an ideal starting point to bring students outdoors and teach them the benefit of organic farming. Ableman (2005) states that “Gardens provide great metaphors for life, the circle of birth and death are made palpable because it is seen firsthand. . . . working with the soil offers a sense of accomplishment and personal power” (pp. 180-181).

Much has been written about the value of school gardens and how regenerating a school garden adds more nature to the lives of the community (Ableman, 2005; Capra, 2005). Louv (2011) posits that “Through the restoration of our species other than our own comes the

restoration of our community—and families. A caveat: nature alone does not civilize us. Adding more nature to our lives improves our civilization only in the context of personal, social, and economic justice” (p. 114).

Bucklin-Sporer and Pringle (2010) assert that a garden could possibly motivate children to develop a sense of caring for their local eco-systems which could extend to more complex environmental issues. This theory is further corroborated in *Gaining Ground; The Power and Potential for School Ground Greening in the Toronto District School Board* (Dyment, 2005). The report, based on the findings of an in-depth study within one of the largest school boards in North America, stresses that students have increased stewardship and environmental awareness through the act of greening school grounds.

Chiarotto’s (2011) case studies of community gardens within the inner city discuss the value of integrating environmental education within curriculum. Establishing a school garden, tended by a community, is much different from tending a garden on one’s own as it is “essentially an institutional garden” (Bucklin-Sporer & Pringle, 2010, p. 49). Louv (2011) explains that we are so overwhelmed by man-made stimuli that it deadens our physical, mental, and spiritual health.

Louv (2005) reminds us that many environmental educators feel a deep connection to the earth and the places that they inhabit, which I contend could include their workplace. Also noteworthy is that educators who work outside in green space are more energized and excited about curriculum potential (Dyment, 2005).

Nature-smart education appears to work for everyone involved, including teachers. A Canadian study showed that greening school grounds not only improved academic performance of students; it also lowered exposure to toxins

and increased teacher' enthusiasm for being teachers, in part due to fewer classroom discipline problems. (Rose, Morgan, Ip et al., as cited by Louv, 2011)

As more students are being pulled towards electronic tools (Louv, 2005; Moore & Marcus, 2008), there has never been a more critical time to focus our attention on the health benefits that nature provides (Selhub & Logan, 2012). Not only can community garden projects act as a tool to reacquaint urban youth with the land, they have been known to be a motivating factor that encourages a less sedentary lifestyle. Kuo and Faber Taylor (2004) suggest that there is a link between a student's emotional wellbeing when they are exposed to the natural world. Their study included school green spaces, and school gardening.

Kuo and Faber Taylor's (2004) expansive research substantiates Louv's (2005, 2011) writings, as the researchers identify that when students are exposed to green space it increases their well-being and their ability to focus. Of interest is that their findings, as well as those of Dymont (2005) in her report for the Toronto District School Board, were that results were intergenerational, cross-cultural, and geographically similar. As well, in both separate inquiries, neither gender nor the income of participants made a significant difference.

Opportunities for children to explore the environment need to be created by adults (Louv, 2005). Solutions to urban planning cannot be imposed, "But must evolve through community-based processes to engage stakeholders and users (including children) in creating design solutions" (Cele as paraphrased by Moore & Marcus, 2008, p. 154).

We are witnessing an awakening of the "food to table" concept through many school gardening club programs that have sprung up across North America; most notably the Farm to School programs in the United States. This type of program has spread to over 40 states and is designed to improve student nutrition, provide both nutrition and health education, and support

local farmers (Stone, 2009). It also connects the people to the farmer, and to the land (Abelman, 2005).

As sustainability is rooted in the knowledge of our place (Stone, 2009), understanding place requires a study of the surroundings and a reeducation of living in the location (Orr, 2005). Abelman (2005) suggests that connecting with the land allows for “another kind of nourishment” (p. 179) to develop what he refers to as the nourishment one receives from relationships based on “local, biological, interpersonal, ecological. It is the result of understanding connections” (p. 179). As people begin to develop a collective knowledge of place, then they begin to understand the meaning of sustainability, and exhibit what Orr (2005) considers “a sense of care and rootedness” (p. 92). As well, “they begin to care about what happens to the landscape, creatures, and people in it” (Stone, 2009, p. 13.).

Louv (2011) states that, “Our relationship with nature is more than preserving land and water; it is also our *participation with*, our role as members of this wider community” (p. 250). Stone (2009) refers to *The Garden Project*, which was an undertaking initiated by middle school teachers in Maine. It is through this garden, he reports, where students learn how to seed, grow, harvest, and prepare vegetables. More importantly, “they learn about cultivating relationships with place and community” (p. 36).

Payne (2009) discusses the value of learning about healthy life-styles from the family. He refers to ‘green parents,’ now in their 40s and 50s, who have battled against society’s norms and have raised ‘pale green children,’ those who live in a highly plugged-in and materialistic time. In *Your Brain on Nature* (2012), Selhub and Logan discuss how nature affects our health and the health of our students. As health is a component of the Ontario curriculum, the literature expresses that it is the obligation of the school system to “support children’s daily outdoor

contact with nature and thus ensure the biophilic evolution of our planet and its human citizens” (Moore & Marcus, 2008, p. 153).

Much has been written about the benefits of nature from a mental health perspective. Louv refers to the ancient gardens Chinese Taoists created to help improve human health. Selhub and Logan (2012) explain that Ecotherapy is not a new phenomenon, and that “Ecopsychology’s message of humanity’s interconnectedness with nature has led some mental health providers not only to prescribe nature therapy, but also to take their own practice into the great outdoors” (p. 215). Gardening, as an outdoor activity, not only strengthens our body, but also increases coordination, balance, and physical stamina. It also strengthens our mind and our soul, which in turn, strengthens our mental health and intellectual growth (Louv, 2011; Wilson, 1984).

Louv (2011) affirms that “every city should *be* in a botanical garden” (p. 355). Furthermore, he states that recognizing our body/mind connection to nature “may also encourage introspection and may provide a psychologically safe haven from the man-made pressure of society” (p. 112). Selhub and Logan (2012) chronicle how throughout history humans and physicians have turned to the garden to provide aid, and to help care for those in mental health facilities. We are beginning to see a re-awakening as today, healing gardens are making their way back to hospital grounds (Louv, 2011).

2.2 Environmental Artists and Their Artwork

Inwood states in her *Artistic Approaches to Ecological Literacy*, (2007) that, “The work of environmental artists is of equal importance as a research-based mode of inquiry in eco-art education” (p. 7). I have chosen to include the work of a variety of environmental artists that I used as reference with my participants including, but not limited to: land artists Robert Smithson and Andy Goldsworthy; environmental photographer Edward Burtynsky; Mierle Laderman

Ukeles, a maintenance artist with the New York Department of Sanitation; eco-visualization artist Tiffany Holmes; and a graffiti artist, and participant in my research, Peter Gibson (also known as Roadsworth) (Plate 16). These committed artists have used their various art forms to address aspects of environmental awareness and issues.

It is important for the reader to understand both the history and significance of various forms of eco-art or environmental art making, and how they have evolved because since its inception in the 1960s environmental art has grown into “a diverse global cultural movement that has expanded the role of art and artists in society” (Bower, 2011, p. 2). Inwood (2009) stresses that one of the challenges in the field is to distinguish between the various names that fall under environmental art. “Taken as a whole, the field of Environmental Art spans a wide range—from beautiful and inspiring, to provocative and insightful to engaging and practical” (Bower, 2011. p. 13).

For example, film and new technology which has encouraged artists to experiment with hybridity¹¹ has unfurled many possibilities for environmental artists including Tiffany Holmes¹² (2008) who focuses on “environmental stewardship using hybrid practices of art and design” (p. 1)

Holmes (2011) refers to her work as eco-visualization. In this area of eco-art making, artists like Holmes use software to raise public awareness in buildings and community spaces. The goal of eco-visualization is to bring to light the consumption levels of resources including

¹¹ The word “hybridity” is used here to describe the blending of two or more art making techniques. An example would include a sound poem that involves using video, spoken word, and still photography. Hybridity will be further discussed with reference to Dr. Olivia Gude as it pertains to art education and her principles of possibility.

¹² Holmes is currently a Professor in the Department of Art and Technology Studies at the School of the Art Institute of Chicago and the Interim Dean of Undergraduate Studies. She teaches courses in environmental art as well as interactivity and the history and theory of electronic media.

water and electricity as they tap into new technologies to encourage “conservation behavior” (p. 1).

Eco-visualization is only one branch of environmental art. There are many terms used within the eco-art movement, and the field is continuously growing (Bower, 2011). The list also includes eco-art, environmental art, sustainable art, process art, earth art, green art, upcycled art, and land art. Each of these has distinct characteristics, and since the overall term, environmental art or eco-art, encompasses them all (Inwood, 2009), to simplify matters, I use the term environmental or eco-art.

Environmental art as a formal movement began sometime in the 1960s to 1970s where Bower (2011) states that artists were gaining interest in the environment. Holmes (2011) attributes this interest out of concern for world issues concerning water pollution, and its effects on public health. She refers to Rachel Carson’s book, *Silent Spring* (1962), as “controversial” (p. 4), and as a telling of “the destructive use of pesticide” (p. 4) and its effect on waterfowl.

Responses to environmental issues should come as no surprise, as in the late 1960s we were in the heart of the Vietnam War, had witnessed the assassination of both Robert Kennedy and Martin Luther King, Jr., saw protests at American universities, and were in the midst of a shift towards consumerism and new technologies (Kastner & Wallis, 2011). In 1968, the *Whole Earth Catalogue* was born out of the back-to-the-land movement. On its heels was the first issue of *Harrowsmith* magazine in 1976. Articles on how to grow your own food, heat with solar power, and why to avoid GMO foods began to sprout up on coffee tables around North America. This was a period when the hippie movement was in full swing and, as Joni Mitchell phrased it, some wanted to “get ourselves back to the garden” (1969).

One of the early and initial pieces of land art was Robert Smithson's *Spiral Jetty* (1970), which Bower (2011) describes its function as "primarily conceptual and aesthetic, but not ecological" (p. 3). Formed in Great Salt Lake, Utah, with massive tons of rock, Smithson's work is subject to the cycles of nature. For many years it disappeared under water and then after a drought it resurfaced in 2002 (Beardsley, 2006). It is important to recognize that Robert Smithson's¹³ earthworks were regarded by some viewers as environmentally destructive (Kastner & Wallis, 2011), however Smithson himself viewed *Spiral Jetty* as "an ecological work of reclamation" (Kastner & Wallis, 2011, p. 32).

The project *7000 Oaks for Kassel* (1982-85) by Joseph Beuys called for an entire city to plant 7000 oak trees, which was "carried out on the basis of site proposals submitted by residents, neighbourhood councils, schools, kindergartens, local associations, and others" (Cooke, 2004 p. 2). Holmes (2011) refers to Beuys work as historical as it linked to the community, and broke down barriers between the art world and everyday life. Beuys encouraged community participation by planting trees to combat the levels of pollution, and was interested in seeing how art could be used as a catalyst to promote change in society (Cooke, 2004). As Beuys stated,

I think the tree is an element of regeneration which in itself is a concept of time.

The oak is especially so because it is a slowly growing tree with a kind of really solid heartwood. It has always been a form of sculpture, a symbol for this planet.

(Beuys as cited by Dmearco, 1982, p. 46)

13 Detailed information regarding the work of Robert Smithson can be viewed at the following website: <http://www.learner.org/courses/globalart/work/283/index.html>

Hans Haacke was another artist who began to approach nature as a political force as he investigated systematic networks that “connected art to other forms of political influence” (Kastner & Wallis, 2011, p. 36.). His *Rhine Water Purification Plant* (1972) is touted by well-known eco-art historian, Grant Kester (2010), on the GreenMuseum website as setting the precedent for artists who are concerned with water quality. Holmes (2011) refers to Haacke’s work as a bridge between industry, science, local education, and “new resource conservation technology” (p. 4). According to Kastner and Wallis (2011), Haacke obtained polluted water from a sewage plant connected to the Rhine River. He pumped chemicals into the water that caused the pollutants to settle. Using a system of purification pools, Haacke “called into question a specific environmental problem – water pollution” (Kastner & Wallis, p. 141).

Another environmental artist of historical significance is Mierle Laderman Ukeles. “Ukeles' work is created through a process of participatory democracy that unites people in open dialogue about the characteristics of important community ecological issues” (Krug, 2006, par. 4). Her first project, *Touch Sanitation* (1978-1984), involved careful mapping and documentation of her conversations with 8500 sanitation workers, all of whom she personally shook hands with (Krug, 2006). Ukeles drew the viewer into the world of the female artist as she addressed the worker, and the everyday tasks associated with motherhood (Kastner & Wallis, 2011).

It wasn’t until the 1990s, as Inwood (2009) points out, that more artists began to realize that environmental art should keep in rhythm with nature, while eco-art should take on a more social or activist stance. Known for treading lightly on the earth, Scottish environmental artist Andy Goldsworthy works only with site-based materials found in nature (Bower, 2011), as well as with his own physical manipulation of the materials through breathing, handling, or holding

(Kastner & Wallis, 2011, p. 69). Photography plays a critical role in his work as he records how time alters growth, decomposition, or the staying power of many of his pieces. His work heightens our understanding that in nature, there is both beauty and impermanence (Kastner & Wallis, 2011).

Artists such as Goldsworthy have inspired Canadian artist Peter Gibson, who is more commonly known as Roadsworth. Gibson explains in his documentary film, *Crossing the Line* (2008), that after 9/11 he began to question his environmental footprint, especially regarding his use of petroleum products. “Initially motivated by a desire for more bike paths in the city and a questioning of car culture in general, he continued to develop a language around street markings and other elements of the urban landscape using a primarily stencil based technique” (Roadsworth, 2014).

His guerrilla graffiti, which he spray-painted on Montreal streets, originally got him into trouble with the authorities. Ironically, with much public support, the city later hired him to create a number of pieces of public artwork. (Gibson, 2008). His work, *Made from Paper* (2008, see Plate 16) exemplifies his desire to draw attention to environmental issues.

Another Canadian environmental artist of great importance is photographer Edward Burtynsky. His travels take him around the world where he searches for instances where nature is transformed by industry (Burtynsky, 2014). In both the book, *Manufactured Landscapes* (Pauli, 2009), and the film of the same name (2006), we are made aware of our dependency on minerals, oil, transportation, and the consequences of industrialization.

As Bower (2011) suggests, Environmental artists have a role to play during these times of transition. Like Gablik (1991), he stresses that there is a “shift in the role of art as a commodity to art as a service” (p. 13). He submits that within this new era we will find environmental artists

filling a practical role, one which will infuse our lives with art and an ecological way of being. As Holmes (2011) notes, there have been far too many environmental events that spawned the growth of the environmental movement.

2.3 Eco-Art Education

Eco-art education can be defined as education that addresses the heart, mind, and soul (Gablik, 1991). It is rooted in an art education that integrates environmental education, and speaks to environmental concepts including sustainability, stewardship, and restoration (Inwood, 2008). David Orr (2004) suggests we have “fragmented the world into bits and pieces called disciplines and subdisciplines, hermetically sealed from other such disciplines. As a result...most students graduate without any broad, integrated sense of the unity of things” (p. 11). Inwood (2008) examines the connection between environmental artists and eco-art education, the latter, she states, “has in part come into existence as a response to the development of environmental and ecological art, which artists began creating in the late 1960s” (p. 59).

2.3.1 Place and Restoration

With a focus on place-based education (Russell & Hutzler, 2007), more educators are finding that when students are working in their own community they are motivated to “portray positive components of the neighbourhood from which they draw inspiration for artmaking” (p. 9). This is substantiated by Gude (2013) who emphasizes that educators need to give students the tools to help them to understand and participate in contemporary culture, and to collaboratively discover new ways of doing so. Furthermore, Gude stresses that if our curriculum is to evolve, “We must imagine an art education that is grounded in the realities of contemporary cultural life as well as in the realities of current school settings” (Gude, 2013, p. 9).

We need to teach our students to problem solve, and to work towards building nature-smart communities (Louv, 2011). Duncan (2011) emphasizes the need for us to take back public space, and to engage in community projects through environmental art making. “The arts have provided a perfect opportunity to engage the entire family . . . parents and children learn together” (Pitman, 1998, p. 69).

According to Kester (2010), collaborative art must provide an account of the specific effects of shared labour, and the connection between the community participants, their understandings, and epistemological insights. Art becomes a celebration of nature and a way to improve our everyday environment, helping us to fortify our relationship with nature (Grande, 1992) and our community. Sobel (1998) asserts that students learn best by talking about the landscape both while and after they have walked through it. Greene (1995) maintains that students need to be fully present to engage all of their senses to thoroughly participate.

Pamela Michael (2005), the co-founder of the River of Words project, posits that the children who “come to understand and to love their home places will grow into engaged, effective citizens committed to preserving those places” (p. 121). The integration of place into science and art education is important because it involves direct observation, investigation, and application of knowledge (Michael, 2005). It also involves what Dewey would refer to as “vocational education”, or manual skills that help to develop a whole, healthy, balanced person. As noted by Baptist (2002), “Gardens which are rooted in ‘place’ extend habitat and interpret communal beliefs and values” (p. 31).

Perhaps one of the most well known environmental writers is Suzi Gablik (1991), who argues that art can be used as an agent of social change whilst engaging the audience’s attention through creative and innovation approaches to society’s problems. Gablik’s writing is primarily

concerned with what she deems to be the root of the problem—the failure of 20th century Art to play a positive role in our social, political, and environmental dilemma. She stresses that Modern aesthetics do not address the conditions of society or the environment.

Modernism was the art of the industrial age. The problems that fascinated modernists, such as style, originality and aesthetics, were without any question linked to a certain view of the world and concern about what was important, which I believe is now changing. (Gablik, 1991, p. 168)

Capra argues that a new chapter in history is unfolding where there is less of a concern for material goods, objects, and consumption and more of a focus on a spiritual, ecological, feminine and cooperative society (Capra, 2005). Gablik (1991) echoes Capra's belief as she further states that we need to “make the transition from Eurocentric, patriarchal thinking and the ‘dominator’ model of culture toward an aesthetics of interconnectedness, social responsibility and ecological attunement” (p. 22).

Bruce Mau's exhibition and book of the same name, *Massive Change* (2004) transcends the traditional gallery boundaries, and addresses some of the conditions to which Gablik refers. His enormous multimedia, self-curated art installation was intended as a blueprint for the future. In it, he provided us with many possibilities of sustainable design. His latest book, *The Third Teacher: 79 Ways You Can Use Design to Transform Teaching and Learning* (2010), highlights Mau's philosophical approach: he doesn't believe in making more products, but rather on using design to solve problems and to make the world a better place in which to live. Although not an educator *per se*, he teaches the principles of sustainable design by example.

Gablik (1991) proposes that the relationship between art and society will need to be altered if artists are to have an influence on social and environmental problems. She calls for a

new framework which would nurture “a new, more participatory paradigm that integrates responsive dialogue and compassionate action” (p. 149). It is her hope that through participation, art making will involve ecological healing, and that “Artists will gravitate toward different activities, attitudes and roles than those that operated under the aesthetics of modernism” (p. 27).

Grande (1992) echoes Gablik’s sentiments. He also believes that art has the potential to guide society towards a “regenerative, intuitive vision of the life process” (p. 53). He contends that artists must have a vision which would require exploration of our biological makeup, and our intertwined relationship with nature. He suggests shifting towards a more holistic approach to living and art making, where our current value system is abandoned for one of greater spiritual growth.

Scholars, including Garoian (1998), Greene (1995), and Inwood (2007) agree that a pedagogy that is community-oriented, “Interdisciplinary, experiential, interactive, dialogic, ideologically aware and built on the values of empathy, sustainability and respect of the environment is best suited for delivering eco-art education” (Inwood, 2007, p. 34). “Creativity, imagination, initiative, and the capacity to work in teams [are] all outcomes of a strong arts education program” (Pitman, 1998, p. 71). Gude (2013) posits that art projects provide students with the tools to dig into problems and make meaningful connections to their lives.

Greene (1995) explores living with awareness to advance social justice, an integral component of environmental and eco-art education. She asserts that, “We need to recognize that the events that make up aesthetic experiences are events that occur within and by means of the transactions within our environment that situate us within time and space” (p. 130). It is the

events and transactions that I explore alongside my participants, as together we respond to our work and our place narratively and aesthetically.

Garoian (1998) connects to daily living through an eco-art education pedagogy based on environmental stewardship, compassion, and empathy, all of which advance social and environmental justice. As a former teacher, he felt strongly about introducing environmental issues to his students, and encouraged them to share ideas and concerns. Perhaps more important to this study, Garoian suggested building stewardship, and learning about how to adapt sustainable practices within his students' lives and communities.

Simon (2006), like Garion (1998), focuses on teaching and learning through the arts, however, her approach is more about how the systemic dimensions of environmental issues are explored by environmental artists. She looks at community projects that involve the values and perspectives of the participants, and maintains that educators and artists who take a more holistic approach to teaching create situations that engage people's curiosity, thus motivating them to learn. She posits that ecological art making has become more community and participatory oriented, and that academics could benefit from the results derived from such projects.

Graham (2007) supports Simon's sentiments as he demonstrates the need for a place-based pedagogy, and offers a framework for theory and practice of ecological art education that focuses on an ethical relationship to self, community, and culture. Place-based education invites students to:

become creators of knowledge . . . their questions and concerns contribute to the school curriculum. Place-based education aims to strengthen children's connections to others, to their region, to the land, and to overcome the alienation and isolation that is often associated with modern society. (p. 377)

Graham affirms that the art curriculum can offer students respite from the routine of the school environment and provide them with an opportunity to respond to social issues and environmental concerns. The role of art within society must therefore be planted within quality art curricula, a criterion suggested by Gude (2007) in her *Principles of Possibility*. This partial list of her principles is relevant to this inquiry and includes the following:

- **Playing, Not Knowing:** This principle involves messing around with media and experimenting with technique, and ideas. There is no objective, or specific goal to be obtained. Playing was an important at the beginning of our project as we experimented with a smorgasbord of media and discovered new ways of constructing meaning.
- **Investigating Community Themes:** Gude mentions the importance of addressing issues on a global level. Viewing a number of films which explained the economics of food and water were included as a component of my curriculum for this inquiry. This led to discussion and investigation of our own ravine system and water table, as well as research on what food to grow in our garden. Eco Art Education revolves around engaging students in real world application.
- **Attentive Living:** Is another stem of Gude’s principles which relates directly to this inquiry. Through observation, students learn to navigate through, make sense of, and shape the world around them. “Whether creating a community garden, setting the table, arranging tools in a garage, or remarking on the architecture in their home towns, students will understand that artistic thinking is not separate from daily life, but rather can inform and enrich every aspect of one’s life” (Gude, 2007, p. 5). Observing, drawing, and creating prints and stencils of everyday objects found in nature offers students an opportunity to appreciate nature’s beauty. As well, through a contemporary lens, students are able to consider ways in which humans threaten the natural world. Gude references mapping as a way to engage students, and which allows for multiple visual representations, and enables students to become grounded. Observing and mapping our school grounds is where we began our research.
- **Reconstructing Social Spaces:** Gude discusses a “sustainable global culture of joy and justice” (p. 8). Through the creation of social spaces there is opportunity for people to

come together and interact with one another. It is under this principle where she suggests that the art teacher become a community artist and work with students to create new spaces.

- **Believing:** It is here where Gude praises art teachers who are committed to believing in a new curriculum which includes a deep personal devotion to “creative living” (p. 10). She views art teachers as optimistic souls who “believe in the possibility of a more playful, sensitive, thoughtful, just, diverse, aware, critical, and pleasurable society” (p. 10). I include this final principle as throughout my inquiry, I have provided my students with the freedom to develop their ideas and in a small way, I may have contributed to changing a part of their world.

Gude (2004) also describes her Postmodern Principles, several of which are relevant to the work that the students created for this inquiry, and include: *Appropriation*—images and text which are recycled from magazines, books, and other media to form new meaning; *Layering*—the use of images which are assembled on top of one another, and achieved both manually and digitally; *Interaction of Text and Image*—the interaction between image and text provides opportunity for a disconnect between the two modes of literacy, which allows for the two elements to illustrate new meaning; and *Hybridity*—the use of more than one media such as video, sound, and digital photography, to explore a topic.

Gude’s principles overlap, connect, and intersect with one another. Her possibilities for a 21st-century art curriculum offer the opportunity for choice. Art projects should be structured based on the needs of the community—the interests of the students, and issues that they perceive as being meaningful and important to them. The art garden project introduced students to important contemporary eco-art, to various artists, and to some relevant postmodern principles. As Anderson (1997) notes, “In a postmodern framework, art is once again about something beyond itself; it defines a particular narrative or worldview” (p. 71). Postmodern art education is

based upon collecting narratives, and as each individual is unique, so too are the stories that accompany them.

Eisner (1991, 2012), Barone (2012), Greene (1995), and Irwin et al. (2008) all well-known Arts-based curriculum theorists, provided me with a context for metaphorical thinking. Inwood (2007) believes that Eco-art researchers use metaphors to enrich and explore their hermeneutic approaches to contemporary postmodern theories. As eco artist Ruth Wallen (2014) explains, “A good metaphor evokes a network of interrelationships and a layering of meaning. Metaphors help both to make existing patterns apparent and to envision new types of interaction” (par. 4).

Unfortunately, as Inwood (2009) suggests, there seems to be a gap in the area of eco-art and elementary teaching. She stated in her work, *Artistic Approaches to Developing Environmental Education: Developing Eco-Art Education in Elementary Classrooms*, that “what is clearly missing in this field to date is a richer mapping of two areas of eco-art education. . . . a focus on teacher development, and the other is on elementary settings” (p. 45). More elementary educators are making the effort to use art as a tool to engage students, including Thulson (2013) who suggests that site-specific work is possible at the Primary and Junior Division levels (i.e. Grades 1-6 in Ontario).

In her *Contemporary Practice in the Elementary Classroom: A Study of Change*, (2013), Thulson contends that there is value in having students imitate the work of contemporary artists as well as respond and learn “through the ideas within contemporary artworks” (p. 17). Furthermore she asserts that a constructivist approach to contemporary curriculum is fitting as it allows for divergent interpretations. It is these divergent interpretations that may very well help

us to collectively solve some of our environmental problems, and in the process, teach us to understand the value of interdependence as well as respect for all life forms. As Gablik states,

As artists learn to integrate their own needs and talents with the needs of others, the environment and the community, a new foundation for a non-self-conscious individualism may emerge—and we will have, not necessarily better art, perhaps, but better values, aims, beliefs. But the ego must pass through its death first . . . before it can be born in this other vision of community. (p. 144)

What Gablik is calling for is enlightenment, and at the grassroots level, there must be room for diversity and an allowance for a variety of approaches (Stone, 2009).

2.4 Case Studies: Seeds of Stewardship and Other Gardens

A number of case studies reviewed throughout my literature review acted as a compass. Yin (2003) posits that, “[Each] case study can be used for all three purposes -- exploratory, descriptive, or explanatory” (p. 3). Uptis (2007) cites four examples of schools in which students were provided with opportunities and activities to foster ecological mindfulness. After reading her article, *Four Strong Schools: Developing a Sense of Place through School Architecture*, I was inspired to explore how curriculum which focuses on how place can lead to significant relationships between people, the community of participants, and the land (Uptis, 2007).

Her description of the Edible Schoolyard at Martin Luther King Middle School in Berkeley, California, demonstrated the power of participatory involvement between the students and adults (2007). Here the students plant, harvest, and prepare food, learning about health and ecological literacy.

Stone (2005) provided me with further grounding through his discussion of River of Words, a program at The Center for Environmental Literacy and a part of the School of Education in St. Mary's College of California. He further explains (2005) that River of Words involves a linked network of people from around the world who are committed to place-based teaching through the creation of art and poetry, where educators integrate the arts to teach science. "Combining science and the arts...makes pedagogical sense. Both disciplines rely on observation, pattern recognition, problem solving, experimentation, and thinking by analogy. Both artists and scientists observe, record, imagine, and create" (Stone, 2005, p. 116).

Artist Ruth Wallens' work, entitled *Children's Forest Trail* (1996), began with extensive research and exploration in the San Bernardino, California, Forest. Rosenthal (2004) explains that Wallen pieced together artwork with her students, which included images, objects, sound, or text. In consultation with her participants she also developed digital montages. Rosenthal continues to assert that Wallen encourages viewers to engage in art making by inviting them to create etchings on the outdoor Plexiglas surface that covers her participants' artwork. This invites the viewer to develop a relationship with the place, or envision new possibilities as a result of their investigation (Rosenthal 2004).

Educators and artists are using the arts as a tool to educate and propagate environmental stewardship and sustainability (Inwood, 2009). Understanding how educators have had an impact on their participants encouraged me to continue grafting eco-art with Arts-based methods of research.

In Chapter 3 I discuss my methodology for both Arts-Based Educational Research and A/r/tography. As well I also discuss methods of data collection. My qualitative approach

includes visual imagery, as it pertains to both Arts-Based Educational Research (ABER) and
A/r/tography.

Chapter 3

3 Planting Methods and Methodology

Within this chapter I share the methodology of the study which is informed by a qualitative and participatory Arts-Based Educational Research framework. I also explore the literature on both qualitative research and on A/r/tography, and consider the implications of this on my inquiry. I strive to see through the eyes of the artist/researcher/teacher as I call upon the postmodern theoretical framework of Gude (2007). Planted throughout this chapter are some of my field notes and reflections from my personal journal.

Through the developmental stages, in consultation with the community I planted the seed for the art garden project. In the implementation stages, we created the garden, responded to film, other eco-artists work, and our experiences in nature through artmaking. A/r/tography, a hybrid of arts-based educational research, bridged these interconnected stages. Irwin and Springgay (2008) suggest that through flexible concepts, or renderings¹⁴, including contiguity, the a/r/tographer seeks to unearth “the relationship between art and graphy, that is, between the artform, and writing with, in or about the phenomenon” (p. xxviii). This framework allowed for discussion on how theory, practice, and creative activity impact one another, (Irwin & Springgay, 2008) and offered me insights into my participants’ worldviews.

Additionally, I discuss the social constructivist epistemological perspective of my teaching which aligns with eco-art. Using Social Constructivism as my theoretical framework for the project and teaching component, I turn to the theories of Vygotsky. His focus on both the collaborative and social components of learning (Sjøberg, 2007) aligns with inquiry based

¹⁴ A section on renderings can be found under A/r/tographic Concepts.

learning wherein Chiarotto (2011) describes the teacher as the facilitator. Within this forum, she stresses that together students' drive their learning whilst working in a spirit of collaboration to learn from one another.

Chiarotto's outline of inquiry-based classroom methods of evaluation aligned with my qualitative inquiry. Through anecdotal observations, the use of emerging ideas as a basis for curriculum, and multiple sources of documentation, including altered book journals, visual art, and poetry, multiple sources of work were produced offering the student a differentiated approach to learning.

This project motivated students to work in the natural world and therefore falls into the camp of what environmental educator Michael Stone (2005), and others, would refer to as environmental, project-based learning. As well, I describe the data collection and data analysis methods that I used. Finally, I address the integrity and validity of this project as I consider the ethical significance of my research, and issues of Bias.

3.1 Qualitative Arts-Based Educational Research and A/r/tography

My work within the community of learners aligns with Eisner (1991), who based his methodology on aesthetic criticism. I looked to his stages of qualitative research using a field-focused setting as a source of data by: observing, describing, and interpreting settings as they are; acting as a human instrument of data collection; using inductive data analysis; discovering the meaning that the events have for individuals as they experience them; paying attention to the idiosyncratic, as well as the pervasive; following an emergent as opposed to a pre-determined design; judging success by giving a public presence to the work; using descriptive, expressive language and a "presence of voice to the text" (Eisner, 1991, p. 36).

I followed a structural framework for Arts-Based Educational Research provided by Barone and Eisner (1997), which is overlapped by Eisner's own stages of qualitative research. These design elements include: the creation of virtual reality (artwork); the use of expressive language; empathic understanding; aesthetic form; a personal signature of the researcher; the expressive use of metaphorical language; the presence of ambiguity, allowing for reader interpretation; and the use of contextualized and colloquial language. Irwin et al. (2008) contends that arts-based research is the artist/inquirer/teacher response to postmodern theory which asks us to consider the interplay between representation, inquiry, and interpretation. Using an a/r/tographic methodology framework I incorporated the techniques commonly used in qualitative inquiry.

The criteria that Lincoln identifies for well-crafted qualitative research includes: deep participant and researcher interactions and involvements . . . professional, personal, and political action that might improve participants' lives . . . future-oriented work that is based in a visionary perspective that encompasses social justice, community, . . . caring. (as cited in Finlay, 1995, p. 282)

Lincoln's standard features of qualitative inquiry, outlined by Finlay (1995) suggest that research include:

- the author's positionality;
- a mention of the community in which the research was carried out;
- the voice of those who might not be heard (e.g., the students);
- an exploration of critical subjectivity relating to their own psychological emotional position before, during, and after the inquiry; and
- a demonstration of an openness and willingness to share with participants and other researchers.

I used these characteristics as a framework for understanding qualitative Arts-Based Educational research, with particular attention to the implications for my study. Furthermore, within a second component of this inquiry, I explored the notion of balancing multiple identities of artist, researcher, and teacher, where I struggled to ensure that none of these identities was privileged over the other.

I looked to Irwin et al. (2006), who stress that while A/r/tography is primarily about self, it can also include social groupings of other a/r/tographers who come together to share ideas and provide critical feedback about the inquiry. It “represents a uniquely arts and education practice-based methodology” (Sinner, Leggo, Irwin, Gouzouasis, & Grauer, 2006, p. 1224) which is aesthetically presented through the eyes of the a/r/tographer through aesthetic inquiry which grafts art with text. A/r/tography stresses the physical actions of artmaking that are entrenched in our daily life. The distinct yet interdependent processes of “artmaking, researching, and teaching are engaged in as experimentation and participation” (Triggs et al., 2008).

3.1.1 The Roots of A/r/tography

A/r/tographers believe that it is necessary to move beyond the traditional text-based format in arts-based educational research to illustrate the creativity that the key elements of practice, process, and product (Sinner et al., 2006) can offer. A/r/tography was developed from the work of Tom Barone, Elliot Eisner, and Maxine Greene, and others—all of whom assert that the arts are a “mode of inquiry and representation that provides significant perspectives for making decisions regarding pedagogical theory, policy, and arts practice” (Sinner et al., 2006, p. 1227). A/r/tography is a methodology developed out of the University of British Columbia, which calls for active participation through ongoing collaborative artmaking and writing. According to Sinner et al., (2006), it grew through ongoing discussion, and collaboration

between staff and students. She asserts that a new culture began to develop as new forms of art inquiry were being generated, and by 2003 the first concepts were established in academic work.

It is a research methodology that has been described by (Irwin & Springgay, 2008) as having rhizomatic qualities (Deleuze & Guattari, 1987). “A rhizome ceaselessly establishes connections between...circumstances relative to the arts, sciences, and social struggles” (p. 2). Like the roots of a tree, rhizomes move, flow, rupture, and then begin again. Irwin and Springgay (2008) build on the concept of a rhizome and suggest that “a/r/tography radically transforms the ideas of theory as an abstract system distinct and separate from practice...theory is understood as a critical exchange that is reflective, responsive and relational, which is continuously in a state of reconstruction and becoming something else altogether” (p. xx).

3.1.2 Who and What is an A/r/tographer?

A/r/tographers are comprised of music, drama, dance and visual and media arts practitioner-researchers. Sullivan offers his overview of the roles of an a/r/tographer where the Artist may be viewed as “someone who en-acts and embodies creative and critical inquiry; the Researcher acts in relation to the culture of the research community; and the Teacher re-acts in ways that involve others in artistic inquiry and educational outcomes” (2006, p. 8).

Throughout this inquiry I often reflected upon which role I held at specific times, and then realized that the roles of all three were in constant flux and could not be separated from one another. This tension is rooted within the core of the a/r/tographer.

Irwin and Springgay and others see artists and educators as practitioners. Practitioner-based research is advocated for by Graeme Sullivan (2005) as he states that advancing one’s understanding through one’s practice “is grounded in the praxis of human engagement and

yields[s] outcomes that can be seen to be individually liberating and culturally enlightening” (p. 74).

A/r/tography is “concerned with creating the circumstances to produce knowledge and understanding through inquiry laden processes” (Irwin et al., 2006 as cited by Irwin, 2008). Within my role as a teacher I am committed to teaching, learning, and creating. It was natural for me to therefore extend this practice as I collaborated, as it is a part of my ontological beliefs and a part of my identity. Irwin and Springgay (2008) posit that those who consider themselves to be a/r/tographers are committed to working within a community where teaching, learning and creating is part of their living inquiry.

In *A/R/Tography as practice-based research*, Irwin and Springgay (2008) contend that the evolution of this new methodology is dynamic, flexible, and constantly moving as opposed to being subject to standardized criteria. For A/r/tographers, “Research becomes a process of exchange that is not separated from the body, but emerges through an intertwining of mind and body, self and other, and through our interactions in the world” (p. xxii). Within this living inquiry, Sullivan (2008) contends that research is both place and community-based, with an emphasis on the needs, values, and interests of the community. Issues can be of global or local relevance.

A/r/tography's deep implication with collaboration and collectivity is a methodology that responds to the public nature of affective meanings and expressions. Its sociality is paradoxically inherent in its autonomies of artist, research, teacher, through which it escapes being confined in any one limiting perspective. (Triggs et al., 2008)

Researchers who focus on an arts-based methodology often concentrate on their inner experiences throughout their inquiry process, while expressing these experiences with various forms of representation (Sameshima, 2007). Visual and textual experiences are the focus of a/r/tographical inquiry, as opposed to visual and textual interpretations common to arts-based educational research (Springgay, 2008).

Through this framework, I interpreted my student participant work, however my own work was more practitioner focused as I was interested in understanding what would develop from exploring “the interstitial spaces of art making, researching, and teaching” (Irwin & Springgay, 2008) as a participant. Arts-based educational research recognizes the contribution that the arts can make to education. As Sinner et al (2006) suggest, “A/r/tography is a hybrid... a methodology that begins from the practices of artists, researches, and educators, who through ongoing inquiry in and through time, share their processes of inquiry as well as the products that are derived from those inquires” (p. 1227). Sinner et al. (2006) stress that A/r/tography does acknowledge “the practices of artists, researchers, and educators as places of inquiry” (p. 1228) and employs practice to illustrate, portray, and interpret meaning.

According to Graeme Sullivan, a/r/tographers are interested in schools, community, and culture, but “their focus is on developing the practitioner-researcher who is capable of imaginative and insightful inquiry” (2006, pp. 20-21). Arts-based researchers are interested in how the arts can improve education, and in how the arts can provide insights about teaching and learning (Sullivan, 2006).

3.1.3 A/r/tographic Concepts

Irwin and Springgay (2008) outline the six renderings or concepts that help to convey the work of the a/r/tographer:

- **Contiguity:** the inner identities found within artist/researcher/teacher, and the relationships between them. As well, the relationships in, with, or about the art form.
- **Living Inquiry:** refers to one's engagement in the world and their life commitment to the arts and education through reflective inquiry.
- **Metaphor and Metonymy:** refers to how a/r/tographers make sense of the world.
- **Openings:** It is here where conversations and relationships are forged with others rather and to open up possibilities to other a/r/tographers.
- **Reverberations:** helps a/r/tographers to shift their understanding as they move towards deeper meaning.
- **Excess:** this rendering is said to be what is created when a/r/tographers look for what isn't always visible. It also is created when one doesn't follow regulatory systems and must deal with what constitutes the acceptable.

These renderings involve the conceptual practices which look at theory, practice, and creative activity. Interactions between aesthetics, inquiry and learning are the relational conditions from which an a/r/tographic work is measured. As Irwin and Springgay (2008) inform us, "An assessment of any a/r/tographic work will depend upon its compelling ability to provide access to, and new insights about a particular phenomenon" (p. xxxi).

It is important to note that within this structure, A/r/tography as a living inquiry is fluid and provides one with the opportunity to examine their professional, personal, and political lives. As Irwin and Springgay (2008) explain, its rigour comes from the "continuous reflective and reflexive stance to engagement, analysis and learning" (p. xxix). Most importantly, they stress that any form of qualitative data collection methods are appropriate forms for the a/r/tographer. This also includes an explanation of the artwork which encompasses the process stages, including photo documentation (Sullivan, 2008). As well, Irwin and Springgay (2008) assert that an a/r/tographer should maintain a reflexive and reflective attitude towards analysis, and that awareness of emerging themes that arise from the data are relevant to understanding.

A/r/tography seeks to respond to what we perceive is the burden of educational arts research which is to create arrangements in 'time as becoming', where forms are made and unmade, and in which limits operate as attractors. These events will leave traces of connection and reenergize a collective faith in our shared material world. What we hope continues on from our a/r/tographic research experiences is a deep physical invitation to the relational actions and bodies of humans on earth and the ways in which they collectively organize and reorganize. (Triggs et al., 2008)

Within the Art Garden, several students spoke of leaving their physical mark on the school grounds through their art projects, stenciled graffiti, and the garden itself. Participants were invited to make a physical connection to the earth and in the process formed a collective. Their connections offered rich insights as to how they inspired one another to be more environmentally astute while they worked collaboratively to create public artwork and the garden. “Stories about lived experiences...are the most powerful ‘data’ we can use in our research” (Gouzouasis, 2005, p. 222).

3.1.4 Another A/r/tographer and Further Rhizomes

A/r/tographers ground their work in inquiry methods that draw on practices from a variety of art forms (Sullivan, 2006). In 2010, Barbara Cuerden built a garden for her Masters Thesis on a university campus, which grew in unpredictable ways due to events beyond her control. As a practitioner-researcher she illustrates her narrative process using photographs to document her investigation and processes. This, Cuerden (2010) explains, is important as recording her art process and the growth of the garden helps her understand the themes that emerge from her process. She also creates a blog and finally responds to her inquiry with her

own artwork. Cuerden's apron, which she creates from schoolyard artifacts, trash and junk, suggests both a passion for environmental stewardship and a love-hate relationship with the content that she attaches to the apron. Using both art and graphy through the lens of phenomenology, Cuerden looks within as she reflects upon the institutional issues she faces while guerilla gardening.

Other examples of a/r/tographic work have been documented in a review of the practices of arts-based educational research (Sinner et al., 2006) as recorded via dissertations presented through the University of British Columbia. In *Arts-Based educational research dissertations: Reviewing the practices of new scholars* (2006), the authors share examples of the literary, visual, and performative practice. Generally speaking, the research is "rendered in alternative formats to evoke or provoke understanding that traditional research formats cannot provide" (Sinner et al., 2006, p. 1225).

After their review of the dissertations, the authors discovered four characteristics were prevalent: "commitment for aesthetic and educational practice, inquiry-laden processes, searching for meaning, and interpreting for understanding" (p. 1234). It was also noted by Sinner et al., (2006) that A/r/tography draws upon a number of theories, including feminism, art criticism, and philosophy. They cite a common thread running through this collection of a/r/tographic work: researches seek creative ways of knowing; they embrace the journey of self-discovery, learning about themselves and about their relationship with others.

Working within a community practice, creating original art, drawing on lived experience of self and participants; these are traits of A/r/tography (Sinner et al., 2006). The authors continue to explain that traditional sources of data might be used such as interviewing, and artwork as process and later as interpretation is possible. Communities are flexible and can

include sites such as elementary schools, and be multidisciplinary, often involving other artists or community members. In general A/r/tography is interested in sharing lived experience and the voices of those who are not often heard. Rita Irwin (2004) explains that the principles of A/r/tography are based on *theoria* (knowing), *praxis* (doing), and *poesis* (making).

3.2 Implications and Entanglement: Methodology Meets the Art Garden

Arts-based educational research offers an approach to social inquiry, and creating an art garden is one way to branch into environmental studies at the school level. Looking at the earth with a new lens allowed freedom of expression for both the participants and myself, while we addressed environmental issues through aesthetic and artistic means. “For an arts researcher inspired by a call to critical action, any inquiry is undertaken for personal and public ends” (Sullivan, 2006, p. 15).

Throughout this inquiry, I began to view A/r/tography as a pathway to engaged research, one which was teeming with a willing community of collaborators. The garden itself became a living artwork. On the grounds and within the garden is artwork created by the students, myself, and community members who collaborated with me.

Responding to the environmental issues we are faced with will promote a certain level of activism. Perhaps through modes of art making, the public will view, perceive, and understand what they may not have with a more conventional form of research. The work that is created for this project will be displayed both in the outdoor space and virtually. I envision the garden project to be student directed, multi-sensory, and engage the onlooker to become a participant. There will be environmental and social messages; therefore the work will be political. A

variety of alternative voices will be present within the research text including the artist/researcher/teacher; the participants; visiting artist/assistant; student intern and fellow researcher; students; parents; community members, as well as the perspectives of the audience that view the work. There is much potential for rhizomatic connections. (Personal Journal, January 10, 2013)

I was required to separate myself from the role of teacher so that I could directly observe participant interactions amongst students, their parents, and community members while working within an after-school learning environment. It was through questionnaires, interviews, some direct observation, social interactions with my participants, artmaking, and gardening that permitted me the opportunity to unearth and gather data. Factored into the methodical choices of this study included my personal experiences, and the criteria involved in conducting research within the school in which one teaches.

Using meaningful sampling I had set out to recruit participants who would provide me with valuable insights. I believe the site selected me; it is nested in a cul-de-sac where there is little traffic. Using purposeful sampling, I selected the site for its beauty and potential. As well I was the teacher involved in the project.

Participatory research methods emerged in the 1970s to help forward discussion of community-based structures that resulted in the formation of knowledge. Paolo Freire's *Pedagogy of the Oppressed* (1970) aligns with activist participatory research, as his main premise focused on hearing the voice of the oppressed, marginalized, exploited, and poor through their own investigation and analysis. My inquiry does not involve subjects of this nature; rather, the participants were actively involved in the research process, and the inquiry

originated within the community. As well, I was a “committed participant and learner in the process of research” (Hall, 2005, p. 10).

Hall (2005) asks, “How is the rest of nature a participatory researcher?” (p. 20). Is it possible to include other species, both plant and animal, as part of this inquiry? The blight on our cucumber plants, for example, led us to investigate how plants communicate. The next time I was weeding along side of parents in the garden, I mentioned that an infected plant produces a chemical which alerts other plants to protect themselves from infection through the fabrication of an antibody. Another parent discovered that a spray application mixing milk with water was a possible solution to solve our cucumber blight problem. I agree with Hall (2005) that there is potential for participant awareness and resourcefulness as a result of participatory research.

Without the cucumber plants’ mode of visual communication, we would not have unearthed possible remedies and actively engaged in critical thinking and problem solving; participation isn’t limited to human specimens.

Today as I drove into the school parking lot, I noticed another neighbour and her dog standing by the garden, admiring our plot. I always approach the neighbours and their dogs in a friendly manner by asking them what they think of our project. Inevitably I receive a positive response. This particular neighbour and I engaged in a half-hour conversation about our plantings. She identified herself as an avid gardener and was willing to continue the garden project with us next year. She even offered to help pay for plants and water. I later realized that she was the one who was tying up the tomato plants that had so quickly flourished and had managed to bush out beyond my acceptable standards. Involvement has branched beyond my community of participants and has propagated interest amongst

members of the neighbourhood community. As I reflect upon this, I smile. I am truly grateful for the moments of pleasure afforded by this journey, and for the wonderful people who join me along the path. (Personal Journal, July 18, 2013)

Why participatory research? From the onset, I involved research subjects in as many stages of the project as possible. I wanted to include the community and draw upon the experience of those around me. This is what an a/r/tographer does. What I quickly discovered was that the students were eager to help me expand my network of helpers. A friend of the family became my gardening mentor, and a parent became my welder. The students in my eco-club, with the assistance of my gardening mentor, helped to select the plants for our fusion butterfly garden and vegetables for our vegetable garden. On several occasions, additional sunflowers, raspberry plants, and marigolds seemed to sprout up at the schools' front door.

The students in my art club set out to investigate the area, and produced maps of how they envisioned the grounds. “Visual methods can actually aid participation because images are often more accessible to people than dense academic text, and they also have a novelty factor which is likely to keep people stimulated and engaged in the research process for longer” (N. Richards, 2011, p. 2). Throughout the project students placed most of their artwork in their altered books. Choosing their own media and structuring the subject matter of their artwork kept them engaged and motivated. Often we employed gallery walks¹⁵ which enabled students to explain and interpret their work. This form of sharing is highly collaborative and requires that the participants respect one another.

¹⁵ Gallery walks are a teaching strategy employed where the teacher and students move throughout the classroom to view the work of others, to share ideas, offer feedback, and engage in critical discussion.

Arts-based curriculum offers students the potential to share their perceptions and reflections. Rolling (2010) asserts that an inquiry of this sort is best geared to gather data based on projects that involve social agency which, if “sensibly evaluated for their effectiveness, must be assessed over the long run to document how the life practices, thinking habits, and communities of the learner have been transformed” (p. 111). Although feeling pressed for time to complete my work, I attempt to address how the habits and practices of my participants and myself have altered over the course of this inquiry.

In this study, I was interested in the students’ ongoing experience of critical, place-based pedagogy, and in the experiences of the community members, as well as my own experiences within the role of artist/researcher and teacher. My journal and anecdotal comments woven throughout focus on interpreting the setting as it is. As Sullivan (2006) noted, “Arts-based educational inquiry describes and interprets phenomena through ‘seeing’ and ‘sensing,’ which is the basis for compiling thematic patterns of evidence from which meaning is made vivid” (p. 23).

I believe that artists are researchers by nature, as demonstrated through their collections of visual imagery, their sketchbooks, snippets of found text, photographs, art works hanging in their homes and studios, and from other sources found in various media files. My overflowing bookshelves are bulging with my personal book collections, demonstrating my quest for understanding and aesthetics. Historically, artists have recorded visual stories through their observations and interactions with the world.

Through this inquiry I hope to discover what makes us human, and what lies at the heart of our actions towards one another, the natural world, and ourselves. I look for understanding through the eyes of the ‘other’ through interviews, conversations, observations, and visual

imagery. Methodologically speaking, this is relevant as it may heighten the awareness of the writer and the reader.

The photo documentation taken of the art garden through its stages of growth portrays a metamorphosis. The same could be said for the process sketches and artwork completed by the students, student intern, and myself. Metamorphosis could be considered a metaphor for this inquiry; the changes and growth, which occurred as a result of working through this process, have altered my view of how I see my role as an artist/researcher and teacher. Rolling (2010) asserts that Arts-based research affords us insights not offered by the traditional scientific positivist inquiry models. He argues that, “Arts-based research methodologies are characteristically emergent, imagined, and derivative from an artist/researcher’s practice or arts praxis inquiry models” (p. 112). In the case of this inquiry much of our art making came about through collaborative discussion and decision making.

