CONCEIVING OF ONE'S PRACTICE:
ENGAGING WITH CONSTELLATIONS OF INFLUENCE AND
ARGUMENTS OF AUTHORITY IN ENVIRONMENTAL EDUCATION

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A DISSERTATION SUBMITTED TO
THE FACULTY OF GRADUATE STUDIES
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

GRADUATE PROGRAM IN EDUCATION
YORK UNIVERSITY
TORONTO, ONTARIO

MARCH 2019

Abstract

This study brought to light the narratives of four ordinary environmental educators with the purpose of better understanding the constellation of influences that delivered them to and caused them to remain within the field of environmental education (EE). Multiple theories and concepts were used to better understand the processes and applications involved in meaning making as well as illuminate the foundations of thinking that spoke directly to tensions I and other participants hold within the field of EE. Collectively, strong themes of influence included *sense of professional identity*, s*ense of place* and the *argument of authority (authenticity)*. Distinctive influences were also drawn including *political willfulness*, *activism*, and *awe*. In discussions about the argument of authority*, authenticity*, the collective thinking of participants included the fact that EE is complex and difficult to define but it is ultimately about relationships, and that schools and boards of education need to establish and/or maintain values compatible with environmentalism versus consumerism or corporatism. With respect to the argument of authority, *accounting of learning*, participants determined that environmental educators should not measure their value by the large-scale factor of planetary health but rather in smaller increments of success, and that such an enormous goal, while commendable, is one of all people living on this planet. Warrantable measures for environmental learning for which educators must advocate are the individually determined moments and experiences that create awe and wonder. Finally, in consideration of the argument of authority*, determining primacy,* baseline shift was described as freeing us of the guilt in which past generations' actions created circumstances unbecoming humanity and anaesthetizes us from the real and present danger of further loss.

TABLE OF CONTENTS

List of Tables

List of Figures

CHAPTER 1

PATTERNS IN THE STARS

When the day comes that one must consider the totality of their work, *their career*, and

decide if what they have done had meaning, challenged norms, and generally left the world in a

better way then had they not participated in such a manner, it is surely everyone's desire to say

yes to all three inquiries. This research comes from a place and time where I can see far fewer

years ahead of me than behind, and authentically wish to state that my career in environmental

education has been meaningful, questioned standards and protocols, and created at least some

small, positive change for the sake of all beings that share this planet – after all, I am an

environmental educator! Yet, I assure that such a wide angle lens whereby I justify my journey

is not the totality of this research. Poised prominently within it has been the desire to answer

more pressing questions about the path and praxis of ordinary environmental educators at a time

when the natural world needs advocates the most.

I asked myself, what might a reader expect to understand after involving themselves with

a work titled, *Conceiving of One's Practice: Engaging with Constellations of Influence and*

Arguments of Authority in Environmental Education? An intention of this narrative study is to

bear witness to perspectives, choices, and journeys of four environmental educators to and within

the field of environmental education (EE). One should expect to have a better appreciation of

challenges within the praxis of EE, including those of the researcher, who in this study has also been a participant.

Beyond gaining incite into the life histories of four environmental educators, it is probably still fair to question the *value* of this study to EE and research in general—literally, *to what end*? As an environmental educator for almost twenty-five years, I have provided my perspective on as well as intense contemplation about my career in EE. I have questioned *my impact* to date as well as what sort of impact I may still have in the future, both as one teacher and as one of many. I have reflected upon my greatest tensions pertaining to the field of environmental education, issues that I believe are timeless, slippery, and deeply embedded within EE, which I refer to as the *arguments of authority*:

a) *What is EE and who decides?* I sit in tension over that which I believe to be strained and dissenting underpinnings between "education" and natural "environment"—it is a question about what is *authentic* EE;

b) *What are the measures that account for EE and who decides?* I recoil when I see measurement tools that I believe are misplaced within EE or are simply measuring what is simple to measure—it is a question of the *accounting in EE;*

c) *What are the criteria for determining the value of lifeforms on this planet and who decides?* I am self-conscious of the anthropocentric lens that dominates and defines importance within and between species—it is a question of *determining primacy*.

While any of these concerns individually could be considered lofty and worthy of their own research, *it is not the goal of this study to resolve these arguments*. They are examples of impetus—ideas that have motivated, inspired, and thwarted me as an environmental educator, and hence have shaped me within this field. My journey has been, at least in part, learning how

to live with and reconcile that which at times I define as tensions but can quickly slide along the continuum to become crises. For this research, the intention is to widen one's gaze and recognize personal and collective efforts towards resolving crises of our times, as well as give voice to those who try, fail, and try again. It is research about not only what has happened along our collective journeys but how we found (or are finding) our way through individual and collective tensions and crises—it is about *our learning*. This is *to what end*.

In pursuing these wonderings, I begin with a non-traditional literature review. I introduced and re-introduced myself to several philosophers, researchers, and thinkers who have pushed me to think in broader ways about the arguments of authority mentioned. Their works spoke directly or implicitly to my wonderings and gave me ways to continue considering my praxis, as well as those of others. I brought forward Deleuze (1987), Guattari (1987), Commoner (1971), Hayles (2016), and Ball (2007) who contributed thinking not only about *how* influences to my thinking and learning emerge but also reappear. Their thoughts about *rhizomatic* learning, *the first law of ecology*, *cognitive assemblages*, and the necessity of a *tool box of theories* resonated with the idea of *conceiving of one's practice,* embracing the activity of reflecting upon becoming and being an environmental educator, understanding this path relative to others, and acknowledging that complex issues may require more than traditional approaches to bring forth resolution.

Shifting from how we learn and theorize about our life journeys and towards the specifics and complicatedness of the arguments of authority, I engaged with Jonathan Lear (2006) through his book, *Radical hope: Ethics in the face of cultural devastation,* which provoked my tension regarding authenticity in education and my role in defining it. Immanuel Kant (1998/1781), J. M. Coetzee (1999), and Aldo Leopold (1949) challenged my thinking about integrity and

warrantability with their ideas around what counts, measures, and valuing that which matters, and Hannah Arendt (1977) and Eugene Odum (1969) created a space for me to contemplate my disposition of determining primacy, priority, and the order of life within our global ecosystem via the concepts of natality and succession. While admittedly self-indulgent to have brought forward literature fluent in my tensions, I believe these authors to be stimulators of inquiry, sparking thoughtful points of discussion with some degree of universality that both study participants and readers of this research would find intriguing. Their work is rarely specific or directly instructive to solving or even addressing my conflicts but may hold in their shadows patterns that will support EE.

As mentioned previously, I have worn both the hat of the researcher and the participant alongside three environmental educators who have spent the majority of their teaching careers within the milieu of EE. Like ecological systems, social and socio-ecological systems are profoundly complex and require deep contemplation if one is to even begin to untangle and embrace the wide angles, intricacies, and parallels within matters that at first glance appear unrelated. To help unravel the narrative data, I have chosen to produce multiple data artifacts or visualizations, some of which are not traditionally used in qualitative research including:

- Individual *maps of influence* or timelines showing how these environmental educators have *autonomously* come to comprehend, celebrate, and/or reconcile the provocations that brought them to and through the field of EE;

- Individual and collective *constellations of influence (*Sankey and modified radar diagrams*)*, reflecting narrative themes as well as patterns, symmetries and/or cross-linkages between participants which speaks to shared influences;

- A compilation of participants' ideas for reconciling arguments of authority.

This study does not aim to create generalizability around the identity or value systems of environmental educators, or provide a master narrative for EE. Rather, it is my intention to better understand the shared and individual journeys as well as the hopes and tensions that provided personal impetus along the collective career path of these environmental educators. By unveiling common and unique constellations of influence within EE praxis and delineating expectations *to influence* held by some practitioners of EE, enlightenment, a sense of community, and relief from tensions and burdens facing environmental educators may ensue, freeing space to improve praxis and confront the challenge of not only surviving but thriving on a struggling planet.

Rationale for the Study

The desire to complete this particular study stemmed from my personal interest, a point of research departure described by Caine, Estefan, and Clandinin (2013) as "a curiosity about how people are living and the constituents of their experience" (p. 575). While personal, it aims to be a space where *personal*, *planetary*, and *political* elements interrelate, forcing imbalance between each other and yet with the imperative of finding a means of co-existing if any are to flourish. To better understand the complexity of these three groupings and their interrelationships, I have isolated them for a primary scan.

The Personal Element: An Educator's Journey

The personal component reflects on the journey to and within environmental education. I recognized that there has been great change in my initial impetus for EE compared to the reasons I remain in this practice over twenty years later. I accept that change in motivation may be a natural evolution or maturation so it is possible that the shifts I have experienced are explained as

such. Even if this simplest of explanations is to be accepted, following and attempting to understand the decision path and factors involved in this progression are arguably worth knowing.

The following section provides a glimpse at one personal history and also represents one type of information set used in this research. The data from both written and oral narratives from all participants provide the basis of the individual maps and collective constellations of influence which I will discuss later. While the complete narratives of all participants are not offered, the analysis of each individually and in relation to the others is held within case study forthcoming chapters. From these maps and constellations, a deeper understanding can be generated as to how the shifting, converging, and diverging paths have brought four environmental educators to and through their praxis of EE.

The following narrative is *my narrative* and is placed in this introductory chapter to offer background and impetus for this study and to hopefully illustrate how rich and memorable narrative data can be. Riessman (2008) offers additional justification to highlight the power of narratives in research, including the ability to persuade, engage, entertain, and mobilize people (pp. 8-9). Polkinghorne (1988) captures that which I believe to be the magnetism of narrative ways of knowing: "We achieve our personal identities and self-concept through the use of narrative configuration, and make our existence into a whole by understanding it as an expression of a single unfolding and developing story" (p. 150). In the case of this study, if individual narrative maps illuminate one's personal identity, then the constellations would create the parallel to understanding our existence within the whole. Bruner (1990) finds an even more direct way of expressing the essence of the narrative: it is "how protagonists interpret things" (p. 51). A fuller discussion on both the methodology and method is provided in later discussions but

since the methodology choices reflect to some degree who I am, it is important to situate my narrative early in this study as foreground for these preferences and as a foundation for the methods. This is my story.

Conceiving of my practice. From a geo-biographical perspective, I come from a smallish city region of approximately 25,000 people. The nearby towns are mostly embedded within an agrarian heritage, marine tradition, or culture of judicious tourism; connectedness to the land or the water is a livelihood and a lifestyle choice. Though pockets of change have occurred there during my lifetime, my sense of this place is that it welcomes the newness and efficiency of the faster-paced world but chooses to take an unhurried route to these conveniences and sometimes questionable advancements; they are important but not essential to a life well lived. I now live within a smaller, rural community that sits on the edge of the most populous city in Canada. This place is more like a home-away-from-home as I can't imagine ever considering *home* to be anywhere other than the place of my childhood.