I was just thinking of how we could make the bike sculptures into a living structure. You read my mind! (Facebook message sent to my artist in residence, Sue, February 25, 2013)

Nourishing my artist self and wanting to research the artistic process for guerilla graffiti, I turned to my computer and fired off a note to the graffiti street artist Roadsworth. Within a few weeks I had a response.

Hi Beryl . . . Go ahead and use whatever answers I gave you for your thesis¹⁶. . . An oil based traffic paint will probably be the most durable paint you can use on asphalt but not necessarily on concrete. There are decent water based traffic paints as well . . . which are somewhat easier to work with and less toxic. When I

16 Roadsworth supplied me with a signed participant artist consent form that he scanned and sent to me.

started I used an oil based traffic paint in spray can form but lately I've been using water based paint even [though] it may not last as long. Sometimes I'll even use a regular indoor house paint which can last up to a month depending on the traffic you're dealing with or an exterior house paint if you want it to last a little longer. As far as technique goes, it depends on the kind of piece you want to create. If it's something that entails a lot of repetition of various elements, stencils are a good way to go, but if you're painting one large image . . . then it makes more sense to go freehand. You can start with chalk to sketch the drawing out before committing with paint . . . you can make your stencils out of dollar store cardboard (not corrugated) with the use of an exacto knife." (Email from Roadsworth, March 4, 2013)

I agree with Rolling (2010) that, "arts-based research stems from a strong visual arts knowledge base. It focuses on the process and practice and requires that the inquirer unearth data throughout the "processes, products, proclivities, and contexts that support this activity for scholarship sake" (Sullivan, 2005, p. 84).

I look to the community of participants as I seek to uncover stories. Throughout participant journals, formal interviews, informal conversations with participants and unplanned happenings beside the garden, I muddle through journal notes and untangle a web of information relevant to this journey. (Personal Journal, July 10, 2013)

Maxine Greene (1995) clarifies the requirements for, and the effects of, aesthetic experiences, and reminds us of the importance to be aware of where our journeys lead us, as she states, "We need to recognize that the events that make up aesthetic experiences are events that

occur within and by means of the transactions with our environment that situate us in time and space” (p. 130). Not only do we need to recognize these events, we also need to reflect upon them and see each as a learning experience. As Sullivan (2006) states,

When art practice is theorized as research, it is argued that human understanding arises from a process of inquiry that involves creative action and critical reflection. . . . There is an inherently transformative quality to the way we engage in art practice, either as learners or teachers . . . the researcher and the researched are both changed by the process because creative and critical inquiry is a reflexive process. (p. 11)

Throughout my teaching career I have been drawn to the social constructivist approach to teaching. I feel that this approach best aligns with eco-art making and the participatory component of this inquiry. I look for and seek relevant real-world projects that enable my students to work collaboratively to solve problems in an interdisciplinary forum. As well, I often act as a facilitator (after scaffolding and guiding students through newly acquired skills) and consider the learner’s prior knowledge and worldview.

In my classroom, the creation of student-generated assessment tools allows for the co-development of goals and objectives. I draw upon the ideas of Dewey (1897) and Vygotsky (1930-1934/1978), as I feel that the ability to learn is linked to a person’s stage of intellectual development (rather than their age) and their cognitive abilities, which enable them to recall, evaluate, reflect, create, comprehend, and synthesize information.

As I structured the project component of this study, I was reminded of the relevance of providing my participants with experiences that would offer them opportunities to interact with their environment and connect to prior knowledge. Furthermore, the participants were freely

able to communicate and learn from each other as impromptu information sharing discussions were encouraged. From a constructivist viewpoint, art making precipitates understanding through the reinterpretation and restructuring of knowledge (Sullivan, 2005).

Exploring new art making techniques, such as concrete spray painting, moss graffiti, welding up-cycled bicycle parts, and forming concrete stepping stones, not only allowed me to branch out beyond my art making comfort zone, it encouraged my participants to also take risks. Admitting to my participants that I didn't know how to create something but wanted to learn demonstrated to them that art making should be exploratory. This was a necessary part of this inquiry as an artist, researcher, and a teacher. As a life-long learner, I consistently encourage my students to share my passion for learning. This includes experimenting with new art making techniques, or what Gude (2007) would refer to as 'playing' and 'not knowing.'

Encouraging participants to take ownership of their learning extended to the parent community. Many gardening tips and recipes were exchanged over the summer months as we weeded, watered, and tended to our little farm. Not only was I involved in the facilitation of student participants, I was engaged in activity, discourse, and reflection with their parents and guardians. If I was unable to answer a question about holistic weed control, I would look to my adult participants to help with a problem. All of us grew as we constructed new understanding and knowledge about best gardening practices. This sharing grew to include those hired by my school board to help with grounds policies and procedures. The two grounds committee members agreed to be participants to assist with this research.

I booked another meeting with our boards' grounds committee. Their initial impressions are positive; they have always been very supportive. They provided me with a detailed design consultation report, complete with recommendations

including: funding ideas; resources; how to apply for grants; tips on fall planting; signage; organizations who offer programming and support school food gardens; tips on how to grow a native butterfly garden, and a native garden; eco-craft ideas; outdoor furniture ideas; and outdoor environmentally themed art ideas which included the life cycle of the butterfly. The most relevant information within the report for the art-making component of this inquiry dealt with the criteria for asphalt paint and the boards' policies regarding dates when oil-based and water-based paint could be used. The two people I am meeting with are encouraged by my ideas. I must say, between my teaching and thesis responsibilities and finding the time to implement all these recommendations, I am somewhat overwhelmed. A project of this sort taken on as an extra-curricular activity requires much time and energy. Much more than what I have within my regular workday. I sometimes wonder if I would be inclined to carry through with this work if it wasn't an integral part of my thesis. (Personal Journal, November 13, 2012)

3.3 Data Collection—Gathering the Produce

Using a variety of tools and methods I set about to gather my data. I strongly believe that my students need choice to demonstrate their understanding of concepts. After conducting workshops and writing differentiated visual arts curriculum at the Ministry of Education several summers ago under the direction of Karen Hume¹⁷ (2008), I have since focused on applying Universal Design and differentiated instruction to ensure success for all learners. My teaching

¹⁷ Karen Hume is a well-known Canadian teacher, administrator, and author. She has her M.Ed. in curriculum and teacher development, and offers workshop facilitation, and keynote addresses on differentiated instruction.

philosophy is no different in my extra-curricular programming. Therefore, throughout this inquiry, I provided multiple entry points and opportunities for my student participants to share their insights, which included art making in response to their experiences within the outdoor environment.

I moved away from working on my altered book and began posting interesting online articles and ideas with accompanying prompts to encourage discussion (see Plate 1, Plate 2, and Plate 3). As well, I encouraged Sue and Bree to join me. A few did, though I felt not enough response was generated. This was due to lack of time, and the typical end-of-the-year school rituals which derailed me from adding many students as participants to my website, and subsequently motivating them to respond to my posts.

Much of my time and energy was spent developing and maintaining relations in the field. Although I was working on the ‘inside’ I knew that I would need to continue to develop rapport and trust as a researcher. I had demonstrated attentiveness, discreetness, and empathy as a teacher, but I found myself standing on new ground as I gathered data. My efforts and sincerity didn’t go unnoticed.

The parent council has just gifted me \$1,000 for this project. They applied for a grant and want me to run an art garden evening on May 30th. I have planned for Carol, my gardening mentor, and my principal to run a pesto making session that will allow for parents to engage their senses in the herb garden, and then taste the produce. Bree will be running a workshop on creating sound poems along with a teacher volunteer. Parents will be exposed to different components of the art garden project and come to understand how experiential learning and stewardship is being nurtured. I didn’t expect this funding or extra work,

however I am beginning to view this inquiry as an organic entity. As in teaching, one must create long range plans yet remain open, intuitive, and flexible allowing the journey to unfold. I adapt, I graciously accept the fruits which are handed to me, and I remain open to change. (Personal Journal, May 8, 2013)

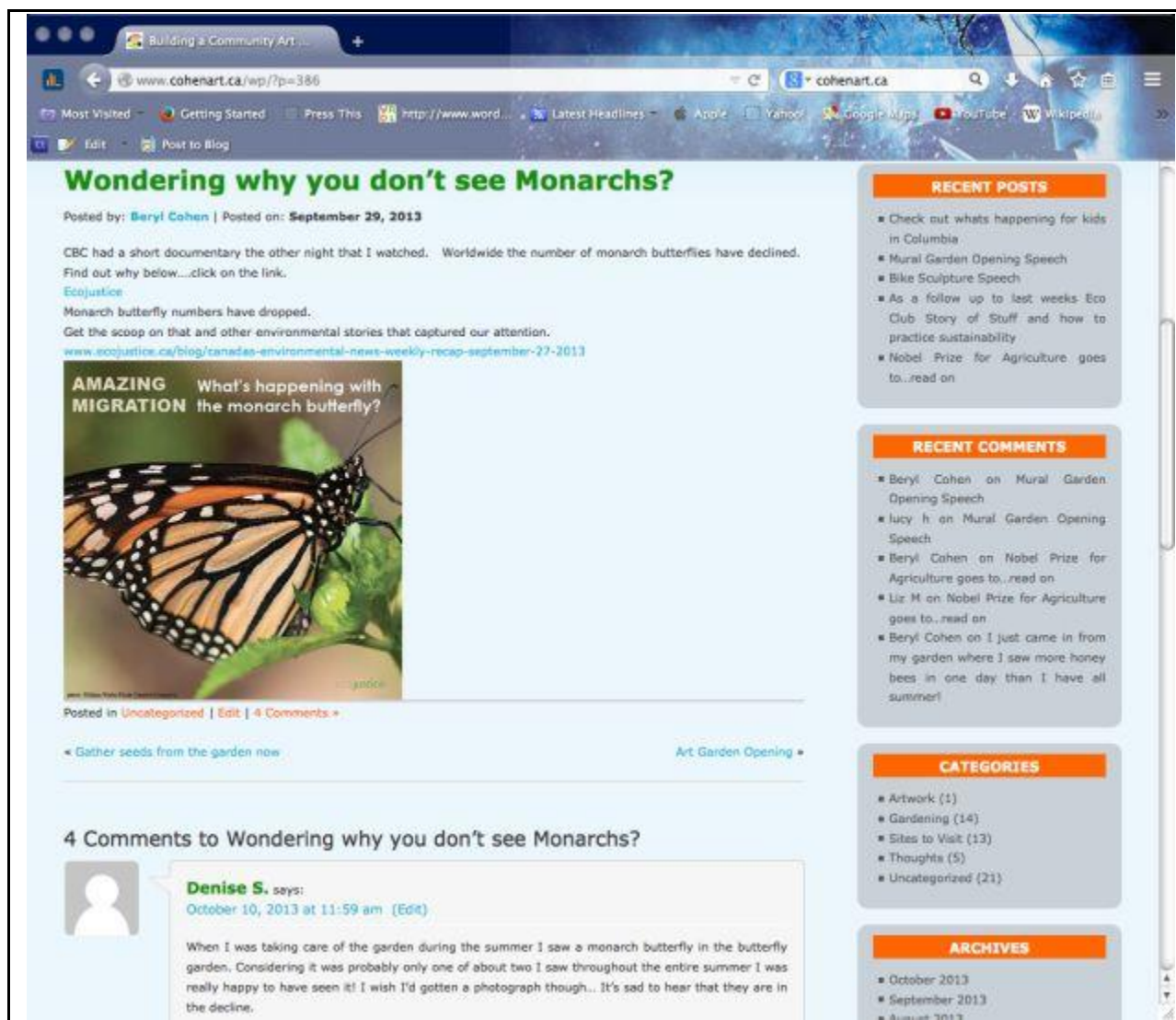


Plate 1: *Wondering why you don't see Monarchs?* Screen capture of blog entry on cohenart.ca website, Cohen, B. (2013).

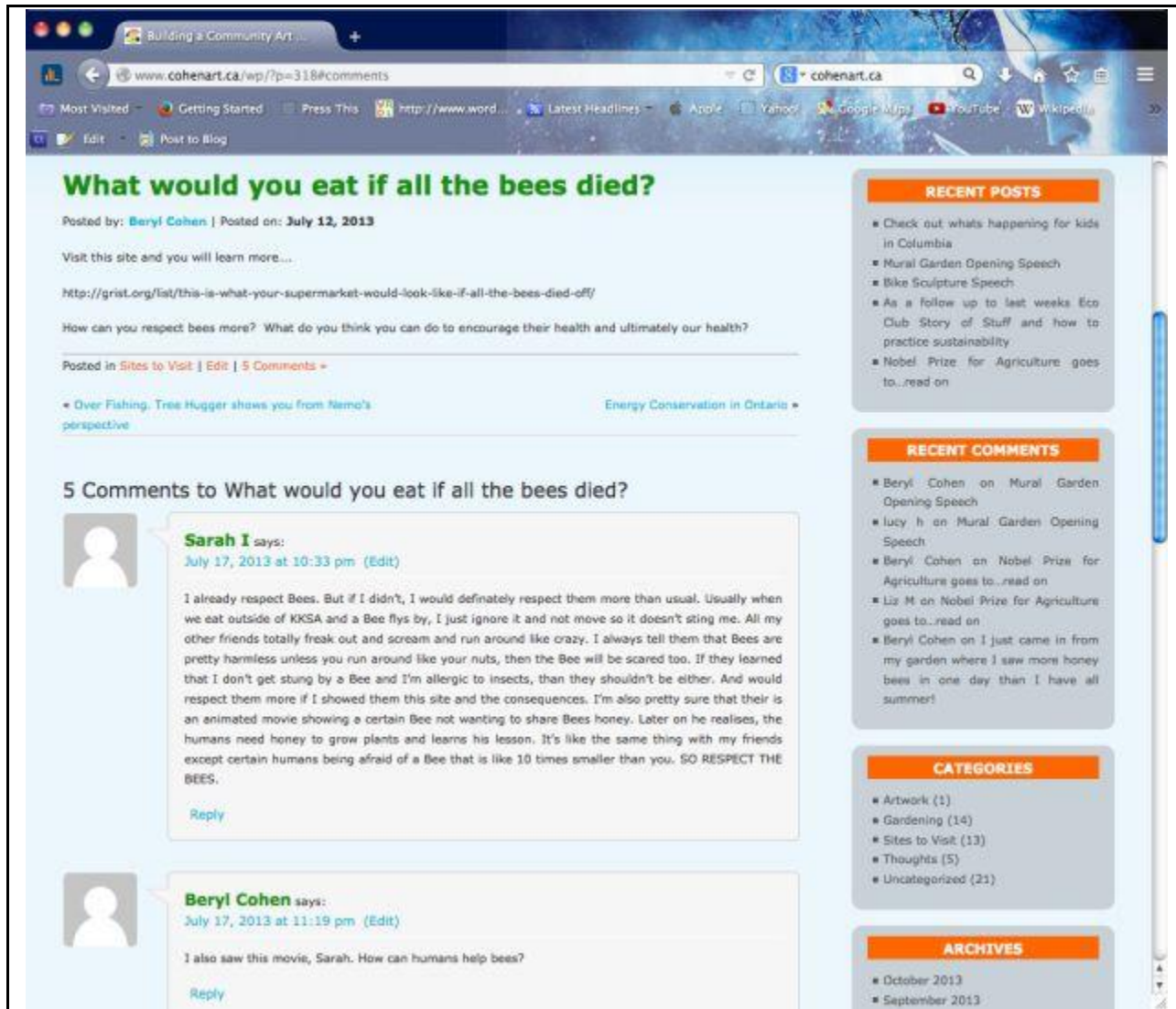


Plate 2: *What would you eat if all the bees died?* Screen capture of blog entry on cohenart.ca website, Cohen, B. (2013).

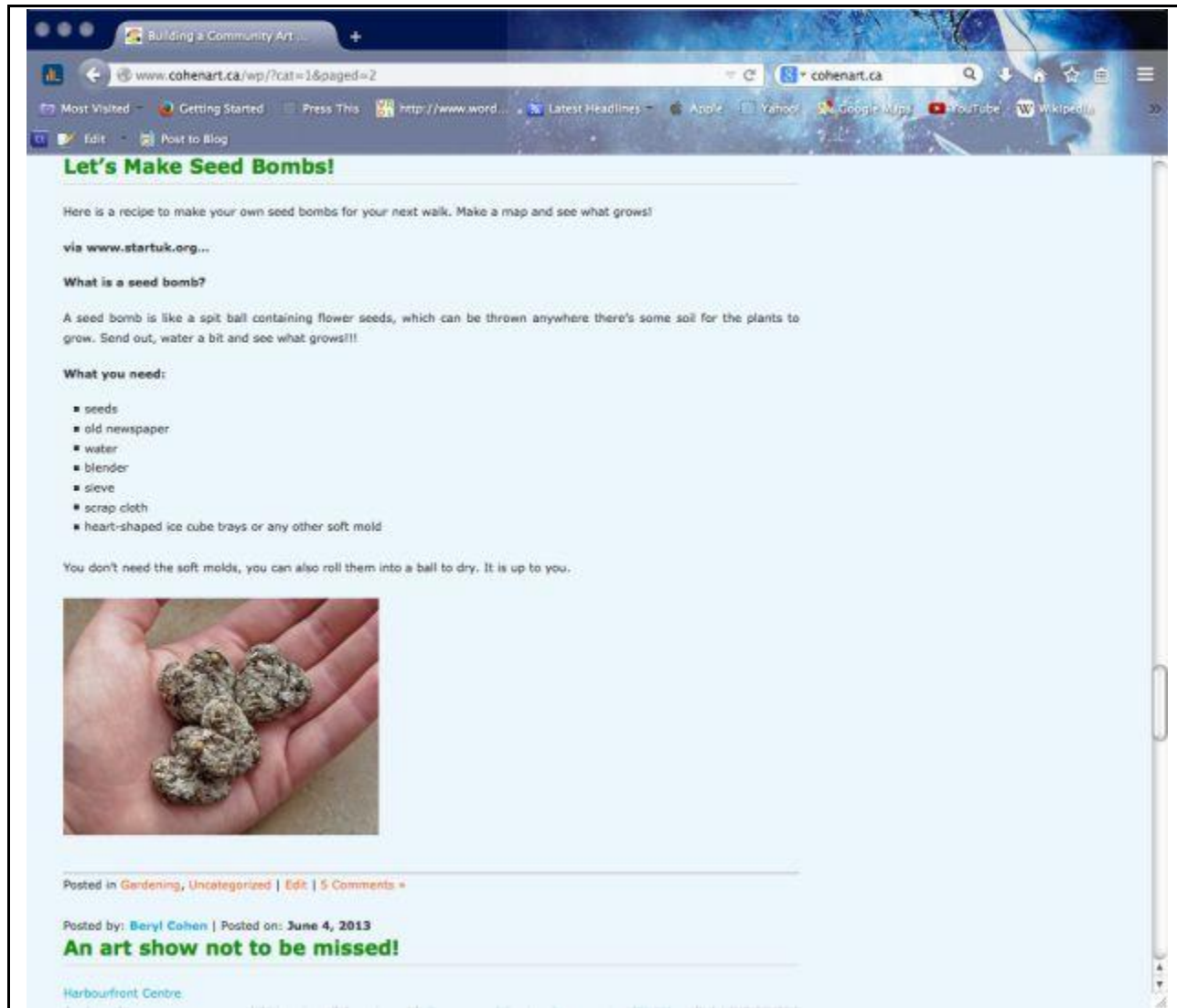


Plate 3: *Let's Make Seed Bombs!* screen capture of cohenart.ca website, Cohen, B. (2013).

More than 55 people came out for the event, including both our trustee and superintendent. It was highly acclaimed and well received. Some of my eco-school students assisted me in planting marigolds and were eager to explain how to divide the plants' root ball.

At the end of the art garden evening, both Flynn and Whitaker approached me to shake my hand. They wanted to thank me for such a wonderful and creative evening. They both loved creating graffiti art and wanted more opportunity to

stencil on concrete. Whitaker insisted on taking the stencil images home to spray on his parent's driveway. (Personal Journal, May 30, 2013)

I noticed that the more I slowed myself down to observe my surroundings and happenings, the more in tune I became with my participants. I tore myself away from the teacher role and connected with what I was reading to ensure that I was relating theory and literature within the world of practitioner-based research.

Although I am new to the field of Arts-Based Educational Research, I am well travelled, speak two languages (English and Hebrew), and have lived outside of Canada where I worked and studied on a *Kibbutz* for an extended period. Before entering the field of education, I was a regional sales manager where my business and marketing experiences permitted me the opportunity to work with diverse groups of people where I was required to establish and maintain trusting relationships. I believe this creative job provided me with the valuable life-long skills needed to be sensitive to people and data. Perhaps my past experience provides some additional credibility to this project.

I felt it was important for me to distribute a questionnaire so that I would later have a greater understanding of my participants' entry point at the beginning of the project. (Appendix F) I chose to use this format because I was not privy to knowing who my participants were and therefore was unable to use any other data gathering method. This provided me with a baseline from which to tell if there were any changes in how the participants interacted in the natural environment. According to Lyn Richards (2011), questionnaires are not always the best way to begin collecting data. She asserts that once you have a greater understanding of the participants it is best to then create instruments to collect data. "If the questions you ask as first offend or fail to elicit interesting answers, you'll of course change the questions – or move away from

questioning as a way of finding out” (p. 40). In my situation, the data I was able to collect from the questionnaires in conjunction with my interviews, allowed me to ascertain if there were any changes in people’s attitudes over the course of the project. Sue, my artist and assistant, handed out and collected the questionnaires during art and eco club. As established in my ethics I was able to view this data after the deadline for June reporting, and I was no longer evaluating my participants as their art teacher.

At this point I sorted through the questionnaires and realized that not all of them had been completed, nor had all students taken the time to address the questions as thoroughly as I would have liked. I decided to group them into three categories: incomplete, semi-complete, and completed. According to Lyn Richards (2011), “selection is always necessary, and by selecting, you impose your interpretation” (p. 48). As I had a number of participants, I selected the students who provided me with the greatest amount of data derived from a variety of methods, which illustrates purposeful sampling.

It must also be mentioned that I had planned to involve the local high school in this inquiry. Over the course of the year there was much turmoil within the province between the teachers unions and the government. Regardless, I have included the letters, questionnaires, and interviews to high school students as part of this research.

The student questionnaire primarily asked participants how they interacted with the natural environment and if they wanted to learn more about how to care for it. I was interested in finding out how much time participants spent outdoors and if they had ever created environmental artwork. Regarding the teachers, I was also curious to see if they integrated environmental inquiry into their programming and how they personally interacted in the natural world.

The parents and community members described outdoor activities that they participated in with their children. I asked them about how they felt the curriculum addressed environmental inquiry, and what environmental books or films they have read or viewed. I was curious to see how their teachings at home affected their children's worldview. As a child, I was encouraged to spend time outdoors in the natural world, and I believe that parents play an important role in how children relate to the environment.

Art making within altered books was another form of data. "Creative methods are those that draw on inventive and imaginative processes, such as in storytelling, drama and drawing. They can serve as constructivist tools to assist research participants to describe and analyse their experiences and give meaning to them" (Veale, 2005, p. 254). Sue and I modeled techniques for altered book making, provided some materials, and encouraged students to source their own. Within their books, the students placed their maps of how they envisioned their garden to look, found poetry, sound poems, sketches of products for the garden made from bike parts, prototype stencils of the larger concrete stencils, sketches of a "do not idle your car" mural, and if they chose, additional open-ended responses to the films *The Story of Bottled Water* (2010), *Manufactured Landscapes* (2006), and *Food Inc.* (2008), as well as any other material of their choice. Some students, myself included, chose to use plastic grass on the cover of their book in response to the documentary, *Garbage Island* (2008).

My used book fundraiser turned out to be a huge success. Many books were donated with the understanding that the proceeds will help to fund the garden. Within three hours, three quarters of them were snapped up. My principal liked the idea that I was teaching the value of reusing worthwhile materials and promoting literacy; the parents commented that this is a wonderful idea. I was

thrilled that there were a variety of hardcover books and materials left over for creating altered books. My art club students eagerly picked through and extracted the best produce. I willingly offered some preloved art books, which were gratefully received. (Personal Journal, October 10, 2013)

Altered books can be two- or three-dimensional art forms. They can also be thematic. Rather than create a written journal or a sketchbook, I felt that an altered book would provide the most appropriate format for both visual and linguistic data. Using altered books or scrapbooks is not a new form of data collection. Bragg and Buckingham (2008) also encouraged research participants to scrapbook as a means to record, reflect, and bring the student voice into their project in a diverse manner.

The sound poem was derived from an idea that I found in David Sobel's *Mapmaking with Children: Sense of Place Education for Elementary Years* (1998). Sobel suggests having students record their visual and linguistic impressions of the sounds that they've heard. As we set out through the ravine adjacent to the school, the students were instructed to write down adjectives, and nouns, that described what they heard. After about 20 minutes, they were given a variety of ink markers and coloured pencils where they were able to record what they were hearing using line, shape, and form.

It was a cold day. We ventured out dressed for the weather, to record the sounds of the ravine. The wind was howling. I used my camera to record the rise and fall of the wind and the occasional bird song. Several students used their phones. I hoped that we could upload our recordings to iMovie and then layer our poetry and spoken word over the natural sounds. Back inside, each participant chose a word best describing what they heard. As we recorded the voices, the thought

occurred to me that we would achieve greater hybridity and meaning if we could also include photographs and video of the site. The participants agreed that this additional layer of information would hopefully give the onlooker a deeper understanding of their place and experience. A few participants volunteered to graft images to sound. (Personal Journal, June 5, 2013)

The final sound poem was uploaded to the website and is a collaborative postmodern art work which was guided by Gude's (2007) principles of possibility, including hybridity, layering, playing, investigating community themes, and not knowing. The students were writing, using technology, and art-making while collaborating in a playful manor reminiscent of the surrealistic parlour games. The individual visual sound poems were planted into the altered books. As Sobel (1998) suggests, engaging students in play and then extending it artistically can act as a scaffold for academic expectations across the curriculum. Perhaps extra-curricular projects such as this therefore are just as critical in helping students to develop academic skills. Most often in the upper elementary grades, play occurs in extra-curricular activities.

The interviews used a standardized, open-ended format. My participants answered the same questions, allowing me to compare responses. I felt that this would facilitate organization and analysis of the data. Many A/r/tographers and Art-based educational researchers use interviews as a way of collecting data. In the study, *The City of Richgate*, Bickel et al. (2010) record interviews amongst recent immigrants within Richmond, British Columbia. At the heart of their qualitative study was a response through both art and text that was developed collaboratively between the participants and the researchers. Oppenheim (1992) advises that interviews have many advantages over questionnaires because the interviewer can address questions as they arise, and interviews don't rely on being returned by the participant. As well,

interviews can be conducted at the speed needed by each participant, and are better at handling open-ended questions.

Although my interviews were standardized, my best interviews were those where my interviewees told stories in response to the questions. This sometimes precipitated additional data. I found myself probing for more information during my interviews. The risk here was that some people shared more information than others, which made it more difficult to organize and analyze data.

One of the attributes Kvale (1996) outlines as a key characteristic of a qualitative research interview is that each truth becomes vibrantly clear as participants share their life world and how they relate to this inquiry. This trait connects with Arts-based educational research and *A/r/tography* as exemplified by the stories collected during the qualitative project, *The City of Richgate* (Bickel et al., 2010). The visual and oral recording of images and stories depict how the immigrant families navigate and come to understand how to exist in a new home.

Kvale's (1996) other traits include the need for the interview to remain focused; the interviewer interprets and records the meaning of what is said and how it is said; the interviewer remains open to new unexpected phenomena, rather than a pre-determined set of expectations; there is an allowance for change where the interview process may bring about new insights for the participant and they may change their view during the course of their interview (which should be a positive and enriching experience); and that the knowledge gained should be obtained based on interpersonal interactions during the interview process.

The Art Garden website was designed using a password protected, invite-only format. The template was selected from *wordpress.org*, and then customized slightly. Sue and Bree

were able to post information during the project development, and the rest of the participants joined in later as per my ethics requirements.

Acting as a venue to distribute information, the website was a tool to pass on articles that I felt would be of interest to this inquiry. I have a subscription to *Green Teacher*, am an avid reader of articles posted in *Treehugger*, *Green Museum*, *Colossal*, *Taxi*, *Organic Green Roots*, and others. The website provided for another data collection method and as a tool of visual and written expression. It opened up dialogue for collaborative discussion allowing for “engagement, analysis, and learning” (Sprinngay, Irwin, 2008, p. xxix).

Photographs documenting some art-making and the early stages of the garden were posted. The photos on the website were used to elicit responses from the participants.

This data collection method has been used by other A/r/tographers, such as Cuerden’s (2010) thesis entitled *Art, nature, and the virtual environment: Three strands of a narrative inquiry written around a school yard garden as a collection of events*.

3.4 Data Analysis—Pruning and Sorting

Harvesting is often the most labour-intensive part of a growing season, and I soon discovered that data analysis was equally all-encompassing. Sorting through, cleaning, and pruning data so that it could be processed and then packaged for market seemed like appropriate metaphors for the tasks that I undertook. This section portrays the results of a bountiful and rich harvest.

Firstly, I chose to discuss the steps I used to analyze my data. I then identified thematic patterns, and explained their respective categories and subcategories while addressing the pedagogical implications of this inquiry and sharing many stories from the community of participants. The stories are anecdotal evidence that support my findings. Finally, I further

examined how this inquiry provided me with the opportunity to participate as an A/r/tographer within a community of learners.

3.4.1 Down The Garden Path: Plotting a System

I began by transcribing my interviews which I had recorded using my iPhone¹⁸. My student participants met me in the art room for their interviews, while most of the parents met me in the art room, the relaxed space of the garden, or nearby in an air-conditioned coffee shop.

I used a standardized, open-ended interview approach so that the questions remained in order and were systematic; this later helped with my organization and analysis. The interviews were conversational and natural. (see Appendix J: Questions to Guide Interviews.) In some cases, I was able to probe and go into more depth, or clarify any misunderstandings. Although there were a couple of tangents in my discussions, particularly with the parents, the respondents answered the same questions, which allowed me to compare results with several surveys. I must add that I was careful to phrase the questions for the interviews in exactly the same way, and I provided the participants with a visual copy of each question throughout the discussion.

3.4.2 Transcriptions

After listening to the recording and reading through my transcriptions, it became clear that the discussion from the group interviews flowed naturally, was richer, and offered me greater insights. Several students built upon the ideas of others. Although I detected and noted that some students merely mimicked the responses of their peers, they were comfortable and very respectful of one another. In analyzing the transcriptions, I made note of instances where

18 I encourage my students to bring cell phones to the art room so that they can take quick photographs to document the process stages of their artwork. This tool was not new to my students and, as a result, I found that using my iPhone offered the least intrusive method for interviewing, as it was small, inconspicuous, and familiar.

responses to certain questions were answered in similar ways, denoting agreement in participants' insights.

As Cohen et al. (2000) points out, "Transcriptions inevitably lose data from the original encounter. This problem is further compounded, for a transcription represents the translation from one set of rule system (oral and interpersonal) to another very remote rule system (written language)" (p. 281). Kvale (1996) reminds us that interviews are co-authored. They are "neither an objective nor a subjective method—its essence in intersubjective interaction" (p. 66). To expand upon the verbal conversation and to develop the participants' stories, I also made notes about my participants' voice inflections, emphasis of particular words, pauses, and the interviewees' moods. I realized how important it is for the interviewer to focus on the moment, be highly intuitive, and pay attention to the smallest of details. Sometimes what isn't said is just as valuable as what is said. I also realized that detaching myself from the interview process would be my biggest challenge, as I was both professionally and personally interested in the topic. This type of bias is unavoidable in qualitative research.

3.4.3 Separating the Crop

I was eager to dig deeply and uncover the central issues, and felt that I was at a stage in the project where I could now analyze the transcripts of my interviews and the files from my surveys. I continued to seek the support from other readings and soon realized that what Miles and Huberman (1994) refer to as data reduction would assist me in minimizing or setting aside some of my harvest.

I began by selecting the permission forms of 16 students. Although they had also given me consent, albeit for the survey (some of which were only partially completed), this group of students simply dropped out over the course of the project. I referred to them as Group C, and,

since they would not be quoted within this work, I did not need to provide them with pseudonyms. I planted them into a file marked, “Participants Not Selected.”

I then created two charts to illustrate the participants involved in this study. In Table 2: Table of Participants Initial Responses (see Appendix K), I listed the pseudonyms of those that who had given me their permission to participate in this project and the areas I had been granted permission to include in my findings.

Narrowing down my fruitful participants to a manageable number was somewhat frustrating. As not all students completed the survey in the way I had hoped, I leaned towards those who had participated in the interview, allowed for observation, and provided me with permission to have their work photographed for this inquiry. I didn’t fully abandon the data from the other students, but simply set it aside in case I wanted to consider and include it at a later date. I thought that their artwork, and posts from the website might potentially further substantiate my findings. My selection was based on those participants who provided me with the greatest amount of data, and I used visual images that offered the strongest representation.

My other participants included: my student-teacher intern, Bree; my assistant, Sue, who was my visiting artist; four parents; two teachers who provided me with completed surveys; and the artist, Roadsworth, who gave me permission to quote him and use his artwork within this inquiry.

I then created Table 4: Descriptive coding (actual data collected), which illustrates those individuals who completed the various levels of participation within the project. This gave me a snapshot profile and helped me to identify my strongest participants. The 15 student participants I chose to focus on are highlighted in **bold font**. I made this decision because I felt that the data from these individuals was stronger and I wanted to give them greater weight within my analysis.

It must be noted that only four of the students were male. I attribute this to the fact that as an arts-based school we attract more female students. At the time of the project, approximately 18% of the school population was male.

3.4.4 Rhizomes and Connections

Lyn Richards (2011) assured me that the many memos, ideas, and questions I had written within the margins of the articles I had read and in my journal would be important links to my data. Furthermore, she stressed that creating relationships to my “records within or without the project on computer [would] assist [me] to weave a stronger fabric of data and interpretation” (p. 82). I immersed myself in my data and read my transcripts several times as I searched for patterns.

I first searched for themes by reading through my interviews and highlighting what stood out. After highlighting key phrases, I double-spaced my transcripts and reprinted them. I looked to Loftland, Snow, Anderson and Loftland (2006) to further understand how to generate themes. I foraged through my interview transcriptions and sought insights through my participants’ acts and activities. I looked at the meanings of how people came to understand their experiences throughout the project, and the significance these had for them. I also looked for repetition and recurring ideas, what was missing or left unsaid, metaphors, transitions in content, and also re-listened to the vocal intonation of my interviewees. Finally, I was interested in how the community’s participation and involvement in the art garden project and the members’ relationships between one another had affected them.

Realizing that, “Themes come both from the data (an inductive approach) and from the investigator’s prior theoretical understanding of the phenomenon under study (as a *priori* approach)” (Ryan & Bernard, 2003, p. 88), I realized how the themes from my literature review

and my own values and theoretical orientations could play a role in developing topics. Wanting to include and consider my role as a/r/tographer and how my involvement helped to generate data, I also had to detach myself from the project as I read through the data generated by my participants. I tried to balance both approaches when developing themes and later their respective categories and subcategories.

I used descriptive and thematic coding for my numbered survey. I used thematic and topic coding for many of the passages that the interviews had generated and that were in my log memos. “Through its theoretical freedom, thematic analysis allows and provides a flexible and useful research tool, which can potentially provide a rich and detailed, yet complex account of data” (Braun & Clark, p. 5). Therefore as a qualitative research method it is in keeping with A/r/tography. Throughout this process I unearthed reoccurring words and meanings, knowing that thematic analysis would offer me flexibility and, “did not require detailed theoretical and technological knowledge” (p. 9). As well, it was a good choice for my project as I was new to the field of qualitative research, and based on my chosen methodology and framework, I was to create a rich narrative (Barone & Eisner 1997), balanced between the roles of artist/researcher/teacher, whilst considering the place-based theories (Stone, 2005) discussed in *Natural Curiosity* (Chiarotto, 2011). Topic coding allowed me to look at each theme in depth. Using inductive coding, I first created categories and grouped them into themes. I then reviewed the categories and created subcategories as derived from my participants’ stories. Lyn Richards (2011) stresses that this includes labeling words, phrases, and lengthier excerpts with headings related to the inquiry.

I knew that this would also help me to see how the community interacted within the world as a result of this project, and how their experiences and understandings could be

described under thematic analysis. I weeded through the surveys and matched them with their corresponding interviews. This is what Ryan and Bernard (2003) refer to as comparing similarities and differences between sets of text generated “from the same informant or from different informants and asking how is this expression different from or similar to the other?” (p. 91). As I triangulated data, I looked for ‘before and after’ comparisons of how my participants may have changed as a result of their participation in this research project. Within the theme of activism within my Taxonomy Chart, I included a category to illustrate lifestyle changes pertaining to purchasing habits and environmental habits, as demonstrated through environmental awareness.

As I continued to reread my transcribed interviews, I began to think with pictures and words. At this point, I decided to create a final art piece: a hybrid map (see Plate 4 to Plate 6). I took my coded interviews, questionnaires, and journal entries and photocopied them numerous times so I could manually cut them up and place them into envelopes. As I cut and sorted transcripts, I picked out quotes, phrases and expressions, and sorted them into groupings. Initially I relied upon the repetition in my data to determine the themes, then I considered my literature review and my initial thesis questions to determine the themes of greatest importance. I then derived subsequent categories and subcategories gleaned from the stories of my participants as I completed the topic coding.

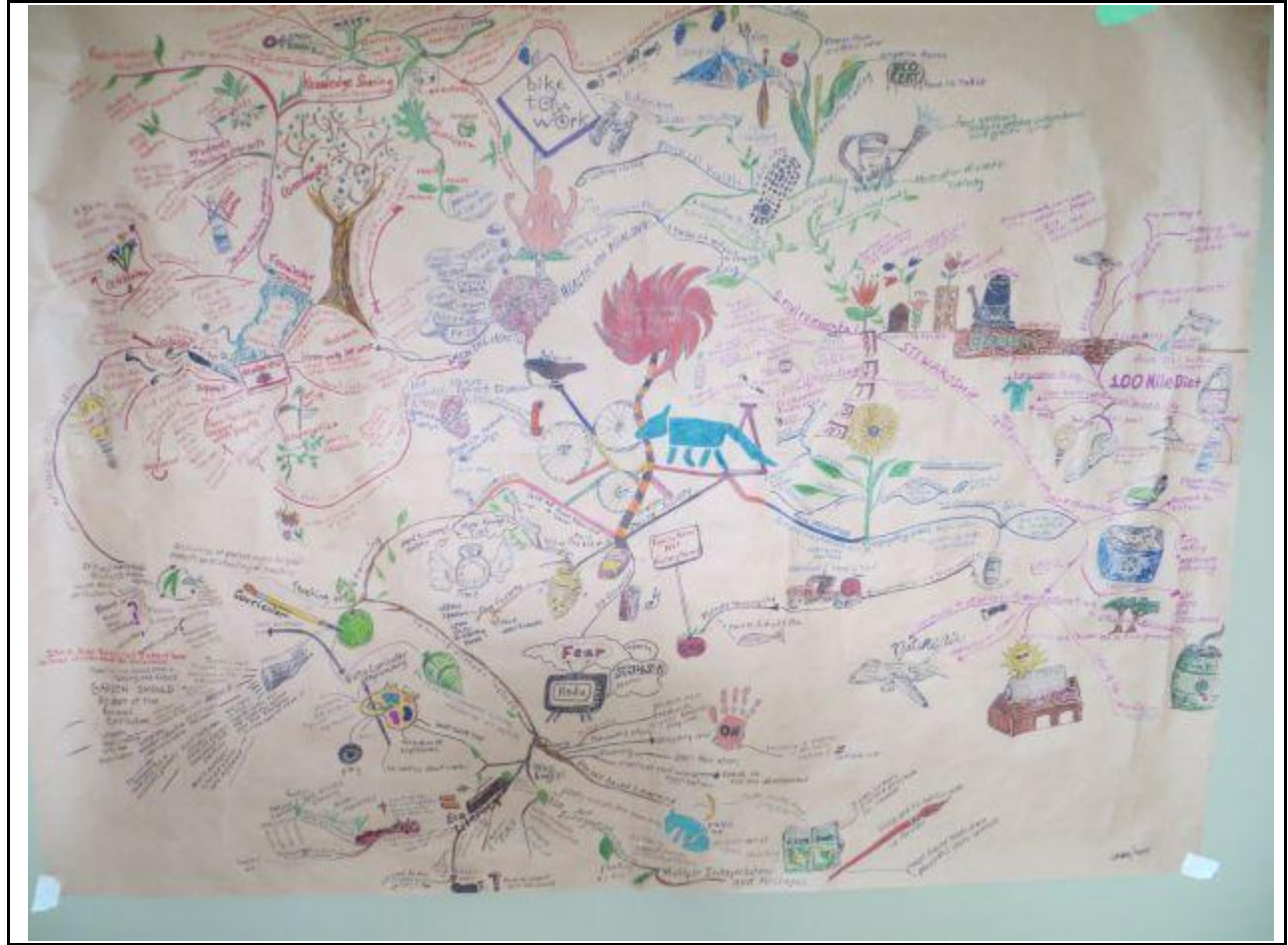


Plate 4: Cohen, B. (2014). *Art graphy map* [pen, pencil crayon, marker on craft paper].



Plate 5: Cohen, B. (2014). Detail of *Art graphy map* [pen, pencil crayon, marker on craft paper].

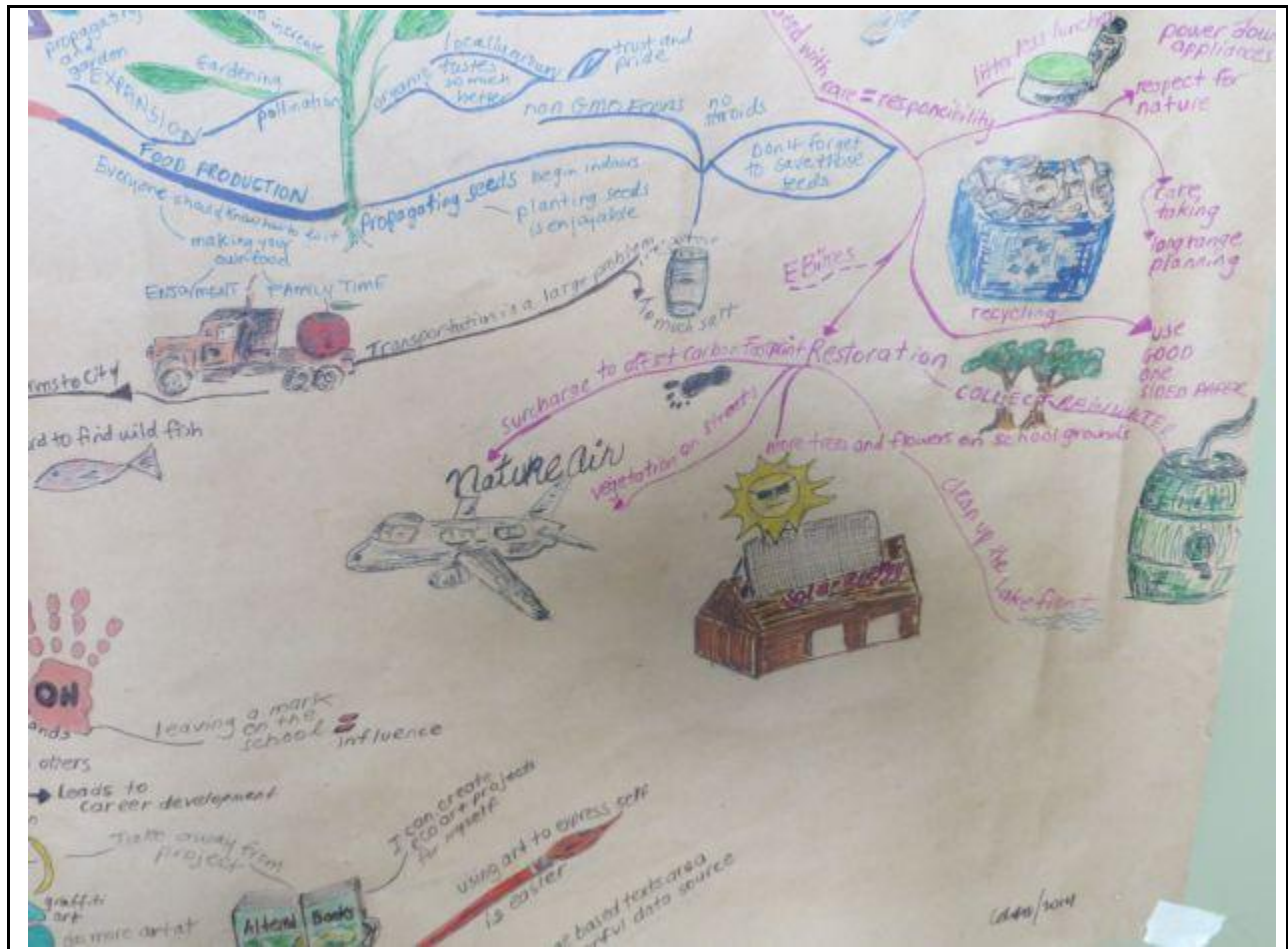


Plate 6: Cohen, B. (2014). Detail of *Art graphy map* [pen, pencil crayon, marker on craft paper].

As I created my map, I knew I would see my connections in a different light, and offer additional data analysis triangulation. I carefully opened each folder and worked with its contents. At the onset I thought that this might be somewhat unorthodox as a data analysis method, however I knew it would help me to summarize what I had learned. Later I discovered in my reading that Jenny Brightman (2003) also considers mind-mapping to be the most useful tool for personal reflection and knowledge. I felt further validated in my decision to map when I discovered that Wheeldon and Faubert (2009) stress that mapping is also a viable strategy, and

that, “maps allow for the identification of concepts and connections based on how the participant frames their experience” (pp. 72-73).

As a visual artist, I could express myself using visual-graphical representation, as well as create further connections to A/r/tography. Deleuze and Guattari (1987) refer to the map as a metaphor for a rhizome. The map is both open and connectable, it “has multiple entry ways” (p. 12) and combines art and graphy. The concepts linked together emphasize sensitivity to the relationships between “art as an activity or product and a/r/t as a symbolic representation of the three” (Irwin & Springgay, 2008, p. xxviii) identities: artist, researcher, and teacher. My map provided for multiple entry points and encourages viewer participation. Using some concept- and mind-mapping principles, I was able to link ideas from one branch to the other. This exercise was very helpful because I developed a deeper understanding. For example, under the theme and category of *Teaching and Learning* and *Curriculum*, respectively, I added a subcategory entitled *Alternative Voices*. The voices of the parents and teachers demanded a separate section and it was fitting to catalogue it under curriculum as most of their comments addressed this topic. Clustering categories that shared the same qualities was reflective, and established the necessary roots I needed to move from “description to explanation” (Cohen et al., p. 148). Reflexive and reflective, I was creating links between art, inquiry, and teaching, and exploring the spaces between them.

After I had worked through mapping, I adjusted my Analytic Taxonomy table.

Table 1: Analytic Taxonomy outlines the seven themes, categories, and subcategories. This gave me greater structure and demonstrated “hierarchy of meaning within the data” (Braun & Clark, p. 23).

3.4.5 Re-sorting

It is important for the reader to understand that the Analytic Taxonomy chart was reworked four times. I first had thirteen themes, then narrowed it to ten. After I established subcategories, I consolidated it further to arrive at seven themes. Another researcher may have organized the data through a different lens. I went through the process of topic coding. As Lyn Richards (2011) suggested, I tallied how many times each participant’s transcript contained any reference to the identified themes and topics.

Simply determining which topics were meaningful to my participants wasn’t enough. What was most important to this inquiry was unearthing what was meaningful to my participants in relation to their experiences in and beyond the community art garden project. To do this I went deeper into my transcripts and used what Lyn Richards (2011) has referred to as “taking off from the data” (p. 77). I asked myself questions, such as ‘How did this quotation highlight a specific theme?’ and ‘Why was this interesting?’ This process allowed for greater analysis as opposed to just describing what the original record conveyed.

Throughout this process, I discovered additional concepts, such as gender and art education. As previously mentioned, only four male students, one father (my welder), and one male artist (Roadsworth) were involved in this study. One male teacher offered to be involved, but later opted out by not returning his questionnaire. Rather than include gender as a theme or category, I simply mention it as a topic which I have set aside to consider for further research.

Within the many layers and multiple interpretations, I remain concerned with the phenomena and how the participants viewed their world. I reported on both the positive and negative aspects of my findings that focused on answering my research questions. Bragg and Buckingham (2008) suggest that when one considers how to interpret material collected and designed by student participants, it is important to explore the content and form.

As well as audible expression, I looked carefully at the visual expression. How were the students defining outdoor spaces on their maps? How were they grouping seating and planting arrangements? What did their visual representations describe? What did their visual images say about how they interpret the natural world? According to EduGAINS, “Student voice is a metaphor for student engagement and participation in issues that matter to learning” (Ontario Ministry of Education, 2013, p. 2).

As posited in the Ministry of Education’s EduGAINS website (2013):

As educators study student learning in collaborative inquiries, they are observing that children express voice in a variety of ways – in writing, art and drama; in gesture, body language and even silence. In this sense, student voice is not something that we grant to students, but rather something we tap into. By broadening the definition of how children can and do express voice, educators are taking diverse approaches to “hearing” student voice. (p. 2)

Data interpretation will be discussed according to cultural, artistic, and professional literature. Symbols and descriptive words will be the focus of data organization. Arts-based reflexivity requires drawing out main themes from the data, which was ultimately made up of various art forms in response to this inquiry. Through the examination of themes, I attempted to

be sensitive to the frequency of similarities. A structured format was a critical organizational necessity to manage information.

Before analyzing the data, I needed to transcribe all interviews, observations, journal entries, notes, and other documents. This provided me with the opportunity to dig deep into the bounty of information. I began to see key words and phrases that helped me to determine how sections related to my inquiry objectives. I also saw similarities in participant artwork.

I pruned through my own journal entries and tried to make meaning. Connecting to my own experiences, I looked for reoccurring patterns as I picked and pruned through a bounty of data to uncover significant relationships. Weaving my own narrative throughout formal text was important, as I wanted to connect my personal experiences to those of my students and community members. It was important to maintain a balance of all three branches within the context of this research. Ideas, sketches, and photographs were included in my personal journal entries and throughout my altered book. As I feel that I communicate more strongly using visual representation, my artmaking was an important outlet that helped to scaffold my writing.