I grew up connected to the land but not overtly or with any particular provocation. My family farmed, hunted, and gathered, understanding how the environment could provide for us in all seasons. As children, my siblings and I were included in these activities. My parents and grandparents also worked outside of the home, and our way of life would be considered typical in our community. I know that there were people who had more than my family and there were also those who had less. My needs or wants as a child seemed unremarkable to me.

The outdoors was often a haven for the curious, imaginative, or even the bored. I remember climbing trees, riding a bicycle, and often wandering on my own. I swam in the frigid waters of the bay, sometimes at the same time as the carp that congregated to spawn. I picked

wildflowers, caught skippers[1], and carved my initials in whatever deadfall or living tree could bear my knife skills. Though I spent some time with my brothers outside, most of my spare time was spent alone, investigating small worlds up close, not needing to understand the complexity of the systems I viewed to be fascinated by them. I believe these experiences were formative to my view that humans are part of the global ecosystem, not above it, outside it, or controlling of it. Like the activity of any other species I observed, human actions were and are met with systemic reactions that are neither good nor bad when considered eco-centrically, but, through an anthropocentric lens, may be unjust, unpredictable, and devastating. I also believe that my time in nature has brought me to the realization that humans have no more or less entitlement to and should have no more dominion over the planet than any other species.   Arguments that support our authority over the earth, especially those that draw on ideas of superior intellect and technological advancement, must be scrutinized. Any tool or means of measurement that arrives at such a conclusion will have, and arguable cannot avoid having its own bias that draws on these arguments of authority. We are an incredible species capable of many wonderful things, but we are also capable of horrid, ruthless, self-centred acts. I can almost hear a collective gasp of indignation as I compare the acts and authority of humans with those of other animals. But whose gasp is it – humans' or the *other* animals'? Maybe we gasp in offence together.

School was important to me and I attribute this value to my sister; she taught me about school, in essence preparing me for it. Because of her, I was a good student, and found great satisfaction and confidence in this identity. But there was a shift in this identity during my post-secondary years. I completed my Bachelor of Science (B.Sc.) but it was with a great deal of angst – I was very excited about going *to* university but not going *away* to university. I was

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[1] Skippers are a sub-classification of butterflies that were abundant at the time and place of my childhood.

happy when I had completed my degree as it meant that I could attend teacher's college and return home to become a teacher at my former high school. That was my plan.

In relocating to Toronto for my year of teacher's college, I remember the anxiety that accompanied me to the city. I moved quickly when I walked alone but even more quickly within the stream of strangers: their movement pushed me to keep pace. I vividly remember the emergency sirens at what seemed like all hours of the day and night, and it was odd that I appeared to be the only one surprised by their incessantness. The tension and strangeness of the urban landscape was something I felt in my core. I realized that my sanctuary was within the rural landscape—*any* rural landscape would suffice.

As a teacher candidate in the intermediate/senior stream, I focussed on developing my teaching expertise in two areas, general science and environmental science, which meant a total of four teaching placements in education settings. The first practicum placement was scheduled in what was called a residential outdoor education centre. I didn't know anything about these overnight field centres at the time but learned that students, accompanied by their teachers, would visit for a half or full week, studying the natural environment, conservation, and outdoor recreation. I had never experienced a field centre trip of this sort during my grade school years, as my experience with excursions was limited to tours of the CN Tower, the bus patrol trip to a Blue Jay's game, or winter elective days consisting of options such as skating, ice fishing, or bowling. The field centre experience was a turning point in my teaching career, shifting my focus from education as being something that occurred in schools to being about how to live a life that mattered and was well lived. I taught within this non-formal[2] setting for several years.

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[2] The terms *formal, non-formal*, and *informal* are used to distinguish education means. Formal education is associated with learning that occurs in school, related to the curriculum, and taught by national/provincial

As I matured in my teaching practice, pre-service teachers were brought under my influence. In offering feedback to them, I was forced to review my own strengths, weaknesses, and philosophy. I saw clearly that my career at the field centre provided me with not only the chance to teach in a space I loved, but also the ability to hone my skill for reading my students' understanding. I was able to focus on providing the opportunity for experiences and facilitating student learning rather than leading it. My focus was to develop more authentic and less contrived, scripted lessons, following my students' interests more directly. I made an effort to be free and free my students of the judgment that I felt overwhelmed formal evaluation—measuring according to a standard, not against what was actually learned. Though it sounds idealistic, teaching at an outdoor education centre was not about getting students to the same end point but simply moving the bar forward for each person within the experiences we shared together.   I do not recall being asked to grade or offer documentation of this learning—it was something that I believed my visiting colleagues and I could see or intuit, and that was sufficient.

Though no longer in a traditional teaching role, I still see myself as a teacher—not a teacher within the public or private education systems or even by my title, *Senior Manager, Education, Training & Outreach*, but I remain a teacher. From my present perch in a more administrative capacity, I am exposed to the pressures and opportunities of political will, business sense, and the consumption-based elements of education, all of which demand the processing of more content in less time. Education is now more noticeably a world about a

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education authorities such as school board teachers in Ontario. Informal education is generally considered personal interest but may bolster formal education, i.e. reading an unassigned book, attending a workshop or course, or participating on a sports team. Non-formal education includes learning that supports curricula but occurs outside of the school system requirements, i.e. a class trip to a museum or outdoor centre. Interestingly, an outdoor education experience offered by a school board owned centre may be considered a formal education while a non-school board operated outdoor education centre is non-formal in nature. "The defining characteristic of non-formal education is that it is an addition, alternative and/or a complement to formal education within the process of the lifelong learning of individuals" (United Nations Environmental, Scientific, and Cultural Organizaion, 2017).

plethora of stakeholders, not just one for students, parents, and teachers, which I once thought. Stakeholders seem to be invested in the learning, but more and more I wonder is it actually the learning or the *accounting of learning*—the outcome, expectation, grade, standard, status, or competitive edge—that is being valued? One might say that they are the same thing, but I disagree. For example, I can memorize a poem without understanding it, follow others along a trail without navigating it, and score perfectly on a health and safety quiz without knowing any application of its content. If the goals of the aforementioned were to memorize a poem, to walk a trail, and to score 100% on an online quiz, then I have been successful. But if the intention was to make meaning from poetry, to gain competency in map reading, or to be empowered to work more safely, the measures are far from valid or successful. I fear that one too many assumptions have been made that suggest correlation or even causation between *measure A* and *learning outcome B.* This fear of mine links directly to an issue in outdoor education regarding the best use of time: *Do we use our limited time to measure student learning, or, to engage in longer, deeper experiences to this limited access environment?* In my opinion, the answer lies within the priority, *the value*, placed on the EE excursion.

Though it is clear to me that there is a willingness to have curricula that acknowledges environmental education content[3] (within which the Ontario Ministry of Education implicitly embedded outdoor education (OE)), I believe that there is a disconnect between the amount of time apportioned by the education system with what I would call authentic EE— that which is

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[3] In 2007, an Ontario Ministry of Education working group produced the report, *Shaping Our Schools, Shaping Our Future* (Ontario Ministry of Education, 2007), commonly referred to as *The Bondar Report* due to the eminence of the working group's chair, Roberta Bondar. The report listed 32 recommendations for ensuring a robust environmental education presence within Ontario's curricula, all of which were accepted by the government as initiatives that would be undertaken. The report was followed by a resource guide, *Environmental Education, Grades 1-8: Scope and Sequence of Expectations*, to aid teachers in with the task of bringing EE inside (Ontario Ministry of Education, 2008), as well as the document, *Acting Today, Shaping Tomorrow*, an environmental education policy framework which was meant to "guide school boards and schools towards the development of the skills and knowledge needed to implement environmental education in a community-centred context" (Ontario Ministry of Education, 2009, p. 4).

impactful or sufficient for meaningful EE experiences versus that might pass for EE. As

mentioned previously, there is also a struggle with how to best make visible the depth of growth

and learning that has occurred with a valid, reliable, and efficient measure, and related to this

measure is a question of which stakeholder values are to be given priority.   I have arrived at a

point where I am not only willing to invest more time and energy in understanding the

unquantifiable—creativity, imagination, intuitiveness, empathy, love—but believe the answers to

many of my questions and concerns about the human/nature relationship are bound within a yet

to be defined or acknowledged measure.

This narration has many more layers but this version offers insight into my experiences

and their influence in forming my values, predispositions, and some of the conflicts with which I

struggle. There are partialities which I hold that I need to conscientiously monitor, specifically

my views about the station occupied by human beings within the world's biota, my lean towards

outdoor experiential education[4] (OEE) as vital to the EE experience, and my concern that

evaluation[5] has become an externally imposed judgement rather than a reflective process focused

on internal growth. I also recognize that my point of view regarding humans within the

ecosystem—somewhat of a deep ecology[6] perspective—may be considered highly idealistic and

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[4] Outdoor education or outdoor experiential education is considered one aspect of environmental education if using the Ontario curricula as a guide, and was acknowledged in the 2007 report, *Shaping our Schools, Shaping our Future* (Ontario Ministry of Education, 2007)

[5] In my opinion, successful evaluation would mean having a greater understanding of how to shift learning from being an outcome measured by the end products of grades, diplomas, and degrees, to a process measured by values, happiness and lives well-lived.

[6] Arne Naess, known to many as the *father of deep ecology*, positions humans as being a part of nature, not above it, beneath it, but an integral and connected aspect of it. As humans, we do not own nature or have dominion over it or its various beings; we simply belong in it (Naess, 1973).

quite possibly impossible[7] to realize, but I find solace in navigating towards the general direction of this impossibility as it seems the only promising route to such a reality.

My work in conservation education must be identified as one of privilege and power: while I am immersed daily in advocating for equity and balance within and between ecological, social, and economic spheres, I constantly make decisions and judgements that create benefit or detriment, or silence someone or something in need. I am of the mindset that many EE practices are embedded within institutional norms that on the surface appear to be offering solid EE, but may actually be applying practices of commodification to it instead, something like dressing a wolf in sheep's clothing. I struggle with the guilt of perpetrating such a ruse but then rationalize that one can't change such a broken system without getting a little mud on one's self. To this the sentient aspects of me protest.

Though my career in EE has already spanned over 25 years, there are days when it seems alien to me. My story is not intended to represent authority or an all-inclusive illustration of on-goings or perceptions of environmental education but only to communicate how I have internalized and externalized my two decades of exposure to the elements of EE's making (or undoing). Without argument, there are several other partialities that my story reveals but I claim these thoughts as the foundation of my being. They are my truths, my values, my hopes, and sometimes, the secrets that I can just bear becoming visible.