As discussed by Sinner et al. (2006), “Arts-based educational researchers are always seeking to understand the parameters of good art and good research and they are never satisfied with any checklist, template, or formula” (p. 1229). How then does an a/r/tographer provide analysis in response to visual data? As the authors explain, “interpretations in a/r/tography are based on a reflexive and reflective stance to analysis” (p. 1251). Gouzouasis’s answer comes in the form of a question: “Who is best equipped to assess a work of a/r/tography?” (p. 230). He continues to suggest that analysis comes from “communities of informed creators, readers and participants” (p. 230). The value and quality of artwork is therefore subjective; each individual is entitled to their own opinion.

Within the confines of the required thesis format, I attempted to use an engaging display that highlighted the artwork of my student participants and myself.

Throughout the data analysis, I continuously asked myself the following questions: What patterns and common themes emerged? When I first set out, I didn't know what would grow from my inquiry and therefore I grouped the data to discover commonalities. What interesting stories emerged? I wanted to provide narrative feedback and share my participants' stories, which are a characteristic of qualitative research. How did this information provide me with insight into my inquiry questions? I wanted perspectives other than my own worldview. After I finish coding, how will I summarize my findings so that rhizomatic connections can be made? I was seeking the appropriate graphic organizer in which to portray the connections using visual art as a mode of representation (Springgay et al., 2008).

Barone and Eisner (2012) ask, "Is the study relevant to the population and the condition is what is intended to address?" (p. 162). Through participant feedback, I was able to gather insights to verify my interpretations. I remained true to myself and reflective about any personal biases and predispositions as I remained open to all interpretations.

3.4.6 Trustworthiness

In my discussion of trustworthiness, I address credibility and transferability. Within these areas I focus on triangulation, member checks, and reflexivity.

I used triangulation by asking the same research questions to different participants and gathered data from multiple sources. With my participants, I incorporated triangulation methods through the making of altered books, engaging in art making in the studio and the garden, the questionnaires, and interviews that were designed to identify emerging patterns and themes. I crosschecked information and drew conclusions by using these sources. I shared my transcripts

with the adults who I interviewed and my interpretation of those interviews. This aided in verifying my work.

My literature review and discussion of methodology also demonstrates methodological and theoretical triangulation. I integrated place-based learning theories as my participants were connected with their local surroundings and community within the constructs of cross-curricular learning (Sobel, 2004, p. 6). Inquiry-based learning, Integrated Learning, Experiential Learning, and Stewardship as highlighted in *Natural Curiosity* (2011) also provided me with a credible framework endorsed by leading environmental educators including David Orr and others. I connected this framework to Dewey (1900) and Vygotsky's (1930-1934/1978) theories on social constructivism. Place-based education also extended to the art world. I referenced two prominent art theorists and educators as we mapped our surroundings and focused on reconstructing our space (Gablik, 1991; Gude, 2007).

Barone and Eisner (1997) remind us that, "what arts-based educational research seeks is not so much conclusions that readers come to believe, but the number and quality of questions that the work raises" (p. 266). Furthermore, the questions raised also reflected the voices that really mattered: the community of participants. I look to the checklist established by Finlay (2003), and paraphrased by me, to assess my Arts-Based Research and Qualitative inquiry.

- Did I perform a useful local community service? Was the inquiry harmful in any way to the participants?
- Whose voices were heard most clearly, mine or the participant's?
- Was there evidence of ethical concern and care between myself and my participants?
- Were the roles between myself and my participants blurred?
- How did my inquiry shape a space that supported dialogue between readers, viewers, participants, other researchers, and artists?

- Was the research passionate? How did it provide for opportunities for connections between the participants, myself, and the audience between the text?
- Is the reader or the participants likely to take action as a result of this project and the art works that have been produced?

Using what Barone and Eisner (2012) refer to as “structural corroboration” (p. 162), I gathered evidence from many sources to both deepen conversation and shape a “compelling whole” (p. 162). Sinner et al. (2006) indicated that is common for a/r/tographers to use multiple methodologies, and methods which provided for a hybridity that ensures rigour. They also emphasized that there is no one way to conduct arts-based research. Although each work is individual, the findings as they unfold through collected stories in a/r/tographic inquiries can be transferred. Within the A/r/tography community there is a desire to build upon inquiry. I’ve included rich description and offered a garden path outlining this project and inquiry. The methods, theories, and descriptions allow others to develop insights as how to utilize the concepts for future research.

Gouzouasis (2005) lists a number of criteria in which the research community needs to consider when assessing a/r/tographic works, including reflectivity, reflexivity, insightfulness, ontological and education authenticity, aesthetic merit, strength, durability, and empathy. Also of importance is that the process and the product carry equal weight. Similar to the artistic/creative process, “a/r/tography invites change, and challenge, play and imagination, creativity and imagination” (p. 231).

In terms of reflexivity, I was constantly looking within to access if I was making the right research decisions and if my relationship with the inquiry itself was proper. This lead to some soul searching; I faced aspects of my own identity and beliefs. As an a/r/tographic living inquiry

it was necessary for my epistemological worldview to play a role in the design and execution of the project, and interpretation of art and graphy data.

During my interviews, I knew that it was critical to not interfere and to not allow my readings and my personal journal topics cloud what I was hearing. I would ask for clarification and for interviewees to paraphrase in order to ensure my understanding. Although I wanted topics such as environmental stewardship, eco-art education, and gardening to be discussed in depth, I also realized that my participants were of various ages and had divergent lifestyles. I heard many different stories and would probe if I wanted more information by asking, “Can you tell me more about how you feel, or can you elaborate on that idea or concept?” By doing this, I tried to keep a distance because, from a professional standpoint, and in the eyes of my participants, I was wearing the shoes of both teacher and researcher.

I was also sensitive of the need to strike a balance between the theoretical and the practical. I had to allow for hearing the participant voice and seeing their artwork without letting prior theorizing interfere. Although this was a struggle, I needed to be mindful to not dig up what I was looking for, but to discover what my community and other communities might be interested in unearthing. Through the process of reflexivity and reflection my project took me further into the world of A/r/tography and the experiences gifted to me through this living inquiry.

3.5 Ethics

It is important to address the ethical manner in which I approached my subjects, especially my own students because as a teacher I wanted to ensure their safety, and as a new researcher, I wanted to abide by ethical protocols as established by my school board and the university.

A checklist of possibilities for participant involvement was created to be part of the initial letter of informed consent (see Appendix A). These incorporated the inclusion of various combinations of artwork, an interview, a questionnaire, informal observations during the inquiry process, and involvement on my website. Some students under the guidance of their parent/guardian checked off all the boxes on the participant consent form, while others checked off a few. I proceeded to offer similar choices and levels of involvement for teachers, parents, guardians, community members, artists and gardeners (see Appendix B to Appendix D).

The student participants were recruited through both my art and eco clubs, which are run as extra-curricular activities. Never did I feel that I lacked participation from the students. Surprisingly, I did have a few teachers volunteer to fill out questionnaires, but few were interested in the project itself¹⁹. Therefore, although they agreed to be interviewed, the questions designed for teachers would not have been applicable to this study, as the teachers didn't participate in the gardening or art making activities.

After I had submitted my marks for the final report card in June, I was permitted, according to my approved ethics, to invite students to sign on to the website²⁰.

I took great care to ensure that my teaching duties and research duties were not compromised, and that neither interfered with one another. This became difficult as our union entered into negotiations with the government during the 2012-2013 school year. I wanted to continue with my extra-curricular clubs and my project, but I also was required to follow my

¹⁹ Teachers were asked to withdraw from extracurricular activities because of the political situation between the government and the teachers' federations, and as a result my inquiry was put on hold. Due to this unrest there were some issues with recruitment.

²⁰ All participant citations are noted throughout the thesis, but not included in the references. The website is password protected, and access to it is granted by invitation only.

federation's wishes. During this time I expanded upon my literature review and experienced many sleepless nights.

My submitted project protocol adhered to the Ethical Review Board requirements of Western University (see Appendix G). As I was conducting research within my own school, I also ensured that I met the standards outlined by my school board (see Appendix H). I assured my participants that they could remove themselves from this project at any time, without any negative consequences, and that they could also return to the study later, if they so wished.

After speaking with my principal and the Eco-schools Grounds Committee, I began to plant the seeds for this project. The formal work began in the summer of 2012 when I structured my proposal and ethics. I received approval to begin my research from the University on November 20, 2012, and from my school board on February 5, 2013. Once I had approval, the student, teacher, and parent and community questionnaires were handed out and then later returned to my art club assistant. They were locked in my principal's filing cabinet until June 13, 2013, the day after my final marks and report cards could no longer be adjusted. During the winter months the students in my art club viewed films, PowerPoint slide show presentations, and recorded their ideas and responses in an altered book. On Earth Day, April 22, 2013, the students began to seed the fusion butterfly garden. In May, both eco and art club students dug up a circular grass area to create a vegetable garden space and continued to expand the other garden. From February 5 to June 13, 2013, I informally observed my students creating a variety of art projects and working collaboratively in the garden. During the month of June we created graffiti outdoors, as well as painted our mural. On June 13, I begin interviewing students, parents, and community participants. I was also able to invite participants to join the website which was designed using a password protected, invite-only format. My interviews were completed by July

15, 2013. Over the summer months, I created four upcycled bike sculptures with my volunteer welder and parent, Tom.

I did encounter a few challenges. At no point did I worry about the prospect of not having enough participants. Since anonymity was being guaranteed in the study, I was not privy to who was or wasn't a participant. This made research observations difficult. I did suspect that several specific students were involved and so focused my note taking on their responses to the inquiry. Forty students, four teachers, and ten community members agreed to participate in one way or another. Although not all carried through with their participation, I felt confident throughout that I would be able to gather sufficiently rich data to address my research questions. I used an attractive poster (see

Appendix I) and spoke to the Parent Council to assist in my recruitment of community participants. My art club began with 40 students, and my eco-club with a similar number. After all extra-curricular activities were postponed, I lost 25% of my participants. When track and field was reintroduced, approximately 10 more students left the project. Some returned, however it was difficult to re-engage them. Historically, the Grade 8 students also leave art club once they are accepted to the neighbouring arts-focused high school. Although I encouraged students to return, I never applied pressure. One of the Grade 8 students who had dropped out of art club spoke to me and apologized for not carrying through with the project.

3.6 Time for Harvest

Although I agree with Inwood (2008) that the biggest gap in this area of research is the voice of the students, I also wanted to understand how the students' perceptions and attitudes were shaped by their parents, teachers, and school community. Throughout my data collection, I began to realize that in most cases, the seed for environmental stewardship is planted in the home.

My husband comes from a family where his parents were so far ahead of the curve. In the 70s, they were doing all this stuff that people have come to in, let's say, the last eight years. In terms of composting, recycling, and resource management and that sort of thing. . . . that's how he grew up, so he's always sort of had an eye on that in our house.

We're already on the course, and it's what drew us to participate in this project. We try to be fairly well read and attuned to what's going on in the world, and if you are, you can't help but want to do something. (Excerpt from Interview with Meghan, a parent of one of our student participants, June 17, 2013.)

In the next chapter I will describe the results of my study through the analysis of both visual and qualitative data. I hope to determine that what I have read and what I intuitively sense will perhaps plant the seed for further discussion and prompt change with regard to how eco-literacy and eco-art education is currently being addressed within the public school system. My original motivation and goal for this inquiry was to hear the voice of the student, however I now realize that the voice of the parents and of the community was equally as important. In the end I wanted to dig deeper to further understand eco-art education through the harvest collected from my readings and from my participants so that my views, teaching, and professional community could be better informed.

Chapter 4

4 Art Making Meets the Garden: The Produce and the Harvest

In the first part of this chapter, I chronicle the development of the garden, the art projects and the environmental artists who influenced our work. I discuss the rhizomatic intertwining of the students, community members, and myself both in written form and with presentation of visual data. I also describe experiences in the garden during the preparation of the beds, the planting, the tending, and the harvesting.

In the second part of the chapter, I analyze the qualitative data derived from the interviews, questionnaires, and my observations through the themes that were generated from the results.

4.1 Getting Grounded and Connecting to Terra Firma: Experiencing Critical Place-Based Learning

As we've seen, Stone and Barlow (2005) speak about instilling a sense of place in order to promote stewardship and expand upon environmental awareness. Greene (1995) has also demonstrated that through curriculum, teachers should help students develop a sense of agency and participation as they learn to collaborate with one another. These concepts were woven into our art garden projects and helped the student participants to express themselves as a community of learners as they became more cognizant of their 'place.'

I went out with the students into the garden a couple of times this week, and already I have seen the natural excitement and curiosity they have about the gardening process and the natural world. Simple tasks such as watering and weeding had them fully engaged, and you could tell from their actions and their comments that they were thoroughly enjoying themselves while working together.

When I pointed out different insects to some Grade 6 students, they were intrigued and they wanted to know more about them. I also caught one student investigating his environment by literally smelling the flowers, and lying with his face down in the grass. I found it refreshing to just let kids explore outside, and encouraging to see their positive response to this opportunity. (Bree's Personal Journal, May 3, 2013)

Engaging students through real-life situations isn't new to the teaching world as the concept of student-world connections are widely seeded throughout the Ontario Curriculum. The new revised Social Studies Curriculum (2013) embeds environmental literacy within specific expectations that encourage higher-level questioning which prompts both teacher and student to look closely at the impact of climate change, and to develop inquiry skills. This in turn should inspire action and lead students to take on responsibility for their eco-footprints. Through the inquiry process, together with the impact of their teacher-facilitator, there will hopefully be a shift in thinking, the development of greater environmental literacy, and a sense of personal and corporate agency. Providing students with opportunities to express their understanding through the arts is substantiated by Greene (1995) who believes that the arts have the potential to deepen and expand ones "mode of tuning-in" (p. 104).

4.2 Cartography Meets Art

In the past, as a demonstration classroom teacher²¹, I have taken students and visiting teachers outside to create an art map of the school grounds. Along our journey, I drew attention

21 Demonstration Classrooms are model classrooms that have been initiated by my school board. Demonstration classroom teachers focus on sharing professional knowledge and best practices. Small groups of teachers with less than five years experience choose from a list of classroom options, then visit demonstration classrooms to observe and reflect upon their observations.

to the sound of a woodpecker, certain plants and trees, and the proximity of the ravine and its importance to the animals who travel through it. In my *Map as Art* unit, students were instructed to create preliminary field sketches as a source of qualitative data for their final art piece.

As an extension of this mapping unit, my research participants connected to the school grounds by focusing their preliminary sketches on what they saw, as well as what they would like to see. They were instructed to use their imaginations to create the possible. Gude (2007) would refer to this as playing, attentive living, reconstructing community spaces, and investigating community themes.

The students were concerned with creating a natural butterfly garden, and wanted to also grow vegetables and herbs. This is apparent in their planning maps of the school grounds (see Plate 7, Plate 8, and Plate 9). Great attention to detail and respect for their space is evident in these examples. Many hours of outdoor observation and discussion were elements within their planning process.

(Personal Journal, March 28, 2013)

Much of the literature on place-based education focuses on children connecting with nature (Orr, 2004; Sobel, 1996; Stone, 2005). The students used the existing structure of the grounds, and placed new gardens, their ideas for the stenciled road graffiti, creative seating, and whatever else they wanted to include on their map. Two one-hour periods were spent outdoors, followed by two indoor half-hour gallery walks and discussions. This provided the participants time to analyze, reflect, share ideas, make suggestions to one another, and gather appropriate materials and resources with which to create their maps. The maps were sized to fit into the student's altered books.

The students were concerned with creating a natural butterfly garden, and wanted to also grow vegetables and herbs. This was apparent in their planning maps of the school grounds (see Plate 7 to Plate 9). Great attention to detail, respect for their personal space as indicated by their renderings on their maps, and extensive hours invested in their individual artworks was evident in these examples; many students continued to work on this at home.

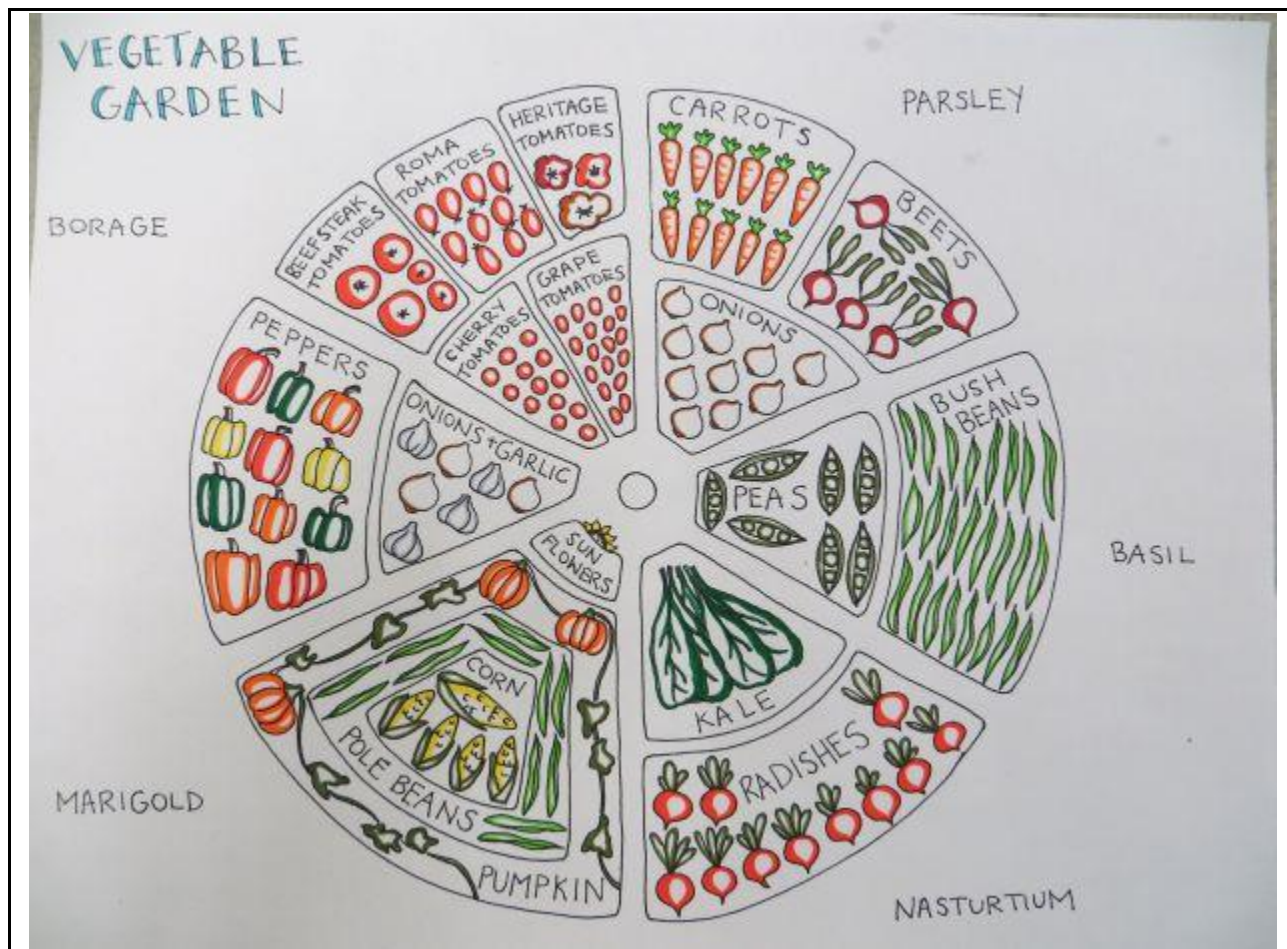


Plate 7: Bree. (2013). *Vegetable garden plans* [pen, marker on paper].



Plate 8: Denise. (2013). Map of school grounds [pen, pencil crayon on paper in altered book].



Plate 9: Leigh. (2013). Map of school grounds [mixed media on paper in altered book].

Prior to creating the map as art, the students viewed a digital PowerPoint slideshow which contained a cornucopia of ideas and exemplars of map making and altered book making. Several mini-lessons on the post modern principles (Gude, 2013) including layering, appropriation, and collage were delivered, and opportunities for experimentation ensued before the students began to delineate their work. All participants were familiar with map-making requirements such as scale, legends, and the value of a compass rose; however, they were given an open-ended opportunity to design and create their version of the art garden. This exercise was an example of what Chiarotto (2011) would refer to as integrated learning.

The students were motivated to redesign the grounds and quickly realized that the map-making exercise was useful. Through this inquiry process, the students also had the opportunity to observe natural phenomena. As discussed in the literature, acquiring a sense of your own bioregion and mapmaking are analogous (Sobel, 1998).

Today we explored the schools front grounds where we enjoyed walking and observing. After a long winter spent indoors, mapping, sitting on stones, and seeing animals and plants in their natural environment was welcomed by all. Drawing and listening to the sounds in our outdoor classroom seemed to enhance the students' inborn aesthetic response. Like our ancestors we have instincts that encourage us to scan the scene. We look for shade, food, water, and predators. We know that we should avoid wasps' nests and other natural elements that could cause us harm. Despite danger I am drawn outdoors. When I showed my student participants a video of my walk through Costa Rica's Monteverde Cloud Forest Reserve, I was demonstrating my passion for connecting to other living organisms. I informed my students that being in nature expanded my curiosity, my knowledge, my confidence and my self-esteem. The students sensed my passion for other species. I believe some felt less fear at the sight of a spider, beetle, or bee, after I told them how on a hike in Arenal, Costa Rica, we came across the Eyelash Palm Pit Viper snake. (Personal Journal, April 12, 2013)

4.3 Garden Stepping Stones and Plant Journals

The students in the study who spent little time outdoors weren't accustomed to the sight of insects and other small creatures. When Bree took our student participants out for a field study to collect ideas for our garden stepping stones, the group she was with uncovered a number

of slugs. Gude (2007) refers to this as attentive living, and Chiarotto (2011) would refer to it as inquiry. The students wanted to investigate to determine if the slugs served a purpose. They determined that the slug problem would be taken care of naturally as slugs are a food source for other animals. Although some of our plants were chewed, we decided not to add organic material such as salt or egg shells to the garden to control them; we learned it could change the pH balance of the soil.

The creation of the garden involved both a critical thinking and reflective process, much like the creative process common to art making. For example, when the vegetable plot was overtaken with weeds, the community of learners discussed the problem. Wanting to avoid pesticides, we chose an organic solution: spreading hay over the plot to keep the weeds at bay.

Our garden stepping stones required that we investigate the plant life in the area. Bree brought along her plant identification book and together we took the students on an informal nature walk through the school grounds. The student participants enjoyed labeling and creating plant journal entries in their altered book (Plate 10 to Plate 13). They democratically selected the vegetation they wanted to illustrate on our stepping stones which now serve as a pathway to our produce.

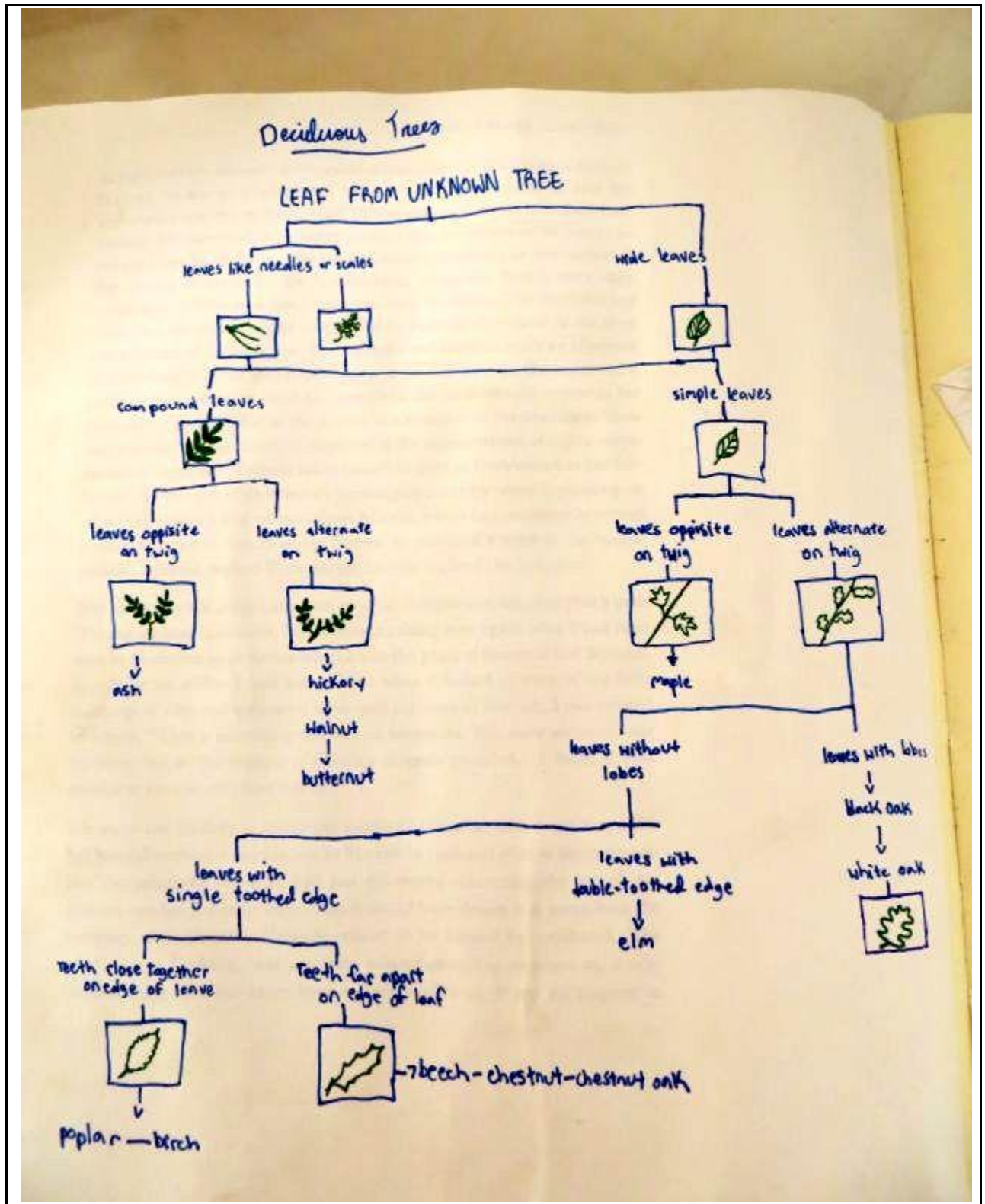


Plate 11: Flynn. (2013). *Deciduous trees* [felt marker on paper in altered book].

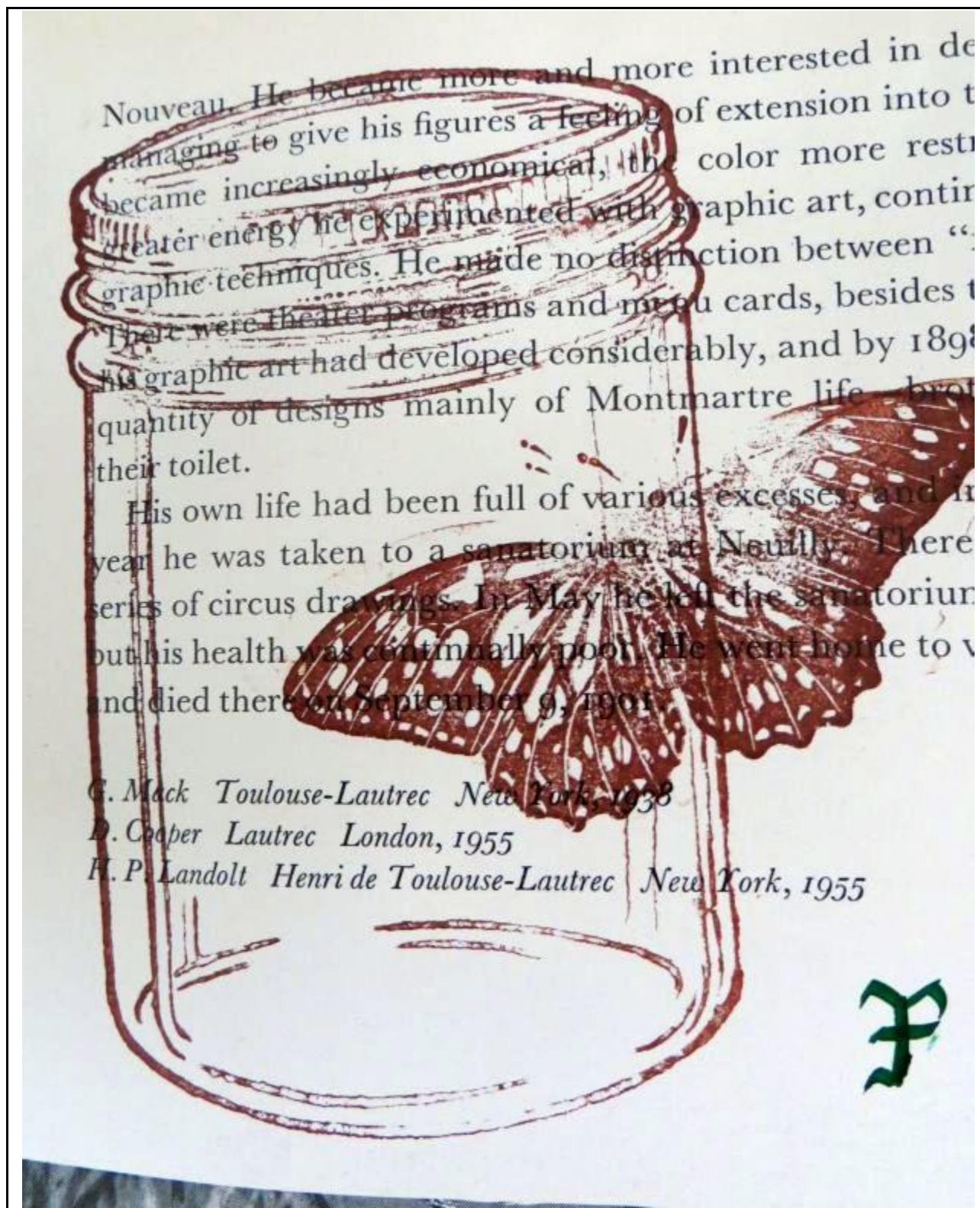


Plate 12: Lucy. (2013) Butterfly Jar [ink on paper in altered book].

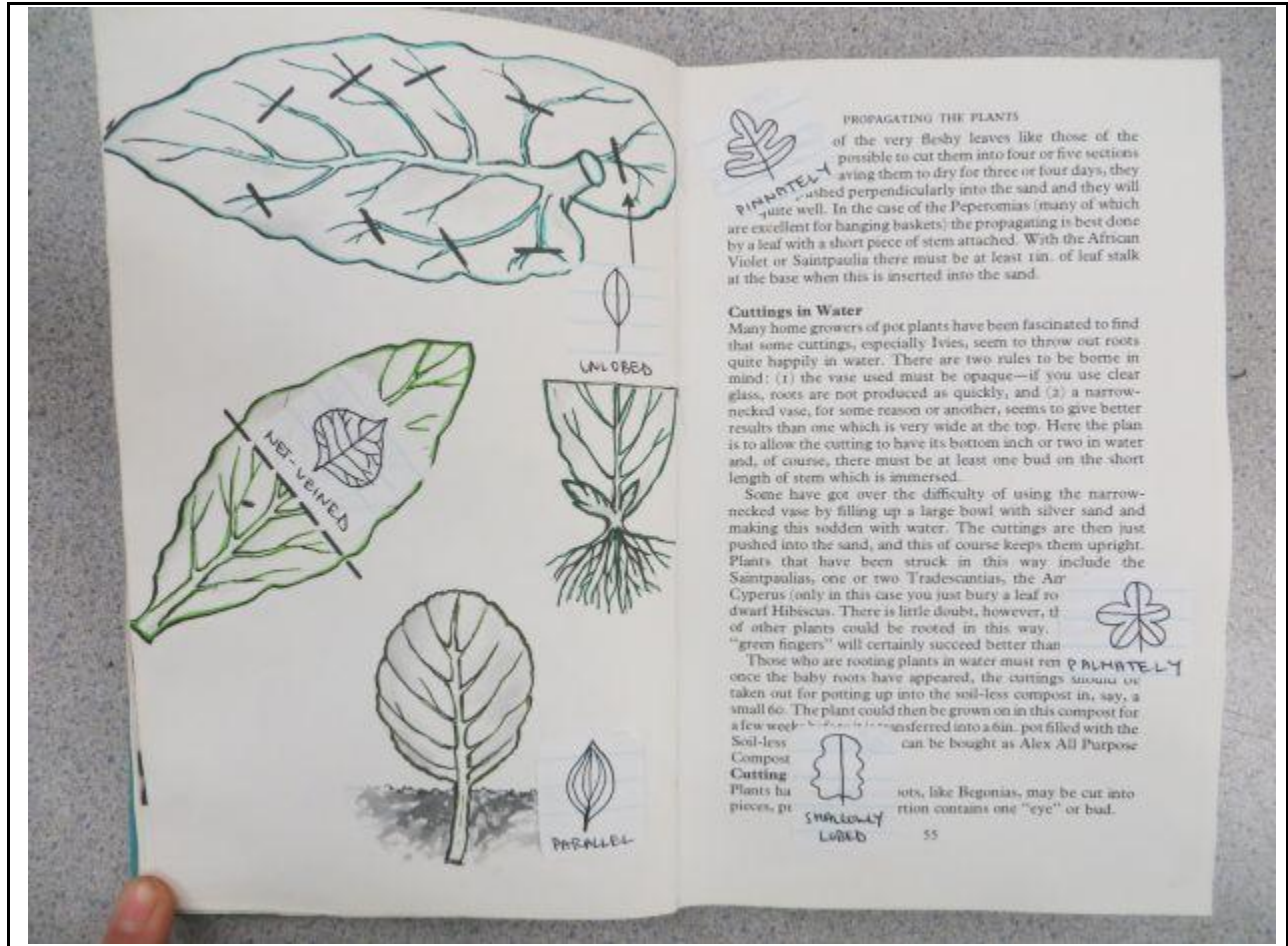


Plate 13: Bree. (2013). Leaf classification [mixed media on paper in altered book].

Through direct observation, they independently and collectively made aesthetic decisions. While searching for the appropriate foliage to create the stepping stones, they engaged their multiple senses of touch, sound, sight, and smell, all integral components of experiential learning (Chiarotto, 2011).

One of the highlights of the week was creating our first stepping stone. Bree and I used a mold that also contained letters for stamping the name of the plant in the concrete. Together we had investigated and experimented with a variety of non-toxic concrete making materials. We found the right mix and as a group choose

to create a maple leaf as our first stone. The student participants couldn't wait to take it out of the plastic mold. When I brought in large rhubarb leaves from my own garden, many participants enthusiastically dug into the concrete mix to shape the rhubarb molds. Recycled tinfoil cake molds were used to hew pine, oak, hosta, and corn stepping stones. (Personal Journal, May 15, 2013)

Although I wouldn't consider the stepping stones to fall under the category of ground-breaking, postmodern art making, the students gained a greater appreciation for their environment and surroundings. This appreciation was exemplified when one afternoon, Whitaker and I noticed that a spider had made its way into the art room. Whitaker insisted on picking it up and carrying outside and placing it in its natural environment. This undertaking demonstrates what Louv refers to as, "the citizen naturalist . . . [one] who take[s] personal action, to both protect and participate in nature" (2011, p. 132).

4.4 Sound Mapping

Our sound map creations also were highly sensory. They were created from sounds recorded while on our sound mapping journey through the ravine. In their visual representations, the students focused on the location of sound on their page, and the pitch. For example, in Plate 14, the increasing pitch of the sound represented upward movement. The duration of the time that a sound was heard was illustrated by the length of a line, while the rate of change was depicted using a variety of colours. Repetition of sound was sometimes illustrated by the repetition of colours (Plate 15).

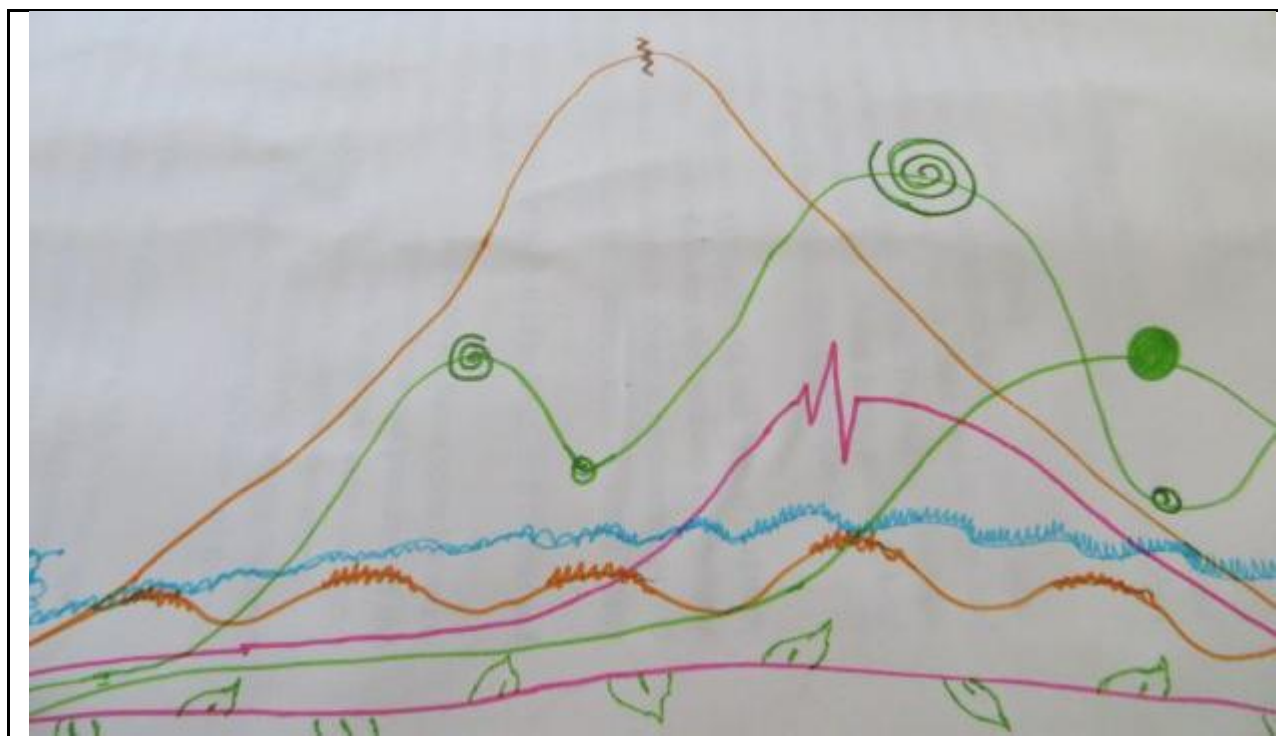


Plate 14: Sarah. (2013). *Sound map* [felt marker on paper in altered book].



Plate 15: Bree. (2013). *Sound drawing, Bloor and Huron* [felt marker on paper in altered book].

Applying part of Chiarotto's (2011) framework for Environmental Inquiry: Integration, I suggested that the student participants first write adjectives and other words based upon what they had heard. Captivated first through literacy and then through visual arts, students were provided with an opportunity to live in the moment and focus on what was in proximity to their "place" of learning (Orr, 2005).

Once back in the art room, the participants chose their favourite words and phrases, and grouped them together. Before we completed this exercise, I showed them *The Exquisite Book* (Rothman & Volvovski, 2010), which is a collaborative collection of drawings based on the surrealist Exquisite Corpse drawing game²². Using this concept as a starting point, the participants later manipulated their free-form collection of words and phrases to form a collaborative poem.

The words or phrases were documented and then layered with their recorded sounds. As Green stipulates, "Aesthetic experiences require conscious participation in a work, a going out of energy, an ability to notice what is there to be noticed in . . . the poem" (1995, p. 125).

This collaborative project helped the participants become more sensitive to their surroundings while playing with several of Gude's postmodern principles. Irwin and Springgay (2008) would refer to this as an opportunity for the viewer to experience openings, which allows for new insights and the negotiation of meaning between a/r/tographers and their audience.

Sharing this component of the project with parents on the garden party evening was also well received and brought about much discussion. Meghan, a parent participant, commented, "I

22 The Exquisite Corpse is a 1920s Surrealist parlour game in which collections of words or images are assembled, usually by four players. Each collaborator adds to a composition in sequence. The rules stipulate that each player is only allowed to see what the previous person contributed.

don't often have a chance to slow down and listen in the city. . . . I'm always on the move. I really enjoyed taking the time to listen and relax.”

4.5 Inspiration: Film makers and artists who influenced us

During the process stage of the project, the students first previewed the *Story of Bottled Water* (2010), which we determined was relevant because gardens need water, and water comes from a source. This led to a short discussion about our own water source. I wondered if after viewing the film, the students decreased their use of bottled water.

I also showed the excerpts from the film *Food, Inc.* (2008). Although some participants were disturbed by the reality of how food production has evolved and how we grow crops and raise chickens, it did cause much discussion and in some cases change. The corporations who control components of the food industry are foreign to most 12- to 14-year-olds as most of them see the grocery store or the farmers' market as their food source. Many hadn't tracked the flow or path that our food takes before it comes to the table. As well, some students were unfamiliar with terms such as 'genetically modified foods'. They felt it was inhumane to stuff chickens into tight-fitting compartments, and preferred to listen to the voice of the farmer in *Food, Inc.* who represented the free-range movement. I believe that showing this film was important as it reminds us that when it comes time to feed ourselves, we do have choices to make regarding the origins of the food we purchase and consume. I wondered if the student participants would later make this connection to the food grown in the garden. As Flynn pointed out, each of us can make decisions on how we choose to eat every day—at breakfast, lunch, and dinner.

Flynn: Last night my parents and I had a discussion around the dinner table. We decided to watch the film Food, Inc. together. We have made the decision to only buy organic meat. We are making an effort to no longer buy anything which is

modified and produced on a massive scale. It is healthier to live this way.

(Observational notes from a conversation with Flynn, March, 2013)

When Flynn shared this with me, I realized how powerful an impact this film had on several of the students. I then decided to share segments of Burtynsky's film, *Manufactured Landscapes* (2006), because I felt that the film portrayed a portrait of humanity's expanding environmental footprint. Shot mostly in China and Bangladesh, Burtynsky addresses such topics such as mass production, energy, globalization, and population displacement. Throughout the film, we saw panoramic shots and large-scale stills orchestrated by Burtynsky. Most understandable for the participants were the scenes depicting e-waste, as it was something that they have seen and could relate to, though not on such a grand scale.

As in much of his work, Burtynsky finds beauty within an environmental crisis. In Canada he has focused his camera on Hamilton, Ontario, where he portrayed intricately woven layers of scrap metal, and intensely beautiful rivers of red from Sudbury's nickel mine tailings. In China, shots of refuse are even more powerful when one realizes that our discarded computers have had devastating health and environmental consequences on the lives of the Chinese workers who disassemble them. The students were surprised to hear that over 50% of the world's discarded computers end up in China.

One scene in *Manufactured Landscapes* depicts how the townspeople need to find another water source because toxins from computers have leaked into theirs. The point of this lesson was to demonstrate that water, in many cases, might not be as plentiful as it is in our country, and that it can't be taken for granted.

The following additional films (or segments of films) were viewed by my participants and are significant to this study. Andy Goldsworthy (*Rivers and Tides*, 2001) approaches

environmental film making from an aesthetic viewpoint, while documentary films such as Annie Leonard's *Story of Stuff* series (launched online in 2007), Al Gore's *An Inconvenient Truth* (2006), Morgan Spurlock's *Super Size Me* (2004), and Thomas Morton's *Garbage Island* (2008) approach environmental education from a different angle. Through the medium of film, artists have been able to successfully share scientific facts, informing millions of people about environmental issues that plague the planet. Annie Leonard's work, for example, has been translated into 15 languages, and is shown in schools around the world.

Morton's film had quite an impact on the students and it was after this film that we made a conscious effort to limit the use of plastics for food and at every opportunity, and to reuse plastic containers in the art room. After showing this film, and a short, seven-minute clip of *Super Size Me* (2004), I was eager to conduct my interviews with the students to determine if their food habits had changed over the course of this inquiry.

We also looked at Internet examples of environmental art by Joseph Beuys, Robert Smithson, Mierle Laderman Ukeles, and others. Some of the early eco artists responded to the times by reflecting society's desire to return to the land. Showing students work from this period is significant so that they understand the historical context. Not surprisingly, the student participants were interested in the current eco-art works of Roadsworth.

A digital slideshow of Roadsworth's imagery was prepared so that the students could gain a greater appreciation for his artwork. I also shared *Crossing the Line* (2009), an NFB documentary of Roadsworth's work, and we previewed *The Lorax* (2012). At this time, the students collectively decided that a mural should be created to encourage parents to reduce the amount of time spent idling their cars. Some students were familiar with the work of pop artist

Keith Haring, and agreed that appropriating Haring's style would work well with their message, and with the stenciled spray painting inspired by Roadsworth.

As a participant in my inquiry, Roadsworth was kind enough to share his artistic techniques with me so that I could work the process into our art club program.

Today my artist self took the lead. I had written the well-known Montreal concrete graffiti artist, Roadsworth, asking him to divulge his secret process for creating stencil street art. Not only did he share which were the least non-toxic paints, and where to get them, he also gave me a few alternatives for creating stencils. (Personal Journal, March 4, 2013)

Go ahead and use whatever answers I gave you for your thesis. (Peter's personal communication, March 6, 2013)



Plate 16: Gibson, P. (Roadsworth). (2008). *Made From Paper* [graffiti street installation]. Retrieved from <http://roadsworth.com/home/2011/made-from-paper-3/>

Not only was it gratifying for my creative artist self to engage in dialogue with another artist, it was a powerful teaching tool for inquiry-based learning. My young participants were immediately attracted to Roadsworth's anti-establishment, illegal guerrilla art-making activities. My students spent a great deal of time working through their eco-design process. It was democratically determined that the 'Truffulla Tree' from the book (and later film) *The Lorax* (1971) by Dr. Seuss would be the perfect image for a school parking lot. They felt that this image would remind the community to be stewards (Chiarotto, 2011).



Plate 17: Collaborative student work. (2013) *Truffala Tree* [graffiti street installation].

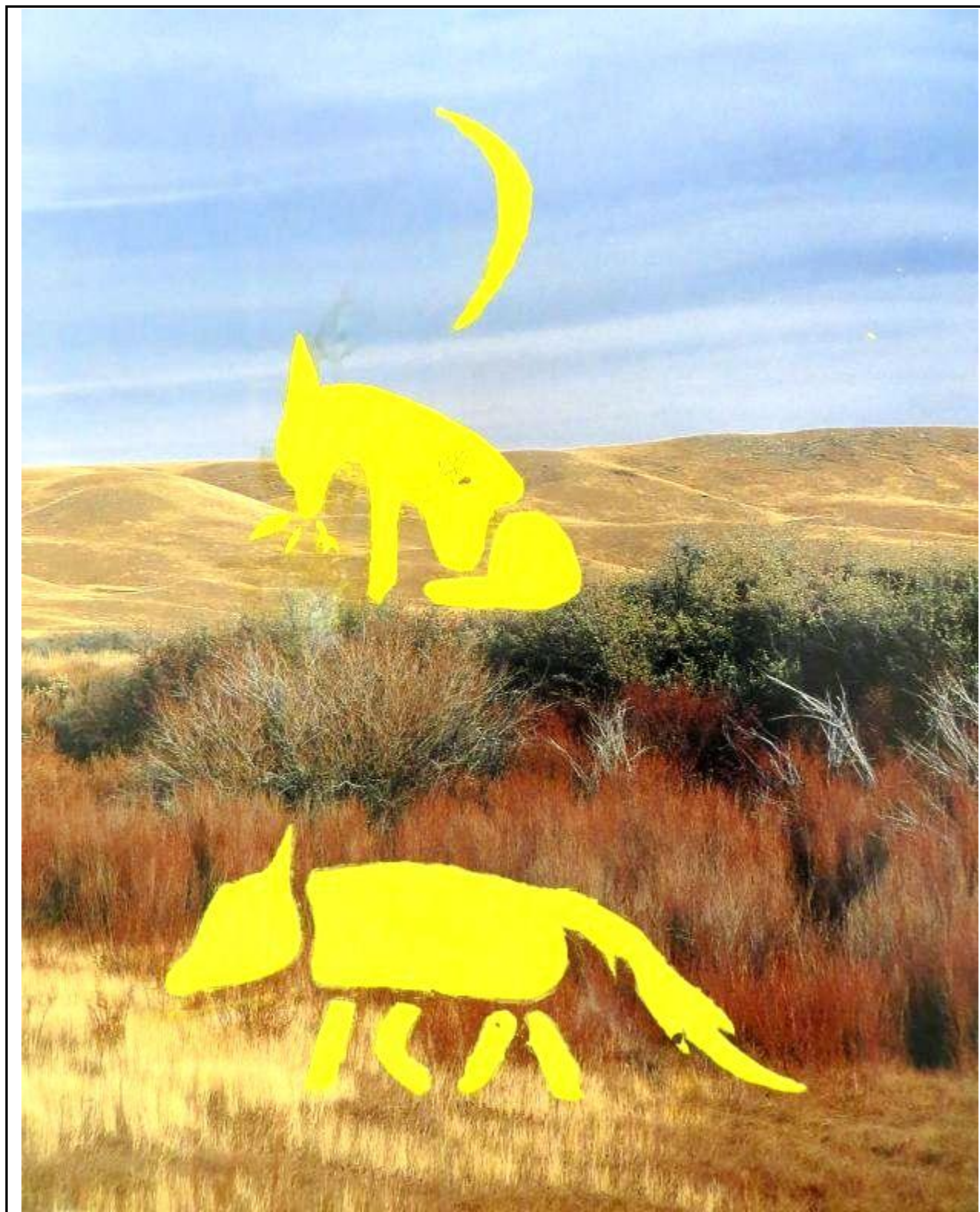


Plate 18: Whitaker. (2013). *Coyote* [preliminary stencil print image in altered book].