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[7] In the fictional story, *The Lives of Animals,* by J.M. Coetzee (1999), one of the main characters, Elizabeth Costello, a renowned author, speaks of the bat and what it means to think or be as a bat. The conundrum offered is that we, as humans, can only think as a *human* thinking as a bat – we can never actually "be" the bat thinking. This idea is explored more deeply in this paper's second chapter, *What Lies between Points of Light*.

The Planetary Element: A Global Socio-ecological Crisis

To shift from a personal to a global or planetary perspective, consider that my colleagues and I grew up in a time where it was determined that the natural systems of the world were experiencing simultaneous deterioration and that the source of this demise has been arguably anthropogenic or human-generated in nature. Parallel to the stress placed on natural systems via climate change are the socio-ecological crises—the human/natural environment interdependences that are similarly stressed—exhibited in moments of frustration as we try to survive on a planet at risk of collapse. While an in-depth review of global and socio-ecological elements is beyond the scope of this research, their mention is significant to this study because this study places individual environmental educators within the broader social and global context, offering insight as to stimuli related to their choices and paths. It is also worth noting that improvement in the global condition may be a measure by which environmental educators hold themselves accountable to their practice, relating to the satisfaction they receive from their career in EE. Subsections on the global condition and the socio-ecological condition provide a minimal scan of concerns referenced in the narratives of the research participants since it is their stories that are the focus of this research. If one considers how large a role the natural world has played (and continues to play) in the lives of environmental educators, it would be remiss to exclude it.

The points of departure for this discussion are the conflicting analyses and forecasts of the geophysical and biological state of the planet. The discussion then enters the space of the human condition, examining the psycho-social responses of people to and/or despite the natural environment's condition.

The state of the biophysical world. It is difficult to recall a day devoid of some expression related to the deteriorating natural environment, as our personal and collective consciences are bombarded daily by the theories and opinions of journalists, artists, politicians, scientists, business leaders, religious leaders, and environmentalists offering their interpretations of the changes our world is experiencing (Davis, 2014; Eilperin & Clement, 2012; Nerlich, 2010; Page, 2014; www.climate-insurance.org [Munich Climate-Insurance Initiative]; www.ipcc/ch/ [Intergovernmental Panel on Climate Change web site]). Who or what is at fault, and what should we do about it? Is anthropogenic climate change—change in the planet's climate attributable to human activity (Oreskes, 2004)—legitimate, or are the rising global temperatures a normal fluctuation within the natural environment (Davis, 2014)? Leiserowitz (2005) offers that there are some who believe that the public is simply being misled by an elaborate hoax, media hype, and junk science, and Nerlich (2010) also observes that the presence of distrust in the science of climate change is centred within religious interpretation, which deems inaction as an appropriate action (p. 22). McCright and Dunlap (2000) report on a political angle to climate change where one movement professed not only that the science is weak, but that the benefits to be enjoyed as a result of climate change and action to mitigate global warming could result in "more harm than good" (p. 1). Could this possibly have been an invitation for inaction? Bouwer (2010) reports that even though economic loss associated with weather occurrences has increased globally, "the studies show no trends in losses . . . that could be attributed to anthropogenic climate change" (p. 43). To say the least, it has been an uphill battle to sway public opinion when the President of the United States (POTUS), Donald Trump, has been a notorious *tweeter*[8] of his view that climate change is of little concern. Consider tweets prior to Trump's becoming

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[8] This is a reference to the social media platform, Twitter, one mode of communication employed by President Donald Trump to inform the general public of his point of view on various topics, including climate change.

POTUS such as, "The concept of global warming was created by and for the Chinese in order to make U.S. manufacturing non-competitive" (Trump, 2012), and "When will our country stop wasting money on global warming and so many other truly 'STUPID' things and begin to focus on lower taxes?" (Trump, 2014). It would appear that little has changed since his taking office in early 2017. His *America First Energy Plan* was promoted on the White House website in the following way:

> For too long, we've been held back by burdensome regulations on our energy industry. President Trump is committed to eliminating harmful and unnecessary policies such as the *Climate Action Plan* [emphasis added] and the Waters of the U.S. rule. Lifting these restrictions will greatly help American workers…. Sound energy policy begins with the recognition that we have vast untapped domestic energy reserves right here in America. The Trump Administration will embrace the shale oil and gas revolution to bring jobs and prosperity to millions of Americans. We must take advantage of the estimated $50 trillion in untapped shale, oil, and natural gas reserves, especially those on federal lands that the American people own. (The White House, 2017)

However, it is the opinion of the majority of scientists, journalists, politicians, and environmentalists who study and understand the mechanisms of ecology and the metadata being generated by research that the sort of overwhelming degradation seen today is directly attributable to actions and resulting imbalances caused by humans, not natural cycles (Alexander, 2012; Anderson & Bows, 2011; Antilla, 2005; Cullinan, 2011; Fournier, 2008; McKibben, 2010; Stevenson, 2011; Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, 2014). The Global Footprint Network reported that in 2012, our

ecological footprint[9] exceeded the planet's carrying capacity by 50% (2012). In 2017, the Global

Footprint Network reported that "humanity uses the equivalent of 1.6 Earths to provide the

resources we use and absorb our waste. This means it now takes the Earth one year and six

months to regenerate what we use in a year" (The Global Footprint Network, 2017). Hansen and

colleagues (2011) assert that, "humanity is now the dominant force driving changes of Earth's

atmospheric composition and thus future climate change" (p. 1), a view which finds support from

the Intergovernmental Panel on Climate Change (IPCC) in their statement (2014) that,

"economic and population growth continue to be the most important drivers of increases in CO_2

emissions from fossil fuel combustion" (Working Group III to the Fifth Assessment Report of

the Intergovernmental Panel on Climate Change, p. 8). Bill McKibbon (2010) extends the

seemingly endless research on climate change into the ominous conclusion, "we're running

Genesis backwards, de-creating" (p. 25) and he suggests that our planet is already a different

planet, one he has retitled, *Eaarth*[10] (p. 2). Cullinan (2011) expresses a similar sentiment when

he writes, "We have lived so long within this contrived 'homosphere' breathing its myths of

human supremacy, that it is now more real to us than Earth" (p. 51), highlighting how we as

humans have managed to fool ourselves—lie to ourselves—while standing in the midst of the

Earth's undoing. Beyond this age of the Anthropocene[11] which is forecasted to deliver global

population spikes and eventual crashes, extreme weather occurences, and the destruction of

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[9] The ecological footprint, also known as the *appropriated carrying capacity*, is the "productive land area equivalent that would be required on this planet to support our current lifestyle indefinitely" (Onisto, Krause, & Wackernagel, 1998, p. 6). It is important to understand that within the ecological footprint calculation are not only the material and energy inputs required to sustain one's lifestyle but also the resulting waste absorption that may be solid, liquid, and/or gas, and includes greenhouse gases (GHG).

[10] The spelling of Eaarth by Bill McKibben is correctly spelled with the additional "a," representing a different version of the planet Earth.

[11] The Anthropocene is what some are considering the present geologic age of the planet and is described more completely as a "world [that] is warmer with a diminished ice cover, more sea and less land, changed precipitation patterns, a strongly modified and impoverished biosphere and human dominated landscape" (Steffen et al., 2011, p. 757) – and a result of human activity.

countless ecosystems, there is another chaos that we need to consider: the impact of climate change on the intra and inter environments of human beings—the private and social psyches—that must establish value and values within this new world.

Psycho-sociological impacts of climate change. To hear, or read, or experience the intensity of such dark declarations about our future is impactful to the human psyche, but to what extent? Denial, depression, and hopelessness signal an affective yielding to this abysmal forecast (Dodds, 2011); our rumination in apocalyptic predictions leaves little motivation for a civilized existence where culture, social wellness, and democracy have station. But such despair is not absolute. In order for such a negative foothold to gain traction, people must believe that climate change and its implications are intimately risky either personally or to their immediate collective. Leiserowitz (2006) notes "there is both individual and social psychology at work in public risk perceptions. . . . [they are] socially constructed, with different groups predisposed to attend to, fear and socially amplify some risks, while ignoring, discounting, or attenuating others" (p. 64). He observes that while Americans consider climate change to be a serious issue, it also lacks urgency, possibly because it has been associated with distant concerns, both geographically and temporally (Leiserowitz, 2006). Weber (2006) offers agreement with Leiserowitz, noting that bringing the issues closer to home has a more visceral impact, but adds that better environmental science and statistics education will help close the gap between the risk perception of scientists and the public; short of that, the presence of global warming on one's doorstep is an apt motivator (Weber, 2006, p. 116), or is it? In 2011, Weber's opinion shifts somewhat as she and Stern argue that "all the evidence suggests that trying to alter understanding is not an efficient way to induce people to act personally to reduce climate risks. Lack of understanding and concern is not the limiting factor" (Weber & Stern, 2011, p. 325). They offer

their belief that psychology has a place in being able to assist public education regarding climate change mitigation but they also think that a redirection of our efforts to gain a better "understanding of cultural differences in values, beliefs, and goals that influence climate change perceptions and actions" (Weber & Stern, 2011, p. 325) would be more impactful. Research by Daniel Nettle and Suzanne Romaine (2000) who have studied human cultures around the world, supports Weber and Stern's (2011) hypothesis, and corroborates the existence of a relationship between human culture and the natural world: "cultural diversity and biological diversity are not only related, but often inseparable, perhaps causally connected through coevolution in specific habitats" (p. 13). They refer to this connectedness as, "*biolinguistic diversity*: the rich spectrum of life encompassing all the earth's species of plants and animals along with human cultures and their languages" (Nettle & Romaine, 2000, p. 13). Their findings suggest that *language* is a key conveyer of culture and if heritage[12] languages are not passed from generation to generation within the context of the household, dominating global languages, specifically Chinese, English, Arabic, and Spanish, crowd out the parent tongue, eventually eliminating the fluency and then existence of the language (Nettle & Romaine, 2000). Collaterally, we experience the loss of knowledge, customs, and cultures of humankind:

> In our language lies a rich source of the accumulated wisdom of all humans. While one technology may be substituted for another, this is not true of languages. . . . Every language is a living museum, a monument to every culture it has been vehicle to. It is a loss to every one of us if a fraction of that diversity disappears when there is something that could have been done to prevent it. (Nettle & Romaine, 2000, p. 14)

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[12]The use of the term *heritage language* differentiates the ancestral language which may or may not still be spoken within the home from any additional language which may be dominant in business, education, or cultural activities external to the home. War, immigration, and emigration are just a few examples of circumstances that may create an inconsistency in languages spoken internal and external to the family unit.