4.6 The Stenciled Eco Graffiti

After viewing Roadsworth's street art, the students brainstormed and then drafted a number of thumbnail sketches (Plate 19 to Plate 22). Once they selected the image that they wanted to print, they enlarged their drawing and transferred their image onto a recycled file folder. Using an X-Acto knife they cut out the shapes which they wanted ink to fill in. They ran off a number of proofs using yellow, red, or blue water-based ink, and then printed their image within their altered book. After they pulled their prints, we conducted a gallery walk and democratically voted for the other metaphorical image. Whitaker's coyote was selected (see Plate 22) because as a frequent visitor to our school grounds, the coyote is a respected member of our community.



Plate 19: Denise. (2013). Flower [preliminary stencil print image in altered book].

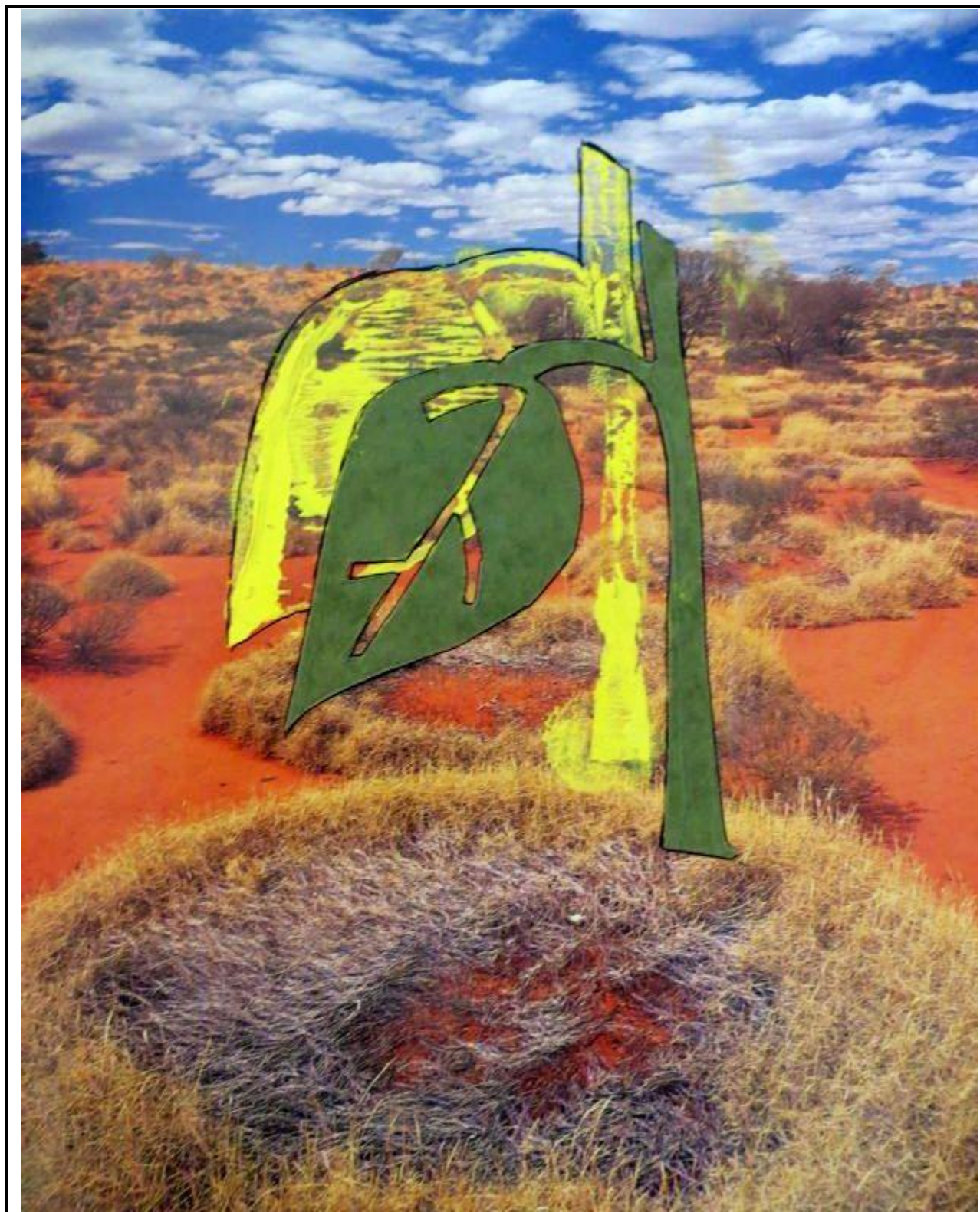


Plate 20: Lucy. (2013). Plant [preliminary stencil print image in altered book].

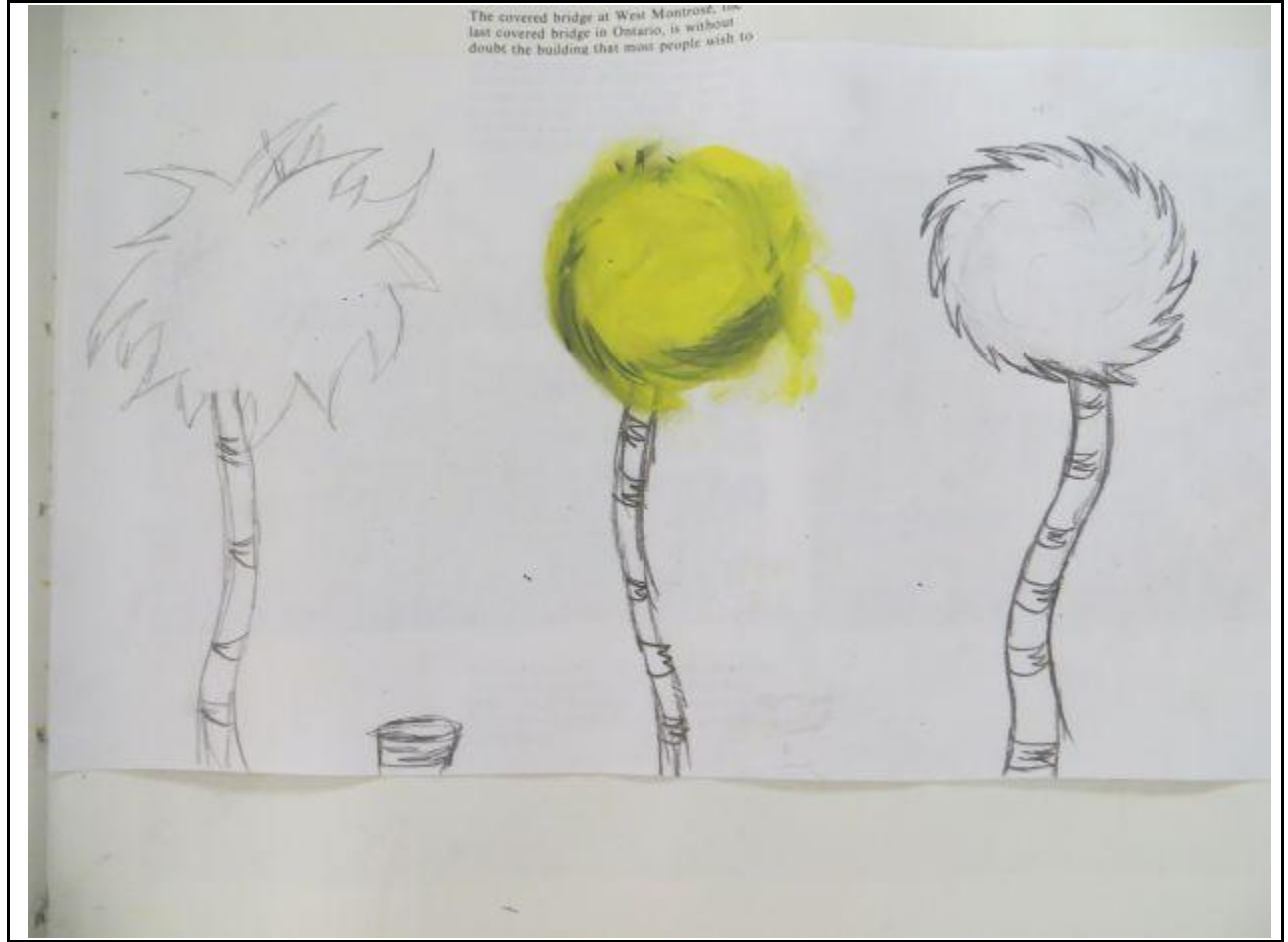


Plate 21: Maya. (2013). Preliminary sketch of Tuffala tree [pencil and ink in altered book].

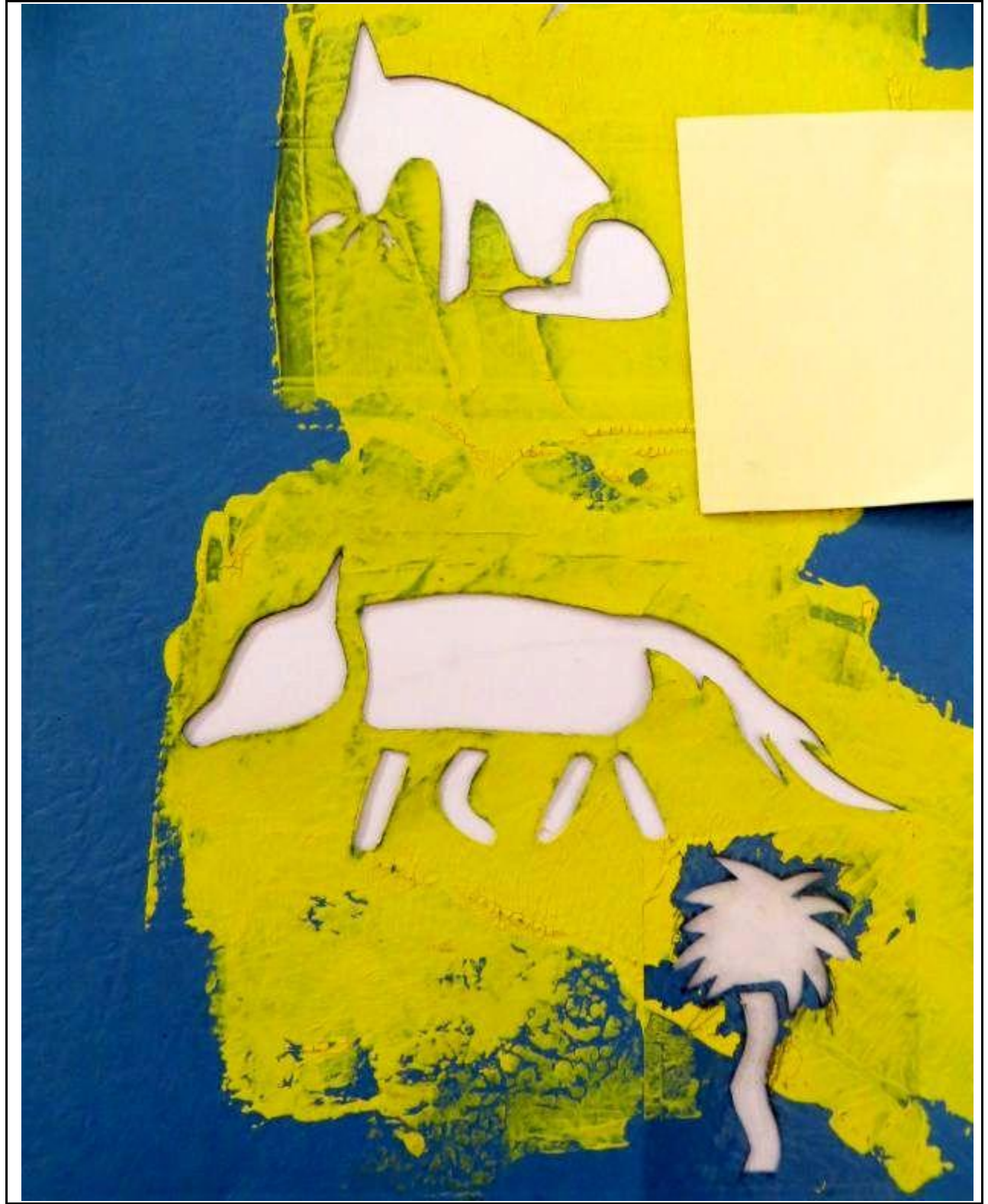


Plate 22: Whitaker. (2013). *Coyote stencil* [cardboard and ink].

4.7 The Mural: Turn Your Keys, Do Not Idle Please

Although we had spoken about using the term “Idle no More,”²³ after some deliberation the student participants, Sue, Bree, and I determined that it would not be culturally appropriate.

The students searched for slogans on the Internet that would convey the need for parents to turn off their cars when dropping off or picking up their children in the parking lot. As discussed in the literature, inquiry builds life-long learning skills and stimulates curiosity and critical thinking (Chiarotto, 2011). We encouraged the students to appropriate a variety of slogans and images, and answered numerous questions as they cropped up. During their research there were many questions about climate change and natural disasters. I encouraged independent research, some of which made its way into their altered books. Once the work was completed, the students democratically voted for the slogan and image that would be used in the mural. It is through this process that we reconstructed social spaces and investigated community themes (Gude, 2007). We combined Denise’s and Lily’s ideas (Plate 23) and encouraged them to take a leadership role in the mural’s execution.

23 Idle no More is an ongoing protest that was initiated in December, 2012 by Canadian Aboriginal groups, including Metis, Inuit, and First Peoples, and quickly spread to involve other Canadian environmentalists and citizens who are also concerned about environmental protection. *Idle no More* came about in response to the Canadian Government Bill C-45, which overhauled the rights to waterways that pass through traditional First Peoples land.

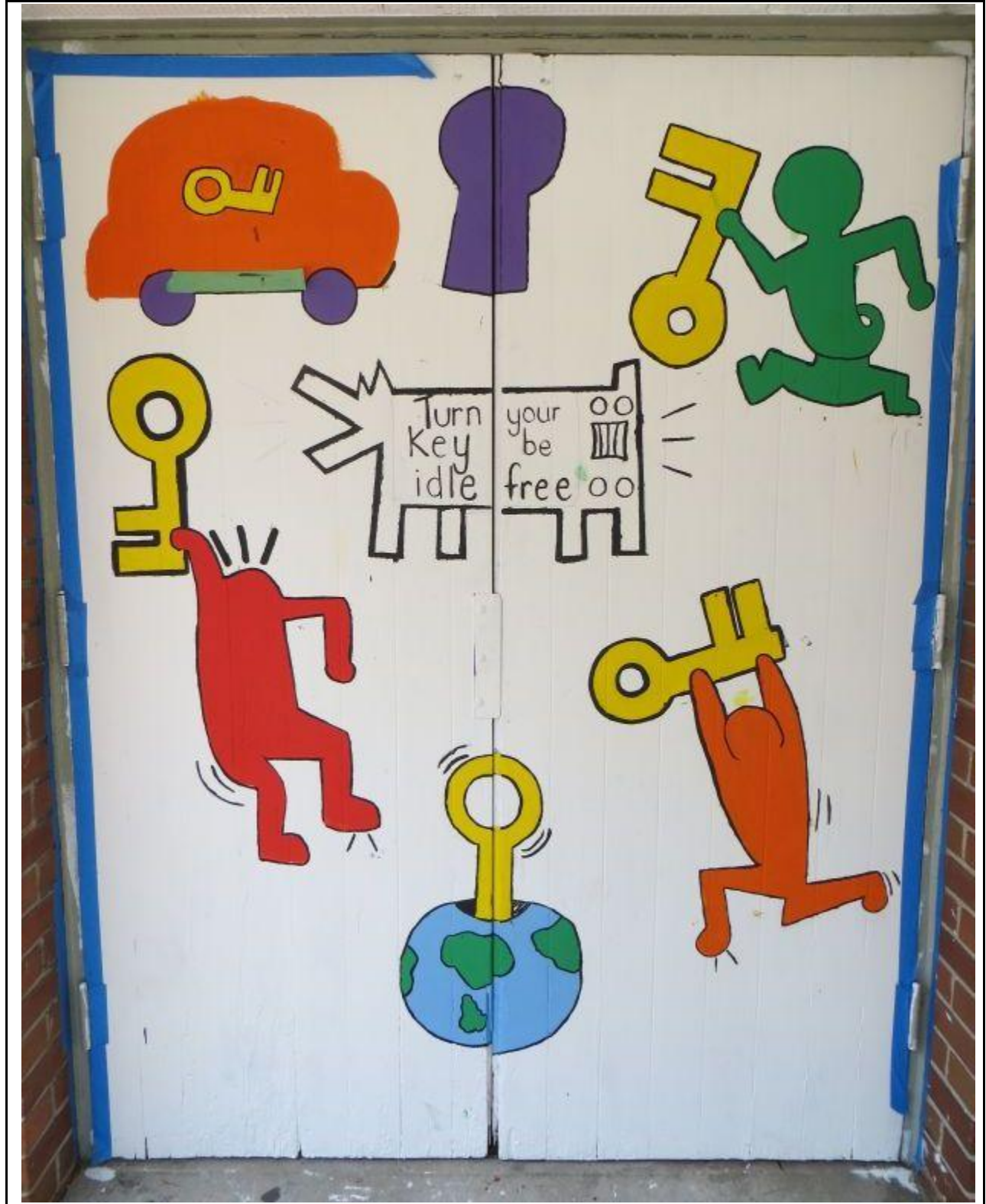


Plate 23: Group work. (2013). *Turn your key be idle free* [exterior paint on door].

4.8 Moss Graffiti - Coyotes and the recycling symbol

The students also elected to use the stencil of the coyote and a stencil of the recycling symbol to create our moss graffiti (Plate 24). The students painted the moss on the wall of the school using the stencils. I thought it would work if we followed the directions; unfortunately with the severe heat we experienced over the summer, the moss never took hold. Using moss to make an environmental statement was another way for the student participants to investigate and respond to community themes (Gude, 2007). They enjoyed playing with living material and found it both tactile and sensory.



Plate 24: Group work. (2013). Coyote on butterfly garden wall [moss graffiti].

4.9 Upcycled Bicycle Sculptures

Within my original proposal and PowerPoint slideshow, I had discussed the possibility of creating a fence constructed with used bicycles. After I consulted with my school board's Grounds Committee in the spring of 2013, it was determined that a fence would not be necessary. In my mind, this was a blessing. I had attended a conference at the Brickworks two years prior, where I heard a speaker who advised against fences in school gardens: they form barriers keeping participants out of the garden.

The students were keen to create sculptures with bike parts. Both Sue and I researched some images on the Internet which depicted how others have created art forms using upcycled²⁴ bike parts. We prepared another PowerPoint slideshow.

As I was reviewing my list of things to do over March break, it occurred to me that it might be timely to take a look the police auction website for bikes. I couldn't expect the students to provide the materials for this project, yet I wanted to teach them the value of upcycling. I had never been on the police auction site before and as fate would have it, I bid and I won. (Personal Journal, March 13, 2013)

Congratulations! You are the Winner of Police Auctions Canada Listing #5252937 Listing Description: Lot of 24 Assorted Bikes - Police Auctions Winning Bid (Your Price): 136.75 CAD Canadian Dollars (plus taxes and shipping if applicable) (Police Auction Website, March 15, 2013)

24 Upcycling refers to old products that are given a new life and used to create something of higher value. Upcycling reduces one's environmental footprint. Instead of consuming raw materials to create a product, goods are upcycled by using existing materials. Quiltwork and mosaics are often made from upcycled materials. Much of Spanish architect Antonio Gaudi's mosaic work was created using upcycled tiles.

The last day of my March Break was spent driving halfway across the city to pick up 24 assorted bikes from a warehouse that was nowhere near where I live. I photographed them and included the images in our slideshow. The students developed sketches from the bikes. One of Gude's (2007) other principles, Not Knowing, was explored, and how to work with new media gave the students opportunity to play with ideas. As part of their planning I encouraged independent inquiry that further empowered making (Gude, 2007). Their ideas were then placed in their altered books (Plate 25 to Plate 28), some of which I used later in the summer as inspiration to create four sculptures.



Plate 25: Becca. (2013). *Structure* [felt marker on paper in altered book].



Plate 26: Student work. (2013). Preliminary for bicycle sculpture [mixed media in altered book].

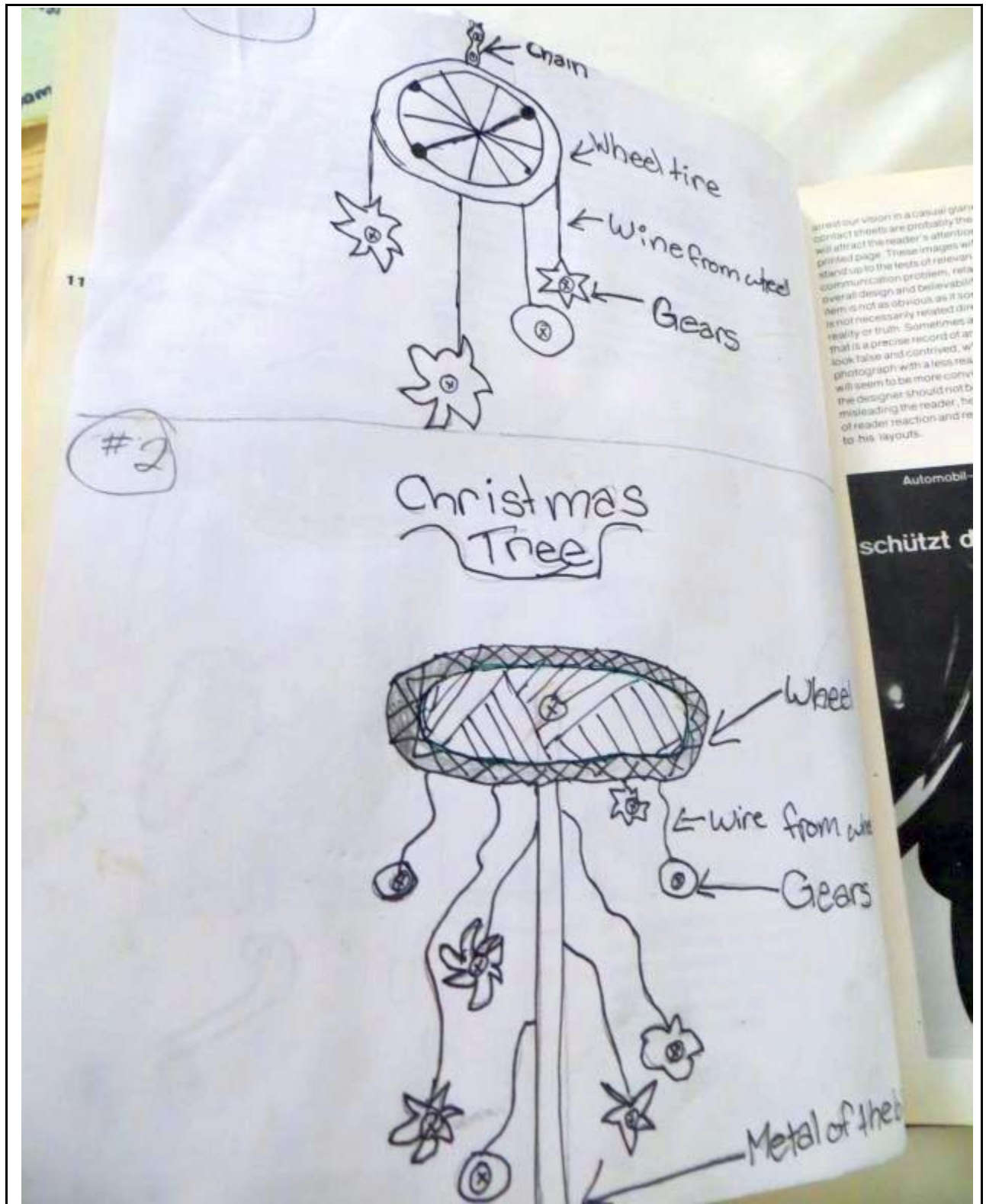


Plate 27: Mervina. (2013). Design for bicycle sculptures [ink on paper in altered book].

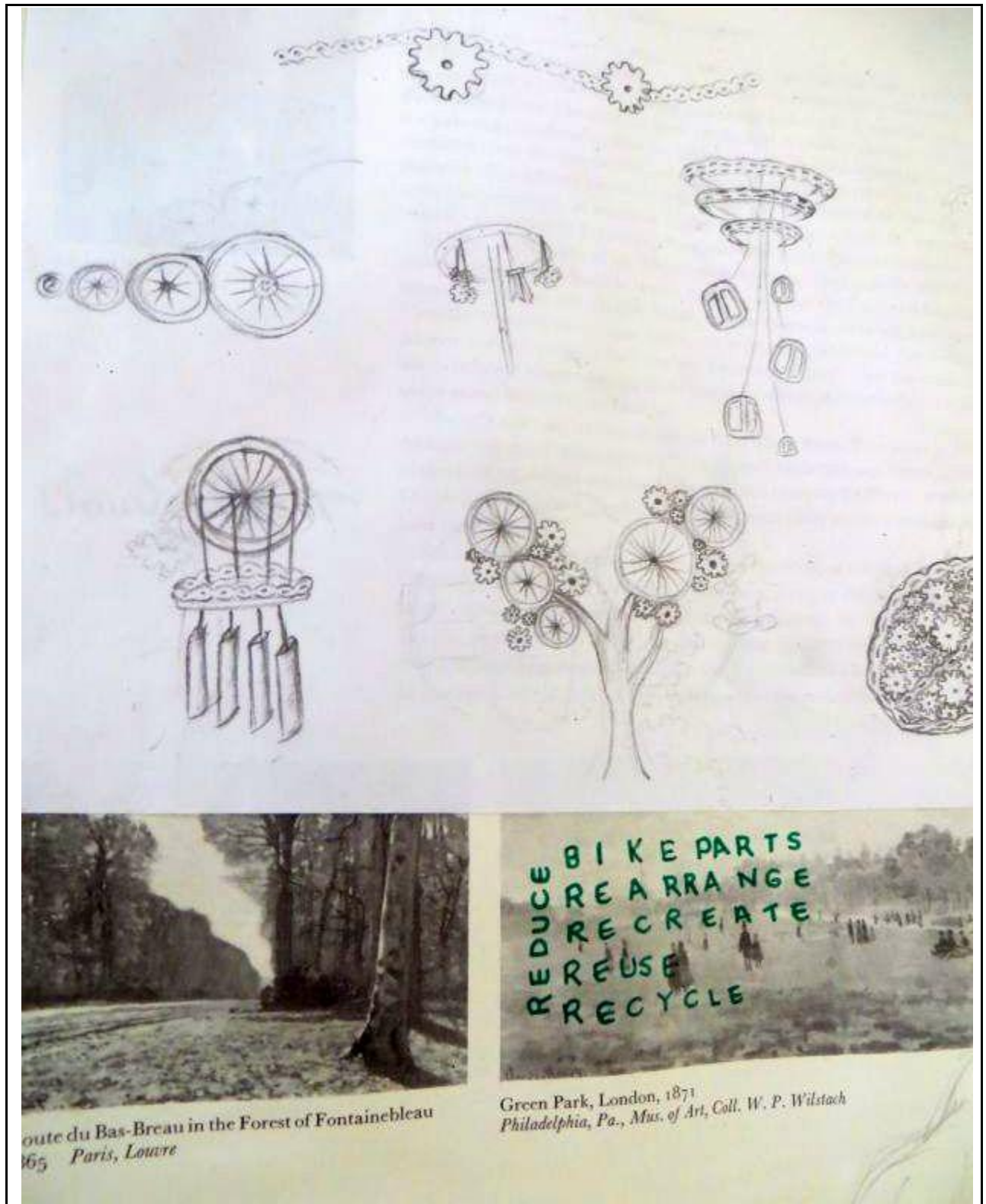


Plate 28: Sarah. (2013). Design for bicycle sculptures [pencil and ink on paper in altered book].

Unknowingly, I have been upcycling throughout my life, a skill for which I thank my father, a survivor of the 1930s Canadian prairie famine. Artists are known to upcycle, dumpster dive, and scan the curb on garbage collection day. I have stumbled upon various treasures whilst foraging, including a book on the California outdoor education curriculum from the 1980s, and most recently, an antique oak drafting table in near perfect condition. Upcycling is an important skill to teach students as it addresses environmentalism.

Unfortunately, it was neither practical (due to transportation and space requirements) nor possible (due to safety issues pertaining to the welding process) to include the student participants in the process of forming the bike sculptures. I turned to my parent community for assistance and began my search for a welder. Fortunately, Tom, one of my student's parents, was interested and together we embarked upon a collaborative journey which helped to further define my role as an a/r/tograpier. "Nature sustains life by creating networks" (Stone & Barlow, 2005, p. 3). I also enlisted the help of my husband who had bicycle repair tools and was willing to patiently work with me and teach me how to disassemble a variety of bicycles.

I am beginning to think about possibilities and design solutions. Ten bikes have been dissected. I am well underway and working towards becoming an expert at this task. I see the potential for play, form, function, and connections, perhaps rhizomes amongst the various bike parts. I can't wait until I get together with Tom so that we can collaborate and work with some of the students' ideas.

(Personal Journal, June 1, 2013)

In Carl Jung's introduction to *Memories, Dreams, Reflections* (1965), he includes the following reference to rhizomes:

Life has always seemed to me like a plant that lives on its rhizome. Its true life is invisible, hidden in the rhizome. The part that appears above the ground lasts only a single summer. Then it withers away—an ephemeral apparition. When we think of the unending growth and decay of life and civilizations, we cannot escape the impression of absolute nullity. Yet I have never lost the sense of something that lives and endures beneath the eternal flux. What we see is blossom, which passes. The rhizome remains. (p. 4)

Rhizomes do not have an exact beginning, middle, or end. As we soon discovered, our bike sculpture process similarly had no beginning, middle, or end. Although we spent some time studying the students' ideas for bike sculptures, we quickly realized that what we were going to create depended on what parts we had and what materials would work together. I thought back to Irwin and Springgay's (2008) six renderings discussed in my methodology, and moved the existing bike fragments around to create networks and new connections. This relational inquiry was like a knob of ginger: there appeared a rhizomatic and nomadic system of growth; then something new would catch our eye and we'd begin again.

There are multiple interpretations available to the onlooker when viewing our sculptural form (Plate 29 and Plate 30). The bird feeder (Plate 31), our first piece, has also been described otherwise. I discovered the viewers' interpretations are like new shoots extending and connecting additional meanings to the art garden process.



Plate 29: Cohen, B., Collaborative work. (2013). Bicycle sculpture in butterfly garden [spray paint on upcycled bicycle parts].



Plate 30: Cohen, B., Collaborative work. (2013). Detail of bicycle sculpture in butterfly garden [spray paint on upcycled bicycle parts].



Plate 31: Cohen, B., collaborative work. (2013). Bird feeder in vegetable garden [spray paint on upcycled bicycle parts and kitchenware].

4.10 Altered Books: A Metaphor for A/r/tography

The altered book/journal component of the project allowed for a balance between the planting and cultivation of ideas, and the freedom to explore and interpret concepts without rules or imposed guidelines. Postmodern lessons were collaborative, community orientated, and looked at art making through an environmental lens, keeping in line with the theories of Gude (2007) and Gablik (1991).

The first series of figures (Plate 32 to Plate 39) depicts individual art interpretations within the altered books. The students focused on playing, appropriating, and layering image with text. Following many of Gude's (2007) *Principles of Possibility*, they explored new techniques and made environmental statements through their verse and found poems.

Part One

**A COUNTRY
CHILDHOOD**

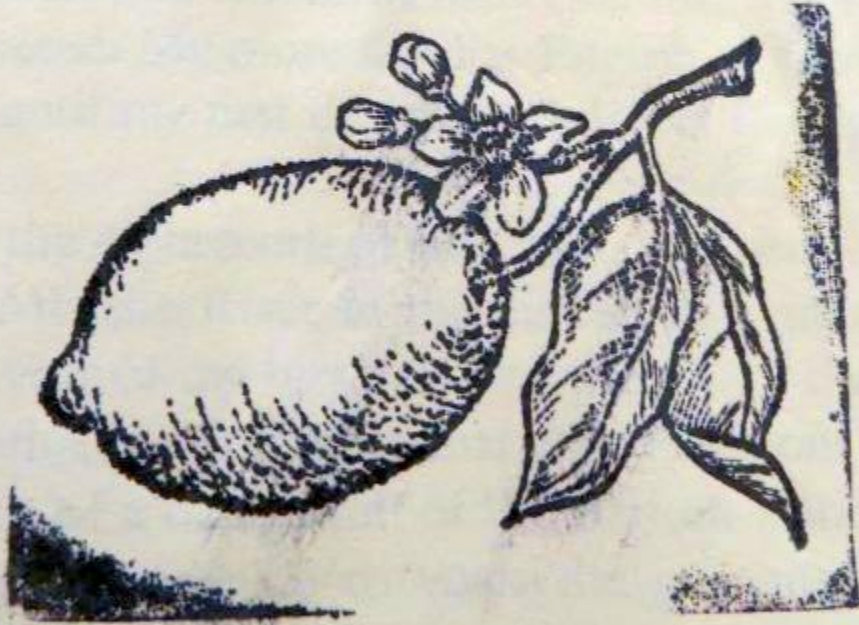


Plate 32: Flynn. (2013). A country childhood [ink on paper in altered book].

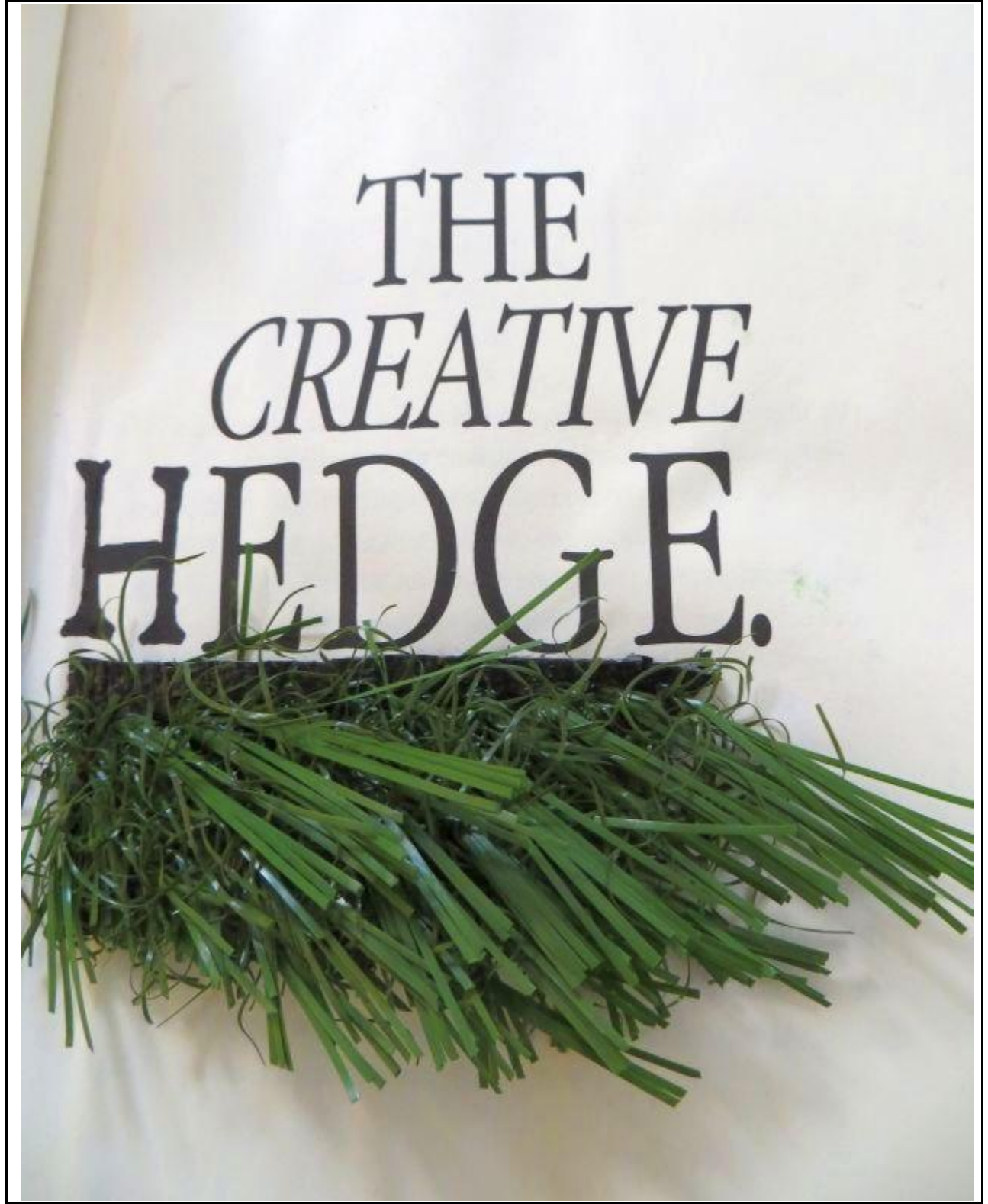


Plate 33: Flynn. (2013). The creative hedge [mixed media in altered book].

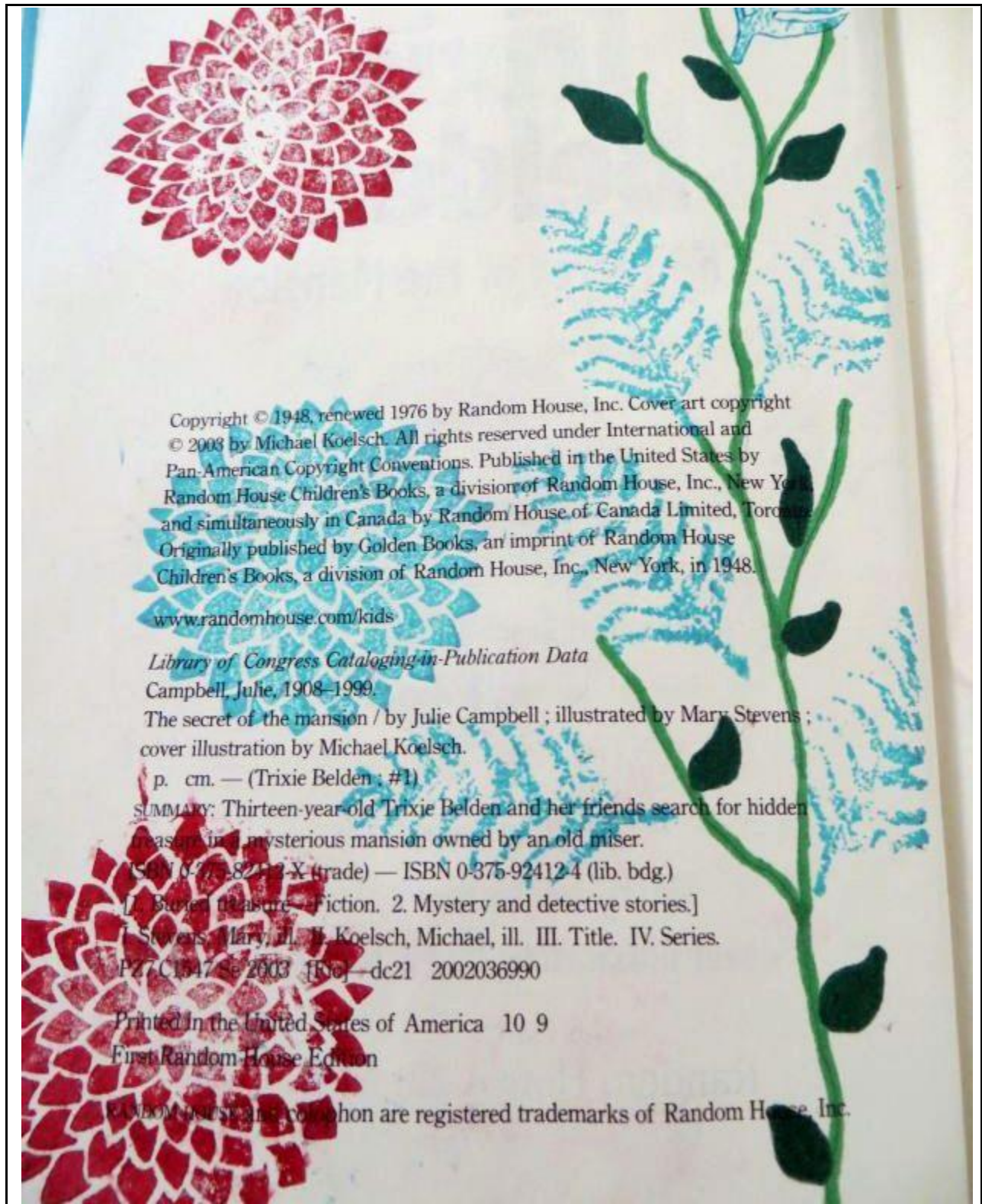


Plate 34: Denise. (2013). Flowers [ink and marker on paper in altered book].

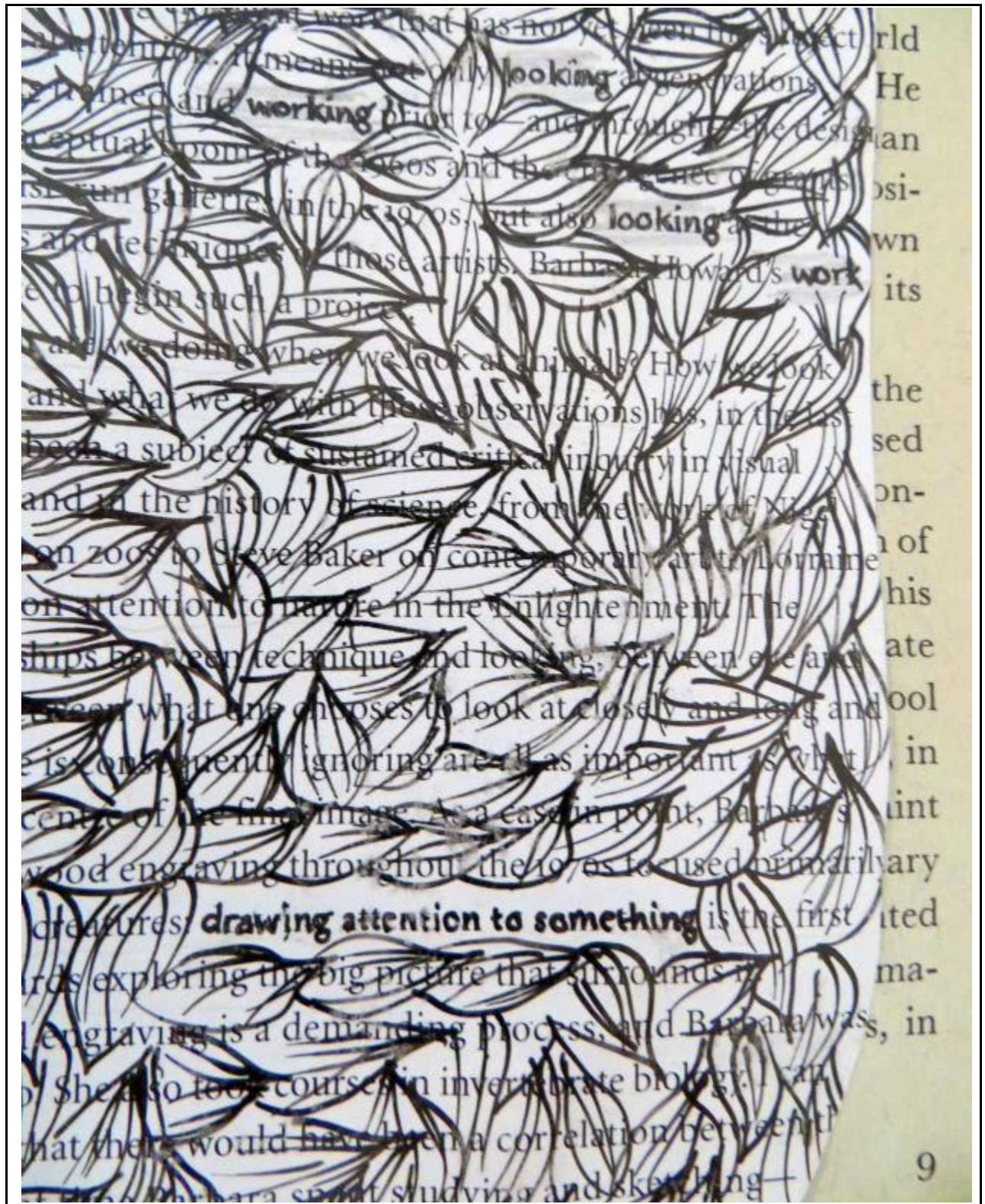


Plate 35: Sarah. (2013). Leaves [marker on paper in altered book].



Plate 36: Denise. (2013). Flowers [mixed media in altered book].



Plate 37: Denise. (2013). *Grow* [mixed media in altered book].

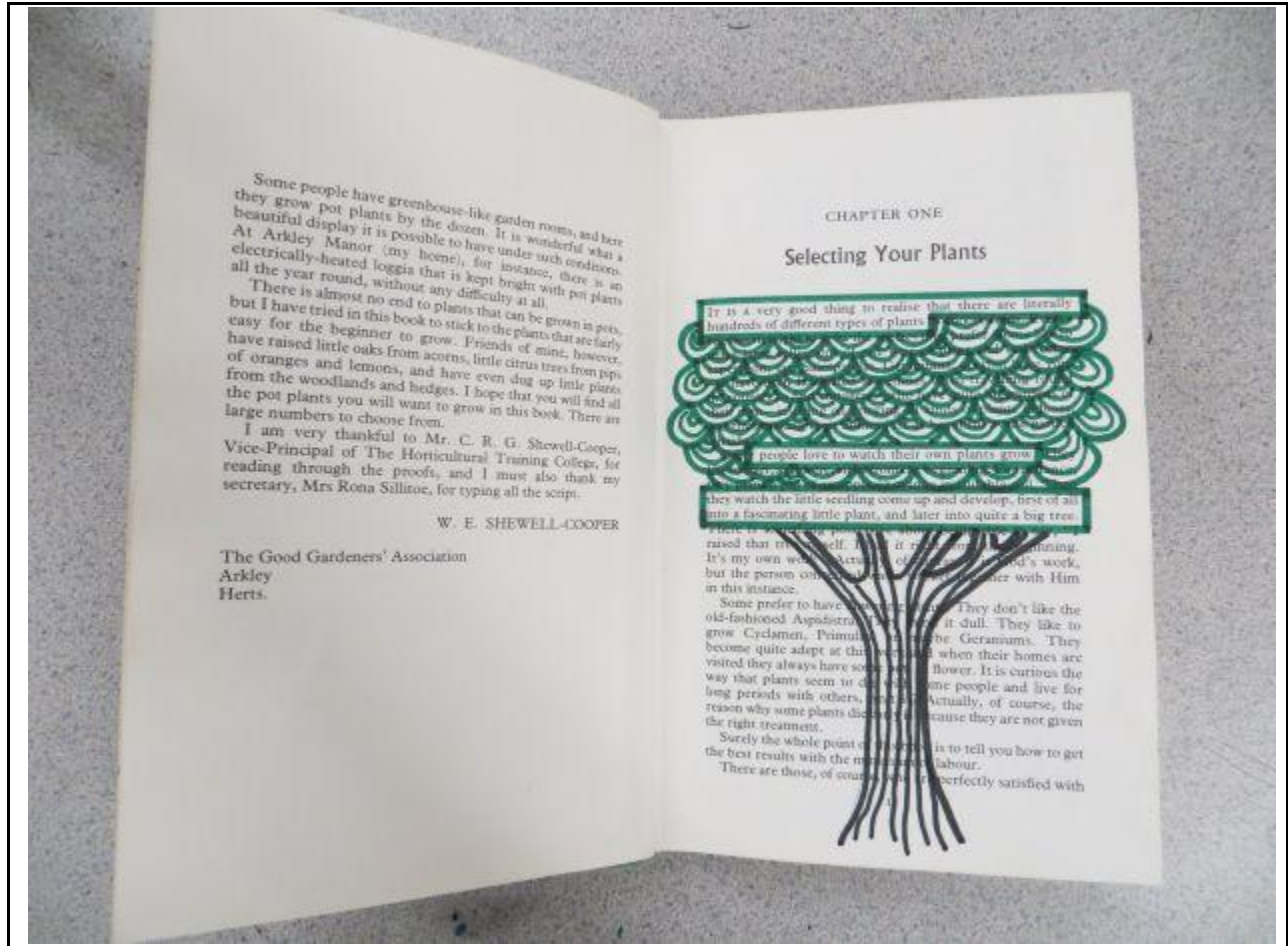


Plate 38: Sarah. (2013). Tree [marker on paper in altered book].

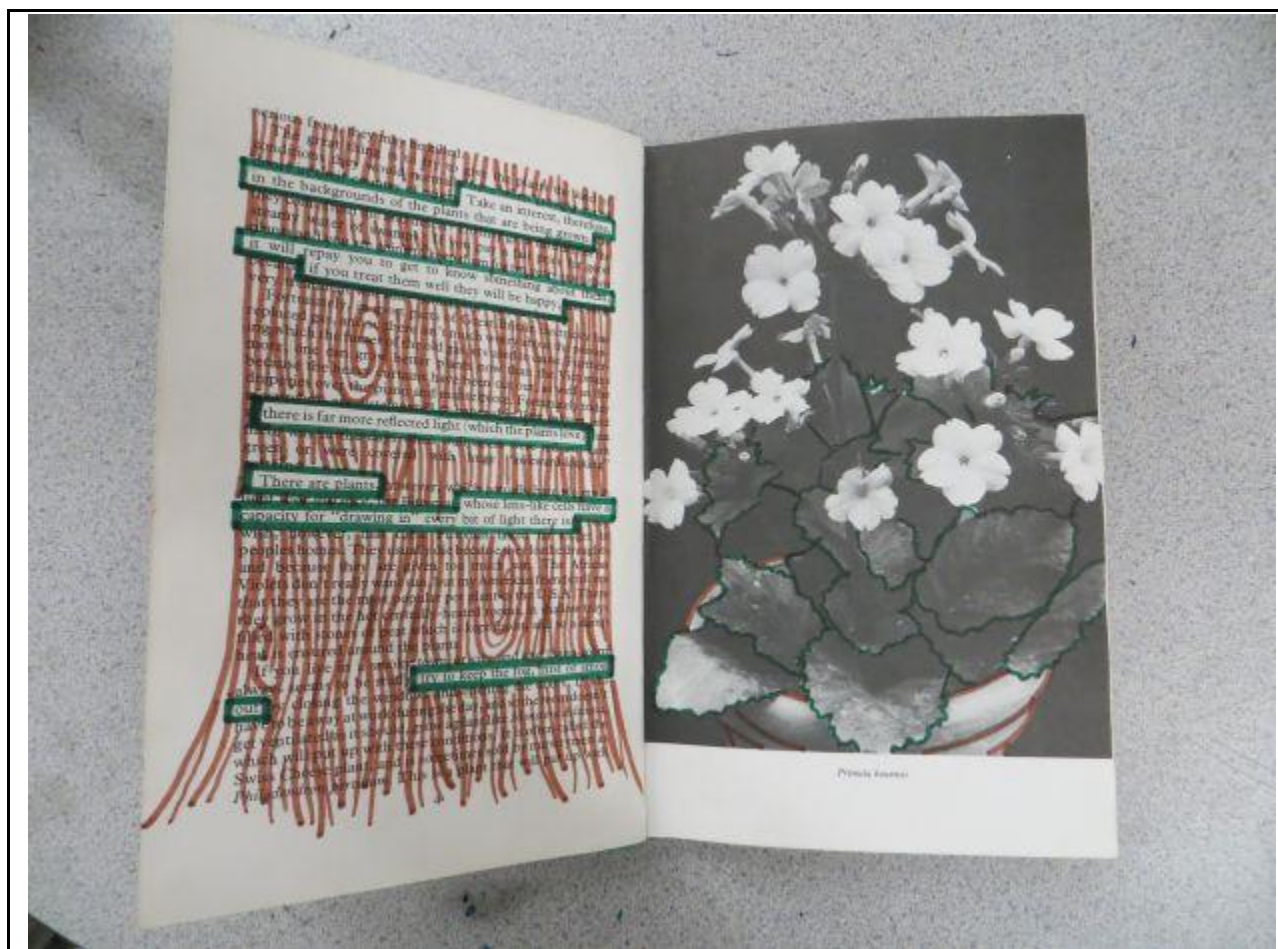


Plate 39: Sarah. (2013). Tree stump [marker on paper in altered book].

On occasion I would work alongside one of my student participants, demonstrating new techniques, or simply switching from the role of a teacher to the role of an artist, where I would engage in my own art making. Figures below (Plate 40 to Plate 45) represent my interpretations as an a/r/tograh researcher and participant in this study. Often I found myself expressing through art making what needed to be said but couldn't say in writing. I wasn't alone in this need to express myself through visual literacy. It was Shira who beamed during her interview when she said, "Yes, I have found it so much easier to explain my environmental understanding through my art making. It comes much easier to me than having to write using words."

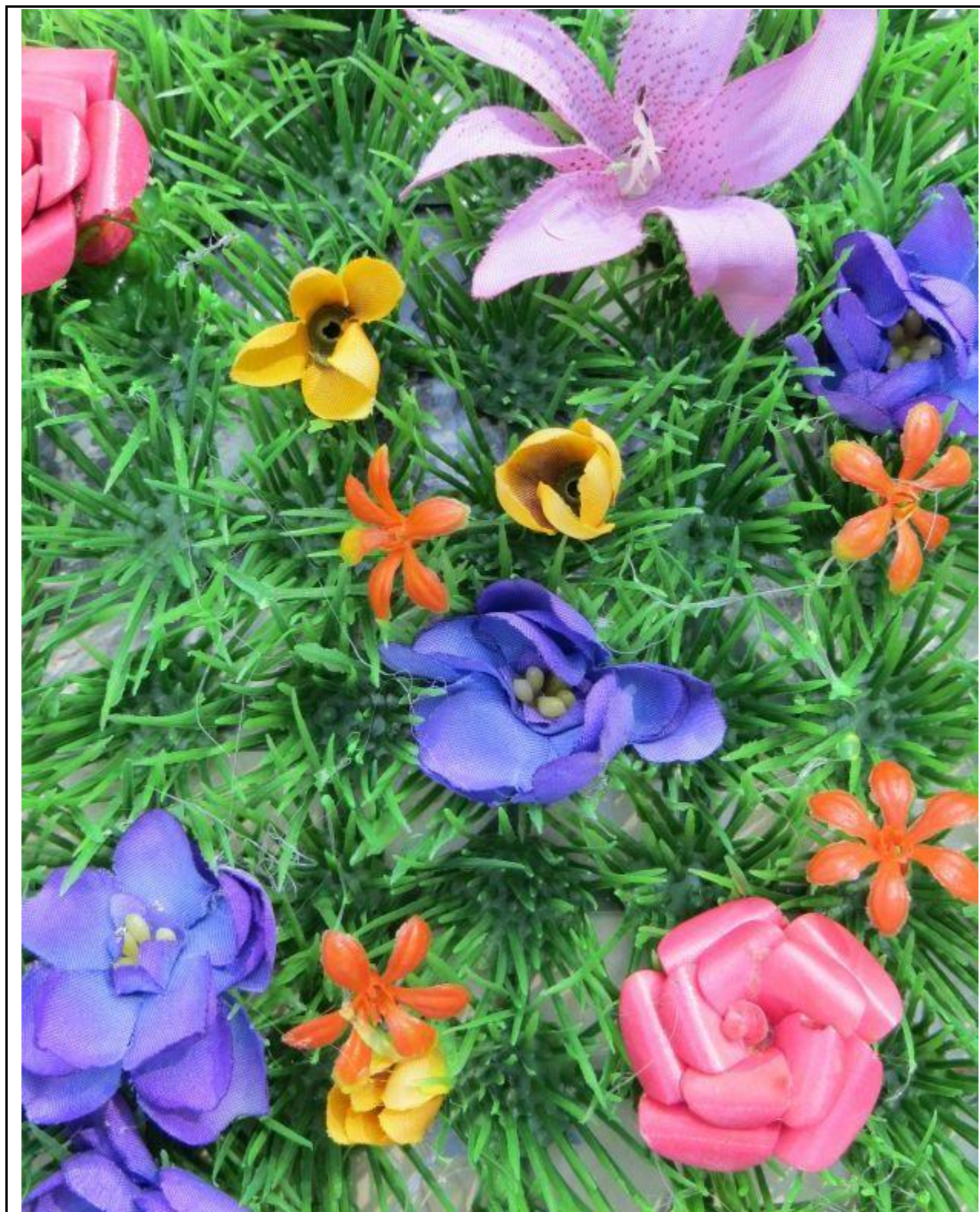


Plate 40: Cohen, B. (2013). *Field of dreams* [plastic flowers and grass on cover of altered book].

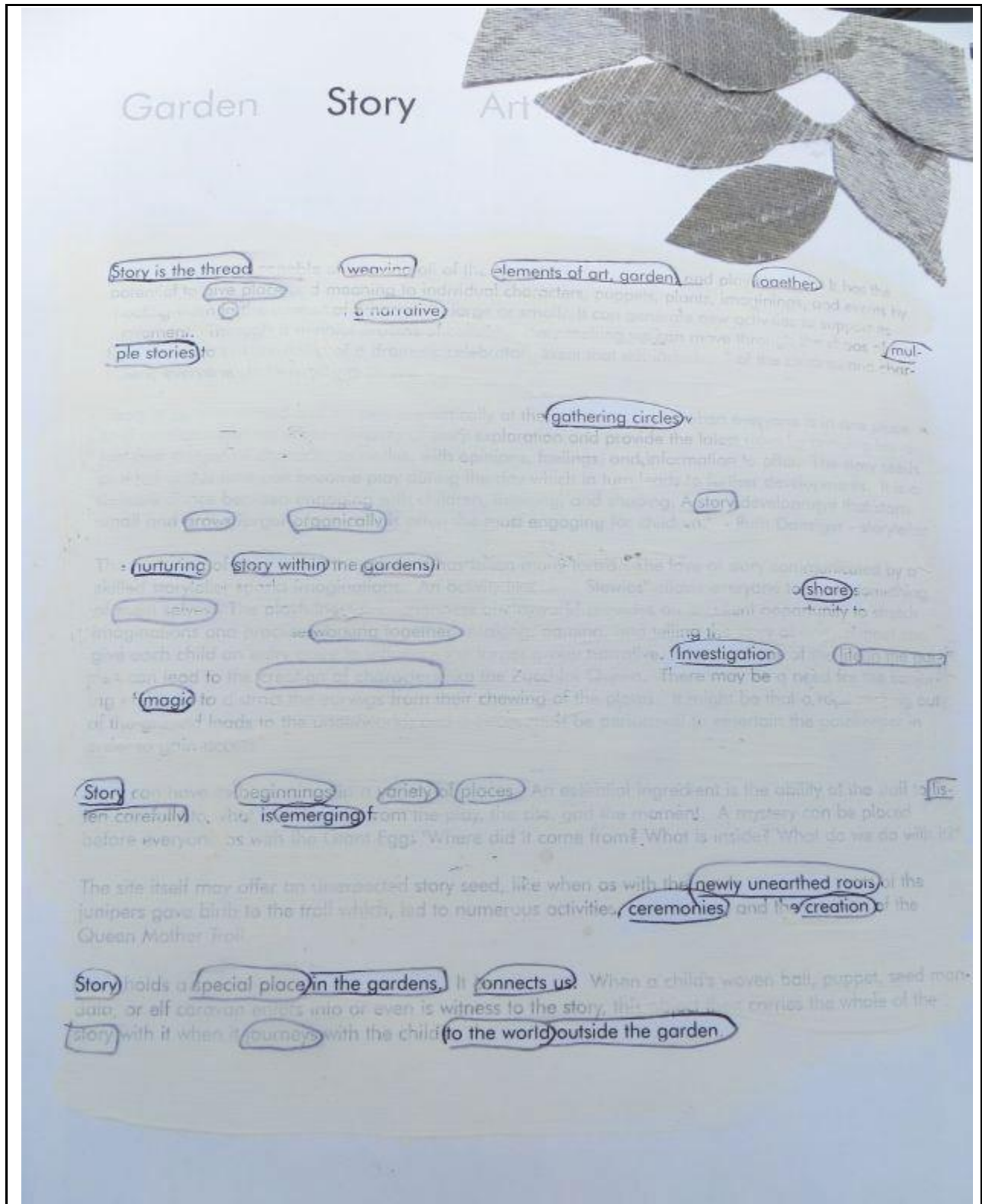


Plate 41: Cohen, B. (2013). *Garden Story Art* found poem [mixed media in altered book].

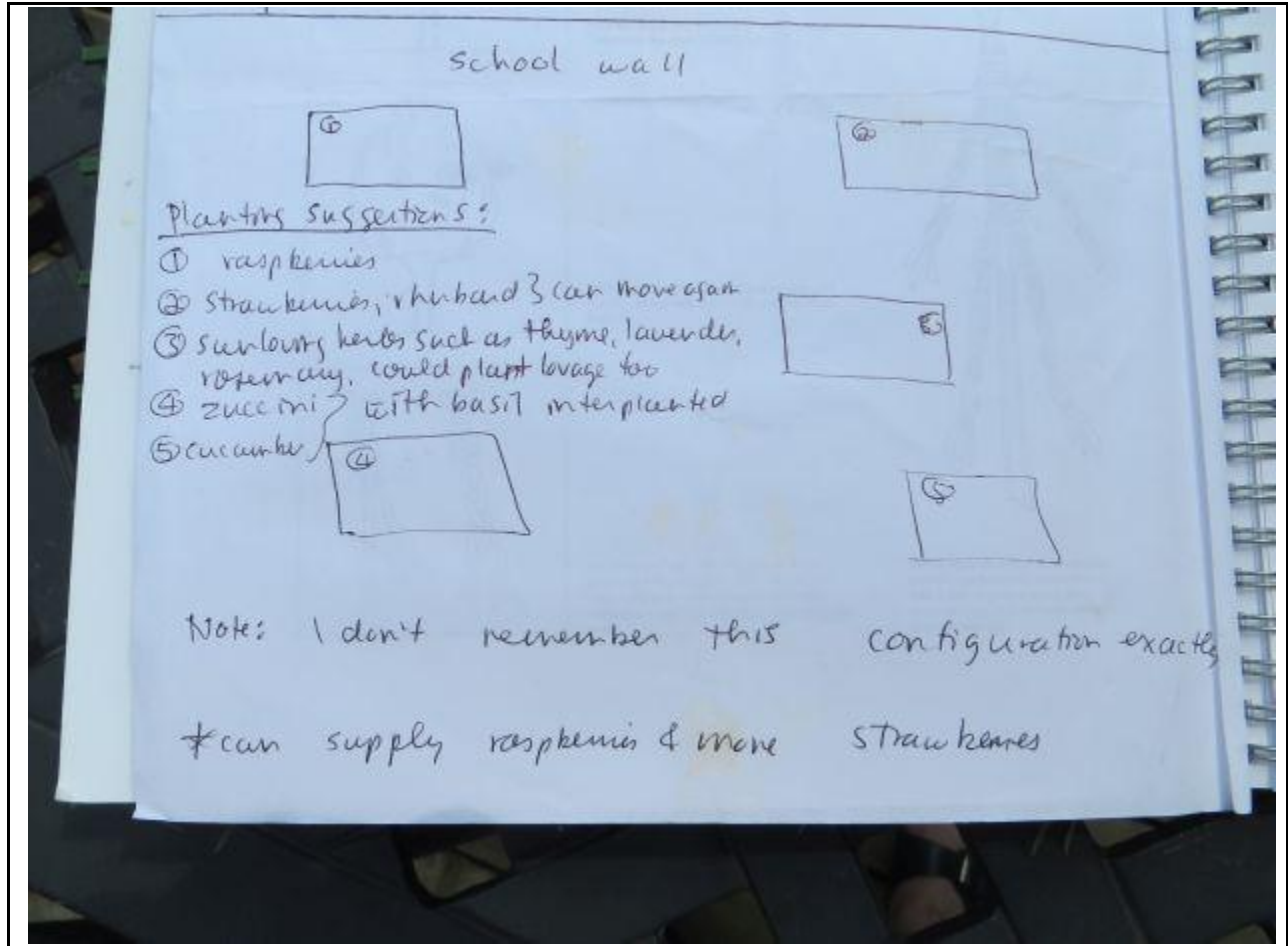


Plate 42: Cohen, B. (2013). Plans for school garden [ink on paper in altered book].

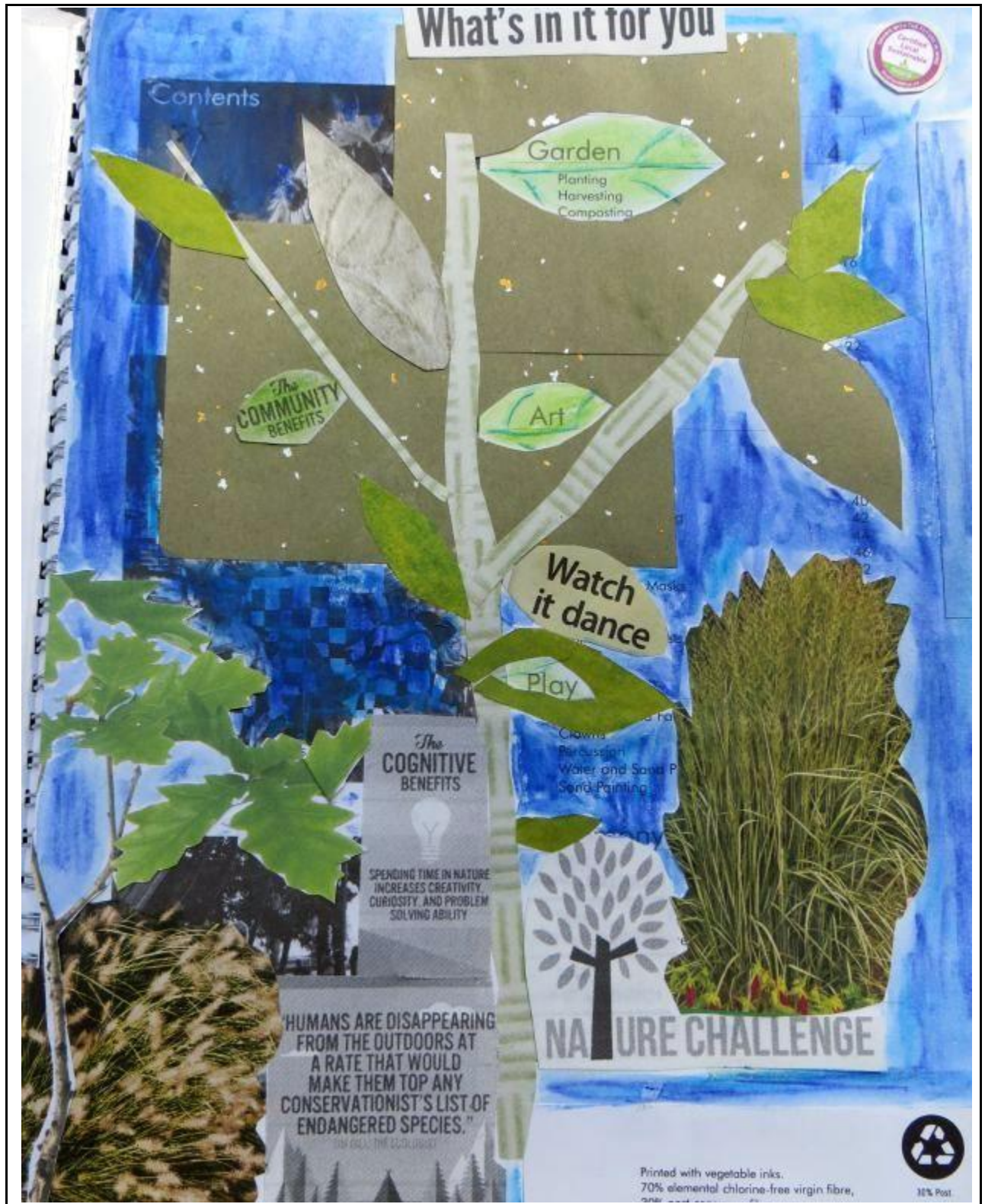


Plate 43: Cohen, B. (2013). *What's in it for you* [mixed media in altered book].



Plate 44: Cohen, B. (2013). *Fine gardening* [mixed media in altered book].

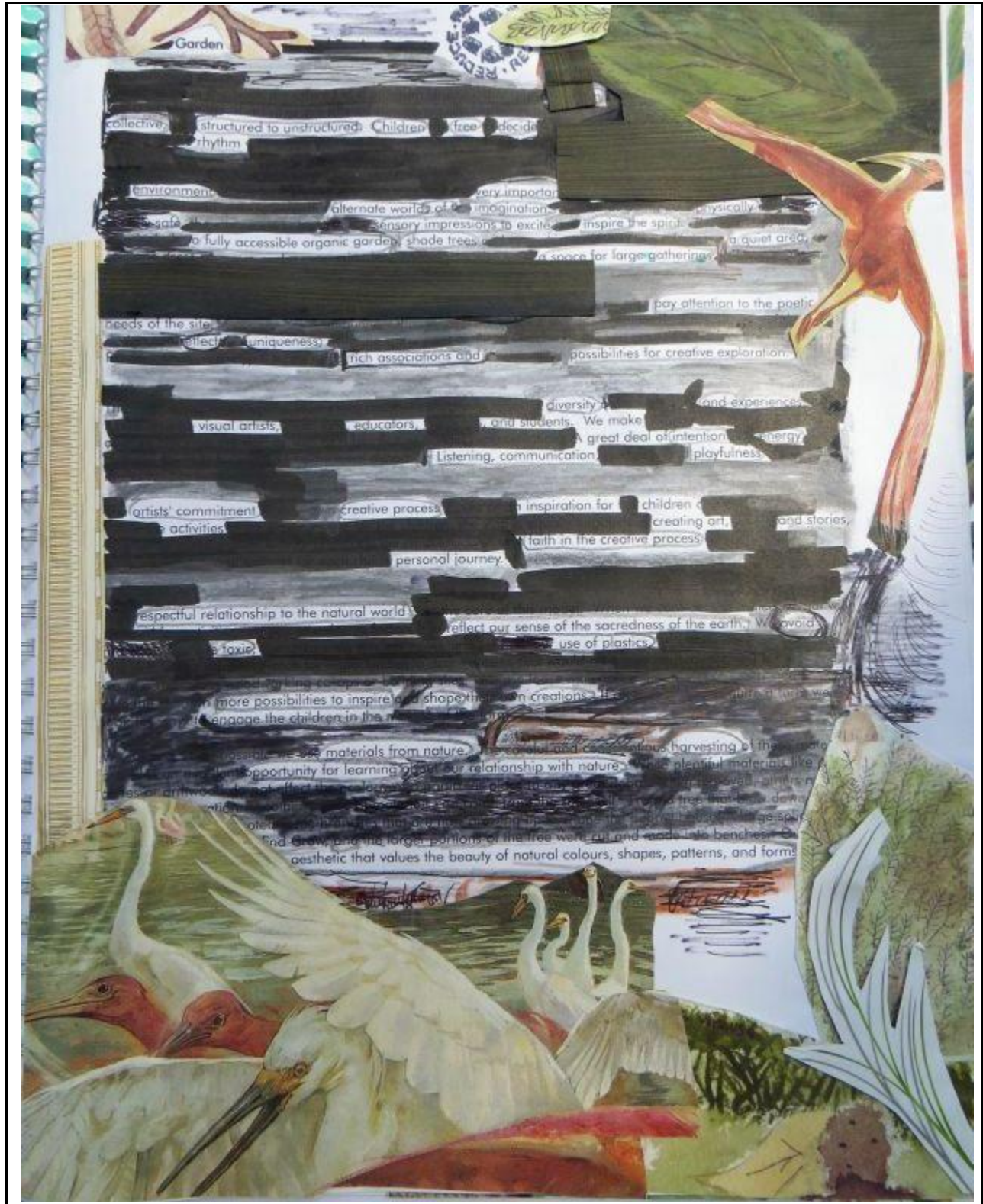


Plate 45: Cohen, B. (2013). Found poem [mixed media in altered book].

4.11 Earth Day: A Seed is Planted

Experiential learning is hands on, highly engaging, and provides students “with an opportunity to participate in an open-ended, direct experience” (Chiarotto, 2011). Planning for and planting a garden provided my student participants the chance to dig in. I wanted to extend this opportunity to the entire school community; there was no better day to do so than Earth Day.

Early in April, Mervina approached me with a letter from her neighbour, Carol.

Carol invited me to visit one of her community gardens. I watched her as the children in her neighbourhood surrounded her with enthusiasm. She gently coached them to feel, touch, and smell the earth as they watered bulbs and new seedlings; all the while, she was sharing her knowledge. Elders from our indigenous culture taught their children this way: it was natural.

Carol agreed to join our Earth Day celebrations and teach our school community about butterfly gardens. Each student was given a brief lesson on specific native plants that attract pollinators. I hoped that if all students in the school were informed about the Art Garden, it might help them to respect it. (Personal Journal, April 22, 2013)

4.12 Eco-Art Integration: The Garden as a Metaphor for Curriculum

In August, Shira brought her camp group to the school to see the garden. She wanted to show them what was growing, and how easy it was to take care of the vegetables. All they needed to do, she told them, was hold the hose and water. This simple act demonstrated a student participant who showed pride in her accomplishments and dedication to nurturing plant life.

Creating a curriculum which celebrates the natural world yet alludes to the many problems that plague us requires a fine balance. Throughout our art making, we focused on sustainability, and sought as many ways as we could to reuse and recycle. Gablik speaks of “reframing” our modern worldview. She suggests “encouraging the emergence of a more participatory, socially interactive framework of art” (1991, p. 7). This involves a world shift where we begin to work socially and shift our thinking from “objects to relationships” (p. 7). The participatory aspect of art making which Gablik refers to removes the barriers that in the past have distanced the viewer from the artist and visa versa.

As I weeded and watered, I noted that there were far too few Monarch butterflies this year. One day, I managed to photograph a Monarch in my home garden while it fertilized my butterfly bush. According to a close friend, in places where scientists were once counting 100 Monarchs, they are now counting 10. As stated by *The Guardian*, over 30% of American beehive colonies died out in 2012 (Goldenberg, 2013). This phenomenon isn’t restricted to North America; within the scientific community, there is grave concern as European apiaries have also noted deaths as well. As a result, we are now seeing a decrease in production and an increase in the price of honey. How else will this reality impact food production? Without two of our biggest pollinators, we will need to shift our thinking, and quickly.

I believe that, within all of us, there is a deep need to relate to and with the earth on a deeper level. Watching one student in particular reminded me to slow down and observe.

It was Bree who brought my attention to one of my boys. This particular student was always on the go, and in need of constant stimulation. He had difficulty focusing in class, and would often engage in discussion with others, usually at inappropriate times.

Now at this particular moment, he lay still, under the canopy of a cherry tree in full bloom. He first lay on his front so he could smell the daffodils, which were in full blossom beside the tree. He carefully moved toward each one with great respect, so as not to harm their tender stems. After ten minutes or so, he then shifted to his back, where he lay still for the duration of the lunch hour, simply basking under the canopy of branches in full bloom.

Ecstatic moments in nature are often experienced in childhood. Keeping these moments in our memory is what leads me down the path into the woods, and into a garden space. I am always seeking that next ecstatic connection. I believe that they are snippets of what heaven would be like, and could obtain, if we were truly guardians to all living things. (Personal Journal, May 29, 2013.)

I agree with Louv (2011) that how we treat the earth is a reflection of our intelligence, for without a healthy planet, how are we to survive? It will take a great deal of collective intelligence and a paradigm shift in our thinking for us to reverse the damage we've done and to change our habits. Gablik (1991) contends that, "As artists learn to integrate their own needs and talents with the needs of others, the environments and the community, a new foundation for a non-self-conscious individualism may emerge—and we will have, not necessarily better art, perhaps, but better values, aims, beliefs" (p. 144).

Irwin and Springgay (2008) remind us that the metaphor helps the a/r/tographer to make sense of the world. The garden as a metaphor could mean that there exists a curriculum that engages our bodies in healthy living; a curriculum of dreams and visions; a curriculum that focuses on the senses; a curriculum that engages the community in collaborative work; a curriculum that seeks the help of outsiders (i.e., real world experts); a curriculum which is

student-centered and driven; a curriculum which allows the participants to engage in self-discovery, providing time for connection and time for reflection; a curriculum that needs to continue being reseeded and planted elsewhere. Finally, a garden as a metaphor should include a curriculum that addresses *tikun olam* as “healing is the most powerful aspect of reconstructive postmodernism” (Gablik, p. 25).

We continued to dig out the weeds and grass in the area where we were going to plant our vegetable garden. The students worked in union. Some dug the grass, others lifted it and passed it along a line to the outer circle where they formed a berm. While they worked together, jokes were shared. There was singing, and laughter. The level of anxiety created by general school life was lifted from their shoulders. For an entire lunch hour I watched them connecting to the natural world while basking in the warmth of their comradeship. (Personal Journal, May 20, 2013.)

Our first vision was to dig up perennials and transplant them or find them new homes. We needed to also clear a large plot for our vegetable garden. I might add that the garden as a metaphor for curriculum would also include tenacity and perseverance. During each lunch hour, my eco club and many art club students joined me outside to dig and move earth (Plate 46 and Plate 47).



Plate 46: Preparation of vegetable garden in front of school. (2013).



Plate 47: Grub found in vegetable garden during initial preparation. (2013).

We are well into our guerilla gardening activities. We have created a strawberry-rhubarb plot (known as the pie bed) and a raspberry plot. Students are helping to dig up randomly planted bulbs and clearing the other raised plots for herbs, zucchini, cucumbers and pumpkin. Although we are transplanting hostas, mums, and other perennials, we just don't have the space to accommodate everything. Luckily, I have eager student participants willingly picking up transplantables for their home gardens. This karmic action of giving has resulted in the mysterious arrival of plants each day. The first to arrive was another raspberry bush, then a

plot of strawberries, followed by two varieties of sunflowers. (Personal Journal, May 15, 2013)

The past two weeks have been extremely busy. We have managed to complete all the stepping stones, dig up all the grass for the vegetable garden, and add three large bags of soil, till the garden, and plant all the vegetables. The students renamed the herb garden, the pizza garden. Bree and I worked along side of the students and showed them how to cut into the root ball of seedlings to ensure that they could grow. We watered each day and watched for change.

Shopping at the garden center was a pleasure. Not only did I receive a school discount, I managed to find all the native plants that we needed to fill in the butterfly garden.

During our Parent night, I appealed to the community to sign up for summer maintenance of the garden. I was hopeful although during the evening, only one person put their name on the list. Not fearing rejection, I approached individuals and solicited their help. Within a week, I had over 8 families scheduled in for summer garden care. (Personal Journal, June 1, 2013)

The participants in my parent/guardian community were happy to come with their children to tend to the garden. This also provided me with an opportunity to interview those individuals at the school between weeding and watering. The relaxed natural environment where most of the interviews were conducted enhanced the discussions, and conversations flowed naturally. Many of my interviews took place on the large stones of the outdoor classroom.

In June, I bought a watering cart and a series of hoses so that we would be able to reach multiple gardening beds. I conducted several sessions on how to water, and then relied on those

listed on the phone tree to contact one another if the need arose. During one of our lunches, I gathered a few students to help me place straw in the vegetable garden. Lily, a Grade 7 student exclaimed exuberantly, “Hey, I feel like a real farmer.”

The students work really hard at weeding. If they are unsure, they often ask what a weed is. There is a natural flow, a spirit of cooperation. More questions are asked. When we find a bug, we are curious, and respectful. Is it beneficial to our garden? Will it help the plants grow? (Personal Journal, June 19, 2013)

During the first few weeks of a blistering hot July, I took respite in the garden with a small community of parents. Often, like children, we’d cool off by hosing one another with water and reminisce about our childhood days where we played outside and ran through sprinklers. I was happily no longer in the role of teacher, but in the role as fellow community member, gardener, and weed-whacker. Each day we’d admire the quality of our crops and nurture them; they nourished us in return. I insisted that the children pick cucumbers and eat vegetables off the vine. I hadn’t planned on spending as much time as I did at the garden; however I needed some physical and mental rejuvenation—a balance between typing this inquiry and living this inquiry. I was torn between what Irwin (2004) describes as *theoria* (knowing), *praxis* (doing), and *poesis* (making).

One morning Ruth came to the garden and apologized for not being able to stay for her previously scheduled interview. She explained that her father had passed away the night before. Wanting to normalize her life, she also told me that it was good for her to be close to the plants and the soil. Gardens teach us about compassion and the need to care for living things (Stone, 2005). Ruth intuitively knew this and realized that our community garden offered her the caring,

sharing, and healing that she needed at that moment. The garden is also a metaphor for the human life cycle.

The garden provided a bountiful harvest of delicious vegetables. I lovingly prepared a large batch of ratatouille, tomato salsa, green pepper relish, zucchini loaves, and other dishes for my parent participant volunteers. This was yet another art form: the art of cooking and baking. Many cultures celebrate the harvest, and our community was no different. The student participants were also interested in picking and eating freshly harvested onions, peppers, and tomatoes. Together we infused the art room with the aroma of homemade pesto.

At the fall opening of the Art Garden over 60 people attended, including the entire staff. I had the opportunity to meet some of my financiers, including a delegate from a large bank. I spoke from the heart and thanked the community, parents, and students. Later in the evening, it was the students who made me proud as they toured people around the garden artwork and spoke about their art process and their increased environmental awareness and stewardship.

4.13 Upcycling: Being an Eco A/r/tographer

It was in July and August when I really began to work on the bike sculptures. I made several trips to Tom's home so that we could co-create. I would conceptualize and then look to him to see if what I wanted to do was possible and could be welded. Towards the end of June we created the first of our pieces: the bird feeder and the large bike sculpture. The wheel in the feeder spins freely and acts as a squirrel deterrent, and the inverted bowl on top provides additional squirrel protection as well as shelter from the elements.

During the heat of July we spray painted the large bike sculpture (Plate 48 and Plate 49). We also built the trellis and discussed how we'd shape the large flower sculpture (Plate 50 to Plate 53). In late August we met several more times to finalize our work and to plant it at the

school site. It was Tom's suggestion to use bike locks on the sculptures as a deterrent for would-be thieves.



Plate 48: Cohen, B., Collaborative work. (2013). Process photo of bicycle sculpture [spray paint on upcycled bicycle parts].



Plate 49: Cohen, B., Collaborative work. (2013). Process photo of bicycle sculpture [spray paint on upcycled bicycle parts].



Plate 50: Cohen, B., Collaborative work. (2013). Process photo of trellis [upcycled bicycle parts and steel beams].



Plate 51: Cohen, B., Collaborative work. (2013). Process photo of trellis [spray paint, upcycled bicycle parts, and steel beams].



Plate 52: Cohen, B., Collaborative work. (2013). Process photo of flower [upcycled bicycle parts].



Plate 53: Cohen, B., Collaborative work. (2013). Process photo of flower [spray paint and upcycled bicycle parts].

During this time, Tom and I worked as a team, however on several occasions, I invited my husband along. It was during this period where I came to understand what Irwin and Springgay (2008) refer to as a way of “thinking that reflects on inter-embodiment, on being(s)-in-relation, and communities of practice” (p. xxii). This inquiry created opportunities for me to form rhizomatic connections between others and myself.

4.14 The Produce and the Harvest

My research is also grounded in the experiences of students in their community and the stories shared amongst the collective members. It is within the stories that I uproot rich participant insights, and offer an analysis of the findings with respect to my research questions. Aiding the reader in further understanding the value of the Art Garden Project, I continue to sow and weave additional artwork and quotations into my thematic analysis.

4.14.1 The Questions

Realizing that the same questions needed to be addressed by each type of approach, I felt confident that many of the questions answered through the interviews, along with the data generated from art making and the surveys at the beginning of the project, allowed for proper triangulation, both methodological and theoretical. I then looked for an outline of clear steps for data analysis. Lyn Richards (2011, p. 138) stresses that analysis should be present and not just description, that the goals of the project are met ensuring that my research question is answered, and that the data should make sense and be useable, providing an accurate account and explanation.

The questions in the middle school interview addressed the following: (#1) memories of the project; (#2) stewardship and the future; (#3) environmental education at home; (#4) time spent outdoors; (#5) stewardship and the future (similar but different questions to #2); (#6) art as a form of expression; (#7) environmental action; (#8) changes regarding time spent outdoors; (#9) activism; (#10) influences on others and from others; (#11) suggestions for the garden; (#12) benefit of an art garden; (#13) importance of knowing how to grow food; (#14) planting on your own; (#15) making food from garden produce.

The teacher and parent/community interview was similar, however they were asked about (#2) their use of technology outdoors; (#5) time involved in taking care of the earth; (#10) importance of environmental education as curriculum; (#11) environmental choices, and (#12) changes in their shopping habits (Appendix J).

4.15 Unearthing and Shaking off the Soil: Analysis

Within my analysis it was critical to ask: What did the themes imply? What story did my participants tell me about the different themes? What did all this reveal about my topic? I returned to the arts-based educational research framework (Barone & Eisner, 2012) and continued to use narrative analysis to evaluate my findings. I used thematics to illustrate ideas that resulted from the project (Barone & Eisner, 2006). Ensuring that my research questions were addressed through the activities within my art club, I provided a bounty of exemplars that support the theories of eco-art education, including, but not limited to, the theories of Irwin and Springgay (2008), Graham (2007), and Gablik (1995). With regard to the project, I also wanted to revisit the theories of environmental place-based educators, including Sobel (2004), Capra (2005), Stone (2005), Chiarotto (2011), and others.

The following table outlines the various themes that I uncovered during the analysis process.

Table 1: Analytic Taxonomy

Theme	Categories	Subcategories
Teaching and Learning	Curriculum	Pedagogy Extra-Curricular Programming Alternative Voices
	Teaching Methods	Project Based Learning Eco-art Integration Eco-literacy
Activism	Lifestyle Changes	Purchasing Habits Environmental Awareness
	Environmental Stewardship	Guerilla Gardening Responsibility Restoration Advocacy Sustainability
Connection to Nature	Gardening	
Health and Healing	Mental Health	Balance Hope Reflection Positive Visualization Goals Nature Deficit Disorder
	Physical Health	Outdoor Activities
	Healthy Eating	
Problems Facing Society	Sustainability	
	Media	Media and Fear Media and Food
	Poverty	
	Transportation	
Food Production	Propagating Seeds	
	Gardening	Pollination GMO foods
Community	Membership	Forming Friendships Support Collaboration Community Service
	Celebration	
	Knowledge Sharing	Students teaching parents and siblings Parents teaching students Teachers teaching parents Parents teaching the community

4.15.1 Teaching and Learning

The Teaching and Learning theme was derived from the participants' comments about what they had observed and experienced through the project and inquiry. It included the categories of Curriculum and Teaching Methods. Primarily the adult participants commented on the subcategories of Pedagogy.

In this section, I discuss the various areas within the theme of Teaching and Learning as they pertain to this inquiry. The subcategories relate to the areas shared by the participants as they discuss their views on extra-curricular projects, pedagogy, Eco-Art integration, Eco-Literacy, and project-based learning.

4.15.1.1 Curriculum

Throughout the portion of the project implementation, I referred to Chiarotto's (2011) framework that outlines the four areas of environmental inquiry.

Using a social constructivist approach to teaching (Vygotsky, 1930-1934/1978), I encouraged the learners to develop cognitive and metacognitive strategies afforded by new media, inquiry, and experimentation. The students co-constructed the curriculum and had the freedom to play and explore community spaces (Gude, 2007, 2013). There was an ongoing connection between the participants' experiences and their personal reflections as they reconsidered previously-held attitudes and the impact this project had on their worldviews (Dewey, 1938).

As Kate aptly stated, "I've seen [my daughter Denise] questioning nature and questioning our relationship to nature, and that's a combination of the curriculum during the school day and art club. So that's tied in a lot with her art work and her altered book as well." There is bound to be an overlap between what instructional practices a teacher uses in the classroom and what

occurs in school clubs. I believe that extracurricular programs are an important component of a balanced curriculum. They provide students and teachers with enriched programming in areas that are critical to personal development and mental health.

By leading activities in art club this week, I saw firsthand the benefits of extracurriculars, both for students and teachers. For the students, art club provides them with a space where they can freely express themselves artistically, without having to worry about marks and expectations. I gave them loose guidelines of finding an organism and sketching it, and from there I just watched them explore and draw. Many students at this school feel stressed from the pressure and expectations of performing well. I think art club helps to counteract this by just letting them play. (Bree's Personal Journal, May 10, 2013)

Bree's comments regarding the need for play and self-expression is supported by Gude's (2007) postmodern principles. During this exercise Bree used inquiry-based learning and identified the fundamental need for the teacher to take on the role of the facilitator (Chiarotto, 2011).

Within the category of Curriculum, I was surprised to hear how honest both the teachers and parents were. Kate, Dianne, and Ruth germinated a number of ideas about how gardening could be worked into a mainstream curriculum. As I listened to their interviews, I could sense urgency in their voices; for them, gardening was about healthy food and survival; not only for themselves, but also for their children. Three of my four parent participants insisted that gardening should be integrated into the curriculum.

Ruth spoke to the fact that her daughter consistently arrives home from school addressing many environmental issues. This particular student was in my homeroom, and as I was her

teacher, I understand how her daughter would share my interest and lessons that often had an environmental connection. How I approach the curriculum is entirely different from that of one of my teacher participants, who stressed that: “Students studied environmental ads such as those by enviro-friendly oil companies. The analysis of the ad led to a slideshow of images to suggest methods of environmentally friendly living” (Teacher, Jane-questionnaire, February, 2013). I question if there is such a thing as an “environmentally-friendly oil company” and if environmental stewardship really took hold? Were the students asked to critically analyze the media through the lens of environmental inquiry? In her questionnaire about environmental curriculum, Kate, who happens to be a trained teacher, also alludes to the knowledge base of teachers as she feels that the delivery of knowledge is “dependent on a teacher’s interests as to how well it is addressed in schools.”

4.15.1.2 Teaching Methods

Teaching Methods, the second category within this theme, refers to project-based learning, eco-art integration, and eco-literacy. The latter two were areas of popular branches of discussion amongst participants.

Project-based learning discussed by Chiarotto (2011), was a good fit for this community-based, participatory project. Art club students Flynn, Lucy, Whitaker, and Denise praised the project and spoke about multiple entry points in which they could express themselves. Using project-based learning, participants constructed new understanding through dialogue and collaboration as ideas were formed and problems solved. Pedagogically relevant is that as an a/r/tographer, I was seeing, thinking, and (re)acting upon my students learning. Bree enjoyed the participatory project as it gave the students the opportunity to “engage with the topic however they [liked]” (Bree’s Personal Journal, May 4, 2013).

Lucy specifically stressed that the hands-on project encouraged everyone to become involved and engaged in real world activities. She spoke about the how the participants weren't just watching a video or learning curriculum, "they were planting, observing and working on a project; learning about how a garden grows." As Chiarotto (2011) emphasized in *Natural Curiosity*, experiential learning focuses on planting textbooks in lockers, and in engaging students and their senses: hearing, smelling, touching, seeing, and intuition within the immediate environment. This evokes the literature that both Garion (1998) and Simon (2006) discuss in relation to teaching about living inquiry through the arts.

4.15.1.2.1 Eco-art Integration

For parents, Eco-art integration was a method many weren't familiar with. When Sherri referred to the sound poem project, she stated, "This is very new for the parents, for me, and so for us to actually spend time in nature and record it and experience it, it was phenomenal." Sherri was thrilled to have an opportunity to rediscover her bioregion and explore place-based theories previously discussed by Louv, (2012) and Stone (2005). Eco-Art integration was a significant issue for many student participants. Denise, Lucy, Lily, Whitaker, and Shira were very outspoken about how eco-art integration impacted their learning. They all spoke about being able to best express themselves visually. Lily said, "You can use different materials and you can show your feelings in a way that speaking or writing can't really show," while Whitaker mentioned that he "[preferred] drawing instead of writing a huge paragraph" and was firm when he stated that, "using art to express myself is a lot more easier."

In her website post of October 21, 2013, Lucy explained the care taken during the creative process of our garden stepping stones.

Making sure to use non-toxic cement, we poured it into pans for the shape of our stones. Then we went out to our garden and collected some different leaves, such as hosta, oak, maple, rhubarb, corn, sumac and even more... making sure not to damage the plants. We pressed the leaves into our concrete as well as pressing in letters to create words to inform people of which plants were used.

The students went beyond a traditional modernist approach to art making and began to gain a sincere concern for their environment as well as a sense of responsibility. This relates to Gablik's theories (1991). In our altered books it was apparent that we worked in collaboration with the earth to illustrate "our symbolic relationship with nature" (p. 77). Sue also emphasized that the student learning was 'fun.' During our discussion she passionately spoke about the value of eco-art education when she explained that, "As an artist I think there is a way to integrate art into everything . . . I think it's also how you phrase a question . . . and there is a way that you can make students think more about an issue just by how you phrase a question." Phrasing questions and using inquiry within teaching is also part of the a/r/tographic framework, which Sue as my art club assistant also employs as an artist, teacher, and researcher.

The impact of this project affected several students' future thinking. Both Flynn and Whitaker were interested in pursuing eco-art as a career. Whitaker was so influenced by the art garden work that during his interview he mentioned that he might consider making his lifework eco-friendly.

My career could be based on the problems that humanity has and how to improve them so we can live better in the environment . . . I like to do environmental art pieces about what humans should be doing and what's wrong with the current way we are living.

Blandy and Hoffman (1993) would describe this revised way of thinking as affecting “our understanding of world perspectives on environmental issues, but also our conception of the community we call home” (p. 25). Rethinking how we teach and applying this new vision is what Gablik (1991) refers to as the “re-enchantment of art.” Within this project I saw that right across the three grade levels art making took on philosophical significance as students began to dig deep into their ethical and emotional values. The personal interviews unearthed a rich harvest that might not have been revealed had I been simply teaching the curriculum as their classroom teacher. I believe that our relationship changed as I participated with them as not only a teacher, but as a community leader and facilitator. Through this living inquiry I began to reflect more upon my interactions with the world and the value of environmental/ curricular/ extracurricular programming.

In Liz’s interview, she explained why environmental art is important to promote environmental literacy.

Art is more of an abstract thing that you can put your emotion into. When you are using the environment it comes naturally. When you are doing art, you don’t really have to explain it as much, it speaks for itself. There are multiple interpretations of it.

Gablik (1991) refers to art as having the power to construct an environmentally responsible, holistic worldview. “New relations among art, community, and environment” (Blandy & Hoffman, p. 23) took root as gallery walks, discussions about art and the environment, and democratic decision making fostered a sense of community and belonging. In line with Barone and Eisner’s (2006) arts-based education framework, they stress that there

needs to be an emphasis on social interaction and dialogue as they suggest art is a form of literacy. As Megan aptly phrased it, an art garden is:

A practical expression of a schools' commitment to the environment . . . I think it inspires conversation about the environment and art and how they intersect . . . I think that's a good discussion for people to have . . . [with a deep relaxing breath she continued to stress that] it just beautifies the school and there is an aesthetic value to it . . . it's just a great way to teach the kids how to be with their immediate environment and it doesn't matter about the size of the space; they can all take something away that they can apply to their own personal spaces.

4.15.1.2.2 Eco-literacy

Extending the garden into the larger world, there is opportunity to introduce the natural sciences. Questions about bugs, plants, and food gave way to classification. Our garden stepping stones were created after students had explored fauna in their place (Plate 54 to Plate 56), our maps required that we look closely at our place, and our journals demonstrated charts and illustrations. Continuing to call upon the theories of sustainability and place-based education (Capra, 2005; Sobel, 1998), the students expanded their understanding of their bioregion. The integration of science was due to our quest for observation and understanding, and my desire to adhere to an Environmental Inquiry such as discussed by Chiarotto (2011).



Plate 54: Collaborative work. (2013). Process photo of maple leaf stepping stone [concrete].



Plate 55: Collaborative work. (2013). Process photo of rhubarb stepping stone [concrete].

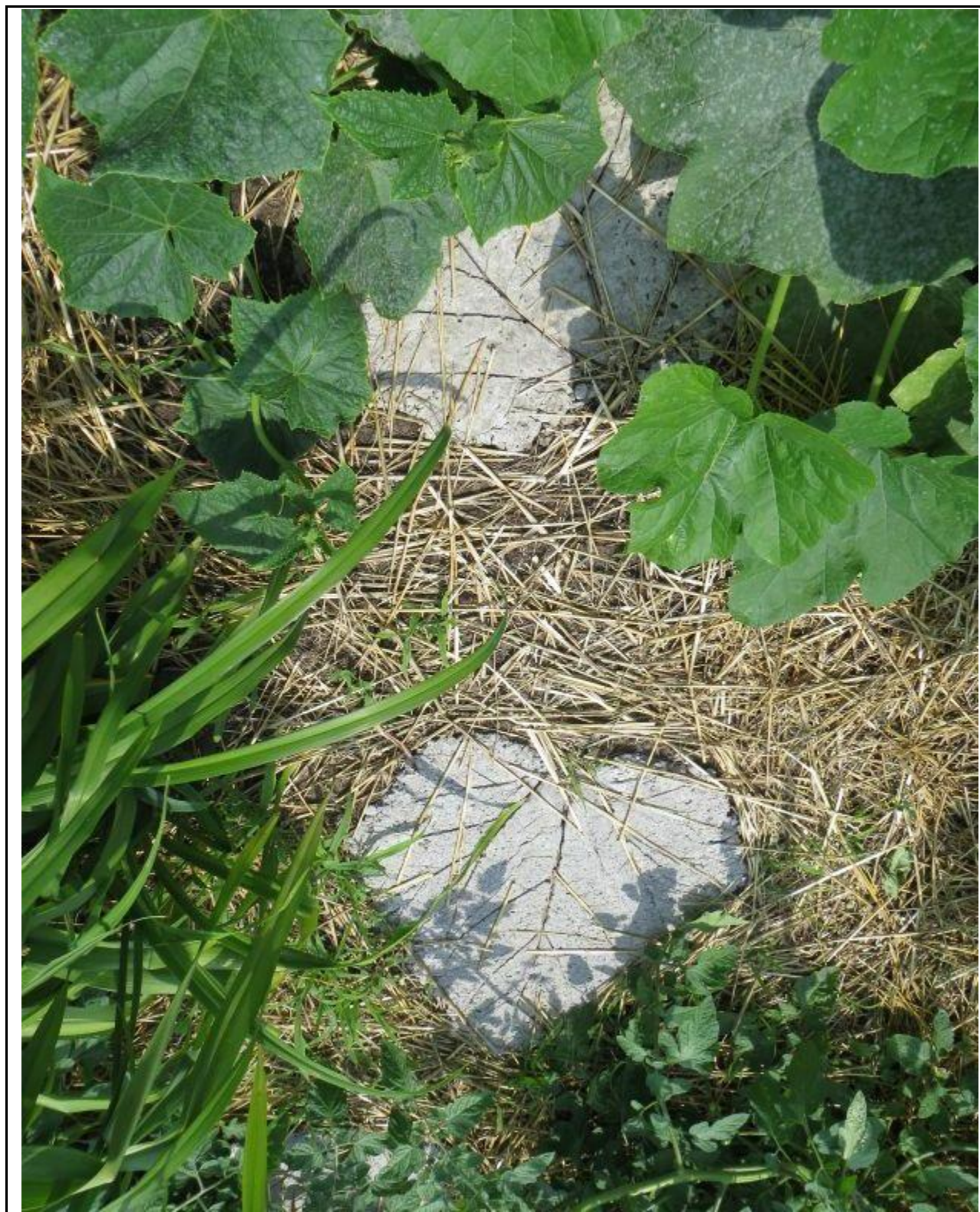


Plate 56: Rhubarb stepping stones in vegetable garden. (2013).

Eco-literacy was integrated within our art-making activities. Dianne addressed eco-literacy through her pedagogical question when she stressed that, “Without appreciating and revering the natural world, [my son] will have no reason to save it.” Sue felt that it was:

Very important for students to learn how to grow their own food as well as learn about food security, how food is manufactured and the effects of pesticides on food all in a way that informs students and gives them hope and offers small changes that they can make in their lives and the lives of their families that can contribute to a better future.

4.15.2 Activism

The second theme I identified from the data was Activism. Its categories include Environmental Awareness and Lifestyle Changes. Again, Chiarotto’s framework outlined in *Natural Curiosity* (2011) is further supported through my participants’ interviews and questionnaires. Many felt that their lifestyle and purchasing habits had been altered because of their involvement in this project. Leigh proudly expressed her lifestyle change when she stated in her interview that, “Now we have a garden. I stop the water from running while I brush my teeth and we use cold water to wash our clothes. We’re getting there—we’re not super eco, but, it’s like a path, and we’re walking the path.”

In response to an online website post that discusses the declining number of honeybees around the world, Lucy commented that she already had signed a petition to help outlaw a specific chemical that affects honeybees. She stated that, “I would love to know what happens with [the petition], and if it went anywhere. If we ever want to do a protest like this as [an] eco club, we could also encourage the entire school to contribute” (Online post, Oct 10, 2013).