It seems reasonable to assume that if the world's biota and languages are indeed inseparable, the loss of one may effectively be a harbinger to the loss of the other, but it would be incorrect to extend the assumption from a correlational to a causal relationship *between* the threatened species and the human artifact, language. Rather, as Nettle and Romaine (2000) clarify "extinctions in general, whether of languages or species, are part of a more general pattern of human activities contributing to radical alterations in our ecosystems" (p. 16). While arguments might be made that extinctions are balanced by geneses, it should also be argued that a new species or new language can only *quantitatively* replace the extinct—the intrinsic value or knowledge contained within a lost language is undeniably lost forever. Humans reign as the influencers of processes and determiners of primacy. *Anything,* from species to tradition, has the potential for extinction if their worth is not realized by the successive generation. Extinction is about how we value the world.

Yet not all is thought to be negative with regards to psycho-social dimensions of climate change. Swim and colleagues (2009) offer that beyond the pessimism previously described, there are also positive psycho-social impacts imaginable, where hopelessness becomes an impetus for reformation, promise, heroism, and re-birth. These affirming mindsets may represent fuel but are they sufficient to ignite the radical hope[13] necessary to bear change, break complacency, and sustain perseverance that could rekindle a mutualistic relationship with the planet? Time, and maybe education, will tell.

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[13] From the book, *Radical Hope: Ethics in the Face of Cultural Devastation*, by Jonathan Lear (2006), the term *radical hope* refers to a hopefulness that is beyond that which one currently has the ability to conceive—this is what makes it radical. The concept of radical hope is explored fully in the subsequent chapter.

The Political Element: Voices that Govern, Words that Define

The political element unites the first two aspects (personal and planetary) as it supports the desire for a voice to express leadership and challenge the tensions and contradictions inherent in these disparate but tethered systems. As one attempts to reconcile the demands *by* the education system*, of* the natural environment*,* and *for* one's self*,* it must be considered that embedded within each are values that explicitly or implicitly have the ability to support or undermine the other's tenets, resulting in harmony, tension, or compromise.

Three subsections are presented within the political element segment and it may be surprising that they don't look like politics at all. The first I have offered is a glimpse at the history of EE in Ontario and how it has shifted over time. While it seems obvious that there is a past before the present, history is not always recognized for its influence on modern day. The story of EE is important as it helps create context for the mindset and the entanglements faced within environmental education and quite possibly has influenced the participants in this study. The second subsection is concerned with values as values are our basis for decision making and priority assignment and create impetus for both choice and action. Lastly, I have included a short section to define specific words and phrases that like the history of EE have shifted over time. Without a clear understanding and appropriate context of EE's lexicon, it is easy to become confused as to what exactly is being said as you must understand the word within the time period it was used gain access to its meaning. One of the earliest challenges I faced as a student beginning my research was coming to terms with the shifting language around the environment and environmental education. I remember vividly the moment I became aware that I was operating from a lexis that had no longer was majority accepted—I was no longer speaking the same language as my peers in academia. The word *environment,* which had always been

synonymous with natural spaces or nature itself, was being used to suggest *any* space and content surrounding one. To those outside of the EE world, this may sound insignificant but for me, it challenged my identity and career: if this new definition of environment had normalized, then by default, environmental education had changed too.

Defining moments in environmental education. It is not difficult to imagine that throughout history, people from all nations, religions, and walks of life have depended directly or indirectly on the natural environment to provide the basic necessities of life: sufficient quality and quantity of food, water, shelter, and space to support their individual and generative existence. Understanding the migration of animal life, the seasons of growth and regeneration, and the cyphers of weather forecasting—in essence, the cycles of the natural world—was, and maybe still is, the difference between life and death.   Knowing how to live within the earth's cycle was an essential part of one's education—learning by doing, learning trans-generationally, and learning within local rhythms and patterns—but is it still today? With technological advantages, many may be able to walk through life never having to rely directly on an understanding of the planet's cadences to live. Acquiring the basics of survival has become much more convenient and much more distanced from the planet itself. And maybe, so has education.

Determining the origins of environmental education was a challenging undertaking since environmental education means different things to different people. To me this suggests that there were many seeds planted and growth in many directions, each of which defines a particular beginning. Presented here are select germinates that I believe have been influential but by no means suggest exclusivity.

While the North American Association for Environmental Education (NAAEE) suggests that Dr. William Stapp was the first to define environmental education in 1969[14], John Disinger (1983) noted one of the earliest formal uses of the term, *environmental education*, as being in 1948, where the "Deputy Director of the Nature Conservancy of Wales identified the need for an educational approach to the synthesis of the natural and social sciences, suggesting that it might be called *environmental education"* (a personal communication between Disinger and John Kirk, p. 18). Carter and Simmons (n.d.) described this conference of the International Union for the Conservation of Nature and Natural Resources (IUCN) as being the first of many gatherings placing the natural environment on the global spotlight as a matter of concern (p. 4). They also suggested that it wasn't until 1972, when the first United Nations Conference of the Human Environment created a 26-principle declaration, of which Principle 19 called for the education of both youth and adults in environmental matters (Carter & Simmons, n.d., p. 5), that a commitment to EE took hold: "Principles of environmental education were formalized in the Belgrade Charter… in 1975" (Environmental Education Ontario, 2003, p. 20). It was not until 1977 that the Tbilisi Declaration[15] provided what some still believe to be "the definitive statement on what EE is and ought to be" (Carter & Simmons, n.d., p. 8): "awareness, knowledge, attitudes, skills, and participation—and… a commitment from government leaders to build environmental education into national policy" (Environmental Education Ontario, 2003, p. 20). *Our Common Future*, also known as the Brundtland Report, introduced the concept, *sustainable development* (The World Commission on Environment and Development , 1987),

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[14] NAAEE website cites Dr. Stapp's 1969 article, *The Concept of Environmental Education*, featured in the *Journal of Environmental Education*, 1 (1), as being the first definition of EE, where he stated that "Environmental education is aimed at producing a citizenry that is knowledgeable concerning the biophysical environment and its associated problems, aware of how to help solve these problems, and motivated to work toward their solution" (pp. 30-31).

[15] The Tbilisi Declaration was generated from the Intergovernmental Conference on Environmental Education, and was organized by the United Nations in Tbilisi, Georgia in the USSR.

and in 1992, "179 heads of government—including the prime minister of Canada—signed on to *Agenda 21: The Rio Declaration on Environment and Development,* a global guide for the twenty-first century" (Environmental Education Ontario, 2003, p. 21). But how did all of this manifest itself in Ontario schools?

Disinger (1983) offers that "the primary antecedents of environmental education were *nature study, outdoor education*, and *conservation education"* (p. 18). McGee (2013) writes of naturalist's clubs being particularly active in the 1930's, while the 1940's saw a shift towards conservation (p. 224). Day and overnight field centres were constructed from the early 1960's into the late 1980's (McGee, 2013) by both private and public institutions, supporting the practice of the day that students should have multiple opportunities to experience *field school*, and where nature studies, outdoor skills, and recreational activities were all valued aspects of the school experience. Four overnight field centres and one day centre were opened by the Toronto and Region Conservation Authority (TRCA) in the Greater Toronto Area (McGee, 2013). Former chief administrative officer, Bill McLean (2004), of the TRCA writes that "education programs have had the greatest and most lasting impact on the community" (p. 151), a glowing testament to the value he placed on the environmental education as a means of transforming communities.

In the early 1970's, the Ontario Ministry of Education introduced environmental science into the curriculum, with lessons beginning in grade seven and continuing through high school (Environmental Education Ontario, 2003, p. 21). Regrettably, environmental education was removed from the curriculum as part of the *Common Sense Revolution* spearheaded by Premier Mike Harris in the late 1990's (University of Waterloo, 1999). The ensuing gap in the teaching of curriculum-based environmental education lasted almost a decade before EE was once again

re-introduced in the Curriculum Council Working Group document, *Shaping Our Schools, Shaping Our Future,* in 2007 (Ontario Ministry of Education News Release, June 22, 2007). Within it were thirty-two recommendations believed to have the ability to foster an improved quality of environmental education in Ontario (Ontario Ministry of Education, 2007).

Since 2007, I have seen several of the recommendations fulfilled: environmental science courses are now offered in schools, and, as curriculum guides are updated, environment-related examples have been included broadly. But there are still many barriers to EE present in our education system, specifically teacher apathy, EE community isolation within schools, lack of professional development for in-service and candidate teachers, weak connections between EE and outdoor experiential education (OEE), and an absence of research into why gaps exist between teachers' EE beliefs and practice (Pedretti, Nazir, Tan, Bellomo, & Ayyavoo, 2012). There is still a way to go before claiming the job to be done.

Setting a place for values. If one is to acknowledge the history of EE then it stands to reason that values are a part of the conversation. According to Straughan (1993) "[i]nvestigating the concept of values offers an interesting and useful route by which to explore the links between reasons, motives and actions" (p. 47). I think that through Straughan's words, one can argue there is relevance in mentioning values when considering that which creates *influence* in EE.

To begin, one may wish to consider basic definitions for the term *values*, such as, "principles, standards,… the intrinsic worth of a thing,… the degree to which something is useful,… worth, price, moral worth, standing, reputation" (www.etymonline.com), as well as the acts of "estimat[ing] the value of, [and to] think highly of" (www.etymonline.com). These

designs corroborate the idea of importance and imply a calculable or comparative quality to an ideal or some proposition of goodness. Schwartz (1992) suggests that a value is "a desirable *transsituational* [emphasis added] goal varying in importance, which serves as a *guiding* [emphasis added] principle in the life of a person or other social entity" (p. 21). Murphy (2012) adds that "values consist of assumptions and beliefs…. [and] form the basis of the stances we have towards what we see as knowledge and offer as *a starting point for action* [emphasis added] in any one circumstance" (p. 562). These statements use language that indicates some level of stability in the nature of values: *transsituational*, *guiding*, and *stance* suggest resolve, and imply a directional element. Schwartz (1992) and Murphy (2012) also establish values as an impetus for an act or possibly a decision to act, an aspect also advocated by Hitlin (2003).

Actions and beliefs are considered by Ajzen (1991) as attributes of values: "it is at the level of beliefs that we can learn about the unique factors that induce one person to engage in the behaviour of interest and to prompt another to follow a different course of action" (p. 206). Nieswandt's (2005) thoughts regarding values and beliefs stress that they may both be aspects of attitude, describing values as associated with the affective aspect, and beliefs more aligned with cognitive dimensions (p.42). She further explains that as a feature of attitudes, affective traits (associated with values) are thought to be more enduring than cognitive traits but ultimately both aspects influence behaviour (Nieswandt, 2005, p. 42). The affective versus cognitive influence is illustrated by Aldo Leopold (1949) when describing how he values the woodcock, as a source of physical sustenance and as an unparalleled animator of the world, realized only after witnessing what he refers to as the sky dance[16]:

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[16] Leopold (1949) describes in detail that which he calls the sky dance, a seemingly choreographed mating display of the woodcock, one of the birds species that shared his farm with him (pp. 30-34).