4.15.2.1 Lifestyle Changes

This specific category addresses one of my major research questions. When I asked my participants how their lifestyles had changed, I was pleasantly surprised that many of them had attributed their metamorphosis to the inquiry and garden project. The greatest lifestyle changes were addressed by student participants Ainsley, Shira, Flynn, and Liz. This is not to say that other students weren't environmentally aware; in Leigh's words they were already further along the 'path.'

For example, Maya's parents gave up their car several years ago and have opted to use the subway. They cycle hundreds of kilometers to and from work each week and decided to donate part of their yearly transportation savings to an environmental charity democratically selected by their family. Maya also mentioned in her interview that she had been spending more time outdoors capturing a mood with her camera. "I think that is something I hadn't done before [the garden project]."

The film, *Food Inc.* (2008), had a tremendous impact on Flynn and his parents. His mother Dianne mentioned that their family had stopped buying industrial meat. "We used to go to a restaurant and we'd order a chicken dish without thinking of it. Now we don't even do that—so that's a big change. It's HUGE," she emphasized. Dianne proudly described how Flynn had asked a restaurant server where they sourced their meat. "As a consumer," she firmly stated, "you are telling the restaurant that you would like them to buy locally sourced meat." Flynn agreed with his mother as he passionately explained in his interview that:

We have definitely changed how we've eaten a lot, and we don't eat any meat that we don't know the origins of. Knowing what I do now and ignoring it would make me feel really bad on the inside because I'd know that this stuff is killing me, but I am eating it anyway.

As Dianne stated, “There are such huge connections between knowing how to grow your food and understanding why GMO is such a problem.” She continued to explain that since viewing *Food Inc.* (2008), “one thing we started last year was saving our seeds so for our spinach we saved our seeds and then we used them to replant spinach again.” This family motivated me as well to rethink my gardening habits. I began to think about how community, self, and place interconnect rhizomatically, as through this particular interaction, I was opened to the idea of saving seeds.

Purchasing habits were a common topic amongst all community members. Shira is now “encouraging everyone to make their own things.” She stated, “we take a couple of days out of the year to make a lot of jam and tomato sauce and pre-made meals instead of getting meals from a package.” Ainsley also confided that, “Since the garden I’ve looked at how we are growing vegetables and I’ve encouraged my family that we should buy organic foods.” She was proud when she stated that more often, “we’re getting free-range meat, and organic vegetables.”

For Sherri, simply having a garden allows her to create a salad on the spur of the moment. She informed me that, “If I need lettuce, I will tell [my kids] to go get it from the garden.” Growing up she never had a garden. I was humbled when she confided to me that I had inspired her to do more. “Before your project and before my son came to this school, [gardening] really wasn’t in the forefront of my mind.” As Louv’s (2012) literature would suggest, Sherri is getting reacquainted with the earth. She admitted that she was in the process of developing her food garden. “Slowly I am thinking more and more about it. I am expanding our garden, and I am learning what to do.”

Sherri’s purchasing habits had altered considerably, and she was happy to report these changes. She proudly proclaimed during her interview that she “even bought two reusable water

bottles for a field trip, rather than the plastic ones.” When in conversation about the waste produced by single cup coffee makers, she shook her head as she stated that, “I am now thinking about what they are going to do with all those single cups!”

Ruth, who doesn’t have the space or sufficient direct sunlight to grow a vegetable garden—a common problem within heavily populated urban areas—mentioned in her interview that when she “tasted that sugar snap pea from the garden, it was the best thing that [she] had ever tasted.” Her goal is to expand the garden at the school, and she emphasized that what she really wants to do is “have her own garden.” She knows that this “will change her footprint because [she] won’t need to buy as much through the growing months.” As she is one of the co-founders of a well-known upcycled clothing manufacturer, I sensed that her shopping habits were already highly developed. The discussion in her interview confirmed this, but I was most impressed when she humbly stated, “I have stopped buying small containers of food and drinks, frequently buy clothes from the Goodwill, and have *started needing less.*”

4.15.2.1.1 Environmental Awareness

Environmental awareness was another subcategory placed under lifestyle changes. As outlined in Chiarotto’s (2011) discussion of stewardship, it is about being cognizant of the world around you.

Spending time outdoors with family members was a common change noted by many of my student participants. Shira used to “grumble and groan whenever [her] family wanted [her] to go on a walk.” Since this project, she happily exclaimed, “I’ve been taking more walks with my family, and I’ve been enjoying their company and like being outside with nature.” Lucy expressed that, “I’ve stopped to look around more at what I’m seeing outside since doing this project.” She also is making her footprint smaller by “working outside more with plants.”

Connecting with the earth and being more aware of their 'place' prompted change as well. Although many participants had previously spent time outdoors, several suggested that their worldview had shifted. Denise referred to our sound poem project and stated that, "Whenever I am outside I always feel tempted to write down what I hear."

Engaging the senses is directly linked to *Experiential Learning* (Chiarotto, 2011), and is a large component of environmental education. Reminiscent of Bucklin-Sporer and Pringle's (2010) discussion of the value of stewardship and garden, Sage confided in her interview what a number of students expressed since the beginning of the garden project. "I think now I feel more connected to the environment and the Earth, and feel that I want to be outside playing with the dirt, and plant plants, and maybe start my own garden. I enjoy playing outside more than I did before we [built] the garden."

Meghan stated in her interview that, "I am more conscious about tending my own space."

Sarah addressed water consumption when she spoke of her lifestyle changes. "Since this project I've been taking sailor showers where you only put the water on where you wash out all the soap and everything and turn it off when you are putting on the body wash. It's pointless if you put the water on when you put soap on because it will just come off when the water's on." Webster spoke about how he used to eat yogurt out of mini containers, but his mother had started to buy bigger containers and then transfer his yogurt into reusable ones. He was very proud when he stated, "I also try not to use a plastic spoon because you have to throw them out after. It's better to use metal spoons. I think that is what I have changed [as a result of being involved in] this project."

Not all participants had experienced change. Ainsley was disappointed in her family's footprint. "I feel that we could be doing a bit more," she sadly confessed. "I think, [*sigh*] in

winter for example, we will crank up the heat instead of just putting on a sweater or, um...we kind of do convenient things.”

Habits are indeed hard to change. Lily in particular, mentioned that she'd like to do more but felt tied to her parents' beliefs and attitudes. When Webster was asked what he could do to help lower his environmental footprint he thoughtfully responded with, “I think I could do many things at home and at school to reduce my footprint, however I think in our society it is hard to make a difference because [many] of our daily routines hurt the environment or produce waste.”

Shira noted that since we began the art garden project, “we've got into the habit of taking care of the environment and I think that will carry on with us and people will start picking up on our actions.” Her point is valid; reflecting upon our habits is the first step towards rethinking how we can reshape our footprint, and become more environmentally aware. This is a concept reinforced by both Bucklin-Sporer and Pringle (2010) and Dymont (2005) as their literature speaks to the impact gardening and greening school grounds has upon youth.

4.15.2.2 Environmental Stewardship

Under the category of Environmental Stewardship, I included the subcategories of Guerrilla Gardening, Responsibility, Restoration, Advocacy, and Sustainability. The two subcategories most discussed were Responsibility and Sustainability, which is not surprising because one feeds the other.

4.15.2.2.1 Guerilla Gardening

Guerilla gardening was placed as a subcategory of Stewardship and refers to those who secretly plant on private property or in any area where permission hasn't been granted. It can, however, also include areas that are abandoned or haven't been cared for. Guerilla gardening is a form of protest or activism. Often it focuses on food production or planting for aesthetic

reasons. Working within the parameters of my school board, some might view my project as a form of guerilla gardening. As an artistic endeavor it would fall under the principles that Gude (2007) refers to attentive living, and restructuring social spaces.

It was Leigh who spoke passionately as a true guerilla gardener would. It is relevant to note that she lives in an apartment in a large urban center surrounded by concrete. She smiled when she recalled her favourite memory: “planting the garden.” She really wanted to grow ivy from her balcony, but wasn’t sure if her building official would appreciate it. She was also determined to “rip up the concrete blocks on [her] balcony and put grass there.”

Sue thoughtfully explained that she was “now thinking about putting moss in the cracks in the cement.” Dianne referred to herself as a “true guerilla gardener,” she proudly stated that she doesn’t weed enough.

Why let a garden take over the land or grow where you’d least expect it? Leigh provided us with the perfect answer: “We don’t really have a space to put a garden,” she said sadly. “So we took our hollow bench, and ripped off the top, and filled it with soil. Now it’s like a vegetable garden. Now I have fresh vegetables!”

Out of necessity, gardens are sprouting up in places where you’d least expect them. For example, Kate confided that in “Detroit, they are gardening in open centres.” Her friend had told her that:

The people are taking back the open space, they are taking control. There is an urban forest in the middle of the city, and that gives people power. It’s feeding people, which is what we do; when we work, we make money to buy food. This is kind of taking back control. The whole bartering and local economy is growing. It’s almost taking away the government. [laughter]

Is this style of Guerrilla Gardening a form of activism, or is merely a growing awareness based on human need? Are people demonstrating restorative and sustainable practices to protect the environment, or are they just trying to put healthy food on their tables? Perhaps the answer includes an element of both.

4.15.2.2.2 Responsibility

Responsibility, the next subcategory, stresses that as humans we must be at the centre of all sustainable development. This relates to the civic responsibilities ideas discussed earlier by Goleman, Bennett and Barlow (2012). Every individual needs to practice responsible stewardship so that we can use our natural resources in a way that preserves them for future generations.

A number of student participants felt personally responsible for cleaning up the school. Ainsley in particular was upset with the amount of garbage created from pizza fundraising programs. In her interview she stressed that, “It makes me feel kind of disgusted. It’s just laziness, and it makes me feel really irritated.” Sarah reaffirmed this when she stated, “You don’t want to be living in a world full of garbage. We need to take care of it because the world is fragile.”

Sage felt that garden programs should be implemented in other schools “because when you look at the garden, it shows care and respect.” She believes that taking care of the garden indicates that care and respect is being demonstrated by the students and that not only are they helping to care for the environment, but learning to tend a garden “teaches responsibility.”

The response of the parent participants was somewhat more somber. According to Kate, “Resolving how I live with how I feel I should be living” is an issue. Wanting to give her

children opportunities, Kate acknowledged that, “It’s a constant struggle every time [she] gets into the car.”

I was pleased to hear that both parents and students were considering the future. Kate suggested we “think global, act local,” and described that being an environmental steward is not just taking care of the environment today. “It’s not just about the next ten years, it’s about then and now and the next 100 and 200 years.” As I recorded this thought I recalled Louv (2011), who also refers to stewardship as a way to improve our civilization.

Every parent wants his or her child to live in a world that is healthy and safe. Bree asserted that being a responsible steward “requires change in mindset.” Taking care of the environment isn’t so much a sacrifice, but “in the kind of prevailing societal mindset, it’s seen as a sacrifice of time because we have different priorities.” She concluded by acknowledging that, “it’s only a sacrifice depending on what your frame of reference is or what your context is.”

When Denise spoke about restructuring social spaces (Gude, 2007), and creating environmental messages, she explained why the mural had to face the parking lot. She also commented that, “The students really wanted to do this to make an impact—after all who wants carbon monoxide and pollution in their garden?” (online post, October,18, 2013). It appears that our youth are reminding us to take responsibility.

One of the strongest statements recorded during the interviews came from a Liz, a 12-year-old student.

Planting a garden could help a community learn about the environment. Food could be shared with people who don’t have so much and it could affect their lives. Some people hire gardeners, like the rich. They should learn to take care of a garden themselves. If they knew how to garden they could learn how it

affects things and they could [learn] that maybe some of the [environmental] choices that they are making are not really good choices.

4.15.2.2.3 Restoration

Environmental restoration or ecological restoration, another subcategory of Stewardship, refers to restoring or healing the earth, often through the repair or management of ecosystems. Calling on the theories of Gablik (1991) and some of the eco-artwork created by Mierle Laderman Ukeles, restoration can be as simple as cleaning up the beachfront, or a park, or being an eco-monitor who carts recycling bins from the classrooms to the larger blue bin in a school. As discussed by Irwin (2004), how we interact with our environment is a living inquiry, and I might add a way of living in harmony with the earth.

Mervina spoke of wanting to clean up the lakefront. “Now after this project,” she affirmed, “I feel like I could do something about it. I want to organize something to clean up the garbage.” Sage and Ainsley also voiced similar concerns and wanted to pick up garbage on the beach and in the schoolyard.

Whitaker felt strongly that, “it would be a good idea to improve the parks in our city. There are a lot of trees, but you don’t see actual stuff that you can eat.” He wanted more community gardens, as did Flynn who felt that everyone would benefit from an art garden project.

Appreciating nature often inspires stewardship. Shira also broached this concept in her discussion when she addressed gardening. “Appreciating the beauty of nature has been passed down for generations, but I think we’ve kind of lost a little bit of those lessons in life, and I think we have to regain what we’ve lost and pass that knowledge onto future generations.” This

reaffirms Louv's theory (2005) regarding nature deficit disorder, as Shira suggests that many of us have lost our way.

4.15.2.2.4 Advocacy

Environmental Advocacy refers to those who work to influence others. It involves both protecting the natural world and protecting the public from environmental hazards. Often started from the grass roots, such as the *Idle no More Movement*²⁵, advocates organize others to work to bring about lasting and positive change in environmental issues. Many eco-artists are advocates, as in the case of Roadsworth and the numerous documentary filmmakers who engaged the students and provided them with the motivation to express themselves.

Some student participants equated activism with environmental art messages. Flynn was so inspired by the project that he expressed interest in making "environmental pieces about what humans should be doing and what's wrong with the current way we are living." Webster thought it was cool that the art garden group was leaving "a mark on the school." He felt that our spray painted graffiti was helping to "teach the next generations of our schools' students." Lucy was also motivated to create environmental art and "spread this message to [her] community."

Maya, on the other hand, felt it was not only important to "do more environmental art," she also wanted to go a step further and do "more environmental work to help the environment." She mentioned that she reads online articles to become "more informed." She also donates money to environmental groups to assist those in taking "an active positive stance on an issue."

25 Idle No More was a protest movement that came about in response to the Canadian Omnibus Bill, C-45. It began in December, 2012, with a hunger strike and movement spawned by the First Peoples of Canada, who peacefully asked for protection for both land and water. The movement quickly gained momentum and is supported by many Canadian citizens and environmentalists.

Perhaps the most influential environmental advocate in this project was parent participant, Kate. In university, she gave a dissertation on Green Politics, and has since written a children's book on environmental issues that she shares with students in classrooms throughout the city. She is a strong advocate, and she's an artist and teacher with an inquiring mind.

4.15.2.2.5 Sustainability

This final subcategory of Stewardship refers to preserving the natural world while meeting the needs of the present without compromising the ability of future generations to meet their own needs. Chiarotto (2011) and Stone (2005) discuss this at length within their frameworks. Ruth was particularly concerned about monitoring her actions and making conscious environmental decisions so that her children and her children's children would have a good quality of life.

Her approach to sustainability was best explained when she addressed the issue how her family is providing for the future by lowering their footprint in the present. In her questionnaire she wrote:

The things we do to lower our environmental footprint are pack lunches in reusable containers, buy meat and dairy from only local organic farms, and use grocery bins and reusable bags. We live in a scent-free home and use only natural ingredients to clean. I hang clothes to dry in the summer and winter and we do not use air conditioning.

Both Sue and Kate confided how they practice sustainability. Sue re-uses plastic bags, and informed me that when she travels she tries to "structure [her] movement around areas --see museums on one day in one locale, for example." Planning her trip this way avoids extra driving.

Kate uses an organic food delivery company, never buys bottled water, makes use of re-usable containers, and “avoids using the car when possible.” Her husband also rides an e-bike.

Lindy, Webster, and Jane all spoke about packing their lunch in re-usable containers, turning off lights, composting, and recycling. Jane stated in her questionnaire that she “refashions items instead of throwing them out, and sells items she no longer needs.”

As our school is an eco-school, we have been practicing litter-less lunch programs, and provide blue boxes and compost buckets in the lunchroom. Twelve of the fifteen student participants discussed the importance of sustainability for themselves and for future generations. They all felt that it was important to establish good eco-habits now. Lily, however, was somewhat frustrated because her mother wasn’t as willing to work with her on implementing sustainable practices at home.

4.15.3 Connection to Nature

The theme Connection to Nature was developed in part due to the numerous comments generated from this topic, especially relating to gardening. Thanks to grants and Eco-schools initiatives, school playgrounds are continuously undergoing change. As schools develop outdoor classrooms and teachers are encouraged to take their students outside, small gardens are indeed cropping up. In many ways, working within a garden allows us to connect to ourselves, and therefore nature, of which we are also a part.

4.15.3.1 Gardening

Virtually all of my participants felt strongly about working with their hands and feeling the earth. Kate referenced her garden not only as a pleasurable activity for herself, but also as a family activity, a place where they enjoyed spending time together.

I posted an article on the website about how many vegetables one would need in a year, and how much land it would take to grow sufficient food. Bree immediately responded with an inquiry: “This is really interesting! Maybe we could calculate how many students we could feed for a year from our veggie garden?” (online post, May 29, 2013).

Ruth insisted that teaching children to garden is “so important!” She emphasized that her daughter Becca especially loved the green beans because she “started from the beginning with the seeding,” and after tilling, weeding, and watering, she “felt a greater connection to nature knowing that she had participated in the growing cycle.”

Bree was inspired by “the importance and effectiveness of getting kids outside.” In her journal she noted that:

I went out with the students into the garden a couple of times this week. I have already seen their natural excitement and curiosity connected to the gardening process and the natural world. Simple tasks such as watering and weeding had them fully engaged and you could tell from their actions and their comments that they were thoroughly enjoying themselves. I also caught one student investigating his environment by literally smelling the flowers and lying with his face down in the grass. (Bree’s Personal Journal, May 3, 2013)

The parent participants were committed and worked hard to ensure that the garden was well tended. As the community members dropped by at their scheduled times to work with me, it was evident that they were also thoroughly enjoying themselves. Connecting to nature through activities such as gardening does that to humans: it ensures health, both mental and physical.

4.15.4 Health and Healing

A substantial area of discussion that also relates back to my literature revolved around Health and Healing. I am reminded of Dewey (1907), who emphasized in *The School and Society* that there must be teamwork between the home and school concerning “influences, materials and ideas” (p. 89). Dewey continues to portray the school as having access to a garden, close to fields and nature and the “wider country.” (p. 89).

The theme Health and Healing is divided into three subcategories: Physical Health; Healthy Eating; and Mental Health. As a greater number of subcategories branch from the last, I have chosen to begin the discussion there. Globally, as discussed by (Patel et al., 2007), there is a growing awareness of the need to address mental health in schools. Regardless of whether a child is growing up in a developing or developed country, young people in every society have mental health needs.

4.15.4.1 Mental Health

Much has been written about the benefits of nature from a mental health perspective. As previously referenced, both Louv (2011) and Selhub and Logan (2012) have emphasized that eco-therapy is not a new trend. As part of my living inquiry and on days where I feel stressed, I pull weeds and work the soil.

Stepping on terra firma I always feel more relaxed, and content. Intuitively I know I require a connection to the soil and plant life, just as I do with water and the other elements to sustain my inner balance. When in nature, I am reminded of how simple life really is, and what really is important to our survival. As I prepare for a summer canoe trip, I look forward to a slower time, where I can listen to the wind, read the clouds, and awaken my senses. I require

revitalization, and renewed creative energy. It is deep in the woods where I will receive one of our greatest gifts: being alive in nature, as we were meant to be.

(Personal Journal, July 15, 2013)

4.15.4.1.1 Balance

The first subcategory of Mental Health that several participants referred to was Balance.

Both Mervina and Emily emphasized in their interviews that the garden was a good place to “escape to.” Mervina went one step further when she suggested that if people “are a little depressed or they’re going through a tough time with their family, the garden will make them smile and take their mind off of it.” She also felt that gardening “makes people happy.” Her recommendation to the adult world is that:

If kids have problems and can't think straight, and have trouble learning and stuff: if there was a school with a lot of kids like that, a garden would be really good because then the kids could help out, and get their minds off all the horrible things that have been happening to them.

Mervina, a Grade 6 student, offered wisdom beyond her years. She not only saw the value of gardening for one’s self-worth, she also realized how working with others contributes to one’s personal balance and mental health, and is healing.

Dianne supported this when in her interview she laughingly stated, “There’s only a benefit for me to be in nature! It’s meditative, it’s calming, it’s healing. . . . yeah . . . it’s healing in a way that I didn’t even know about. It’s healing and I didn’t even know I was sick.”

Meghan agreed as she referred to her daughter’s activities in the garden. “It’s been a great stress reducer for the kids.”

4.15.4.1.2 Hope

Hope is an important category and trait required for proper mental health. As a garden is a life-giving force and provides an opportunity to connect with oneself and others (in the case of a community garden), Hope in this context connects to what we know and what we hope the future will look like.

Without gardening in school programs and by not teaching students how to garden, what will become of our future generations? During her interview Sue expressed her thoughts on the subject when she emphasized the need to teach children to garden “because if you do, then you are going to have a better environment for your future, and you’ll be able to have hope for future generations.” Hope, teaching, and future generations; another rhizome is formed.

One plant at a time, one personal garden at a time, and one community garden at a time; we can all plant Hope. Although Dianne expressed fear about the future, she also was “totally hopeful and enlightened because [our city] is surrounded by all these organic farms” and there is plenty of good produce to be had. Growing hope starts at the grassroots level. In other words, there are many like-minded people with the same hope: a hope for healthy foods, healthy people, and a healthy planet.

4.15.4.1.3 Reflection

The garden could serve as a metaphor for our link to our souls. It provides space for active meditation and reflection. Each garden affords us a link to a higher ground, reminiscent of the greatest garden, the one in which we should aspire to: the Garden of Eden. In her interview, Ruth spoke passionately about the mental health comforts that gardens afford us. “Just being in nature and having that tranquility that nature brings us and that alone time . . . the garden benefits kids immensely.”

Kate spoke of this heavenly feeling during her interview. Regarding her personal garden, she stated, “It’s almost meditative when I’m outside. You just get lost in it. You hear the birds. I saw two cardinals fly over yesterday, two lovely flashes of red.”

For Dianne, her connection to nature related to when she and her son Flynn began bird watching together. As a parent she explained that she’s gotten to “re-experience everything again, so that re-experiencing birds again has meant something very deep, and deep like as in having a huge connection to nature. It’s an unbreakable one.”

Kate confided that her daughter Denise “came alive in the garden.” Ruth painted a wonderful rhizomatic connection of what gardening can do for the body, mind, and soul when she thoughtfully shared that in “your own garden, you’d be working in it every day, and I think you’d be eating with your heart, too; you’re not just eating with your mouth.”

When we celebrated our work efforts through the tasting of freshly picked vegetables that we had carefully tended from seedlings, I could see that the student participants understood the farm-to-table connection.

4.15.4.1.4 Positive Visualization

Another subcategory described by the participants relates to how we envision the future. For my participants, their positive affirmations came by way of visualizing a vibrant, positive, healthy environment in which to live.

Kelly affirmed that by knowing how to garden, “we would keep our children alive and healthy, and keep our planet alive and healthy.” Statements such as these were uttered by others, including Ruth who didn’t have an appropriate backyard to tend her own garden: “I could imagine that if you had your own garden.” She uttered this desire several times over the course of her interview. Sue spoke about the enjoyment you get from planting a seed. “Maybe you

plant ten seeds and five come up,” she said smiling. “There is some kind of really nice reward to doing this.”

Indeed, the reward comes from watching, tending, waiting, and visualizing that a seed will sprout. Students would often ask me on a daily basis when the plants would begin to grow, and then when fruit appeared, it was magical. If only we could transplant or propagate that kind of love and care throughout the plant and animal kingdom. Just imagine how that form of living inquiry (Irwin & Springgay, 2008) could manifest into something quite refreshing and rejuvenating.

4.15.4.1.5 Goals

I placed Goal setting within the category of Mental Health. Like positive visualization, goal setting is a powerful process for thinking about your future, and for motivating yourself to turn a specific vision into a reality.

The participants reflected upon their future as a result of their art garden activities. The male student participants were particularly very inspired by Roadsworth. Realizing that an adult could make a living from being a renegade eco-graffiti artist had both Flynn and Whitaker planning their careers as street stencilers. This ties back to Gude’s (2007) framework for the Principles of Possibility, specifically Forming Self and Empowered Experiencing. The latter specifically relates to the need for teachers to expose students to both methods and practices of professionals in the field. Whitaker stated, “I think I could make my work, my career, more based around eco-friendly living. Basically, I could have a career that focuses on what problems humanity has, and how to improve and how to live better within the environment.” His statement recalls Gablik’s (1991) theories discussed in her book, *The Re-enchantment of Art*.

Other students, including Maya, had shorter-term goals. She was interested in taking nature photographs, and Denise and Lucy were interested in independently creating more eco-art at home. Bree also affirmed that her goal was to one day integrate gardening and eco-literacy into her own teaching practice.

The goals of the parents were generally shaped around healthy living, sustainability, and a healthy future for their children. Kelley was in the process of planning how to further educate Flynn in the gardening process by enlisting the family on a farm vacation. The art garden project was both grounding and uplifting at the same time: a rhizomatic connection of the heart, mind, and body, which is required for goal setting.

4.15.4.1.6 Nature Deficit Disorder

The final subcategory of Mental Health is perhaps the most important one. In Louv's discussion of Nature Deficit Disorder (2005), there is much conversation about the need to address the kinesthetic learner and why today so many of our youth are labeled as having Attention Deficit Hyperactivity Disorder (ADHD). Bree noticed how just being in nature impacts student behaviour when she led them through an outdoor exercise.

We all have a natural curiosity which is being stifled within the traditional classroom setting. While I haven't experienced teaching ADHD students specifically, I did see the effect of being outside when I was with the art club students. We went on a 30-minute walk, during which they were asked to be completely silent - and they were! Students who normally couldn't stop talking were quiet and engrossed. . . . Having seen this firsthand, I will not hesitate to take my students outside as often as possible. (Bree's Personal Journal, May 19, 2013)

In her questionnaire, Lindy, who was in her first five years of teaching, an outdoor enthusiast, and former camp counsellor, confessed that her environmental habits had changed over the last few years. She had “less time outdoors because of work and life busy-ness.” Leigh pointed out what many, including Louv (2005), discuss, when during her interview she stated that, “As I got older, I went outside less and less because I discovered the Internet.” She also confessed that, “It’s hard to find a space to go outside because I live in an apartment downtown.”

Ainsley reiterated Leigh’s sentiments about technology. She felt that gardening was really important:

Especially in this day and age because there is so much technology, people are really starting to stay inside with their computers, their phones, their video games, and I think gardening is a great way to bring you outside to experience natural things instead of artificial things.

Ruth expanded on this branch of mental health as she suggested that, “maybe kids fear being outside.” She also expressed her concern that kids are “lazy, and [have] everything they could possibly want so that being in nature and using their imagination...not with toys but with what’s in nature...we’re losing that with kids!”

It was noteworthy that student participants Liz, Flynn, and Denise felt that people who lived downtown would benefit from art gardens because, in Flynn’s words, “Downtown is like cement buildings and glass and stuff and [gardens] would make it better.” He also stressed that, “Really, anyone who doesn’t have much experience outside should garden.”

Sherri confessed that her “perspective changed” after the Parent Garden Night. She believed that, “A lot of parents shared the same feelings.” Her reasoning for this was based on the sound poem experience when afterwards she reflected that people are too busy running

around, and “we don’t take the time to experience nature.” She enjoyed not only recording the sounds of nature, but also actually stopping to listen to them. Sherri was experiencing ecotherapy that was referred to in the literature presented by Selhub and Logan (2012).

Without this mindfulness is it possible to maintain mental health, or for that matter, overall health? In her questionnaire, Ruth explained the importance of gardening with both a question and her answer:

I think it is extremely important for our children to learn how to grow their own food because what better way to understand and appreciate our most basic human need? Also, nurturing a garden makes us feel more connected to the natural world, something children lack today in a world with a generation so plugged into electronic devices.

4.15.4.2 Physical Health

Physical Health, the second category of Health and Healing, prompted discussion from over half of my participants. They discussed both their outdoor activities and eating habits as they reflected upon their experiences with the art garden project.

4.15.4.2.1 Outdoor Activities

The only subcategory derived from this theme related to the outdoors. Many participants confided that prior to the commencement of the project they already spent a great deal of time outdoors. What was of interest was that there seemed to be a correlation between those who reported changes in their outdoor activities and the activities introduced in this project.

Ainsley now goes outside to read because she realizes “it’s better to be outside, and it’s healthier,” while Denise now sits outside and enjoys listening to the sounds. Ruth discovered that vegetable gardening was also good for the body. She emphasized that being “outdoors,

pulling weeds, and lugging water around involves working hard. You're sweating; it's great exercise."

The change for Kate was seeing her daughter Denise bolt out of bed first thing in the morning during the first weeks of July so that they could garden together at the school. It was Denise, she confided to me, "She's the one who has gone through the most change."

Leigh, Shira, Mervina, and Liz no longer thought of it as a chore to go for family walks. Leigh realized that, "It's only a 15 minute walk, and yeah, it's definitely opened me up to things outside, and I go outside way more."

Supported by Chiarotto's (2011) pedagogical framework for environmental inquiry, it appeared from my participants' discussions that spending time outdoors in our community project had prompted new ways of engaging in and with nature.

4.15.4.3 Healthy Eating

The final category of Health and Healing relates to food. We all recognize that there is food, and then there is healthy food. Teaching about health and nutrition is included in the provincial curriculum, however the teacher will determine the details of how the subject is approached. Not all teachers will show the films *Food Inc.* (2008), or snippets of *Super Size Me* (2004), and encourage debate and inquiry on the topic. This kind of discourse is encouraged by Gude (2007), within the framework of arts-based educational research (Barone & Eisner, 2006), and the framework of A/r/tography (Irwin & Springgay, 2008), as well as other a/r/tographers.

Knowing "where food comes from" was important for Meghan as we spoke about her personal garden and shopping habits. "I feel so much better about what we are eating," she exclaimed.

Leigh insisted that, “Gardening promotes healthy eating!” As a self-proclaimed vegetarian, she felt strongly about this topic. “It’s important for youth to know how to garden so that once they grow a garden they can just eat a cucumber and they won’t have to go buy hormone-filled beef or genetically altered carrots.” She also projected into the future and suggested that as they grew into adulthood, the students would “have less time to go out and get food. They would buy the quickest thing that they can find, eat it, and then start to study.”

This is an issue that plagues our entire society: having or making the time and the means to purchase and prepare healthy food. Ruth stressed that, “Food Share programs are important for people to think about where their food comes from.” She also emphasized that, “You can grow your own food and you don’t have to depend on others. The more you can do yourself, the more you can grow yourself.”

Other student participants had much to say about health and food. Shira believed that gardening would produce healthier food and it would encourage people to eat healthier. She felt that, “they might be encouraged to plant their own garden at home, like we are now.” It was Bree who cultivated a new thought, however; she noted in her interview that within the city “people seem to have gardens at home, but not necessarily food gardens. I think that there still is that disconnect between garden and mouth.”

This may be true. As our water supplies diminish and change, so too may our gardening techniques. This topic branches nicely into our next point of discussion.

4.15.5 Problems Facing Society

Several participants wanted to discuss environmental problems and through the interviews this was a reoccurring theme. While working with my students I refrained from focusing on many of the larger issues we face. If the students brought up issues in their

interviews, I listened and took notes. Within our programming, however, the focus was to inspire them to appreciate nature and engage their interest. Many wanted to take the next steps: responsibility and stewardship for the earth.

Topics including Sustainability, Media, Poverty, and Transportation were discussed.

4.15.5.1 Sustainability

The first category, Sustainability, was also a subcategory Environmental Stewardship. As in most data analysis there are bound to be overlaps. I prefer to view these overlaps as rhizomatic connections.

Generally the students were aware of the need to grow native wildflower gardens, and expressed concern over ensuring that monarch butterflies would have a place to land in our garden. This supports Stone's (2009) premise from previously discussed literature; sustainability is connected to place. Kate, Denise's mother, even brought some stone and driftwood for the butterflies to land on and rest.

It was Lily who pointed out that her generation would need to know how to garden because, as she stated, "we won't be able to sustain ourselves with all this mass production." She expressed concern that, "There won't be enough of what we need, and that just now, people's minds are being opened to the truth of what has been happening [to the environment]." Meghan felt that a major problem facing us was food packaging; she hates the amount of food packaging, especially "all those salads that come in all those packages!"

4.15.5.2 Media

The second category within this theme dealt with the Media and its influence on environmental issues and food production and distribution.

4.15.5.2.1 Media and Fear

This subcategory dealt with the participants' level of Fear. Feeling that “you can't do anything, so why try?” is not going to eradicate any of the problems that we face. Often media induces fear, and it can be paralyzing, leading to apathy.

One of the problems identified was that of being overwhelmed by fear. Megan referred to it as “panic inducing,” while when Bree was asked if she felt she could help to shape her future she became tense and replied, “My personal future—every time I think about it, I'm kind of thinking what's the point!”

Ainsley mentioned that when she “watches documentaries about what we humans are doing, it's not really working.” Although Lindy, now an alternative school outdoor education teacher, wants “to make a difference, but so many other people in the city don't care...so what's the point?” Jane reported that when she watched the film *People of the Feather*, she “felt helpless.”

When Sue went to hear Al Gore speak, she was moved by his presentation of scientific research, but was left feeling “depressed” and overwhelmed. She “wished that he offered more concrete examples of things we can do at home to help.” She also admitted that, “you don't even know if you can make a difference.”

It is hard to change habits, as Bree pointed out, but if we don't, our planet and inhabitants will continue to suffer. Meghan's response was one of urgency.

That's got to be on everybody's minds right now. It's just scary the state we are in and if things don't turn around dramatically—and that's not just changing your light bulbs and doing more recycling than we are doing now, than we are all in trouble. For future generations—it's alarming!

4.15.5.2.2 Media and Food

I placed Food under the subcategory of Media as many of the participants spoke about food in relation to marketing. The films that the student participants previewed, including *Food Inc.* (2008) and *Super Size Me* (2004), opened their eyes to the world economy and healthy living. Again this calls on the framework of Gude (2007) as she suggests that art teachers need to share experiences whereby students encounter differences and view the world through the eyes of “others.” This is also encouraged within the framework of A/r/tography (Irwin & Springgay, 2008).

Mervina admitted that, “now-a-days, well technically everything in the world is a big lie, and we’re eating stuff that really isn’t food.” She also stressed that, “we are using things that we’re told are going to help us and in the end they aren’t actually going to!” Shira agreed. She even suggested that all you need to do is “press a button and food comes out,” and that, “processed food has no actual food in it.”

Companies continuously create ‘new and improved’ versions of the same product. Webster admitted that it’s important for us “to realize that the world isn’t really what we think it is. There are always secrets hidden behind a label.”

Sarah stressed that, “eating food from a package isn’t good for you cuz it’s really salty.” She really didn’t like the fact that, “they are making GMO food and they take DNA from something like an animal and they put it together with something else.” She was aware that some tomatoes are redder or juicier because they have been injected with colour to make them more attractive.

The average consumer may not be aware of how much their food is altered, and if companies aren’t mandated by law and enforced with sufficiently harsh penalties for non-

compliance to share information they don't. "These companies," stated Kate, "their lobbies are pretty strong. Big companies are really strong and then they control everything!"

4.15.5.3 Poverty

A major issue that will continue to plague society as a problem is the next category in this theme: Poverty. As the cost of living increases, especially the cost of food, lower income families will find it increasingly more difficult to afford healthy food. Bree, a student in her final year of teachers' college, repeatedly mentioned that the cost of organic food was beyond her means.

Environmental choices are affected by income. Organic food is a very niche market and a lot of people just don't have the income. You've heard about food deserts? There are scenarios where there is no access to fresh food, just convenience stores. That's interesting because then there becomes a link between environmental stuff and social stuff and economic stuff.

Bree's analogy reminded me of a scene from *Food Inc.* (2008), where a family explains that they can afford to buy dinner at a fast food drive-in, but can't afford fresh fruit and vegetables. The husband was diabetic, which meant that he had to manage his diet with expensive medication to survive and to support his family. He couldn't however, afford to eat healthy food.

Flynn projected into his future and stressed that:

When you move out on your own, eating healthy is hard because healthy foods do cost more because they are hard to make. With factory farming, it's mass-produced so people can sell it cheaply. Also when you move out it's going to be

hard to buy really healthy food, but if you make your own garden, you won't have to.

Most middle school students don't realize that in our large urban center it will be next to impossible to have a garden when they move out, unless they work in a community garden. It's likely that when they do move out, it will be either in student housing or to an apartment. What Flynn did put emphasis on is that it will be difficult.

Kate worries about the "kids in low income areas that live in apartments." She felt that they would most benefit from getting outside and working in the garden, and it would give them "a chance" to experience that connection. Perhaps it might also give them a chance to live a healthier life.

4.15.5.4 Transportation

Transportation was the final category of this theme. Within our society we experience gridlock on a daily basis.

Throughout the interview process and within the questionnaires a number of modes of alternative transportation were mentioned. Students wanted to cycle more, walk more, and one parent drove an e-bike. Participants expressed that they were more thoughtful with how they moved around.

Sue suggested that gardening is very important for suburban families. Her reasoning was because "Two car families in suburbia drive their kids everywhere and sometimes don't have time to garden. The more you have the more you don't have." Sue is suggesting that lack of time is one reason why people may not garden, but more importantly, the more time we spend in a car, the less time we spend connected to the ground.

Whitaker simply stated that, “In the future when crude oil goes up too much and then nobody drives a car, food will cost so much money, and those people that have gardens will survive.” Gardens have already cropped up due to transportation and food cost increases. Whitaker really isn’t projecting into the future, he’s looking clearly at the present.

Perhaps we need to learn to live with less in order to have more. This will involve change: the question is, are we ready for this kind of change? Can we slow down as opposed to rushing through life to get to the next destination? How do we slow down?

4.15.6 Food Production

Another theme that emerged in the data was Food Production. Over the last decade, gardening centres have grown in numbers, as have heirloom seed companies. For my community of participants, propagating seeds and non-GMO foods derived from gardening were the two re-occurring topics of discussion.

4.15.6.1 Propagating Seeds

One category that was discussed in this theme was Seed Propagation. Not uncommon in days past, many farmers would save and share seeds with one another. This system ensured biodiversity, survival, preservation of traditional cultures, and community sharing. The seed is a symbol of food security.

When we first planted our native butterfly garden, we planted a number of marigold seeds that had been shared with us by Carol, my gardening mentor. Additional marigolds from some commercial gardening centres were planted, but none compared to the ones that were shared with us. Carol’s plants were fuller, stronger, and developed continuously over the summer.

Kate encouraged me to propagate seeds. “I wonder if you could do more indoor stuff over the winter to engage more students?” She prompted me to find a way to seed within the school and share the process with a greater number of staff and students. “Then this garden would grow into something more, cuz it’s a great space for a garden. There is so much potential,” she said.

One could say that Kate planted a seed within me. Her idea germinated and grew to action, the results of which I will discuss in Chapter 5.

4.15.6.2 Gardening

Another category placed under this theme was Gardening. Each of the participants was asked during the course of their interviews what they would like to do with our produce, and what additional foods they’d like to see within the garden. Meghan was one of many who wanted to see greater fruit production. Shira, Ainsley, Flynn, Sarah, Whitaker, Lily, and Leigh all requested fruit trees.

Sage emphasized that, “everything tastes so much better when you can say you grew it. You are so proud of it, and you know that you can trust it.” As the literature suggests (Abelman, 2005), tasting the difference and knowing that you can trust food grown by your own hands both empowers people and makes them more self-sufficient. As Maya described her garden, her eyes lit up. “We grow our own tomatoes and we make tomato sauce with the fresh tomatoes.”

For Ruth, her fondest memories of this project included “reaping the benefits of the garden. Being there to care for it for the week, cooking food from it, and eating it.” Ruth described the food as “amazing,” as did many others.

4.15.7 Community

Forming Community was a critical component and theme of this participatory project. Community is also a critical component within the framework of A/r/tography as Springgay & Irwin et al. (2008) explain the importance for the arts-based educational researcher to connect to other artists, teachers and researchers in the field.

Within the student community, greater self-expression, personal growth, and freedom occurred as students ideas were accepted by their peers, all nourished within a positive, safe learning environment. Working together was the motivation that seeded new beginnings for many as they either discovered or rediscovered our natural world. This concept is corroborated by Ableman (2005) as he discusses relationships with land and with people.

4.15.7.1 Membership

An important topic and category discussed with relation to community was Membership. One only has to do an Internet search to understand the monetary, social, and emotional value of having membership. In the case of a school garden, membership was rooted in our *place* (Sobel, 2005). As well, our community shared a common goal: to create something special, or as some referred to it as leaving a *mark* for future students to emulate. This goal prompted agency, which is a characteristic within the framework of arts-based education research (Barone & Eisner, 2006). Students who had never gardened before were approaching me in the halls asking if they could help out. They wanted to join the team.

4.15.7.1.1 Forming Friendships

I placed this subcategory here as it was highlighted by several of the participants as being important. Maya and Webster emphasized that they had developed good friendships with

students from across the grades. Many in the group I was working with chose to travel home together, thus carrying their community spirit beyond our *place*.

During their interviews, the students were asked what their favourite memories were over the course of the project. Only one student referenced friendship in relation to gardening. I vividly remember her smile as she explained how much this moment meant to her.

Ainsley recalled, “When my friend and I were planting together, it was really a great bonding moment. We were planting and helping each other out and we talking really quietly. It was just a really nice moment to share.”

4.15.7.1.2 Support

This subcategory of membership was best addressed by the parents.

Dianne spoke about supporting her partner during her sound poem experience. She “translated” her experience into words, while her partner created a drawing in response to what they both heard on a nature walk. Together they supported one another’s work by “taking [her] words and matching them with his drawing.”

Support was also referred to in relation to other communities. Support for those who don’t know how to garden or eat healthily “is used at an at-risk school,” Sue informed me. The garden is used “to teach people about food, and they talk more about food security.” Sue was referring to Food Share programs that support those who don’t have the means to garden. They connect families to communities and literally provide a food-to-table experience.

4.15.7.1.3 Collaboration

An important social skill and subcategory of Membership, Collaboration is a learning skill assessed on the provincial report card. As a teacher, I was able to instruct and mentor the students using effective tools for collaboration. Calling on a constructivist framework

(Vygotsky, 1930-1934/1978), I sometimes needed to scaffold effective collaboration skills within my extra-curricular programs as students were mixed groups who come together out of interest. Generally they do not have prior experience working together, and have different levels of understanding. Within their classrooms and during extracurricular activities, students learn character development through empathy, tolerance, care-taking, and collaboration. It is impossible to separate the two genres of teaching. Like rhizomes, the formal and informal curricula are intertwined.

Stone (2009) has shared in his theories of environmental learning that when one is self-aware, one can nurture connections to others. Respect for self, and for others is one of the foci of our board's character development program. Ideally, this concept should spread to respect for others and the community, including the school environment and the environment in general.

As Bree worked more closely with the students, she noted in her journal on May 24, 2013 that:

Working outside fosters natural curiosity and fuels self-directed learning. [In the garden,] the students formed their own teams and assembly lines all without any direction from us. It was heartwarming to see the inherent collaborative nature within the students, and the fun they had while working together.

Ten of my student participants addressed collaboration in their interviews. Mervina informed me that, "making the garden was really good for bringing us together, and sharing the same kind of experience." She also emphasized that other schools would benefit from this experience because "it makes people happy when they come together and build something amazing."

Whitaker felt strongly that he had gained valuable experience, as “working on a real project with others is real life.” This aligns with Chiarotto’s (2011) discussion on integrated leaning and project-based learning. Sarah and Lucy spoke more to the value of making art as a group and using art to convey important environmental messages, while Meghan stressed that “growing food is a fantastic place to start because it is community based.”

Ruth “loved being part of this community garden,” and she repeatedly emphasized that she was very interested in continuing with the project next season. Bree pointed out that having “schools connected to the community rather than just being separate can help solve a lot of problems.” During the entire project we had very little vandalism, except for some markings on our painted door. As one neighbour informed me, the neighbourhood community was thrilled with the work we were doing.

When asked if all schools should create a garden like ours, the parent participants were insistent that gardens should be a part of a school culture. “It’s a collaborative expression and also a very practical expression of a school’s commitment to the environment,” Megan commented. It was Kate who, as a parent and educator, vocalized the essence of what I would deem to be the spirit of community, when in her interview she stated:

I think projects like this are very hands-on and everybody can literally just get in there and get dirty with it and work together. It brings people together. Anything where people can feel like they are being useful and taking part and contributing— well, I think a lot of our kid’s education is not so inclusive to parents, but this is something that everyone can do, and that’s sort of nice.

Indeed, when everyone contributes towards a common goal, then change is possible.

Moving beyond one's own community is also an integral component of character development and students' learning skills. Volunteering is important on so many levels, as was discussed by both parent and student participants alike.

4.15.7.1.4 Community Service

The final subcategory that linked to Membership was Community Service. Several of my participants spoke of how they engage in environmentally related community service. Ainsley, for example, informed me that she had a lemonade sale over the summer of 2013 and donated the funds to an environmental organization. Sage and her friends made plans to go to a large park to pick up litter. Whitaker was planning on creating some environmental graffiti to promote environmental awareness. Maya already works with her family to help environmental organizations. She asserted that, "I have learned important lessons from this project that I will carry with me and continue to share even after I have left this school."

What struck me the most was the number of students and parents who came to help me with the garden during the summer and fall. In essence, I was modeling community service, because after all, I was also volunteering my time to support a community project.

Bree felt that shared gardens could help feed people in the community who don't necessarily have fresh food. "You hear about people starting gardens in neighbourhoods that are low income and have high rates of illiteracy. They haven't had much success with their kids in terms of self esteem, and staying in school." As she began to discuss service-oriented gardening clubs, she paused and stated that, "There could be huge social implications if services were provided to assist low income areas." Bree's comment links directly back to the framework of A/r/tography (Irwin & Springgay, 2008), where a living inquiry is understood as a responsibility (p. xxxii).

4.15.7.2 Celebration

Communities often celebrate together. This next category discusses the responses I received when during my interviews I asked the participants what we should do with our produce. On a continuous basis, we shared the vegetables as they ripened and needed to be picked. Often we ate as we picked; that was a celebration in itself. Many offered their advice, including Dianne who suggested that we pickle the beets. “It can be a big community event to pickle and jar together.” Unfortunately, our beets were so sweet and delicious that all our gardeners wanted some, myself included. They were just too good to pickle.

Kate suggested canning. She knew of some west-end canning shops “where people go do it as a community.” What better way to celebrate a harvest than to make food to share? This is exactly what I did for the community. During the opening of the Art Garden, I served *ratatouille*, *pesto*, *salsa* made from our tomatoes, peppers, and onions, as well as a pepper dip. One of the parents made homemade bread and I baked some rhubarb and zucchini loaves.

The teachers came to support the event. Jane helped me warm up the food and arrange the table. She remarked that it was a warm community celebration and that the art garden project afforded the type of interconnection between staff, parents, and students that all schools could benefit from.

4.15.7.3 Knowledge Sharing

Within this category, I identified the following four subcategories: Students teaching parents and siblings; Parents teaching students; Teachers teaching parents; and Parents teaching the community. As Knowledge Sharing is technically teaching, it could be considered part of the curriculum. However, I likened it to be more in line with how the First Peoples of Canada share their knowledge through real-world application and hands-on activity. This holistic approach is

in line with Dewey (1907), who referred to gardening as part of the curriculum, in his Chapter 3, Waste in Education, within *School and Society*. He described within his plans that every school should have a garden connected to the kitchen.

Dewey's description is in line with inquiry-based learning. Through hands-on sensory learning, students have the opportunity to form questions to guide their learning. As outlined in *Natural Curiosity* (2011), inquiry-based learning encourages learning to be informed by many sources, including students sharing knowledge with one another, with their teacher, and in the case of my inquiry, with other adults in the community, including their parents.

4.15.7.3.1 Students teaching parents and siblings

Within this subcategory, both parents and students informed me that the children were teaching the parents. The parents in particular were very proud of their children for raising questions about food sources and for taking more of an initiative within their own family gardens.

Meagan mentioned that her daughter had become the “weed queen” and was motivating the family to get back into the upkeep of their garden. Dianne reported that Flynn took ownership over planting the family garden. She imitated him explaining how to plant: “Get out of the way, Mom. You're not doing this right. You do it this way!” Dianne went on to explain that, “In fact we had some nursery-bought plants and he was adamant that you loosen the roots.”

For Flynn he admitted that he has had an influence on his parents “because I've kind of taught them about the stuff I've learned here at school. In many ways we are composting more, gardening more, and eating better food since the project started.”

Lily indicated that she was trying to influence her mother “because she's not really eco-friendly, but [she's] trying to teach her how to be more eco-friendly.” She was intent on

motivating her mom to make changes at home, and realized that she couldn't alter their lifestyle without her mom's support. Lily later reported that her knowledge sharing was somewhat successful.

As a result of their experiences in this project, some students were questioning their parent's choices. Kate, for example, informed me that she has "a second conscience" when she goes shopping. "I have my daughter going, 'No Mommy, you can't buy that!'" Ruth also discussed her daughter Becca's reaction to food shopping choices. "I love that Becca is always pointing out things that I could do better at; that we could do better as a family." Ruth and the other parents were proud that their children were starting to question, to inquire, and to wonder.

4.15.7.3.2 Parents teaching students

When referring to their parents, the students for the most part spoke with respect and admiration. However, Sarah questioned the actions of her parents, and was somewhat disappointed that her dad didn't practice greater environmental sustainability.

Sarah wasn't very proud of her dad. "My dad doesn't really influence me with the environment. He just drives around even if where he needs to go is close by—he'll drive there anyway." Her mom on the other hand:

is more of a person who will tell me to walk whenever you can and the type of person who will compost, and remind me to not throw out food, and think about the children who don't have food. She gardens a lot so she helps me see the earth in a different perspective and to take care of it.

Lucy informed me that her parents are "really interested in helping the environment," while Shira explained how much her father hates driving. "He will bike 20-30 kilometres in the morning and then ride the same route in the evening." Maya's father also cycles to work, and

together as a family they chose to give up owning a car. She proudly reported that, “I think that just having my parents to inform me has definitely influenced the way that I view the environment.”

Sage’s parents garden, has equally influenced her.

I think having a garden at my house has had an influence on me and on what I think about the environment and why we should keep it so beautiful. My parents have definitely taught me a lot about the environment and the world and keeping it healthy.

Liz, Lucy, Denise, and Webster all spoke about how their parents have influenced them in household recycling and composting. Flynn informed me that his dad will “wait to turn on the AC at the very last minute” to save energy. “It’s definitely good for the environment, but as far as our sanity, I’m not sure,” he said with a grin.

Whitaker’s mom has had a tremendous influence on him, as she is “a really big raw food person.” He was really proud of her accomplishments, as he explained in his interview that, “she’s also an architect. She designed our house and the gardens and stuff, and she’s big into green buildings and eco-friendly stuff and having solar panels and vines growing up the building.”

The two parents who spoke directly about teaching their children were Sherri and Ruth. Sherri built a garden with her children because she “read on the Internet that gardening was one of the top 50 things to do with your kids.” Ruth, on the other hand, has taught her children to find “sit spots in nature” so that they could listen to birdcalls and learn to sense what’s around them.

There are many ways to impart knowledge within the home. In each of these examples, it’s evident that the students have good role models.

4.15.7.3.3 Teachers teaching parents

As previously mentioned, the parent art garden night was highly praised by the community. Sherri, Meghan, and Dianne spoke of it in their interviews. The idea of the teacher imparting knowledge to the student who then propagated ideas at home with the parents was commonly rooted within their discussions.

When Sherri addressed how community-based projects were important to environmental teaching, she responded firmly with, “absolutely, absolutely, and I think that the parent’s eco-art night was critical in changing the way that the parent’s think about nature and their impact on it.”

Dianne wanted more programming that could involve the community similar to this evening. Megan suggested that few parents would have access to this type of programming and that the beauty of it was that, “it’s introducing a group of people to something that they all take home to their respective families and communities. It just sort of has this, you know [pause], spill-over effect to the much larger community.”

Perhaps when it comes to environmental education, teachers can teach parents through the act of teaching students. However, relationship building is a critical component of teaching, so a project such as this benefits greatly from parent and community involvement.

4.15.7.3.4 Parents teaching the community

Working alongside the parents in the garden was a gift. As Dianne stated, “We are all learning from one another, and we get affected by one another.” Kate commented that, “A big part is sharing the garden with other people.” Sue even brought her family to visit so she could share the experience with her daughter and husband.

In Kate’s interview she stated that she “enjoyed sharing knowledge and advice about things to do in the garden.” The parents taught me not only more about gardening, but also about

how the art garden project had affected their family and their lives. What is more important, they taught me about building community and bringing intergenerational knowledge building into extra-curricular teaching. Another rhizomatic connection is the transference of knowledge from Teacher/Student/Parent, which is of course cyclical as the three are forever teaching one another.

4.16 Summary

In this chapter I have shared the project implementation, garden development and creative process and art making. I have shared and discussed the seven themes which I unearthed from my participants' interviews, questionnaires, and online website contributions. Within these themes I formed rhizomatic links back to my literature. Sharing my participants' voices and Bree's journal entries allowed for greater data triangulation, as well as further validation of the need for more study in the field of environmental art making. Using the environmental framework of Chiarotto (2011) and referencing other environmental educators including Sobel (2004), I linked my participants' ideas to various themes relevant to this inquiry. Often Visual Arts is used as an extra method of data collection. In this project, however, it was a rich and informative source of primary data.

As a result of involvement in this project, participants grew to further understand their sense of place and their relationship with the natural world. In addition, the students, community members, and teachers had the opportunity to voice their opinions, share their environmental concerns, and to take action by caring for the garden, and create art with a message. In Chapter 5, I present my reflections, suggestions, and a discussion of future plans, including more growth within the community art garden.

Chapter 5

5 Food to Table: Reflections, Suggestions, and Future Growth

In my final Chapter, I reflect upon this study, and discuss why employing the arts offers an important method of inquiry for the qualitative researcher within field of environmental education. The purpose of the study was to see if the participants would experience change in their behavior towards how they interact with and in nature as a result of building a garden and creating eco-art. I also wanted to gain additional understanding of how parents and teachers in a school community engaged with children in the natural world, and what the community members' perceptions were regarding their environmental footprint. Arts-Based Educational Research and A/r/tography methodologies were employed through living inquiry to explore relationships, conversations, pedagogy, and interaction between participants and the natural world.

5.1 My Questions

My first research question asked, "What were the pedagogical implications and elements of a curriculum grounded in environmentally-themed, co-operative art projects and a community garden whose goals are to promote environmental life-style changes, ecological literacy, and environmental stewardship?"

My second question asked, "What are the experiences of students, artists, teachers, and parents as they create environmentally-themed, co-operative art projects and a community art garden?"

In the discussions and observations pertaining to teaching and learning, the students indicated in their interviews that they appreciated the freedom that the inquiry-based curriculum allowed for and the ability to explore through visual interpretation. Students responded

enthusiastically to the work of emergent eco-artists and filmmakers, and to lessons structured using pedagogy that emphasized reconstructivist postmodern ideology. Both Flynn and Whitaker's enthusiasm for Roadsworth's graffiti was evident in their interviews; the two of them were so inspired that they both expressed that they wanted to pursue a career in eco-art.

Understanding the historical significance and value of the work of environmental artists and film-makers was also important to the student participants as they engaged in activities that promoted environmental literacy. Impacting the students was that many filmmakers and eco-artists spoke about healing and restoration. The results of the participants' lifestyle changes through engaging with eco-art forms and engaging in the study of art and gardening were noted and observed during their interviews.

Eco art as a movement or genre is diverse, exciting, and meaningful. One only has to view *Food Inc.* (2008) or look at the work of Roadsworth to see the response my students had. In addition, the enthusiasm with which they created their altered books (Plate 57) or the reaction people had to the bicycle sculptures is just a glimpse into the diverse potential for eco art.

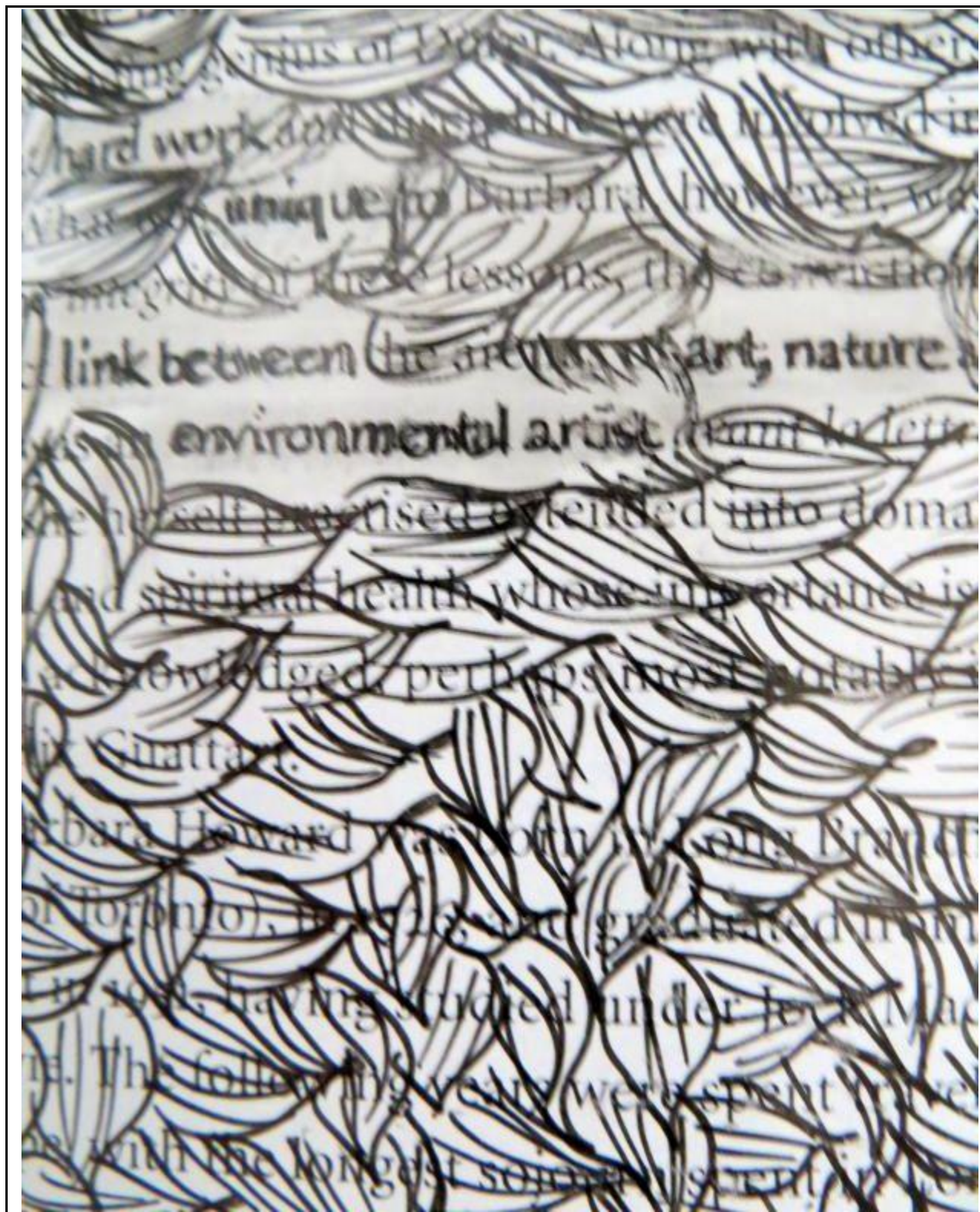


Plate 57: Sarah. (2013). Leaves with a message [marker on paper in altered book].

Several of my adult participants also had the opportunity to explore eco-art making. During their interviews they spoke about their involvement in creating sound-maps and acquainting themselves with the school grounds and nearby ravine. Within the River of Words case study discussed by Michael (2005), students engaged in a study created to heighten their environmental awareness through an integration of science and poetry. Both this case study and the art garden project were created to produce “knowledge and understanding through inquiry laden processes (Irwin et al., 2006).

During their interviews a few participants spoke about the connections made between curriculum and extracurricular programming. They and I both noted a cross-over between the two. Employing Gude’s (2004) postmodern principles, in conjunction with Chiarotto’s (2011) framework for environmental inquiry, provided for a hybrid format for teaching and learning within the (un)structure of an extra-curricular program. When the reader views the sound maps or altered books, it becomes apparent why the discussion is warranted, as the data points to the value of integrated eco-art teaching and learning. The need for this praxis is substantiated by Inwood (2008), who calls for additional research with the learners to help define what engages them, inspires them, and shapes environmental literacy.

Responses through the interviews and observations indicated that participants gained a greater appreciation for their ‘place.’ This manifested itself as the students became more outspoken and aware of ecological issues. For Ainsley, this meant feeling sick when litter was left in the schoolyard. Inspired by this, as a form of advocacy, she organized a fundraiser to help an environmental cause. Lucy took action by signing an online petition to protest the usage of chemicals that are harming bees.

The majority of the student participants attributed making environmental art and viewing environmental films as important. During their interviews, several of them mentioned that the mural and graffiti stenciling projects allowed them to leave their footprint or legacy on the school grounds. The student participants stressed that they were more aware of their place because they were actively restoring the grounds and making it beautiful. The mural in particular was seen as a strong statement and, as Denise emphasized, it sent a message to not idle your car and pollute the garden with carbon monoxide. This sense of agency and stewardship through engagement in eco-art is supported by the literature of Inwood (2009) and Thulson (2013). In addition, Garion (1998) suggests that an eco-art pedagogy can aid in advancing stewardship, as well as social and environmental justice.

Purchasing habits were also discussed, but primarily by the adult participants. Several of them attribute their changes to their children's experiences in the art garden project, or to their exposure to the project in general. For example, Flynn and his family are now selective about eating only organic meat in restaurants, and Sherri no longer buys bottled water.

My data is also supported by Gablik's (1991) theories as my participants emphasized their desire to restore the environment through acts of empathy and stewardship. Whitaker insisted on carrying a spider from the classroom to outdoors. As evidenced through the work in their altered books, the students approached artmaking with a lens of care and concern. Even the materials within their altered books were upcycled. Lucy proudly posted on the website that our garden stepping-stones were made from non-toxic cement, and when paint stir sticks were donated to the art room, Sue and Bree both agreed that we should use them as plant labels in the garden. As the literature suggests, we need to consider Gablik's "integrated value system that brings head and heart together in an ethic of care" (p. 11). Inwood (2010) contends that Gablik

“offered an alternative vision of artmaking based on her theory of connected aesthetics” (p. 34). Both Gablik and Inwood believe we need to revamp our thinking, our way of teaching, and our reasons for artmaking, even the materials we use to make art with.

During their interviews virtually all of the participants discussed various ways in which they had formed a greater connection to nature. Primarily they spoke about the garden; Kate described it as meditative, Ruth described her moments outdoors as tranquil, while others spoke about bird watching and enjoying the majestic moments afforded through nature. This connection to which the participants referred is corroborated by Dymment (2005) in her report on increased environmental awareness through the greening school grounds. It was also evident through our art making. As we mapped the grounds, I noted that the students were very engaged in planning where to position garden benches, where the garden plots should go, as well as other specifics. The images of their maps also depict a greater connection to nature as their detailed observations and ideas of how the environment should look indicate a deep respect and level of stewardship. Sobel (1998) speaks about learning about the environment in the environment and talking about the landscape before and after walking through it.

According to the data in the study, the participants understood the mental and physical benefits of being in the garden. Mervina spoke of the garden as a good place to recover if you were having a bad day, Dianne referred to it as healing, Sue used the metaphor of hope when describing how learning how to garden will shape a healthier environment, and Kelly inferred that gardening will keep both us and the planet alive and healthy. Leigh insisted in her interview that knowing how to garden would promote healthy eating.

The literature supports these findings through Louv (2005, 2011) and Selhub and Logan’s (2012) discussion of the physical and mental health benefits in relation to gardening. According

to Selhub and Logan (2012), there is a correlation between green space and positive mental health. This is supported by the scientific community, as noted in their book, *Your Brain on Nature*, wherein Selhub and Logan (2012) summarized the results of inquiries which have shown that “Horticultural programs can help improve motivation, communication, grief processing, depressive thoughts, anxiety, sleep, psychosocial skills, self-esteem, stress reduction, and overall psychological well-being” (p. 154).

My parent participant Ruth knew this first hand when she arrived to work in the garden the day after her father passed away. Therefore, a school garden can be used holistically to enhance a community’s well being. Louv (2011) discusses how gardens are being planted within the grounds of institutions, including hospitals to help people maintain their physical and mental health.

The most common point of discussion when the participants spoke about health in the interviews related to nature deficit disorder. Louv (2005) coined this term and speaks of it throughout his work. Within this study, the data revealed that some students attribute nature deficit disorder to the increased use of technology and not having access to nature in large urban centers. Several did stress that as a result of this study they were spending more time outdoors. Some went for walks more often with their families, others were more involved with gardening at home, and not surprisingly several students were inspired to create art in nature through drawing, and poetry; Maya began going on eco-photo expeditions.

According to the data in this study, the student participants became aware of the problems facing society. Three of the documentary films we viewed that had an impact were *Food Inc.* (2008), *Super Size Me* (2004), and *The Story of Stuff* (2007). In his interview, Webster noted that you couldn’t trust food labels, while Sarah emphasized that eating prepackaged food

was unhealthy. Bree spoke about the social implications of organic food and her inability to afford quality food on a student budget. She referred to food deserts where in some parts of the United States it's impossible for the poor to access healthy food. As a result of viewing films and exploring the work of environmental artists, some students altered their lifestyles. Sarah explained that she was now taking sailor showers, and Webster explained that he was no longer using plastic spoons and had opted to use recycled food containers. This social environmental awareness was brought about through analysis and discussion within the art room. As outlined in Gude's (2011) framework, investigating community themes including those of global significance are an important postmodern principle for 21st Century learning and teaching.

Participants' responses generated through the interviews indicated that they were excited not only about the prospects of planting and nurturing a garden, they were also excited about harvesting and tasting the fruits of their labour. In her interview Ruth spoke about being so inspired that she wanted to find land to start her own garden plot, and on many occasions she'd share her recipes for Swiss chard. Megan wanted to see more berries in the garden, and many of the students suggested we plant fruit trees so that in the years to come the garden project would continue to thrive. In their interviews, the students offered many culinary suggestions, including green smoothies and strawberry rhubarb pie. A holistic approach to living is supported by both Orr (1994, 2004) and Sobel (1996) as they emphasize in their literature that students need to learn to develop a caring relationship with the land if they are to become responsible stewards. I noted that as we weeded each day, the students were very concerned with ensuring that we didn't use any pesticides and that we addressed our weed problem naturally. According to the literature (Bucklin-Sporer & Pringle, 2010; Mayer-Smith, Bartosh, & Peterat, 2007), school gardens have

been known to implant an ethic of stewardship and increased responsibility amongst students. This was evident from the data collected.

Within the interviews, the participants spoke often about community. Web sites are a tool to build community. As somewhat demonstrated by my website, basic concepts of environmental literacy and stewardship were communicated through web-based resources as an extension of the studio experience. As indicated by the web responses some participants enjoyed viewing postings, and some responded online. Others chose to discuss environmental issues that were posted on the website more formally and in person.

Collaboration and knowledge sharing were the two topics that generated most discussion when we spoke about community. Mervina described the garden as a catalyst for bringing the students together and as they shared the same experience, with the common goal of building something. Within her journal, Bree noted that it was heartwarming to witness how the students collaborated within the garden and had fun as they weeded and toiled. In their interviews several of the students emphasized how wonderful it was to work with students from multiple grade levels. Webster and Maya disclosed in their interviews that they saw the students from across the grades forming friendships within a tightly woven community. Sara and Lucy both spoke about the benefits of collaborating as a group on art projects. The visual data illustrated in their artwork reveals that the participants successfully collaborated to create cooperative artworks with an environmental theme.

Greene (1995) suggests that through curriculum, teachers can help students develop a sense of agency and participation as they learn to collaborate with one another. In the case of this project, the postmodern lessons were collaborative and community-oriented, which are supported by the theories of Garoian (1998), Graham (2006, 2007), Gude (2013), and others.

According to the data in the study, Flynn, Lucy and Whitaker expressed that they enjoyed the inquiry and project-based component of the project as it offered them multiple entry points in which they could express themselves. Bree also noted in her journal that the students had the freedom to explore materials and ideas. As outlined by Chiarotto (2011), inquiry-based learning also includes knowledge sharing among members of a community. Within both the studio and garden, participants constructed new understanding through dialogue and collaboration as ideas were formed and problems solved.

What are the pedagogical implications of this study? As a participant and observer within this study, I observed students who were healthier, happier, and had fewer social issues as they worked towards a strong, student-centered, community goal. The artwork that they created is a testament to their level of engagement and desire to make an environmental statement. I observed them as they took ownership and set up a schedule and routine whereby they collaboratively painted the mural, stenciled, and expressed their ideas about environmental issues. Furthermore, as Megan explained in her interview, “This time of year when you’ve been focused on the garden the way you have, it’s been a great stress reducer for the kids.” I know firsthand in my role as a teacher that students who are stressed are less likely to succeed academically in the classroom.

5.2 Arts-Based Methods, A/r/tography, and the Qualitative Researcher

It is rare for a researcher-practitioner within their own school to enjoy the freedom within an extracurricular program to structure inquiry-based learning using visual and media arts as tool to encourage environmental stewardship and increased sustainability. This is not generally afforded within the confines of curriculum within a rotary art system, or when one is required to

teach through the arts to integrate the themes developed by core teachers. As a participant in my own study, I was also able to create art along side of my students, write about it, and then reflect on the project, process, and inquiry. As I took steps along this path, including the methods chosen to conduct the inquiry, the analysis, and the assessment, I came to see this living inquiry as a serious responsibility (Irwin & Springgay, 2008).

A/r/tographers source, cite, and investigate the work and art work of others working within their field of study. My literature review provided a hearty landscape from which to draw. Along route I asked additional questions as I recorded observations, conducted interviews, turned to my website, and continued to read related articles. To help answer my questions, I looked to my participants and listened to them as their stories unfolded. This provided me with data, which along with my literature review and framework, grew into my analysis and conclusions.

Following the stages of qualitative research as outlined by Eisner (1991) I observed what I saw and provided a narrative account. I used an inductive approach in my data analysis that reflected frequently reported patterns. I looked for meaning in both the ordinary and what I determined to be uncommon and pervasive. As links formed, I followed an emergent design that was evidenced by the appendices constructed and my a/r/tographic data map.

There are overlaps between the framework of arts-based educational research and that of A/r/tography. Common to both is the creation of artwork that was executed by my student participants. In addition, metaphors, and in the practices of A/r/tography, metonyms are used to create openings (Irwin & Springgay, 2008).

Throughout my inquiry I used metaphors to compare the garden to curriculum and as an example of metonyms used, I substituted the word ‘embrace’ for ‘welcome.’ The use of

metaphors and metonyms opens up possibilities for deeper or hidden meaning, providing the reader with an opportunity for interpretation. One function of A/r/tography is to encourage conversation as well as “open up possibilities for a/r/tographers as they give their attention to what is seen and known and what is not seen and not known” (Irwin & Springgay, 2008, p. xxx). This comes through the process of inquiry and ‘not knowing’, one of Gude’s (2004) postmodern principles. The students also examined metaphor within their altered books and stenciled images. The audience constructs meaning from their own worldview when they see this artwork. This has the potential to open up discussion, which often leads to multiple interpretations.

As I journeyed through the creative process with my students and explored inquiry-based learning, within extracurricular programming, I was greeted with possibility, or as Irwin and Springgay (2008) define it, excess. Opportunities developed and through those possibilities, transformations occurred. On many occasions I encountered excess, especially when I was faced with 24 bikes from which to create sculptures. This excess motivated me to transform my way of thinking and stretched my art making processes. I am still dealing with the leftovers and view what is left as potential rather than waste.

Within a qualitative inquiry there should be deep participant and researcher interaction as well as a focus on empathy, caring, and social or political action that can improve lives (Lincoln as cited by Finlay, 1995). In a well-formatted project, ideally the participants and/or the readers should take action as a result of the inquiry and the art works that have been produced. Along the way I realized that creating eco-art is a form of advocacy for change within an institutional structure. As evidenced through my data analysis, many members of the community did take action, and have experienced lifestyle changes that have improved their lives.

This project was driven by my passion to provide greater insights into how the arts can improve education, teaching, and learning (Sullivan, 2006). I looked for relationships between the three to help guide our art club programming. I realize that a community fusion butterfly garden and an art garden provide fertile grounds for living inquiry as they provide a space in which to harvest diverse “stories about lived experiences” (Gouzouasis, 2005, p. 22), one of the core traits of a/r/tographic works.

Common to a/r/tographic practice is the documentation of artwork. As Cuerden (2010) explained, the recording of both her art process and garden experience helped her to understand emerging themes. Within my inquiry as well, I recorded the stages of the garden and the art making processes. Employing a reflective and reflexive stance, my analysis was ongoing. This was especially so as we worked through the art processes within the studio, in the field, and in the teaching and learning stages. As Irwin and Springgay (2008) suggest, one must be committed to the arts and education through reflective inquiry. I believe that the ability (process) for reflection is rooted deep within the soul of the a/r/tographer.

As I worked through my own art, I was interpreting for understanding, but my work also allows for reader interpretations, another component of A/r/tography. My map and altered book are both examples of art and graphy that helped me reflect upon this inquiry. Also prevalent in a/r/tographic works is a commitment to aesthetic and educational practice (Sinner et al., 2006).

The creation of art, either independently or within a community, is a way for a researcher to embrace new ways of knowing and learning. Along my journey I formed a web of relationships with my participants, including my welder Tom, the artist Roadsworth, Sue, the art club assistant, and Bree, my student intern.

Important to A/r/tography is community. In the article *A/r/tographic Collaboration as Radial Relatedness* (Bickel et al., 2010), the authors not only describe how they worked within their own community, but how through “community-engaged collaborative art and research” (p. 87), they explored the lived experience of recent immigrants who were from diverse backgrounds and had recently moved to Richmond, British Columbia.

Within my collaborative community, I called upon members to guide me and to work along side of me. The artist Roadsworth helped me to understand how guerilla eco-art commands the attention of the public. Other researchers (advisors) helped me as we discussed this project, and both Sue and Bree aided in teaching. In many ways, Roadsworth has helped pave the path for my students and me in furthering our understanding of what Gablik (1991) refers to in the following statement:

What we will see in the next few years is a new paradigm based on the notion of participation, in which art will begin to redefine itself in terms of social relatedness an ecological healing, so that artists with gravitate toward different activities, attitudes and roles than those that operated under the aesthetics of modernism. (p. 27)

I employed the theories of both Gablik (1991) and Gude (2004, 2007, 2013) as I encouraged postmodern art making amongst my participants. Using a social constructivist approach (Vygotsky, 1930-1934/1978), I wove Chiarotto’s (2011) framework into the project as we worked within the garden and art making process. This linked well with the theories of both Gablik and Gude in that they both encourage connection to community and living inquiry.

What are the requirements or definition of a/r/tographer? Leavy (2008) suggests:

What is clear is that when compiling recent arts-based research, and researchers' reflections on it, is that the pioneers in this area seek to sculpt engaged, holistic, passionate research practices that bridge and not divide both the artist-self and researcher-self with the researcher and audience and researcher and teacher. (p. 2)

5.3 Reflections on My Inquiry

Reflection is an integral component of learning. According to Goleman, Bennett, and Barlow (2012), personal reflections allow a person the time to clarify their opinions, values, and attitudes, and consider their worldview.

As I reflect on the theoretical framework of arts-based educational research and A/r/tography, I feel as if I have grown as an environmentalist and an artist/researcher/teacher. Using alternative modes of data through art-making was liberating, and offered me the option to share my understanding of environmental issues, as well as those of my participants, through visual representation. This has strongly influenced my pedagogy both in the classroom and in my extra-curricular work. I now structure activities that are geared towards inquiry with an environmental lens and provide more tasks for my students that focus on democratic and collaborative goal setting.

Making art has always helped me to work through problems and on several occasions I turned to my altered book, the bike sculptures, and then my map. I have also always enjoyed writing, especially in the area of curriculum development. It was a positive process to reflect upon how curriculum is delivered, and to learn to present my results through discussion, charting, coding, and organizing data. This branch of growth helped me to think about my central research issues as well as the importance of why these questions continue to play such a significant role in my life.

Through this inquiry I realized the significance of extracurricular teaching and its value to the community. It was kismet that I was asked to put my research, which was grounded in the realities of extra-curricular programming, on hold by the teachers' federations during the 2012-2013 teaching year. The break allowed me to reflect upon how important these activities are to the students, teachers, and community.

Through the exploration of a co-operative participatory arts-based project, I was able to explore ways of enhancing the integrity of the field of environmental art education through extra-curricular projects. 'Green' approaches have also influenced my formal curriculum, which carries over into my art and eco club programs. "From a pedagogical perspective, the important thing was that students were engaged with ecological issues in the context of their own experiences and locations" (Graham, 2007, p. 383). It was through the inquiry model, where students were encouraged to ask questions and link to the world around them and to their own lives, that they became familiar with their "sense of place" (Sobel, 2004). I realized that I was the catalyst that drove the art garden. Through discussion and action, for some, a new set of values, aims, and beliefs began to germinate.

With an emphasis on a respect for the environment, stewardship, and on community programming, I learned that there are major implications, not just for the content of art and environmental curriculum, but for forms of pedagogic interaction. "Educators can help young students cultivate empathy for other forms of life . . . and transform that empathy into action that deepens their learning and sense of community" (Goleman, Bennett, & Barlow, 2012, p. 77). I realized that as I established and worked collaboratively on the art garden project, I also encouraged positive student and community engagement. Communities are webs and offer like-minded people the opportunity to work within groups that form organically from shared interests.

I agree with Inwood (2009) that there are significant links between eco-art pedagogy, environmental education, and outdoor education.

I asked myself several questions as I reflected. Did I provide enough relevant data? Did I provide enough detail about the artwork, and the methods used from concept to creation? In Chapter 4, I addressed these questions as each art component was documented and explained both verbally and visually. I agree with Lafreniere and Cox (2012) that “the researcher-creator must be trained or coached in crafting arts-based works or committed to developing their artistic skill and competency” (p. 333). In areas where I was unsure and in need of coaching, I turned to the experts; in my case, that was Tom, my welder, and the graffiti artist Roadsworth. Bree and I researched (via the Internet) the most effective material and techniques for making garden stepping stones and moss graffiti, while Sue and I both prepared PowerPoint slide shows which enhanced our understanding as well as that of our participants. I would encourage others interested in employing arts-based methods within their research to also turn to experts so as to enrich their data and provide greater trustworthiness.

What I learned was not to worry about the final art ‘product’. The freedom from structured assessment and evaluation using curricular expectations and rubrics actually deepened my understanding of assessment as I had more time to provide ongoing feedback and discussion through conferencing throughout the art making processes. Leavy (2009) suggests that “new artistic methods of assessment require new, flexible methods of assessment or adaptations of more conventional approaches” (p. 16). Still I ponder: What determines good art? How does one assess the artwork created for the community art garden project? Leavy recommends that one must keep in mind that “audiences or evaluators must be cognizant that these are not pure artistic presentations but rather research texts” (p. 17).

I also reflected upon my teaching and feel confident that the participants' skills were honed and refined throughout both the creative process and critical thinking stages of this project. Many of the technical skills were taught through the course of the regular curriculum and in art club. I called upon the work of other artists and encouraged my students to do the same so that my worldview wasn't their only frame of reference. Most importantly, the student participants were utilizing art making to make sense of their lives. "Good art—and good art projects transform the way in which we understand and process life experiences" (Gude, 2013, p. 6).

Eco art is grassroots, professional, local, and international. It is a way to work towards the health of our planet, and to make a difference in the world. Eco artists propose alternative solutions. They have the power to change age-old beliefs and behaviours. As I reflect upon my experiences throughout this journey, I ask, is there any better calling than to challenge the practices and lifestyles that no longer work?

5.4 Contributions

Like a new garden, the process of conducting a project such as this involves much faith and tenacity. Gardens take time to root and develop, and so too does a community project such as this. Through this living inquiry I was afforded the opportunity to work in my own school and fill in part of the gap that Inwood (2008) referred to as she emphasized that more research needs to be undertaken in this field. Furthermore, as Inwood (2009) suggested in her Ph.D. thesis, the student voice needed to be heard. Not only did I include the student participants in this study, I also included the voices of their parents. This study therefore offers the field a sampling of intergenerational knowledge transfer between students and their parents within a public school setting as they express their views about environmental issues.

My contribution to the field of eco-art education includes the stories shared as students and their parents offer insights into their experiences. This in turn offers educators another reference as they negotiate their praxis to encourage ecological literacy through the integration of eco-art pedagogy within a postmodern framework. A/r/tography provides a route in which the viewer is provided with the opportunity to engage in works within a postmodern paradigm that encourages both listening and viewing (Bickel et al., 2010).

I would like to think that our project could serve as a model for other communities. It is my hope that this body of work will invite teachers and administrators to explore a similar process.

I have demonstrated that art and ecological learning can take place outside the regular classroom environment. Therefore, a project shouldn't be limited to a public middle school community. Museums, health institutions, private companies, colleges, universities, and other public institutions have much to benefit from planting a community art garden. A/r/tographers with a penchant for environmentalism will hopefully take what they can from this and continue to explore the relationships that lie between art making, inquiry, and pedagogy.

5.5 Limitations

There were several limitations within my study. Firstly, I structured my project as a 'blind study.' Although I wanted to observe and record observations and conversations with my participants, I was limited as I didn't have access to my consent forms, and therefore wasn't privy to who was a participant, and at what level they had agreed to participate. I was, however, able to include Sue and Bree in my observational notes, and through intuition observed several students who were thoroughly engaged throughout the process, and who I believed to be participants.

As I was conducting interviews at lunch and after school, I quickly realized that my process was prone to interruptions. On several occasions, I would start an interview at lunch and then have to continue it after school. Once, as I was interviewing, another teacher called three of my participants back to their classroom to get their report cards. Although my colleague knew I was interviewing during school hours, and although I sent a message back that I needed more time with them, he insisted on having his students return to his classroom. As a teacher, I felt I needed to comply with his wishes. I also realized that had I been a researcher, and not a teacher in the eyes of this individual, I may not have met with this difficulty. I believe that had my colleague fully understood the basis of my data collection, he most likely would not have interrupted me.

Time constraints imposed another limitation. I sometimes had to interview groups of students. This presented a variable in my data collection, as some students were interviewed on their own while others were interviewed in groups. Nevertheless, I agree with Cohen et al. (2000), who support group interviews with children, as there is less likelihood of intimidation. Furthermore, as a teacher, I find that students are inclined to expand upon the ideas of others during oral discussion when they feel that they are in a safe environment. As a result of having to conduct group interviews, I chose not to include the comments of those who parroted the ideas of others.

Time limits also imposed issues with getting students logged onto my website. I had to invite them to join the password-protected site and this meant having access to the library computers, when and if we were all available. This time intersected with my interviews, and often made scheduling a coordination nightmare. Some students explained that they did log on to the website but were reluctant to post comments. Several students engaged in discussion, but

sporadically. I attribute this to timing; the end of June was a difficult period to introduce a new component of the project.

Another limitation that sometimes frustrated me as a researcher and artist was my regular day job as a teacher. Unfortunately, I was limited by job constraints. Having to focus on one community meant just that: I was limited to working in a suburban school community. I was required to be in the building during the day, and although I might have wanted to include another elementary school, I would have had to seek special permission to get released from my jobsite. Based on my board's current policies, I knew in advance this wasn't possible.

5.6 Recommendations

After hearing the voices of my participants, it becomes apparent how much more work needs to be done in this field of study. It is suggested that when it comes time to revise the Arts Curriculum in my province, the Ministry allow for even greater input from both the Environmental and Science education officers. Environmental Literacy integration will only be successfully implemented if it comes from the top down.

I would suggest that those who want to develop inquiry-based teaching within their classrooms and follow the framework of Environmental Inquiry, including Chiarotto (2011), also consider the impact that the integration of postmodern eco-artmaking can have within their praxis so as to encourage divergent branches of thinking for student and teacher alike. Using differentiated instruction with the inclusion of the arts will only promote greater understanding of environmental literacy and help to develop stewardship.

Extensive use of technology is stated by the TDSB (Survey 2011-12, as cited by CTV News, 2013) as one of the reasons why over 50% of students complain about anxiety. Why are garden programs not sprouting up across the Toronto landscape to help alleviate this symptom of

nature deficit disorder? Based on the data collected during this project, I believe that additional research needs to be conducted. In her interview Ainsley said, “I think it’s really important, especially in this day with their computers, their phones, their video-games, and I think gardening is a really great way to bring you outside to experience natural things instead of artificial things.” Perhaps school boards should consider surveying students, measuring their anxiety levels, and comparing the findings between those who garden in their schools to those who don’t garden.

In Louv’s book, *The Nature Principle* (2011), he speaks about the development of a people nature-movement that is already in its budding stage in the United States. He stresses that:

In education, this movement will push school districts and legislatures to incorporate nature’s ability to enhance learning and creativity, and redefine the classroom in grade schools as well as universities. Both business and education will support the creation and promotion of career paths that extend beyond sustainability to include careers that connect people to nature. (p. 258)

Louv is considered by many to be a forward thinker and a visionary. Although he speaks of American legislation, I don’t see why the same movement can’t be realized north of the border. Although I do appreciate the project funding that I received from a large Canadian Bank and from other businesses, I have to take time away from my teaching responsibilities to fill out grant applications to secure funding. Why can’t grant proposal writers be hired to secure funds for special projects within school boards? If a lack of money is the reason, then my next question is, why can’t funds be re-allocated? Pro-active measures need to be taken so that all

students and communities have equal opportunities. Extra funding is available only if someone takes the initiative in the local school community. Is that equitable?

In the 21st Century, the arts will continue to fight for footing within the curriculum.

According to the Elementary Teachers Federation of Ontario (2012), the Ontario budget will cut 66 million dollars from the Program Enhancement Grant over the next three years, which means that there most likely will be less funding for the arts and environmental education.

It would also be interesting to compare the outcomes of studies such as this from a public inner-city school, a middle class school, and a wealthy community school. The demographics of the research foci would inherently provide for greater diversity of both pre-engagement and post experience worldviews. One suggestion would be to not only include the parents, but the grandparents as well. There is much to be learned from intergenerational knowledge transfer.

A study such as the Art Garden Project would also benefit from a longer term. Over the course of several years, a garden project that was implemented in the Junior Division grades (4-6) and carried on through to the Intermediate Division grades (7-10) could provide school boards with valuable data. Future studies could track the impact of eco-art making and gardening and its effects on mental health and anxiety amongst students, teachers, and administrators. Changes in mindfulness, environmental literacy and stewardship, and how one interacts within the natural world could be measured qualitatively. The impact on students' academics as a result of their work in an art-garden could also be measured quantitatively. I believe a project of this sort would be fruitful in the eyes of policy makers.

I would also recommend that artists/ researchers/ teachers consider working within school and other communities to build gardens, and that art and media teachers shape within their praxis a curriculum that includes a pedagogy that integrates environmental artists and eco-

documentary film-makers. Addressing environmental issues through pedagogy grounded in reconstructivist postmodernist theories and social constructivism can open up a dialogue that leads to understanding and encourages change.

As Gablik speaks of healing the world, we, too, need to heal our education system where we can have a more “integrated value system that brings head and heart together in an ethic of care” (p. 11). Without a connection to the land, we may soon find ourselves on land we no longer recognize. Our land will become sicker, and as we are part of the land, so shall we.

5.7 New Ground Coverings

The formal project is complete, but like a perennial garden the work continues.

In my role as the eco teacher I now have the city picking up our compost, and I have encouraged the school to run a “boomerang lunch program,” thereby reducing wasted food and garbage. Thanks to Kate’s suggestion for gardening year round, our students enjoy seeding and sprouting in our new indoor greenhouse.

The steps I have taken in our garden include an expansion of the vegetable garden and the development of a meditation garden. Over the year, I organized community fundraising events so that we could purchase a garden shed to house our tools and supplies. A call for plant donations went out, and a new water and weed schedule has been developed. On Earth Day, I organized a team of knitters to begin creating a knit-bombing piece for the front of the school. The work was community driven and since the knit bombing was put in place it has generated much discussion.

I recently presented a talk on the *Map as Art* at the Ontario Society of Environmental Educators’ annual conference, and have plans with my welder to continue making more bike sculptures. I am currently in the midst of organizing a conference for the Ontario Art Education

Association, entitled *Breaking Ground—Sustainability and 21st Century Learning*. Roadsworth will be attending the conference, and I will be working alongside of him at my school as well as at the neighbouring high school. I will also be sharing the art garden with conference attendees, and we create sound poems in the art garden.

Although I will be on a sabbatical for the 2014-2015 school year, I continue to work with the community; we are actively gardening. One parent recently informed me that I am being nominated for an award in Excellence in Environmental Education through The Canadian Network for Environmental Education and Communication (EECOM). This is an honour that I didn't expect.

5.8 Closing Thoughts

My goal was to plant a seed with the hope of implementing change, and with the hope of working towards creating an eco-art curriculum. I enjoyed hearing the voices of my participants and cataloguing their thoughts. They openly shared their lives and revealed how lifestyle changes can occur over a short period of time.

Within my extra-curricular art and eco-programs, I welcomed change as I adopted a new model that supported inquiry, project-based learning, and integration. Using arts-based educational research and A/r/tography as a framework for inquiry, I aligned my pedagogical praxis with reconstructivist postmodern theories (Gablik, 1991) and Gude (2004, 2007, 2013). My student participants explored environmental inquiry (Chiarotto, 2011) and Stone (2005) through the lenses of eco-artists. I joined alongside them as a community participant, facilitator, and a/r/tographer. Gude (2013) speaks about the requirements of the post-modern art educator who works for change:

Today's evolving new school art styles can place the field of art education in a central position in school transformation because of art education's potential to integrate art into the core mission of truly successful schools—stimulating engaged inquiry utilizing a variety of methods drawn from a wide range of disciplinary practices. In the process of collaborating with our students to identify and investigate significant content with living interdisciplinary aesthetic practices, art teachers can contribute to the reinvention of schools and invent not only a new form of art education, but perhaps also a new collaborative art form. (p. 14)

As we shift towards a global economy, it becomes even more apparent today that the big businesses who serve those in the developed world be held accountable for those they employ in the developing world. It may be cheaper to produce clothing in a large factory in overseas, however, as Burtynsky depicts and questions through his photographs, is it environmentally responsible to pollute another country and expose their citizens to toxic wastes so that we may enjoy a more materialistic lifestyle? This is a catalyst for discussion and art making that needs to be tied into all art and humanity classrooms whether they be curricular or extra-curricular. As Garoian (1998) suggests, it is important to encourage students to share their concerns and ideas so that they may learn how to adapt sustainable practices as stewards within their communities.

“Everything is art. Everything is politics” (Ai Wei Wei, as cited by Coonan, 2010, paragraph 21). It is my hope that policy makers take into account the data presented in this study and realize that a garden is not only a valuable teaching tool, but also an asset for teaching life-long skills associated with health and well-being. As we continue to face climate change and heightened anxiety within our society, now more than ever we need to return back to the garden, and back to the basics of a balanced curriculum which cultivates and nurtures the heart, spirit,

mind, and body. It is hopeful that all will see value in regeneration and in the aesthetic experience that a garden brings; therefore, the garden as a metaphor of curriculum should also include value.

Some artists now thrust masks on sticks and other pieces of art into the ground of urban lots that have been allowed to return to a natural state. In addition to linking the ideas of art to the reality of nature, these art pieces and installations protect the land. People may dismiss open space -- throw trash into it, ignore it, see it as something without value. However, the art changes perceptions and behaviour by signaling that this is a place of value to human beings. (Louv, 2011, p. 234)

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Appendices

Appendix A: Initial Letter of Informed Consent.

Building a Community Art Garden: A Participatory Environmental Art-Based Educational Research Project

LETTER OF INFORMATION-MIDDLE SCHOOL LETTER

Introduction

My name is Beryl Cohen and I am an art teacher, and a Masters student at the Faculty of Education at Western University, London, Ontario. I am currently conducting research into environmental inquiry and art education through extracurricular programming and would like to invite you to participate in this study.

Purpose of the study

The aim of this study is to examine responses to engagement in a community arts projects that relates to nature and gardening.

The Community Arts Project

As part of the community arts project, the students will have an opportunity to design public art work, and develop a garden that will work towards supplying a food bank. The students will partake in a once-a-week activity though to June of 2013. This will take place at the schools as a part of their regular extra-curricular programming, either through eco-club or art club. Students will be asked to create an altered book sketchbook/journal, where they will record their thoughts ideas, and poetry in response to the environmental artists and writers' work that they are exposed to. Students will be invited to photograph the stages of our art-making, and as a group, democratically decide what art projects we will create for our school garden. Students will also be invited to contribute to a website where they will reflect on their experiences.

Students can participate in both art and eco-club without participating in the research.

If you agree to participate

If you do agree to participate in the research study I will observe you and make journal notes about my observations of your experiences during our once-a- week eco or art club activities. If you do not agree to participate in the research study I will not use any of my journal notes about you in the research.

You will also be asked to complete a questionnaire at the beginning of the project. The topics in the questionnaire will include: how you care for the environment, how much time you spend outdoors, and your understanding of environmental art making. The questionnaire will be completed during art or eco-club and will take about 30-40 minutes to complete.

At the end of the project, you will be asked to participate in an informal interview with the researcher at school. This interview will take place in June 2013 after I have submitted all grades for report cards and am no longer able to revise them. The interview will be audio recorded and transcribed into written form. The interview will take approximately 45 minutes to complete and will cover topics such as what you have learned from this project and if you think being a part of it has changed how you interact with the natural environment.

I am also asking for your consent to use your postings on the website about the eco-project as part of the research. The website has restricted access and only those who are invited will be able to access the password protected site. You will use a pseudonym on the website to ensure that you will not be able to be identified.

If you agree, for the research study I will make a copy of your altered book / sketchbook / journal where you have recorded your thoughts, ideas and poetry in response to the environmental artists and writers' work that you have been exposed to.

I will also take pictures of art work produced by you, (but not pictures of you) as part of the eco-project and would like your consent to use the photos in presentations and publications of the research.

Please check off the appropriate boxes on the attached consent form to show which part(s) of the research you would like to participate in. You may decide to participate in all parts of the research study or only certain parts of the study. Participating in one part of the study does not obligate you to participate in other parts.

Confidentiality

The information collected will be used for research purposes only. Neither your name nor information which could identify you will be used in any publication or presentation of the study results. All information collected for the study will be kept confidential. You will not be identified by your real name, but by a pseudonym so as to protect your identity. All information collected for the study will be destroyed 5 years after completion of the research.

You have been invited to participate by the artist who runs our art club. She will be able to answer your questions. She will also collect the signed consent forms, which will be locked in a filing cabinet in the principal's office. This will be a "blind study," as I will not have knowledge as to which of you are formally participating until after your final marks have been submitted in June of 2013. All students in both clubs will be participating in the project. However, if you do not agree to participate in the research study, no information about you will be used in the research.

Risks & Benefits

There are no known risks to participating in this study.

Voluntary Participation

Participation in this study is voluntary. You may refuse to allow your child to participate, your

child may refuse to participate, refuse to answer any questions, or withdraw from the study at any time. This will have no effect on your child's academic status. If you agree or decline to participate in this study, it will in no way affect your assessment, academically or otherwise.

Questions

If you have any questions about the conduct of this study or your rights as a research participant, you may contact the Office of Research Ethics, Western University at [REDACTED] or [REDACTED]. If you have any questions about this study, please contact Beryl Cohen at home at [REDACTED]. Email [REDACTED] and my faculty advisor, Dr. Daniel Jarvis, Ph.D. Associate Professor, Chair, Graduate Studies in Education, Schulich School of Education, Nipissing University. T: [REDACTED]. E: [REDACTED]

This letter is yours to keep for future reference.

Sincerely,

Beryl Cohen

Appendix B: Letter of Consent to Teachers.

Building a Community Art Garden: A Participatory Environmental Art-Based Educational Research Project

LETTER OF INFORMATION FOR TEACHERS

Introduction

My name is Beryl Cohen and I am an art teacher, and a Masters student at the Faculty of Education at Western University, London, Ontario. I am currently conducting research into environmental inquiry and art education through extracurricular programming and would like to invite you to participate in this study.

Purpose of the study

The aim of this study is to examine responses to engagement in a community arts project.

I am also interested in how parents, and teachers engage with children in the natural world, and what their perceptions and attitudes are regarding their personal environmental footprint. The study is about the exploration of environmental awareness through Arts-Based Educational Research methodology.

The Community Arts Project

As part of the community arts project you are invited to join students in designing public art work, and developing a garden that will work towards supplying a food bank.

If you agree to participate

You may participate in the community arts project/ gardening activities, without participating in the formal research study.

If you do agree to participate in the research study I will observe you and make journal notes about my observations of your experiences during the community arts project. If you do not agree to participate in the research study I will not make any notes about you in my journal.

You will be asked to fill out a questionnaire. The topics in the questionnaire will include: how you care for the environment, how much time you spend outdoors, and your understanding of environmental art making. The questionnaire can be completed within 30 to 40 minutes at your convenience.

As well, you will be asked to add your thoughts and ideas about the community arts project to a password protected website. The website has restricted access and only those who are invited will be able to access it. You will use a pseudonym on the website to ensure that you will not be able to be identified.

You will also be asked to participate in an informal interview in late spring, early summer at [insert location]. The interview will be audio recorded and transcribed into written form. The interview will take approximately 45 minutes to complete and will cover topics such as what you have learned from this project and if you think being a part of it has changed how you interact with the natural environment. I will share the transcript of your interview with you. You will have the opportunity to make any changes in the transcript, or remove any portions that you do not want published in my thesis.

I will also take pictures of art work produced by you as part of the eco-project and would like your consent to use the photos in presentations and publications of the research.

This research will take place at school, and will take approximately 5 hours of total commitment. Please check off the appropriate boxes on the consent form to show which parts of the study you would like to participate in. You may decide to participate in all parts of the research study or only certain parts of the study. Participating in one part of the study does not obligate you to participate in other parts.

Confidentiality

The information collected will be used for research purposes only. Neither your name nor information which could identify you will be used in any publication or presentation of the study results. All information collected for the study will be kept confidential. You will not be identified by your real name, but by a pseudonym so as to protect your identity. A list of names that correspond to pseudonyms will be filed on my computer. The signed consent forms will be housed in my filing cabinet which will be locked at all times. It will be destroyed after five years. Your information will not be shared with anyone in administration at our board. All information collected for the study will be destroyed 5 years after completion of the research.

Risks

There are no known risks to participating in this research study.

Voluntary Participation

Participation in this study is voluntary. You may refuse to participate, refuse to answer any questions or withdraw from the study at any time with no effect on your employment status.

Questions

If you have any questions about the conduct of this study or your rights as a research participant you may contact the Office of Research Ethics, Western University at [REDACTED] or [REDACTED]. If you have any questions about this study, please contact please contact Beryl Cohen at home at [REDACTED]. Email [REDACTED] and my faculty advisor, Dr. Daniel Jarvis, Ph.D. Associate Professor, Chair, Graduate Studies in Education, Schulich School of Education, Nipissing University. T: [REDACTED]. E: [REDACTED]

This letter is yours to keep for future reference.

Sincerely,

Beryl Cohen

Appendix C: Letter of Consent to Parents/Guardians.

Building a Community Art Garden: A Participatory Environmental Art-Based Educational Research Project

LETTER OF INFORMATION FOR PARENTS/GUARDIANS

Introduction

My name is Beryl Cohen and I am an art teacher, and a Masters student at the Faculty of Education at Western University, London, Ontario. I am currently conducting research into environmental inquiry and art education through extracurricular programming and would like to invite you to participate in this study.

Purpose of the study

The aim of this study is to examine responses to engagement in a community arts project.

I am also interested in how parents engage with their child(ren) in the natural world, and what their perceptions and attitudes are regarding their personal environmental footprint. The study is about the exploration of environmental awareness through Arts-Based Education.

The Community Arts Project

As part of the community arts project you are invited to join students in designing public art work, and developing a garden that will work towards supplying a food bank.

If you agree to participate

As a parent you may participate in the community arts project/ gardening activities without participating in the formal research study.

If you do agree to participate in the research study I will observe you and make journal notes about my observations of your experiences during the community arts project/ gardening activities. If you do not agree to participate in the research study I will not make any notes about you in my journal.