The woodcock is a living refutation of the theory that the utility of a game bird is to serve

as a target, or to pose gracefully on a slice of toast. No one would rather hunt woodcock

in October than I, but since learning of the sky dance I find myself calling one or two

birds enough. I must be sure that, come April, there be no dearth of dancers in the sky.

(p. 34)

One might surmise from Leopold's (1949) example that, while values are born of both belief and

attitudes, if the cognitive and emotion-based experiences associated with a value become

conflicted, a new or previously less aired value could transcend the original in priority, at least

under specific conditions.

Though Schwartz (1992), Murphy (2012), and Nieswandt (2005) each convey that there

is some quality of persistence embedded within values, they do not suggest absolute permanence

of a value, ranking relative to other values, or that values are universal. Schwartz (1994)

describes five features that define values, the last of which speaks to determining primacy:

A value is a (1) belief (2) pertaining to desirable end states or modes of conduct, that (3)

transcends specific situations, (4) guides selection or evaluation of behavior, people, and

events, and (5) is ordered by importance relative to other values to form a system of value

priorities. (p. 20)

According to Hitlin (2003), "values develop in social contexts, draw on culturally

significant symbolic material, and are experienced as a necessary and fundamental, but

noncoerced [sic], aspect of self" (p. 121). As is exemplified by demonstrations, elections, and

war, cultural values shift radically in expression or status depending on the impetus or

motivation.

While the idea of values is a rich area of study with many voices offering perspective, I am comfortable leaving the general discussion carrying the following knowledge forward:

- values are important signposts used to steer decision-making and the choice for action or inaction;
- values are personal and individual but have strong social origins;
- values are transsituational and enduring but their stability of expression is subject to change based on affective and cognitive conflict or balance, and environmental and societal circumstances.

To situate values more explicitly in environmental education and consider how values and environmentalism merge, Schultz (2001) offers that there is

strong evidence for the tripartite classification of environmental concerns organized around concern for self, other people, or the biosphere….[T]he type of concerns an individual develops is based on the degree to which they perceive an interconnection between themselves and other people (altruistic), or between themselves and nature (biospheric). (pp. 336-337)

It is with Schultz I have aligned the grounding of this chapter into personal (having to do with self), planetary (having to do with the biosphere), and political (having to do with other people).

Evernden's (1993) description of the environmentalist as "one who experiences a sense of value in nature [biospheric concern] and is moved to assert the reality of his experience to others" (p. 4), aligns with Schultz's thinking around a person's concern and their connectedness with others and/or nature. The depth of connection between concern for people and/or nature

coupled with the desire to bring this connection to others may be the raw materials of any and every great EE practitioner. According to Evernden (1993),

> Instead of accepting beliefs that trivialize the experience of living and assert the reality of a valueless world, the environmentalist is urged to attest to his own experience of a meaningful, valuable, colourful world. Environmentalism…. is essentially 'a protest on behalf of value'. (p. 33)

A language for environmental education. While it may seem late in the first chapter to offer a set of definitions to terms I have used liberally, I have chosen to hold back providing such exactness to allow readers to draw some of their own conclusions and context, and maybe even experience the confusion that a shifting vocabulary may create. Words or phrases that present as commonplace may have completely different meaning and intention in varying contexts; the vocabulary I have chosen to use is no exception. What might be exceptional is that I am also choosing to offer these definitions in what I admit is a less than efficient manner but yet these definitions exemplify and maintain the narrative nature of this research.

Ideas that have already been presented but can be better contextualized in this study include *environment, environmental education, outdoor education*, and *constellation of influence*. Additional concepts will be brought forward in later chapters.

The word *environment* is recognized etymologically as the "'state of being environed' [or] 'the aggregate of the conditions in which a person or thing lives'" (Online Etymological Dictionary, 2017); *environ* refers to the act of encircling or surrounding something. Environment is also defined as being "the air, water, and land in or on which people, animals, and plants live" (The Cambridge Dictionary, 2017) or "the conditions that you live or work in

and the way that they influence how you feel or how effectively you can work" (The Cambridge Dictionary, 2017). While these are but a few of the numerous definitions for environment, the idea of *surrounding* is directly or inferentially mentioned in each as is a human element. Where the door is left ajar is in the definitive inclusion of nature. *Air, water and land* may in their most natural sense be thought of as indicative of the outdoors but on deeper consideration, all could be the indoor space as well. *Conditions that you live or work in* could easily be natural or person-made spaces. My expectation that environment is synonymous with natural world is not completely shattered—I must settle for inclusion but not exclusivity. So where does this leave environmental education?

It would be easy to assume if one has a definition for the word environment, it shouldn't be a great leap to determining *environmental education*. As was already presented, environmental education has a rich history but it has suffered from constant re-visioning. I have determined that the best contextualized and preferred definition of EE for this study is that offered in the Ontario Ministry of Education 2007 report, *Shaping our Schools, Shaping our Future*:

> Environmental education is education about the environment, for the environment, and in the environment that promotes an understanding of, rich and active experience in, and an appreciation for the dynamic interactions of:
>
> - The Earth's physical and biological systems
>
> - The dependency of our social and economic systems on these natural systems
>
> - The scientific and human dimensions of environmental issues
>
> - The positive and negative consequences, both intended and unintended, of the

interactions between human-created and natural systems.

(Ontario Ministry of Education, 2007, p. 6)

While *environmental literacy*, *education for sustainability,* and *outdoor education* are not explicitly captured in the definition, background and support text within the report more than implies their relevance. Environmental literacy is described as "an important outcome in environmental education" (Ontario Ministry of Education, 2007, p. 6). Environmental education is seen as "embrac[ing] education for sustainability" (Ontario Ministry of Education, 2007, p. 6). Outdoor education is considered to be "a distinct and critical component of environmental education, concerned with providing experiential learning in the environment to foster a connection to local places, develop a greater understanding of ecosystems, and provide a unique context for learning" (Ontario Ministry of Education, 2007, p. 6). Each of these definitions is thick and leans heavily towards its political origins—I have no quarrel with that. For the purpose of agile writing, I will refer to the simplified definition of EE commonly used by politician and educator alike, and which is cut directly from the more lumbering definition: "Environmental education is education about the environment, for the environment, and in the environment" (Ontario Ministry of Education, 2007, p. 6).

When considering *maps* and *constellations of influence*, it is important to understand that both are data visualization tools that create a representation of *what* I'm studying and also *how* I present facets of this research. To begin with "what they represent", consider that individuals are influenced by numerous stimuli and are also influencers themselves. This idea is far from a ground-breaking observation—it might even sit quite comfortably into the category known as common sense. While a modest idea, when one thinks about the task of creating a *map* of influence, it can be as simple or complex as one's need and stamina. In the world of

environmental education, a *food chain*[17] is a simple, two-dimensional representation of a specific

map of influence, outlining the action of energy transfer between species and a relative timeline

of sorts—an ordering of the events. In its most basic form, consider an illustration whereby

organisms are arranged by energy transfer, consuming or being consumed as can be seen in

Figure 1 – A simple food chain. In a more complex representation, the *food web*, one would

expect to see several life forms shown in relation to all others, removing any centralized creature.

It can be thought of as several food chains entwined and it offers a glimpse at the complexity of

energy transfer relationships. Its purpose-driven form is meant only to consider energy
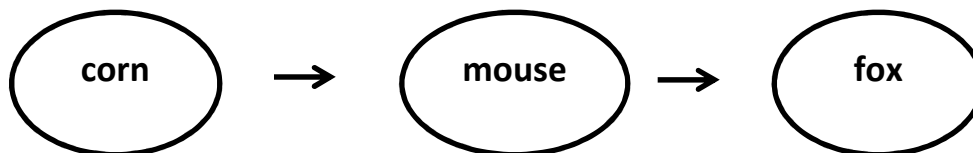
Figure 1. A simple food chain

movement and reduces life to this one process – a humble, simplified representation of existence

that has been created as if time was standing still and each action happened simultaneously (*see*

Figure 2 – A simple food web).

While transfer of energy in the form of a food web may be a complex *map of influence*, it is

hardly a complete representation of the pressures or inspirations within an animal's life. What

might this chart (see *Figure 2*) look like if it was seen through a fuller life lens and attempted to

reflect that the individual will change in size, history, physical maturity, and cognitive potential?

What if this new chart was able to trace and represent the genesis of decisions and impacts of

those decisions, noting beyond the measure of life and death? What if one could fold the chart

over itself and twist its edges to show the relationships between experiences, knowledge,

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[17] Andrews (1986) explains food chains as "organisms in an ecosystem… linked together in feeding relationships" (p. 22).

sensations, and a plethora of other facets that hold no power or authority immediately but rather could only be realized and appreciated recursively when the future becomes the present and overlays the past? It is then that one would have a richer, albeit more chaotic representation reminiscent of an assemblage or *constellation of influence*. While desirable and certainly a more fulsome story, such a complex constellation would be impossible to complete, being aware that not only the "stars" of the constellation are important, but also the space between the stars.

With personal impetus given, historical context reviewed, definitions in place and the
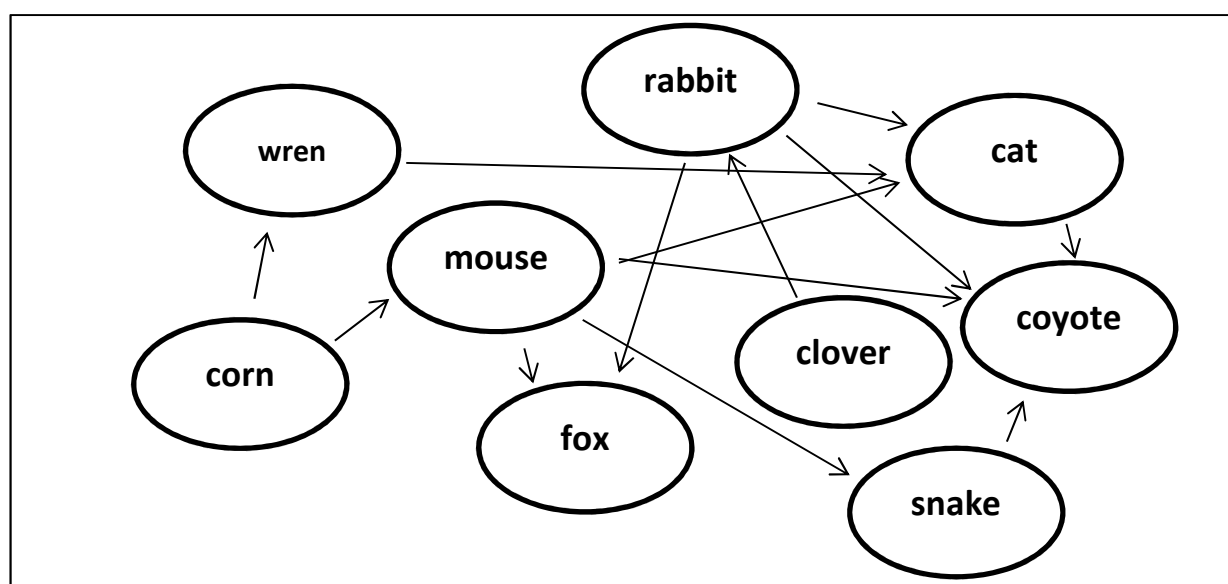
Figure 2. A simple food web

acknowledgement that additional explanations are forthcoming, I have attempted to provide the reader a sense of the thinking that has provided a footing for this study. In upcoming chapters, one should expect the following:

- Chapter Two – *What Lies Between Points of Light.* I bring forward the great thinkers who have intrigued me but often left me without a complete understanding why. I have extended their ideas into my personal context, attempting to cast their thoughts onto the tensions I have referred to as arguments of authority;

- Chapter Three – *Navigating the Stars*. I outline the protocols and procedures followed to complete data collection for this study;

- Chapters Four, Five, Six, and Seven – Case Studies. I introduce the study participants, through summaries of their narratives, as well as convergences and divergences with my story and tensions;

- Chapter Eight – *Following a Shooting Star*. This chapter presents various interpretations of the narrative, field note, and interview data;

- Chapter Nine – *Making Sense of the Cosmos*. The final chapter offers the totality of the study, insights assembled and wonderings still requiring additional thought;

- Chapter Ten – Coda. This additional chapter advances the narrative beyond the study to consider activity beyond the research term.

CHAPTER 2

WHAT LIES BETWEEN POINTS OF LIGHT

If what we are is entailed in the story we create for ourselves, then only a new story will

alter us and our actions. We cannot write a new story. But we can listen for one, once

we recognize the need. And if we can side-step the protective barriers of common sense,

there is the possibility that we can become fertile ground for a new start, a new story, and

a redefining of our place in the world. (Evernden, 1993, p. 141)

I begin this chapter with a quote from Evernden (1993) as it parallels the angst of

change, of wanting, *of requiring,* a different outcome but being acquiescent and comfortable with

one's prior arrangement. The idea that, "We cannot write a new story. But we can listen for one,

once we recognize the need" (Evernden, 1993, p. 141), has forced me to ponder my periods of

introspective latency, when my ability to recognize the need has been disjointed from my

readiness to hear.

The idea that there is a story all around me, hidden in plain sight, has not escaped me. It

forces me to consider how the expression of *not seeing the forest for the trees* has stood the test

of time because it is relatable to our busyness and preoccupation with details—we literally lose

sight of the bigger picture. If I am only seeing *my trees*, my ideas, and my story, and others are

only able to see *their trees*, their ideas, and their stories, we will suffer from a myopic

perspective of the forest. But will simply stepping out of the forest's shade and into the sunshine

widen the angle of view sufficiently to see the forest, grasp a fuller story, maybe a *new* story? Will the act of seeing the forest in turn unveil a plan or expose "fertile ground for a new start" (Evernden, 1993, p. 141)?

I wondered if it is through listening deeply to the ideas of others and relating their ideas to the tensions I hold about my EE praxis, that I may hear a new story, *my* next chapter and imagine a better path forward. Is there also a new story for our planet, silently waiting for the right time and the right protagonist to give it a voice? Could the two stories be the same?

I recalled an ecological principle that I have taught many times: stability of an ecosystem increases with increased biodiversity. Going back to the idea of the energy transfer, a generalist who is open to a range of sustenance is likely to weather times of hardship because breadth provides you with varied options; a specialist is more likely to suffer if their specificity cannot be met. Even though drawing upon a diversity of stories, *of ideas,* may at first glance suggest chaos, it can offer possibilities—additional food for thought! Like the food web, there are many more possible threads when new ideas are layered upon existing realities. If these new ideas or perspectives are able find a connection with existing questions or challenges, does this not increase the potential for establishing understanding or even for epiphanies? Could the interstices between ideas and questions be the *nursery for context*, cultivating the threads, *the budding thoughts*, just as the darkness situated invisibly between the stars situates the celestial bodies? To understand one's place in the world—to learn— may be as simple and as difficult as connecting one's ideas or worldview to those of others—this is their influence on you and your influence on them.

To this end, I have assembled ideas from a diversity of philosophers and theorists whose work has spoken to me on some level, sometimes offering me a moment of realization, often taunting me as I struggled to understand. Admittedly I have not always been able to find the connection between my praxis and that which intrigued me about their thinking, but like any good book or movie, each re-read or review promises deeper insight regarding the parallels between their worlds and mine. While I did not explicitly identify them in my narrative, I recognize them through their ideas as influencers of mine.

What does a theoretical framework look like that incorporates the thinking of not just one or two philosophers but eleven? It begins with chaos—so many ideas and not a clear picture of how or *if* they will find their way into order or a pattern. But if one considers that environmental education, like any ecosystem, has many participants, many stakeholders, many influencers*,* and if the goal is to create stability or resilience within this system, the real question is not why so many points of view but rather, *why only eleven*?

For this study, the multi-theoretical, multi-layered approach begins with a wide-angled view, outlining through the teaching of Deleuze, Guattari (Deleuze & Guattari, 1987), Commoner (1971), Hayles (2016), and Ball (2007), how ideas that we have been exposed to in one context are not sequestered to that situation but have the ability to emerge in previously "out of context" places, creating influence outside of their original focal point. This is by no means a radical idea if one considers art in any form: the artist creates from their vision but the audience applies the tension through their personal narrative. Such an approach may simply offer an awakening of one's consciousness to another lens on how our stories can be re-written by seemingly unrelated, unanticipated events and experiences. Or maybe, like the pieces of a

puzzle, we have simply gathered information or experiences in an imprecise order. It may take the addition of new experiences to allow the full picture or the *full understanding* to coalesce.

I then shift gears in this literature review from the *process* of cross-emergence of ideas to examples where theorists' broad ways of thinking splice with the arguments of authority, creating new depth and dimension for problem solving within each. The tensions or arguments have been with me for many years, at times lively and animated, and at times in a state of torpor. The concepts or ideas that have whispered to these tensions are like personal truths that I possess but do not yet own. By drawing upon the concepts of others to think about the tensions within my EE praxis and possibly the praxes of others, a new story, or at least another chapter of it, may be heard creating a space for reimagining. Specifically, ideas include:

   a) *Loss of concepts* and *radical hope* (Lear J. , 2006) which speak to the argument of
      authority regarding the authenticity of learning in EE amidst the strained relationship
      between education and natural environment;

   b) *Noumenon* (Kant, 1998/1781; Leopold, 1949) and *authority to be* (Coetzee, 1999)*,*
      concepts which are woven into the argument of accountability, integrity and
      warrantability of measurement within EE praxis, valuing the immeasurable;

   c) *Natality* (Arendt, 1977) and *succession* (Odum, 1969) which have been introduced to the
      argument of authority where there is an imbalance in the consideration, determining
      primacy of lifeforms on this planet. The ideas of Arendt and Odum do not argue
      justification for or against such imbalance but rather widen the gaze to the *station held* by
      environmental educators in a world where natural and human ecological imbalance
      precedes us, has been worsened by us, and may be beyond our capacity and/or longevity
      to witness measurable improvement of it.

With these concepts applied to the process of creating one's story, and the actual angsts within, a foundation is drafted upon which to overlay the narratives of environmental educators. This compilation—this ecosystem of ideas—offers a format that attempts to "side-step the protective barriers of common sense" (Evernden, 1993, p. 141), *and become* "fertile ground for a new start, a new story, and a redefining of our place in the world" (Evernden, 1993, p. 141).

Deleuze, Guattari, Commoner, Hayles, and Ball

While this study is framed in the meaning making of individuals, its foundation is embedded within multiple ideas or theories that coalesce to form understanding and possibly a unified approach or solution. If we are to solve complex problems such as the ones I identify (authenticity, accounting, determining primacy), one must not become frustrated by the chaos of a multi-layered approach. I admit that some of the frustration I have felt as an environmental educator may be in expecting more from one approach than it should have had to carry singularly. Stephen Ball (2007) offers support for bringing multiple concepts from multiple origins to one's thinking on a problem when he suggests during an interview that,

> Theory often claims to explain the whole world to us, but fails inevitably, and most theories tell some useful things about some bits of the world, so I start partly with the idea that if you want to develop a more coherent and joined-up analysis of the world you actually need different kinds of theories….you actually need, as Michel Foucault suggested, a tool-box of theories. (Interview with Stephen J. Ball: A dialogue about social justice, research and education policy).

This idea of not only numerous theories but also different kinds of theories—a tool-box of theories—essentially invites us to be creative and not limit our application of thinking to one topic or discipline.

Ball's thinking has some alignment with Deleuze's and Guattari's (1987) rhizome concept. Their idea compares the arborescent[18] thinking framework with a rhizomatic scaffold. Consider that the tree has roots, a trunk, and branches—essentially a linear, vertical structure, and typically considered something that can be defined as a singular entity. A rhizome on the other hand is similar to a runner: runners are stem-like structures that connect plants above the surface of the ground while rhizomes are underground entities. Plants such as Lily of the Valley, ginger, and Common Milkweed are considered to be rhizomes: they have a superterranean appearance that looks like multiple plants but their subterranean infrastructure is more like one continuous plant. The question is, *are they one plant or many?* While there are trees which share common underground systems[19], most are considered to be discrete plants with unique root systems. It is this singular tree model that is being compared to the rhizome model by Deleuze and Guattari (1987).

Deleuze and Guattari (1987) assigned six principles to the rhizome concept: connection, heterogeneity, multiplicity, asignifying rupture, cartography, and decalcomania (pp. 9-12). Connection and heterogeneity refer to the idea that "any point of a rhizome can be connected to anything other, and must be" (Deleuze & Guattari, 1987, p. 7). Rhizome growth is continuous or unending, growing in multiple directions, connecting to whatever happens to be within its progression: the *anything other* could be thought of as the rhizome or *other than* itself. Stretching these principles beyond the biological context of the rhizome, Deleuze and Guattari (1987) offer a comparison that contemplates "collective assemblages of enunciation

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[18] In Deleuze and Guattari, (*A Thousand Plateaus*: *Capitalism and Schizophrenia*, 1987), the concept of ideas being more rhizomatic and less tree-like is discussed.