You will also be asked to fill out a questionnaire. The topics in the questionnaire will include: how you care for the environment, how much time you spend outdoors, and your understanding of environmental art making. The questionnaire can be completed within 30 to 40 minutes at your convenience.

You will be asked to add your thoughts and ideas about the community arts project / gardening project to my password protected website. The website has restricted access and only those who are invited will be able to access it. You will use a pseudonym on the website to ensure that you will not be able to be identified.

You will also be asked to participate in an informal interview in late spring, early summer with the researcher at or around the school. The interview will be audio recorded and transcribed into written form. The interview will take approximately 45 minutes to complete and will cover topics such as what you have learned from this project and if you think being a part of it has changed how you interact with the natural environment. I will share the transcript of your interview with you. You will have the opportunity to make any changes in the transcript, or remove any portions that you do not want published in reports of the research.

I will also take pictures of art work produced by you as part of the community art project and would like your consent to use the photos in presentations and publications of the research.

This research will take place at school or at a site close to the school, and will take approximately 5 hours of commitment. Please check off the appropriate boxes on the consent form to show which parts of the study you would like to participate in. You may decide to participate in all parts of the research study or only certain parts of the study. Participating in one part of the study does not obligate you to participate in other parts.

Confidentiality

The information collected will be used for research purposes only. Neither your name nor information which could identify you will be used in any publication or presentation of the study results. All information collected for the study will be kept confidential. You will not be identified by your real name, but by a pseudonym so as to protect your identity. A list of names that correspond to pseudonyms will be filed on my computer. The signed consent forms will be housed in my filing cabinet which will be locked at all times. All information collected for the

study will be destroyed 5 years after completion of the research.

Risks

There are no known risks to participating in this study.

Voluntary Participation

Participation in this study is voluntary. You may refuse to participate, refuse to answer any questions or withdraw from the study at any time. Although I may teach your child visual arts over the course of the 2012-2013 year, your participation in this study will not have an effect on your child's grade. If you agree or decline to participate in this study, it will in no way affect the assessment of your child either academically or otherwise. It will also have no effect on my relationship with you in any other capacity.

If you have any questions about the conduct of this study or your rights as a research participant you may contact the Office of Research Ethics, Western University at [REDACTED] or [REDACTED]. If you have any questions about this study, please contact Beryl Cohen at home at [REDACTED]. Email [REDACTED] and my faculty advisor, Dr. Daniel Jarvis, Ph.D. Associate Professor, Chair, Graduate Studies in Education, Schulich School of Education, Nipissing University. T: [REDACTED]. E: [REDACTED]

This letter is yours to keep for future reference.

Sincerely,

Beryl Cohen

Appendix D: Letter of Consent to Community Members, Artists, and Gardeners.

Building a Community Art Garden: A Participatory Environmental Art-Based Educational Research Project

LETTER OF INFORMATION FOR COMMUNITY ARTISTS AND GARDENERS

Re: Ethics # 1208-8

Introduction

My name is Beryl Cohen and I am an art teacher, and a Masters student at the Faculty of Education at Western University, London, Ontario. I am currently conducting research into environmental inquiry and art education through extracurricular programming and would like to invite you to participate in this study.

Purpose of the study

The aim of this study is to examine responses to engagement in a community arts project.

I am also interested in how parents, teachers, and teacher candidates engage with children in the natural world, and what their perceptions and attitudes are regarding their personal environmental footprint. The study is about the exploration of environmental awareness through Arts-Based Educational Research methodology.

The Community Arts Project

As part of the community arts project you are invited to consult and work with me in designing public art work, and/or in the development of a garden that will work towards supplying a food bank.

If you agree to participate

You may participate in the community arts project/ gardening activities, without participating in the formal research study.

If you do agree to participate in the research study I will make journal notes about my observations of your and my experiences during the community arts project. I am also asking for your consent to use your postings on the website about the eco-project as part of the research. The website has restricted access and only those who are invited will be able to access the password protected site. You will use a pseudonym on the website to ensure that you will not be able to be identified.

If you do not agree to participate in the research study I will not make any notes about you in my journal or refer to you on the website.

I would also like to take pictures of art work designs and gardening ideas produced by you as part of the eco-project and would like your consent to use the photos in presentations and publications of the research.

This research will not involve any extra time for you. Please check off the appropriate boxes on the consent form to show which parts of the study you would like to participate in. You may decide to participate in all parts of the research study or only certain parts of the study. Participating in one part of the study does not obligate you to participate in other parts.

Confidentiality

The information collected will be used for research purposes only. Neither your name nor information which could identify you will be used in any publications or presentation about the study results. All information about the study will be kept confidential. The signed consent forms will be housed in my filing cabinet which will be locked at all times. All information collected for the study will be destroyed 5 years after completion of the research.

Risks

There are no known risks to participating in this research study.

Voluntary Participation

Participation in this study is voluntary. You may refuse to participate, refuse to answer any questions or withdraw from the study at any time.

Questions

If you have any questions about the conduct of this study or your rights as a research participant you may contact the Office of Research Ethics, Western University at [REDACTED] or [REDACTED]. If you have any questions about this study, please contact please contact Beryl Cohen at home at [REDACTED]. Email [REDACTED] and my faculty advisor, Dr. Daniel Jarvis, Ph.D. Associate Professor, Chair, Graduate Studies in Education, Schulich School of Education, Nipissing University. T: [REDACTED]. E: [REDACTED]

This letter is yours to keep for future reference.

Sincerely,

Beryl Cohen

Building a Community Art Garden: A Participatory Environmental Art-Based Educational Research Project

*Beryl Cohen Western University, London, Ontario
School of Graduate and Postdoctoral Studies, Faculty of Education*

CONSENT FORM

I have read the Letter of Information, have had the nature of the study explained to me and I agree to participate. All questions have been answered to my satisfaction.

Please initial beside the parts of the research study in which you agree to participate.

The researcher may observe and make journal notes of my experiences during the community art project/gardening project.

Please initial your choice between the 2 options below:

YES, the researcher may use my name in conjunction with pictures of my art work designs and gardening ideas.

NO, the researcher may NOT use my name in conjunction with pictures of my art work designs and gardening ideas.

Name (please print):

Signature:

Date:

Name of Person Obtaining Informed Consent: _____

Signature of Person Obtaining Informed Consent: _____

Date: _____

Appendix E: Letters Created But Not Used.

Building a Community Art Garden: A Participatory Environmental Arts-Based Educational Research Project

LETTER OF INFORMATION FOR HIGH SCHOOL STUDENTS

Introduction

My name is Beryl Cohen and I am an art teacher, and a Masters student at the Faculty of Education at Western University, London, Ontario. I am currently conducting research into environmental inquiry and art education through extracurricular programming and would like to invite you to participate in this study.

Purpose of the study

The aim of this study is to examine responses to engagement in a community arts project that relates to nature and gardening.

The Community Arts Project

As part of the community arts project students will have an opportunity to design public art work, and develop a garden that will work towards supplying a food bank. They will partake in the club activity through till June of 2013. This will take place at the school as a part of their regular extracurricular programming. Students will be asked to create an altered book sketchbook/journal, where they will record their thoughts, ideas, and poetry in response to the environmental artists and writers' work that they are exposed to. Students will be invited to photograph the stages of our art-making, and as a group, democratically decide what art projects we will create for our school garden. Students will also be invited to contribute to a website where they will reflect on their experiences.

If you agree to participate

As a member of the environmental club you may participate in the community arts project/ gardening activities without participating in the formal research study.

If you do agree to participate in the research study I will observe you and make journal notes about my observations of your experiences during the eco-club. If you do not agree to participate

in the research study I will not make any notes about you in my journal.

You will also be asked to complete a questionnaire at the beginning of the project. The topics in the questionnaire will include: how you care for the environment, how much time you spend outdoors, and your understanding of environmental art making. The questionnaire will be completed during eco-club and will take about 30 to 40 minutes to complete.

At the end of the project, you will be asked to participate in an informal interview with the researcher at your school. The interview will be audio recorded and transcribed into written form. The interview will take approximately 45 minutes to complete and will cover topics such as what you have learned from this project and if you think being a part of it has changed how you interact with the natural environment. I will share the transcript of your interview with you. You will have the opportunity to make any changes in the transcript or remove any portions that you do not want published in my research.

If you agree, for the research study I will make a copy of your altered book / sketchbook / journal where you have recorded your thoughts, ideas and poetry in response to the environmental artists and writers' work that you have been exposed to.

I am also asking for your consent to use your postings on my website about the eco-project as part of the research. The website has restricted access and only those who are invited will be able to access the password protected site. You will use a pseudonym on the website to ensure that you will not be able to be identified.

I will also take pictures of art work produced by you as part of the eco-project and would like your consent to use the photos in presentations and publications of the research.

Please check off the appropriate boxes on the attached consent form to show which parts of the study you would like to participate in. You may decide to participate in all parts of the research study or only certain parts of the study. Participating in one part of the study does not obligate you to participate in other parts.

Confidentiality

The information collected will be used for research purposes only. Neither your name nor information which could identify you will be used in any publication or presentation of the study results. All information collected for the study will be kept confidential and stored securely. You will not be identified by your real name, but by a pseudonym to protect your identity. All information collected for the study will be destroyed 5 years after completion of the research.

Risks

There are no known risks to participating in this research study.

Voluntary Participation

Participation in this study is voluntary. You may refuse to participate, refuse to answer any questions or withdraw from the study at any time with no effect on your academic status or your status in the eco-club.

Questions

If you have any questions about the conduct of this study or your rights as a research participant you may contact the Office of Research Ethics, Western University at [REDACTED] or [REDACTED]. If you have any questions about this study, please contact Beryl Cohen at home at [REDACTED]. Email, [REDACTED] and my faculty advisor, Dr. Daniel Jarvis, Ph.D. Associate Professor, Chair, Graduate Studies in Education, Schulich School of Education, Nipissing University. T: [REDACTED]. E: [REDACTED]

This letter is yours to keep for future reference.

Sincerely,

Beryl Cohen

Building a Community Art Garden: A Participatory Environmental Arts-Based Educational Research Project

*Beryl Cohen, University of Western Ontario
School of Graduate and Postdoctoral Studies, Faculty of Education*

CONSENT FORM

I have read the Letter of Information, have had the nature of the study explained to me and I agree that my son/daughter may participate in the study. All questions have been answered to my satisfaction.

Please initial beside the parts of the research study in which you agree to participate.

- The researcher may observe and make journal notes of my experiences during the eco-club
- Questionnaire at the beginning of this study
- The researcher may use my journal/ altered book for the research study
- Informal interview with the researcher at the end of the study
- The researcher may use the text of my comments on her website for the research
- The researcher may use photographs of my art work in presentations and publications of the research

Name of Student

Student's Signature

Date

Printed Name of Parent/Guardian

Parent/Guardian's Signature

Date

Please return to B. Cohen

Building a Community Art Garden: A Participatory Environmental Art-Based Educational Research Project

LETTER OF INFORMATION - PRINCIPAL

Dear _____,

My name is Beryl Cohen and I am the Visual Arts teacher at _____, and a masters student at the Faculty of Education at Western University, London, Ontario. I am currently conducting research into environmental inquiry and art education through extracurricular programming.

I would like to involve _____ in my research project. The aim of this study is to examine responses to engagement in a community arts project that relates to nature and gardening. The project involves developing the outdoor space around your school grounds and the neighbouring school, _____.

I am also interested in how parents, and teachers engage with children in the natural world, and what their perceptions and attitudes are regarding their environmental footprint. The study is about the exploration of environmental awareness through Arts-Based Educational Research methodology.

The students will participate in a once-a-week activity through to June of 2013. This will take place at the school as a part of their regular extra-curricular programming through eco-club or the after school art program. Students will be asked to create an altered book sketchbook journal, where they will record their thoughts, ideas, and poetry in response to the environmental artists and writers' work that they are exposed to. Students will be invited to photograph the stages of our art-making, and as a group democratically decide what art projects we will create for their school art garden. Students will also be invited to contribute to a website where they will reflect on their experiences.

Students can participate in eco-club without participating in the research. Those who choose to participate will be asked to complete a questionnaire at the beginning of the project.

Parents/guardians, teachers, and community members who choose to participate will also be asked to complete a questionnaire. The topics will include: how you care for the environment; how much time you spend outdoors; and your understanding of environmental art making. The students questionnaires will take 30-40 minutes to complete, and will be completed during one of my visits to the school. Teachers and community members can complete the questionnaire at their convenience and then return them to me.

At the end of the project, the student participants will be asked to take part in an informal interview with me at the school. The interview will take approximately 45 minutes to complete and will cover topics such as what you have learned from this project and if you think being a part of it has changed how you interact with the natural world. Teachers and community members may have consented to participate in an interview and will be contacted towards the end of the project.

The participants will also be asked for consent to use their postings on the website as part of the research. The website has restricted access and only those who are invited will be able to access the password protected site. Participants will use a pseudonym on the website to ensure anonymity. I will also be asking for consent to use photographs of the artwork in presentations and publications of the research.

On my consent forms I have asked for participants to select which portions of the study they would like to be involved in. These consent form includes: the questionnaire; the informal interview; the altered book; photographs; working in the garden. Therefore, the amount of time that a participant might commit to this research project will vary. The minimum amount of time could be a few hours, while the maximum would be determined by the individual participant. On average it is estimated that a student would invest no less than 20 hours of their time over the course of the year. I will hand out and collect the signed student consent forms. These will be locked in my principal's filing cabinet to ensure confidentiality.

At different points in the year, students may feel stressed or overwhelmed with their extracurricular obligations and/or academic work. If they need to take a break from the study, they will be able to do so, and will be able to rejoin when it fits into their schedule. Participation in this study is voluntary. Participants may refuse to partake, refuse to answer any questions, or withdraw from the study at any time. No information will be used in my research unless an individual agrees to participate in the research study.

If you have any questions about the conduct of this study, you may contact the Office of Research Ethics, Western University, at [REDACTED] or [REDACTED]. If you have any questions about this study, please contact me at home [REDACTED], Email [REDACTED] and my faculty advisor, Dr. Daniel Jarvis, Ph.D. Associate Professor, Chair, Graduate Studies in Education, Schulich School of Education, Nipissing University. T: [REDACTED]. E: [REDACTED]. (Dr. Jarvis functions as an Adjunct Professor at the University of Western Ontario for the research of the Art Focus students, while holding a full-time faculty member position at Nipissing University.)

Sincerely,

Beryl Cohen

Building a Community Art Garden: A Participatory Environmental Art-Based Educational Research Project

LETTER OF INFORMATION - PRINCIPAL

Dear [REDACTED],

I would like to conduct research project in environmental inquiry and art education through extracurricular programming at [REDACTED]. The aim of this study is to examine responses to engagement in a community arts project that relates to nature and gardening.

As a part of the project, the students will have an opportunity to design public art work, and develop a garden that will work towards supplying a food bank. The students will participate in a once-a-week activity through to June of 2013. This will take place at the school as a part of their regular extra-curricular programming through eco-club or art club. Students will be asked to create an altered book sketchbook journal, where they will record their thoughts, ideas, and poetry in response to the environmental artists and writers' work that they are exposed to. Students will be invited to photograph the stages of our art-making, and as a group democratically decide what art projects we will create for our school art garden. Students will also be invited to contribute to a website where they will reflect on their experiences.

Students can participate in art club and eco-club without participating in the research. Those that choose to participate will be asked to complete a questionnaire at the beginning of the project. Parents / guardians, teachers, and community members who choose to participate will also be asked to complete a questionnaire. The topics will include: how you care for the environment; how much time you spend outdoors; and your understanding of environmental art making. The student questionnaire will be completed during art club or eco-club and will take 30-40 minutes to complete. The teacher and parent / guardian questionnaire will also take the same time and can be completed by the participant and then returned to me.

At the end of the project, the student participants will be asked to take part in an informal interview with me at the school. The interview will take approximately 45 minutes to complete and will cover topics such as what you have learned from this project and if you think being a part of it has changed how you interact with the natural world. If teachers, parents / guardians, and community members were involved in art club or eco club, they will also be invited to participate in an interview.

The participants will also be asked for consent to use their postings on the website as part of the research. The website has restricted access and only those who are invited will be able to access the password protected site. Participants will use a pseudonym on the website to ensure

anonymity. I will also be asking for consent to use photographs of the artwork in presentations and publications of the research.

On my consent forms I have asked for participants to select which portions of the study they would like to be involved in. These include: the questionnaire; the informal interview; the altered book; photographs; working in the garden; and grant writing (applies to parents/guardians only). Therefore, the amount of time that a participant might commit to this research project will vary. The minimum amount of time could be an hour, while the maximum would be determined by the individual participant.

The art club assistant will hand out and collect the signed student consent forms. I would like to ask for these to be locked in your filing cabinet. This will be a “blind study,” as I will not have knowledge as to which students are participating until June 10, 2013, at which time I will have completed the final report card and will no longer have access to the computer program to alter reports. This safeguard has been put in place to protect the students and to insure that there is no conflict of interest.

Participation in this study is voluntary. Participants may refuse to partake, refuse to answer any questions, or withdraw from the study at any time. No information will be used in my research unless an individual agrees to participate in the research study.

If you have any questions about the conduct of this study, you may contact the Office of Research Ethics, Western University, at [REDACTED] or [REDACTED]. If you have any questions about this study, please contact me at home [REDACTED], Email [REDACTED] and my faculty advisor, Dr. Daniel Jarvis, Ph.D. Associate Professor, Chair, Graduate Studies in Education, Schulich School of Education, Nipissing University. T: [REDACTED]. E: [REDACTED]. (Dr. Jarvis functions as an Adjunct Professor at the University of Western Ontario for the research of the Art Focus students, while holding a full-time faculty member position at Nipissing University.)

Sincerely,

Beryl Cohen

Appendix F: The Questionnaires.

Student Questionnaire

1. Please explain why you were attracted to this study.
2. How much of your recreational time do you currently spend in nature? Describe how you last interacted with the natural environment.
3. How do you take action to protect the environment?
4. What do you do to lower your environmental footprint at school and at home?
5. How often do you pack your lunch, and do you use re-useable containers? Explain why or why not.
6. Describe if any of your environmental habits have changed over the last few years.
7. How do you react to films, books, and magazine articles that describe environmental problems?
8. Have you ever created any form of artwork that you would consider to be environmental art? If so explain.
9. Why are you interested in learning more about the environment?
10. Why are you interested in learning more about environmental art-making?

Teacher Questionnaire

1. How do you integrate environmental inquiry within your regular or extra-curricular programming?
2. Describe what you do at home and at school to lower your environmental footprint. (eg. Do you pack your lunch in re-usable containers? Do you compost?)
3. Describe the last environmental art piece your created with your students.
4. Describe a personal art piece that you created that you feel is environmental.
5. Describe how you last interacted with the natural environment. How much time do you generally spend outside in nature?
6. Describe if any of your environmental habits have changed over the last few years.
7. Why do you think that it is important or unimportant to teach students how to grow their own food? Would you like to participate in maintaining our garden?
8. How do you react to films, books, and magazine articles that describe environmental

problems?

9. Explain if you feel it is important to be environmentally aware and take action to protect the environment.
10. How do you feel you offset your carbon footprint? If you don't currently do so, are you interested in learning more?

Parent Questionnaire

1. How do you react to films, books, and magazine articles that describe environmental problems?
2. Describe the types of outdoor activities that your family is involved in.
3. Explain how you take action to protect the environment.
4. Describe what you do at home and for your child at school to help lower your family's environmental footprint. (eg., Do you pack lunches in re-usable containers? Do you shop the 100 mile diet? Do you compost?)
5. How do you feel that the curriculum or extra-curricular programming addresses environmental inquiry?
6. How much of your recreational time do you currently spend in nature? Describe how you last interacted with the natural environment.
7. Describe if any of your environmental habits have changed over the last few years.
8. Describe the last art piece that you created that you would consider to be an environmental artwork?
9. How do you offset your carbon footprint when traveling in the city, and when you fly? If you do not, are you interested in learning more about offsetting your carbon footprint footprint?
10. In your opinion, please explain why you do or don't think it is important to teach students how to grow their own food? Would you like to be a part of our community garden project?

Appendix G: Approval from UWO Ethical Review Board.

Western Education

WESTERN UNIVERSITY

FACULTY OF EDUCATION

USE OF HUMAN SUBJECTS - ETHICS APPROVAL NOTICE

Review Number: 1208-8
Principal Investigator: Daniel Jarvis
Student Name: Beryl Cohen
Title: *Building a community art garden: A participatory ecological arts-based educational research project.*
Expiry Date: November 30, 2013
Type: M. Ed. Thesis
Ethics Approval Date: November 20, 2012
Revision #:
Documents Reviewed & Western Protocol, Letters of Information & Consent, Recruitment Flyer &
Approved: PowerPoint

This is to notify you that the Faculty of Education Sub-Research Ethics Board (REB), which operates under the authority of the Western University Research Ethics Board for Non-Medical Research Involving Human Subjects, according to the Tri-Council Policy Statement and the applicable laws and regulations of Ontario has granted approval to the above named research study on the date noted above. The approval shall remain valid until the expiry date noted above assuming timely and acceptable responses to the REB's periodic requests for surveillance and monitoring information.

During the course of the research, no deviations from, or changes to, the study or information/consent documents may be initiated without prior written approval from the REB, except for minor administrative aspects. Participants must receive a copy of the signed information/consent documentation. Investigators must promptly report to the Chair of the Faculty Sub-REB any adverse or unexpected experiences or events that are both serious and unexpected, and any new information which may adversely affect the safety of the subjects or the conduct of the study. In the event that any changes require a change in the information/consent documentation and/or recruitment advertisement, newly revised documents must be submitted to the Sub-REB for approval.

for Dr. Alan Edmunds (Chair)

2012-2013 Faculty of Education Sub-Research Ethics Board

Dr. Alan Edmunds	Faculty of Education (Chair)
Dr. John Barnett	Faculty of Education
Dr. Farahnaz Faez	Faculty of Education
Dr. Wayne Martino	Faculty of Education
Dr. George Gadanidis	Faculty of Education
Dr. Elizabeth Nowicki	Faculty of Education
Dr. Julie Byrd Clark	Faculty of Education
Dr. Kari Veblen	Faculty of Music
Dr. Jason Brown	Faculty of Education
Dr. Susan Rodger	Faculty of Education
	Faculty of Education, Associate Dean, Research (<i>ex officio</i>)
Dr. Shelley Taylor	Faculty of Education, Western Non-Medical Research Ethics Board (<i>ex officio</i>)
Dr. Ruth Wright	Faculty of Music, Western Non-Medical Research Ethics Board (<i>ex officio</i>)
Dr. Kevin Watson	Faculty of Music, Western Non-Medical Research Ethics Board (<i>ex officio</i>)

The Faculty of Education Research Officer

London, ON

Copy: Office of Research Ethics

Western Education

WESTERN UNIVERSITY FACULTY OF EDUCATION USE OF HUMAN SUBJECTS - ETHICS APPROVAL NOTICE

Review Number: 1208-8
Principal Investigator: Daniel Jarvis
Student Name: Beryl Cohen
Title: *Building a community art garden: A participatory ecological arts-based educational research project.*
Expiry Date: November 30, 2013
Type: M. Ed. Thesis
Ethics Approval Date: March 5, 2013.
Revision #: 1
Documents Reviewed &
Approved: Revised Inclusion Criteria, Letter of Information & Consent for Teacher Candidate

This is to notify you that the Faculty of Education Sub-Research Ethics Board (REB), which operates under the authority of the Western University Research Ethics Board for Non-Medical Research Involving Human Subjects, according to the Tri-Council Policy Statement and the applicable laws and regulations of Ontario has granted approval to the above named research study on the date noted above. The approval shall remain valid until the expiry date noted above assuming timely and acceptable responses to the REB's periodic requests for surveillance and monitoring information.

During the course of the research, no deviations from, or changes to, the study or information/consent documents may be initiated without prior written approval from the REB, except for minor administrative aspects. Participants must receive a copy of the signed information/consent documentation. Investigators must promptly report to the Chair of the Faculty Sub-REB any adverse or unexpected experiences or events that are both serious and unexpected, and any new information which may adversely affect the safety of the subjects or the conduct of the study. In the event that any changes require a change in the information/consent documentation and/or recruitment advertisement, newly revised documents must be submitted to the Sub-REB for approval.

Dr. Alan Edmunds (Chair)

2012-2013 Faculty of Education Sub-Research Ethics Board

Dr. Alan Edmunds	Faculty of Education (Chair)
Dr. John Barnett	Faculty of Education
Dr. Wayne Martino	Faculty of Education
Dr. George Gadanidis	Faculty of Education
Dr. Elizabeth Nowicki	Faculty of Education
Dr. Julie Byrd Clark	Faculty of Education
Dr. Kari Veblen	Faculty of Music
Dr. Jason Brown	Faculty of Education
Dr. Susan Rodger	Faculty of Education, Associate Dean, Research (<i>ex officio</i>)
Dr. Ruth Wright	Faculty of Music, Western Non-Medical Research Ethics Board (<i>ex officio</i>)
Dr. Kevin Watson	Faculty of Music, Western Non-Medical Research Ethics Board (<i>ex officio</i>)

The Faculty of Education [REDACTED]
[REDACTED]
London, ON [REDACTED]

Copy: Office of Research Ethics

Western Education

WESTERN UNIVERSITY

FACULTY OF EDUCATION

USE OF HUMAN SUBJECTS - ETHICS APPROVAL NOTICE

Review Number: 1208-8
Principal Investigator: Daniel Jarvis
Student Name: Beryl Cohen
Title: *Building a community art garden: A participatory ecological arts-based educational research project.*
Expiry Date: November 30, 2013
Type: M. Ed. Thesis
Ethics Approval Date: April 9, 2013
Revision #: 2
Documents Reviewed & Revised Inclusion Criteria, Letter of Information & Consent for Community Artists
Approved: & Gardeners

This is to notify you that the Faculty of Education Sub-Research Ethics Board (REB), which operates under the authority of the Western University Research Ethics Board for Non-Medical Research Involving Human Subjects, according to the Tri-Council Policy Statement and the applicable laws and regulations of Ontario has granted approval to the above named research study on the date noted above. The approval shall remain valid until the expiry date noted above assuming timely and acceptable responses to the REB's periodic requests for surveillance and monitoring information.

During the course of the research, no deviations from, or changes to, the study or information/consent documents may be initiated without prior written approval from the REB, except for minor administrative aspects. Participants must receive a copy of the signed information/consent documentation. Investigators must promptly report to the Chair of the Faculty Sub-REB any adverse or unexpected experiences or events that are both serious and unexpected, and any new information which may adversely affect the safety of the subjects or the conduct of the study. In the event that any changes require a change in the information/consent documentation and/or recruitment advertisement, newly revised documents must be submitted to the Sub-REB for approval.

Dr. Alan Edmunds (Chair)

2012-2013 Faculty of Education Sub-Research Ethics Board


Dr. Alan Edmunds	Faculty of Education (Chair)
Dr. John Barnett	Faculty of Education
Dr. Wayne Martino	Faculty of Education
Dr. George Gadanidis	Faculty of Education
Dr. Elizabeth Nowicki	Faculty of Education
Dr. Julie Byrd Clark	Faculty of Education
Dr. Kari Veblen	Faculty of Music
Dr. Jason Brown	Faculty of Education
Dr. Susan Rodger	Faculty of Education, Associate Dean, Research (<i>ex officio</i>)
Dr. Ruth Wright	Faculty of Music, Western Non-Medical Research Ethics Board (<i>ex officio</i>)
Dr. Kevin Watson	Faculty of Music, Western Non-Medical Research Ethics Board (<i>ex officio</i>)

The Faculty of Education

London, ON

Copy: Office of Research Ethics

Appendix H: Approval from TDSB Ethics Review.



Toronto
District
School
Board

Organizational Development

Toronto ON

February 5, 2013

Dear Beryl Cohen,

*Building a Community Art Garden:
A Participatory Ecological Arts-based Educational Research Project*

At our meeting on January 31st, 2013 the External Research Review Committee (ERRC) of the Toronto District School Board reviewed and approved your proposed study related to extra-curricular Eco Clubs and Arts Clubs at the [redacted] and [redacted], on the condition that these extra-curricular activities are in fact running at the schools this year and that the Principals agree to have their schools participate in your research. It is understood that only those program participants who provide formal consent will contribute to the research components.

As a condition of this approval, we will look forward to receiving both an electronic and paper copy of your study findings upon completion, with an estimated final reporting date of November, 2013.

Please note that I am also copying central staff in the Arts and Sustainability departments for their own information and interest.

Sincerely,

[redacted]

Sally Erling, Chair
External Research Review Committee, TDSB
E-mail: [redacted]

c.c. Program Coordinator, The Arts (Vanessa Barnett)
Senior Manager, Sustainability Office (Richard Christie)

2012-2013-57

Appendix I: Flyer for Participants.



THE ART-GARDEN PROJECT
A Community Eco-Art Research Opportunity

Volunteers are invited to participate in a research project exploring how participation in a community eco-art project affects those who participate. If you would like to find out more about this research you are invited to attend the next eco-club meeting, or email B. Cohen at [REDACTED]

Appendix J: Questions to Guide Interviews.

Questions to guide interview

Middle School Students

What are your favourite memories of working on this project?

Do you feel that by taking care of our natural environment you are helping to shape your future?

Explain if you think your parents' attitude towards the environment has an effect on how you relate to nature. How do your parents / guardians educate you?

Explain how you are spending your time since beginning this project, and if you are spending more of it outdoors.

Do you feel that by taking care of our natural environment you are helping to shape your future?

Do you feel that you are able to express yourself through art in a way that you may not have been able to otherwise in this project? Explain.

Do you feel that you are more motivated to take environmental action? What would you like to do next?

Since your involvement in this project, explain if you have noticed any difference in how you encourage your peers or your family to spend time in nature than you did before. What do you do with them?

Explain how your environmental footprint has changed, or will change, as a result of this project? If it has not changed, explain why you don't think your footprint has changed.

Do your peers, or your parents have an influence on your environmental choices or do you feel that you have an influence on them? Explain how you may influence them.

Where should our garden go from here? What are your suggestions for continuing the process, and what would you like to see?

Explain why projects such as this should be continued in other schools in other neighbourhoods. Who you think would most benefit from creating an art garden?

Explain why you feel that it is or isn't important for young adults to know how to garden and grow their own food.

What would you like to plant in your own garden?

Will you be tending the garden at our school? What would you like to make with the harvested food?

Questions to Guide Interview

High School Students

Do you feel that by taking care of our natural environment you are helping to shape your future?

Explain if you think your parents' attitude towards the environment has an effect on how you relate to

nature. How do your parents / guardians educate you?

Explain how you are spending your time since beginning this project, and if you are spending more of it outdoors.

Do you feel that by taking care of our natural environment you are helping to shape your future?

Do you use technological devices when you are outdoors? What technological devices if any do you use while you are in nature, and why do you feel you need to?

Explain why you feel that it is or isn't important for young adults to know how to garden and grow their own food.

Do you feel that you are able to express yourself through art in a way that you may not have been able to otherwise in this project? Explain.

Do you feel that you are more motivated to take environmental action. What would you like to do next?

Since your involvement in this project, explain if you have noticed any difference in how you encourage your peers or your family to spend time in nature than you did before. What do you do with them?

Explain how your environmental footprint has changed, or will change, as a result of this project? If it has not changed, explain why you don't think your footprint has changed.

Do your peers, or your parents have an influence on your environmental choices or do you feel that you have an influence on them? Explain how you may influence them.

Where should our garden go from here? What are your suggestions for continuing the process, and what would you like to see?

Explain why projects such as this should be continued in other schools in other neighbourhoods. Who you think would most benefit from creating an art garden?

Do your peers or your parents have an influence on your environmental choices or do you feel that you have an influence on them? Explain how you may influence them.

Explain how your spending or shopping habits have changed over the course of your involvement in this project.

What are your favourite memories of working on this project?

Questions to Guide Interview

Teachers, community members, parents and guardians

Explain how you are spending your time since beginning this project, and if you are spending more of it outdoors.

Do you use technological devices when you are outdoors? What technological devices if any do you use while you are in nature, and why do you feel you need to?

What are your favourite memories of working on this project?

Since your involvement in this project, explain if you have noticed any difference in how you encourage your peers or your family to spend time in nature than you did before. What do you do with them?

Explain if you feel if it is a “sacrifice” of time or energy to take care of the environment?

Do you feel that by taking care of our natural environment you are helping to shape your future?

Explain how your environmental footprint has changed, or will change, as a result of this project? If it has not changed, explain why you don't think your footprint has changed.

Explain why you feel that it is or isn't important for young adults to know how to garden and grow their own food.

Do you feel that you are more motivated to take environmental action. What would you like to do next?

Why do you think that community-based projects such as this are important for environmental teaching?

Explain why you may or may not have more control of your environmental choices than you did in the past? What are you more in control of today?

Explain how your spending or shopping habits have changed over the course of your involvement in this project.

Where should our garden go from here? What are your suggestions for continuing the process, and what would you like to see?

Explain why projects such as this should be continued in other schools in other neighbourhoods. Who you think would most benefit from creating an art garden?

What would you like to plant in your own garden?

Will you be tending the garden at our school? What would you like to make with the harvested food?

Appendix K: Tables

Table 2: Table of Participants Initial Responses

Pseudonym	Type of Participant Consent Form	Permission for:			Permission to:	
		Questionnaire	Interview	Website & Text Comments	use Artwork & Altered Book	observe and take notes
Denise	Student	✓	✓	✓	✓	✓
Arden	Student	✓	✓	✓	✓	✓
Lily	Student	✓	✓	✓	✓	✓
Liz	Student	✓	✓	✓	✓	✓
Maya	Student	✓	✓	✓	✓	✓
Sarah	Student	✓	✓	✓	✓	✓
Webster	Student	✓	✓	✓	✓	✓
Isabella	Student	✓	✓	✓	✓	✓
Whitaker	Student	✓	✓	✓	✓	✓
Gracie	Student	✓	✓	✓	✓	✓
Flynn	Student	✓	✓	✓	✓	✓
Luna	Student	✓	✓	✓	✓	✓
Ainsley	Student	✓	✓	✓	✓	✓
Elena	Student	✓	✓	✓	✓	✓
Mervina	Student	✓	✓		✓	✓
Lyra	Student	✓			✓	✓
Haydon	Student	✓			✓	✓
Lucy	Student	✓	✓	✓	✓	✓
Lana	Student	✓	✓		✓	✓
Laya	Student				✓	
Shira	Student		✓		✓	✓
Carrie	Student			✓	✓	✓
Sam	Teacher	✓		✓	✓	✓
Lindy	Teacher	✓				✓
Lou	Teacher	✓				✓
Jane	Teacher	✓	✓	✓		
Roadsworth	Artist			✓	✓	
Carol	Gardener	✓	✓	✓	✓	✓
Bree	Student Intern	✓	✓	✓	✓	✓
Sue	Artist	✓	✓	✓	✓	✓
Meghan	Parent	✓	✓	✓		
Mary	Parent	✓	✓	✓	✓	✓

Pseudonym	Type of Participant Consent Form	Permission for:			Permission to:	
		Questionnaire	Interview	Website & Text Comments	use Artwork & Altered Book	observe and take notes
Dianne	Parent		✓	✓	✓	✓
Kate	Parent	✓	✓	✓	✓	✓
Ruth	Parent	✓	✓	✓	✓	✓
Sherri	Parent	✓	✓			✓
Alice	Student	✓	✓		✓	✓
Leigh	Student		✓	✓	✓	✓
Sage	Student	✓	✓			✓

Table 3: Chart for Interviewees and Corresponding Interview Dates.

Pseudonym	Participant Type	Interview Date
Ainsley	Student	June 26, 2013
Bree	Student Intern	July 15, 2013
Denise	Student	June 24/25, 2013
Dianne	Parent	July 10, 2013
Flynn	Student	June 25, 2013
Kate	Parent	July 12, 2013
Leigh	Student	June 26, 2013
Lily	Student	June 25, 2013
Liz	Student	June 24, 2013
Lucy	Student	June 24/25, 2013
Maya	Student	June 24/25, 2013
Meghan	Parent	June 26/27, 2013
Mervina	Student	June 24/25, 2013
Ruth	Parent	July 30, 2013
Sage	Student	June 26, 2013
Sarah	Student	June 24/25, 2013
Sherri	Parent	June 21, 2013
Shira	Student	June 24/25, 2013
Sue	Artist	June 24, 2013
Webster	Student	June 24/25, 2012
Whitaker	Student	June 25, 2013

Table 4: Descriptive coding (actual data collected)

** Indicates participant data was used in the study.*

Pseudonym	Participant Type	Questionnaire	Interview	Web site	Art work and Altered Book	Observation Note Taking
Ainsley *	Student		✓			✓
Alice	Student	✓ (partial)			✓	
Arden	Student	✓	✓		✓	
Becca *	Student				✓	✓
Bree *	Student Intern	✓	✓	✓	✓	✓
Carol	Gardener	Not completed	Not completed			✓
Dejah	Student			✓		
Denise *	Student	✓	✓	✓	✓	✓
Dianne *	Parent	✓	✓			✓
Elena	Student		✓		✓	
Flynn *	Student	✓ (partial)	✓		✓	✓
Gracie	Student	✓	✓		✓	
Haydon	Student	✓			✓	✓
Isabella	Student		✓			
Jane *	Teacher	✓				
Kate *	Parent	✓	✓			✓
Lana	Student	✓	✓		✓	
Laya	Student				✓	✓
Leigh *	Student		✓	✓	✓	✓
Lily *	Student	✓ (partial)	✓		✓	✓
Lindy *	Teacher	✓				
Liz *	Student		✓		✓	
Lou	Teacher	✓				
Lucy *	Student	✓	✓	✓	✓	
Luna	Student		✓	✓		
Lyra	Student	✓			✓	
Mary	Parent			✓		✓
Maya *	Student	✓ (partial)	✓ (partial)		✓	
Meghan *	Parent		✓			
Mervina *	Student	✓	✓		✓	✓
Roadsworth *	Artist					
Ruth *	Parent	✓	✓			✓
Sage *	Student	✓	✓			✓
Sam	Teacher	Not completed				
Sarah *	Student		✓		✓	
Sherri *	Parent		✓			✓

Pseudonym	Participant Type	Questionnaire	Interview	Web site	Art work and Altered Book	Observation Note Taking
Shira *	Student	✓	✓		✓	✓
Sue *	Artist	✓	✓	✓	✓	✓
Webster *	Student	✓	✓		✓	✓
Whitaker *	Student	✓	✓	✓	✓	✓

Table 5: Topic Coding—Taxonomy Grid Showing Numeration of Responses

Theme	Activism							Teaching and Learning					
	Environmental Stewardship					Lifestyle Changes		Curriculum			Teaching Methods		
	Guerrilla Gardening	Responsibility	Restoration	Advocacy	Sustainability	Purchasing Habits	Environmental Awareness	Pedagogy	Extra-Curricular Programming	Alternative Voices	Project Based Learning	Eco-Art Integration	Eco-Literacy
Pseudonym [Type]													
Ainsley [S]		4	2	1		2	3						2
Bree [SI]		1			1	1	1	5	2	4		2	4
Denise [S]				1			3		2	1	2	4	2
Dianne [P]	1	3	1	1	2	3	2						
Flynn [S]		2	2	1	1	1	5		1		1	1	1
Jane [T]		2	1		1	1	1	2	1				1
Kate [P]	1	6	2	3	5	3	3	4	1	5	1	1	3
Leigh [S]	2	2	1		2		2						
Lily [S]			1	1			3		2	1		3	3
Lindy [T]		1			1	1		2	2	2			2
Liz [S]	1	1	1	1	1	2	2		1	1		2	2
Lucy [S]			2	1	1		2			1	1	3	2
Maya [S]		3	2	4	2		2		2	1		1	2
Meghan [P]			1				1	2	1	2	2	2	2
Mervina [S]	1			2			1		1			2	
Roadsworth [A]													
Ruth [P]		2		1	1	5	3	1	1	1	1	1	3
Sage[S]	1	2	1										
Sarah [S]		2		2	1		2		1			2	
Sherry [P]		3			1	4	2	1					
Shira [S]	1		2	1	2	2	5		1			3	1
Sue [A]	1	3	1		3	1	3	1	1	1	1	2	1
Webster [S]		2	1	1	1	1	1		1			1	2
Whitaker [S]	1		1		2				1	1	2	3	

Table 5 (Pt. B). Topic Coding—Taxonomy Grid Showing Numeration of Responses

Theme	Problems Facing Society					Health and Healing							
	Sustainability	Media	Media	Poverty	Transportation	Mental Health						Physical Health	Healthy Eating
						Sustainability	Fear	Food Marketing	Poverty	Transportation	Balance		
Pseudonym [Type]													
Ainsley [S]		1									1	2	1
Bree [SI]	1			3						1	1		2
Denise [S]											1		
Dianne [P]					1	2	1	3	1	1	1	5	2
Flynn [S]			1	1					1	1	1		2
Jane [T]													
Kate [P]	1	1	1	1		2	1	2		1		3	1
Leigh [S]						1	2		1		2	1	2
Lily [S]													2
Lindy [T]		1									1	2	
Liz [S]							1				1		1
Lucy [S]	1									1		1	
Maya [S]							1		1			1	1
Meghan [P]	1	1	2	1		1		1	1		3	2	5
Mervina [S]			2			1	1	1	1			2	
Roadsworth [A]													
Ruth [P]						1	1	3	2	1	1	7	3
Sage [S]												2	
Sarah [S]	1		1										1
Sherri [P]				1							3	1	
Shira [S]	1											4	3
Sue [A]		2			1	1	1		1	1		3	1
Webster [S]	2											1	
Whitaker [S]	1	1			1		1		1	1			3

Table 5 (Pt. C). Topic Coding—Taxonomy Grid Showing Numeration of Responses

Theme	Food Production			Community								C2 N	
	Propagating seeds	Gardening	Gardening	Membership				Celebration	Knowledge sharing				
Category	Propagating seeds	Gardening	Gardening	Membership				Celebration	Knowledge sharing				
SubCategory	Propagating seeds	Pollination	Non GMO Foods	Forming friendships	Support	Collaboration	Community Service	Celebration	Students teaching parents and siblings	Parents teaching students	Teachers teaching parents	Parents teaching the community	Gardening
Pseudonym [Type]													
Ainsley [S]			1	1	1	1		2		1			2
Bree [SI]		1	2		1	3	2	2					2
Denise [S]										2			1
Dianne [P]	1		1	1		1	1	3	1	2	1	1	3
Flynn [S]	1		2		1				1	1			2
Jane [T]													1
Kate [P]	4	1	3	1	1	2	1	1	1	2	1	1	3
Leigh (S)			1					1					3
Lily [S]			1				1		2	1			
Lindy [T]					1								1
Liz [S]							1		1	2			1
Lucy [S]		2			1	1				1			1
Maya [S]	1			1	1	1	2			1			
Meghan [P]	1	2	3		2	1	1	1	1	1			2
Mervina [S]		1				1		1					1
Roadsworth [A]													
Ruth [P]						2			1	2			4
Sage[S]				1		1		2	1	2			2
Sarah [S]			2			3	1		2	1			2
Sherri [P]				1		1		1		2	2		1
Shira [S]			2		1	1	1	1	1	1			1
Sue [A]	4		1		1		2			1	1		3
Webster [S]				1		1				1			1
Whitaker [S]	1	1	1		1	1	1			6			1

Curriculum Vitae

Name: Cohen, Beryl R.

Rank: Core and Visual Arts Teacher, [REDACTED], Toronto District School Board (sabbatical 2014-2015)

(Student) Master of Education at Western of Western Ontario, Curriculum Studies, Arts

Status: Masters student writing thesis

Formal Education

Degree	University	Department	Year
M.Ed.	Western University	Graduate Studies in Education	2010-Present
B.Ed.	OISE	Consecutive Education	1999
B.F.A (Hons.)	University of Manitoba	School of Art	1981

Additional Qualification Courses

OISE/UT	Special Education, Part 1	April 2004
OISE/UT	Intermediate Qualifications	July 2006
Queens University	Honours Specialist, Visual Arts	May 2008

Continuing Education

Tal Am International Program	Hebrew Level 1	2001
JNF Early Childhood Education	Summer Institute	2000

Honours and Awards

Nomination for Environmental Educator of the Year Canadian Network for Environmental Education and Communication	2014
Environmental Awareness Award, Environmental Educator of the Year, Elementary Teachers of Toronto	2010

Employment History

Date	Position	School
2014-2015	Sabbatical 4/5	Toronto District School Board
2008-2014	Visual Arts / Media / Methods and Resource /Core Teacher, [REDACTED] [REDACTED], Toronto District School Board (TDSB)	
2004-2008	Visual Arts & Media Literacy Rotary Teacher/ Grade 6,7, 8 Core Teacher, [REDACTED], TDSB	
2004-2005	Methods and Resource Teacher, [REDACTED], TDSB	
2003-2004	Grade 7 Core, Methods and Resource Teacher, [REDACTED] [REDACTED], TDSB	
2000-2002	Grade 1 and Grade 3 English and Hebrew Teacher, Toronto Heschel School (private)	
1999-2000	Kindergarten LTO, Blantyre Public School, TDSB and Paula Penna Downtown Jewish Day School	
1998-2003	Kindergarten Teacher, Downtown Jewish Community School	
1996-1999	Principal/Teacher, Or Hadash Sunday School	
1985-1993	District Manager/ Enrollment Director, University Scholarships of Canada, Manitoba Office	
1984-1989	Art Instructor, Children through to Adults, The Winnipeg Art Gallery	

Mentors:

Dr. Daniel Jarvis, Professor, Schulich School of Education, Nipissing University, North Bay, Ontario, Canada (Thesis Supervisor)

Dr. Rachel Heydon, Assistant Professor, Faculty of Education Western University, London, Ontario, Canada (Thesis Committee Member)

Scholarly and Professional Activities

Other:

- Elected Member of Executive Committee, Vice-President, Ontario Art Education Association (OAEA) (previously known as OSEA), September 2009-present.
- Member of Ontario Art Education Association (OAEA), Since 2007
- Member of the Canadian Art Education Association (CSEA) 2013-present
- Member of the Ontario Society for Environmental Education (OSEE) 2014
- Artist, TDSB juried art show, Propeller Centre for the Visual Arts, Toronto (2012-2013)
- Elected member of the President's Council, University Scholarships of Canada, (1990-1992)

Activities:

- Hired as one of the founding teachers of a newly formed arts-based middle school
- Designed school-wide field trips with follow-up curriculum based activities to the AGO, Tiff, ROM, McMichael Gallery, The Canadian Canoe Museum and the Etobicoke Field Studies Center (2008-2014)
- Facilitated an after-school art program with visiting artists (2008-2014)
- Developed a school-wide family environmental arts night (2013)
- Committee member of the [REDACTED] Arts Night (2014)
- Promoted student work through The Assembly Hall art show (2008-2013), the Etobicoke Arts Council Autoshare project (2012), Luminato Festival (2013), and Contact Photography exhibition at the AGO (2013)
- Led the Eco-schools team to Gold standing for 4 years and achieved Platinum in 2014
- Piloted a Gay/Straight Alliance Equity club (the second of its kind within a TDSB middle school)
- Principle organizer of our annual Earth Day celebrations (2008-2014)
- Served on Admissions, Literacy, Arts, Staffing and other committees
- Coordinated garden club and fundraising, including writing of grant applications (2012-present)

Teacher Development

- Lead teacher candidates through their year at [REDACTED] as a host teacher for OISE, York, D'Youville College, and The Schulich School of Education (2009-present)
- Participant in the Arts and Equity Middle School Project (2014)

Toronto District School Board Activities

- Developed student canoe and paddle making exhibition for the TDSB Aboriginal Arts Based Project, 2010
- Co-facilitator of the TDSB's annual Intermediate Visual Arts Exhibition at Metro Hall, 2009
- Participated in the TDSB annual Intermediate Visual Arts Exhibition at Metro Hall, 2009-2012
- Organized, presented and facilitated workshops as a demonstration classroom teacher, 2010
- Organized workshops for Intermediate Professional Learning Community, 2009
- Participated in the Intermediate Pink Day Art Show at the TDSB College St. office, 2014
- Participated in the Arts Leadership Council with the TDSB, including projects for south-west quadrant, 2011

Presentations and Workshops

- Presented thesis in 20-minute presentation at The Robert Macmillan Graduate Research in Education Symposium, Western University, London, ON, April 10, 2014
- Presented one-hour workshop entitled, The Map as Art, at The Ontario Society of Environmental Educators Annual Conference, University of Toronto, Mississauga, ON, May, 2014
- Delivered a 90-minute workshop on Financial Literacy, Media, and Visual Arts for the Ontario Art Education annual conference, 2013
- Presented with two other OAEA executive members a discussion on Visual Arts and Mental Health at the Ministry of Education and Faculties of Education Forum - Exploring Dimensions of Social Change in Education, May, 2013
- Delivered a full-day workshop for the Elementary Teachers Federation of Ontario Summer Institute on Visual Arts with a focus on literacy, environmentalism, and equity, McMaster University, Hamilton, ON, July, 2012
- Presented as a guest in Additional Qualifications for Art, part 1, and 2, on topics such as environmental art, literacy and art, and creating lessons using the revised curriculum at the Ontario Institute for Studies in Education, Toronto, ON, 2008-2014

- Delivered a 90-minute workshop in conjunction with the Education department from the Canadian Canoe Museum at the Ontario Art Education annual conference, 2011
- Presented a parking lot discussion based on the newly revised arts curriculum and TDSB's special education process for the VSA International Conference on Arts and Disabilities, Boston, MA, May, 2011
- Presented a three-hour workshop entitled Being Frank Gehry at the Ontario Art Education annual conference, 2010
- Delivered two three-hour workshops entitled Land Art and the Environment based on the new revised Elementary Visual Arts curriculum for the Northern Ontario Regional Arts Council, Sudbury and North Bay, ON, 2009

Ministry of Education Activities

- Co-project manager for Financial literacy and the Visual Arts Curriculum writing project, Ontario Ministry of Education, 2013-2014
- Acted as a lead writer for the principles of design writing team lessons for primary, junior and intermediate levels for the OAEA and the Ministry of Education, winter, 2010
- Wrote Visual Arts Grade 7 (environmental literacy integration) and Grade 8 units for EduGAINS Differentiated Instruction, Ontario Ministry of Education, summer, 2009
- Wrote Visual Art and Literacy Grade 8 unit entitled, My comic world with a team for EduGAINS, summer, 2008
- Assisted with editing the revised curriculum document for Visual Arts, Ontario Curriculum Policy Document, The Arts, Grades 1-8

Signature:

Date: July, 2014