[19] There are trees which can reproduce using a sucker, such as the elm trees. The sucker is a shoot that comes from the root system or stem of a plant, either at the base of the plant or some distance away from it (Merriam-Webster.com, 2018). The rhizome is actually a subterranean stem, not part of the root system specifically.

function[ing] directly within machinic assemblages" (p. 7). To remain within the linguistics context, I consider *collective assemblages of enunciation* as reflecting not only words and the clarity with which pronunciation is made but as more continuous and inclusive of our conscious and unconscious expression or communication—that which makes an intended meaning understood and goes beyond the limitation of a predetermined format, the *machinic assemblages*. The idea that one functions within the other suggests a comingling, coexistence, or interdependence.   I would suggest that Ball's (2007) "different kind of theories" is analogous to Deleuze and Guattari's (1987) *other than* or components of their assemblages; it simply takes a rhizome to connect the parts together.

The idea that collective assemblages and mechanic assemblages function together is also captured in the thinking of Barry Commoner (1971) and N. Kathleen Hayles (2016). Commoner (1971) does not use the term *assemblages* but there are parallels to be drawn from his first law of ecology, "everything is connected to everything else" (p. 16). Commoner (1971) offers through this law that there is an "existence of [an] elaborate network of interconnections in the ecosphere: among different living organisms, and between populations, species, and individual organisms and their physicochemical surroundings" (p. 16). At first glance, there are certain similarities between the *machinic assemblages* of Deleuze and Guattari (1987) and Commoner's (1971) *living organisms.* More subtle are the references that resemble Deleuze and Guattari's (1987) *collective assemblages of enunciation* but if one considers the phrasing *network of interconnections*, *among different living organisms*, *between populations,* as well as *physiochemical surroundings*, one could infer informal, happenstantial interaction or communication. Hayles (2016) brings forth the idea of *cognitive assemblage* in which humans and technology are comingling parts, as can be seen in the operation of drones or surveillance

systems. Hayles (2016) defines cognition as "a process of interpreting information in contexts that connect it with meaning" (p. 32), and offers that "cognitive assemblage emphasizes *cognition* [emphasis added] as the common element among parts and as the functionality by which parts connect" (p. 32). This statement leads me to believe that cognition itself is a rhizome, acting as a sense-maker or connector of meaning between seemingly disparate entities.

This idea of assemblages—collective, cognitive or otherwise—associates directly with Deleuze and Guattari's (1987) third principle, multiplicity, which they describe as " defined by the outside: by the abstract line, the line of flight or deterritorialization according to which they change in nature and connect with other multiplicities" (p. 9). They explain this idea further, adding,

> it is only when the multiple is effectively treated as a substantive, "multiplicity," that it ceases to have any relation to the One as subject or object, natural or spiritual reality, image and world….There is no unity to serve as a pivot in the object, or to divide in the subject. There is not even the unity to abort in the object or "return" in the subject. A multiplicity has neither subject nor object, only determinations, magnitudes, and dimensions that cannot increase in number without the multiplicity changing in nature (Deleuze & Guattari, 1987, p. 8).

To apply these thoughts to an ecological example, I offer the multiplicity of a Monarch caterpillar and the milkweed plant. Each can be seen as separate entities unto themselves, but the caterpillar *cannot* exist beyond the influence of this plant species. It may roam beyond the plant in a physical sense but because of its highly specialized diet of milkweed, the caterpillar removed from this source of sustenance perishes. The milkweed plant may exist without the Monarch caterpillar, but not the reverse. As a species in crisis, the Monarch butterfly species has to be

treated as a multiplicity, inseparable from the milkweed plant and its existence if it is to survive on this planet.

The principle of asignifying rupture refers to the idea that if you break a rhizome into multiple pieces, it will simply begin growing anew from each piece, or as Deleuze and Guattari (1987) state, "A rhizome may be broken, shattered at a given spot, but it will start up again on one of its old lines, or on new lines" (p. 9). I parallel this principle to the example of posting a photo to a social media platform: once the photo is published, it moves as a meme, where no matter how many times it may be deleted from main source or from destinations, it is almost impossible to extinguish completely. It gains a life of its own and may lie dormant or undetected to re-emerge at any time.

The fifth principle, *cartography*, is related to the rhizome in Deleuze and Guattari (1987) by considering elements of a map:

> The map is open and connectable in all of its dimensions; it is detachable, reversible, and susceptible to constant modification. It can be torn, reversed, adapted to any kind of mounting, reworked by an individual, group, or social formation. It can be drawn on a wall, conceived of as a work of art, constructed as a political action or as a meditation. Perhaps one of the most important characteristics of the rhizome is that it always has multiple entryways; in this sense, the burrow is an animal rhizome (p. 12).

They present the map in comparison to a tracing or image, differentiating between the two as:

- the map being a part of the rhizome itself while the tracing is an image;
- the map has no beginning or end, while the tracing will inevitably return to a starting point;

- the map can be entered from any point, be followed in an infinite number of directions, and because it is part of the rhizome, will constantly add to its reach.

The final principle of the rhizome concept, *decalcomania*, is described by Deleuze and Guattari (1987) in tandem with cartography as "not amenable to any structural or generative model" (p. 7). I associate the term *generative model* with decalcomania and understand it to mean that while it is possible to reproduce an image, this reproduction can never be a duplicate as the context in which the image is placed will always make the image slightly different, a thought that nods back to multiplicity. There is meaning associated not only with the image but with the context in which it is presented.

With the six principles in mind, *what does the rhizome concept have to do with meaning making by individuals?* If theories, concepts, and ideas, can be tested, defined, and redefined in infinitely new contexts, then their meaning making is not limited to their point of origin but creates a new truth with each context to which they are applied: the meaning making has experienced connection, heterogeneity, and decalcomania. If in becoming essential to the meaning making of new or different concepts and frameworks, then they also become irreducible and their role in meaning making is amplified: the meaning making has experienced multiplicity as well as decalcomania. If fractures occur as ideas transpose, then meaning does not cease to exist but rather is re-established in its new context or lies dormant until the conditions are correct for its expression: the meaning making has experienced the essence of asignifying rupture. If an idea has the potential to move in an infinite number of directions, then meaning making is likely to increase with the increased exposure to previously unknown points of view, points of entry, and contexts: the meaning making has experienced cartography. The

assemblages of Deleuze, Guattari, Commoner, and Hayles offer an infrastructure in that the act of meaning making and understanding are illuminated by the principles of the rhizome.

The theories of Ball (2007), Deleuze and Guattari (1987), Commoner (1971), and Hayles (2016) were important to introduce to this study because they provide arguments for validating the practice of applying concepts that were intended or introduced for meaning making in one context to problems beyond their original intent or use. They establish precedence through the application of multiple theories and concepts (the rhizome principles, the first law of ecology, and cognitive assemblages) that not only allows a wider range of thinking about tensions in the praxis of environmental education but demands this opening of the mind and thought, and a breaking down of boundaries that may be hiding solutions. With that in mind, the next aspect of this study is to embrace ideas from a variety of authorities—Lear (2006), Kant (1998/1781), Leopold (1949), Coetzee(1999), Arendt (1977) and Odum (1969)—layering their thinking over the arguments of authority I have posed in a manner that I believe is aligned with the processes of finding and/or making meaning.

Authenticity: Parallels with Loss of Concepts and Radical Hope

When I think about environmental education and the values that are to act as an internal compass or signpost, I wonder if my angst has resulted in too many bearings! As I expressed in the overview of EE's history, there have been and continue to be definitional concerns within environmental education with the result that the focus and priority within EE have shifted multiple times. I have also discussed how the environment and education each are prone to socio-political will, which affects whether and how EE concepts are put into practice. To reflect momentarily on my story, I expressed my way of knowing the natural world through a rural upbringing but my experience is only partial, because there is the urban experience of the

environment to consider, not only for the sake of polarity but more importantly because of the global population crisis. In Chapter 1, I acknowledged my lean towards a deep ecology perspective but muted the anthropocentric lens to this socio-ecological quandary, which is imminently significant because of climate change and its impacts. I also hinted at accountability and effectiveness of measures within EE in my account but I did not develop these ideas. However, there is much literature to link the political pairing of capitalism and consumerism (Hofmann, 2008; Oftedal Telhaug, Asbjorn Medias, & Aasen, 2006; Olssen & Peters, 2005) that should be considered. As these orientations are well beyond creeping their way into educational measurement, there is little doubt in my mind as to why I experience angst and a sense of misalignment—we're using the same words but with diverse meaning, diverse expectations, and diverse processes for each.

It was when reading Jonathan Lear's (2006) book, *Radical Hope: Ethics in the Face of Cultural Devastation,* that I began drawing parallels between the misalignments of EE and the idea of a loss of concepts. In this book, Lear (2006) offered his interpretation of the story of Plenty Coups, "the last great chief of the Crow nation" (p. 1). He described the Crow or *Absarokee* as they know themselves, as nomadic, warrior people, hunting buffalo as they moved across the plains, and fighting fierce battles with rival tribes, including the Sioux, Cheyenne, and Blackfoot people. Lear (2006) told of the arrival of white nations and the concurrent appearance of disease, broken promises, and intense hostilities both within First Nations and with immigrating nations. He offered his thoughts on First Nations being moved onto reservations, in particular the physical, mental and spiritual toll, but also framed the reservation as the place where Plenty Coups faced the greatest and most poignant battle of his life—trying to guide his people through the passing of their traditional way of life into a new existence where their

concepts were nonsensical. I think that *concepts*, in this context, involve the blending of one's intrinsic values, as I argued earlier, which guide one trans-situationally and which are heavily informed by culture. For Lear (2006), *concepts*, as illustrated in examples of the warrior and hunter life of the Crow, may also be measures of living life well.

Lear (2006) relays Plenty Coups' description of counting coups not only as related to values but also as an act that measures one's success as a warrior. The coup-stick was both a symbolic and tangible entity that when lodged in the ground marked the line of Crow territory which could never be crossed by the enemy without penalty of death for the rival or the Crow (p. 13). If taken into battle, the coup-stick was used to express courage and bravery, sometimes as an actual weapon, but also symbolically, almost as a unit of scoring. Killing the enemy was a goal and represented one way of counting coup but it was not the most significant way, because killing the enemy lacked the *acknowledgement* of one's enemy conceding to your power. Plenty Coups' explanation of counting coup, as told in Frank Linderman's book, *Plenty-Coups: Chief of the Crow*,[20] maintains:

> To count coup a warrior had to strike an armed and fighting enemy with his coup-stick, quirt, or bow before otherwise harming him, or take his weapons while he was yet alive, or strike the first enemy falling in battle, no matter who killed him, or strike the enemy's breastworks while under fire, or steal a horse tied to a lodge in an enemy's camp, etc. (as cited in Lear, 2006, p. 15)

Courage and bravery, in this context, are trans-situational values while the measures or indicators of bravery and courage are signified by the various acts one can perform in counting coups.

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[20] See Linderman, F. (1962). *Plenty-Coups: Chief of the Crows*. Lincoln: University of Nebraska Press, pp. 308-309

According to Lear (2006), another way of living a life worthy of a Crow was to become a great hunter and provider for your people. It is not difficult to imagine that one would need stealth, marksmanship, and stamina, but being a great hunter and provider also depended on there being buffalo to hunt, a seemingly obvious requirement but not necessarily a constant that could be assumed as it depended on factors beyond human control. As new settlement expanded and the hides of buffalo became more marketable, the herds were hunted to unsustainable numbers, eventually being replaced by herds of docile cattle brought by white nations (Lear, 2006).   Though the Crow were given meat by the government when moved to the reservations, this physical sustenance did little to fill the void of affirming their identity or place in the universe: in that sense, they were starving for meaning in their culture, and the food provided had little significance.

Drawing upon the warrior and hunter examples, Lear (2006) explains the multiple aspects of losing one's concepts when the Crow were moved to reservations. For instance, some territory was provided so that the Crow might continue living by their own concepts of a life well lived, but the land area that was part of the treaty was decreased multiple times to the point that it was insufficient to the needs of prey and hence the hunter. Similarly, the intertribal warring that also had its place in how the Crow knew themselves was forbidden by the white nation, effectively diminishing a second concept by which the Crow valued their existence. Even the symbolism of the coup-sticks lost its meaning as the acts themselves were no longer imaginable (Lear, 2006).   The rituals and traditions of honouring the warrior or the hunter no longer had meaning, and even the hierarchy within the community was disrupted. As Lear (2006) states, "an act is not constituted merely by the physical movements of the actor; it gains its identity via its location in the conceptual world. And it is the world which has broken down" (p. 32). The

acts by which the Crow measured their worth, meaning and happiness were gone, hence the Crow were no longer the Crow.

Loss of concepts was not the only idea of significance to me in Lear's (2006) novel: radical hope was also presented, and offered courage to continue reading in the face of such devastating circumstances. On one hand, I was torn between the tragedy and triumph of Plenty Coups and, on the other, stunned by how the ideas presented seemed to parallel tensions I experienced in environmental education. The story of Plenty Coups is a crisis or tragedy of a culture dealing with hegemonic forces; however, it seems to me that it also acts as a harbinger for similar tragedies occurring in front of us daily—parallels between the Crow narrative and that of many cultures on a global scale today—where powerful regimes still take and consume to their own satisfaction, and determine by their conscience alone appropriate compensation without regard for context, a sense of time, or a sense of place. Hence the need for radical hope, which is explained by Lear (2006) as follows:

> What makes this hope *radical* is that it is directed toward a future goodness that transcends the current ability to understand what it is. Radical hope anticipates a good for which those who have hope as yet lack the appropriate concepts with which to understand it. (p. 103)

Plenty Coups trusted in his concepts when they no longer made sense and became immeasurable to the Crow. While it is arguable whether he lacked the appropriate concepts or whether he was able to re-interpret his concepts trans-situationally, nevertheless it took radical hope to move through the process and establish meaning for his nation once again. Might it also be necessary for the Western World to face a loss of concepts before being able to start anew?

I believe much of western culture cultivates, knowingly or not, a consumeristic lifestyle which values power and autonomy, and measures such progress through our capacity to consume or control resources. This type of success is calculated by growing one's quantity of capital, or power over human and non-human resources. Somewhere in this possession of other people (through their debt or desire) or of objects, I and others (Belk, 1984; Clark, Frijters, & Shields, 2008) beliefs are the ill-placed vestiges of one's search for fulfillment and happiness. Embedded within consumerism I suggest is *entitlement* of the human species to assume priority before and in spite of any other's needs, a loss or an exploitation of concepts that has the consequence of global climate change, both ideas that relate to the argument of authority, determining primacy. While I am angered and ashamed at being both aware of and a contributor to climate change, I am also hopeful. After all, the path that led to the survival of the Crow demanded widespread transformation and re-identification, *and they succeeded*, leading me to hope that we too can similarly be transformed and re-identify with our relationship to the earth.

Lear's (2006) work has been used in a variety of contexts relevant to my research including indigenous perspectives (Kirmayer, Dandeneau, Marshall, Phillips, & Williamson, 2011), empathy and psychoanalytic method (Agosta, 2014; Orange, 2011), cultural collapse (Dreyfus, 2009; Rosner, 2009), the meaning of culture (Hansen D. T., 2010), hope movements and politics (Dinerstein & Deneulin, 2012; Markell, McCormick, Otten, & Pippin, 2008; Kadlac, 2015), courage (Pianalto, 2012), and love and relationships (Albrecht, 2012) to name but a few. Not surprisingly, Lear (2006) has also offered inspiration within the realm of the natural environment. The morality embedded within human treatment of the environment is confronted by Curry (2011) as well as Orr (2009; 2011) and it is with Orr that I am offered a glimpse at hope.

I have been drawn to Orr throughout my studies as his writing has never left me unclear of his stance as he tries to bring his concern for the planet into full view—people have to wake up and change their ways! His attention to education as having an important role to play if we are to successfully navigate away from the worst possible outcome of our climate change gamble has steered clear of Pollyannic type directives and pointed directly to action, something to either begin or to end. In Orr's (1994), book, *Earth in Mind: On Education, Environment, and the Human Prospect*, he outlines six *myths* of education that I believe have stood the test of time, or maybe have just been sustained by insufficient response. These myths are:

- ignorance is solvable (pp. 8-9);

- sufficient technology and knowledge will allow us to manage the planet (p. 9);

- knowledge (and human goodness) are increasing (pp. 9-11);

- we can reconstruct what we deconstruct (p. 11);

- education is the means to success (p. 11-12);

- our culture at this point in time has reached its highpoint (p. 12).

When I considered each myth in light of Lear's (2006) loss of concepts, the dots came closer together: Orr's (1994) myths reflect concepts that may have been sufficient, even successful, at another time in history, but enacted today, they only exacerabate our climate change crises and, if left unchecked, lead to self-destruction. As a global community, we are in denial about the disfunction of our concepts on this new planet, Eaarth.

Orr (1994) also offers a response in that we must rethink education, which includes among other assertions that "all education is environmental education" (p. 14), and that "process is important for education" (p. 14). Orr's determination to confront climate change over fifteen years later remains fierce as he acknowledges explicitly Lear's telling of Plenty Coups' story as

an exemplar of the leadership and hope that could prompt and sustain the cultural shift needed if this planet is to have future. When I consider the scale of the radical hope enactment initiated by Plenty Coups and implored for by Orr, it occurs to me that they both started with one courageous person recognizing and voicing a mistepping of concepts. In unraveling the narratives of environmental educators alongside my own, I do not propose that the ecological and psycho-social chaos that our planet is experiencing will come to halt, but it may be one small step closer to generating a clearer understanding of what might be a better course.

Accounting of Learning Meets Noumenon and Authority to Be

As I again reflect back upon my own story, I question the origins of my concern with evaluative processes but more germane to this discussion might be a questioning where such processes are taking us. I believe I have made myself fairly clear that I loved school and most certainly have gained much of my confidence in this world due to my success in school. Without question, I gained any poise that I might have as I mastered processes and acquired knowledge in various fields, all of which were conveyed to me because someone took the time and made the effort to offer a consideration and weighing of that which I had learned—my knowledge and skills were graded. I have to admit, seeing numbers and letters that showed the rest of the world in a universally-spoken language that I am capable was self-affirming, but what exactly does the grading affirm and how effective are such measures? The questions I have asked of assessment in EE are twofold: are we measuring what matters and are our methods of measure valid or simply convenient?

To bring to light the discussion of whether we are measuring what matters, I turn to Aldo Leopold (1949), who through one statement captured both a value and a concept that amplified my tensions between what we measure and how we measure it together. Leopold (1949) writes,

> The physics of beauty is one department of natural science still in the Dark Ages. Not even the manipulators of bent space have tried to solve its equations. Everybody knows, for example, that the autumn landscape in the north woods is the land, plus a red maple, plus a ruffed grouse. In terms of conventional physics, the grouse represents only a millionth of either the mass or the energy of an acre. Yet subtract the grouse and the whole thing is dead. An enormous amount of some kind of motive power has been lost. (Leopold, 1949, p. 137)

To me, this is the statement that exemplifies how we will measure what we *can* measure and hope that the valued aspects will be sustained collaterally. Leopold (1949) claimed the grouse to be the "imponderable essence [or] the numenon of material things" (1949, p. 138), as he references that which makes the autumn landscape so indefinable He went on to credit this notion of *numenon*[21] to a philosopher who he does not mention by name but, through my research, I have inferred to be Immanuel Kant.

In exploring Kant's (1998/1781) work, he offered a rather thick definition as to the idea of noumenon: "a thing that is not to be thought of as an object of the senses but rather as a thing in itself (solely through a pure understanding)….[it is] a **boundary concept**, in order to limit the pretension of sensibility" (p. 362). Kant (1998/1781) fluctuated between describing the noumenon as an object just outside of one's sensory capacity and as "a special kind of intuition, namely an intellectual intuition, which, however, is not our own, and the possibility of which we cannot understand" (p. 361). Both definitions spoke to that which is difficult to sense, *or measure*, but of value nonetheless.

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[21] Note that there are two versions of the spelling of noumenon offered by Kant (1998/1781) and Leopold (1949). I have chosen to maintain their individual spellings within my direct references to their work but assume the generally seen spelling, noumenon, for indirect references.

In placing Kant's (1998/1781) *noumenon* of the insensible or of the incomprehensible beside Leopold's *numenon* of an object that can be sensed in its physicality but not in its entirety, I am reminded of a fictional story by J.M. Coetzee (1999) in which the protagonist argues about the ability to "be" a bat. The argument is about the capacity of a person to be able to think one's self sympathetically into what it means to be a bat or knowing the world as a bat (pp. 33-35). She argued that if she can re-invent herself as a character of the imagination, someone she has conceived of in her head, then it may well be possible to sympathetically be in the mind of another being, such as a bat (Coetzee, 1999). To me, the point is about more than just having the capability to think like another; more poignantly, it is about having the capacity to sympathize with the non-human animals of the world and recognize their right and autonomy to be the creatures that they are, without qualification as to their service, use, or relationship to humans, a point also raised by Evernden (1993). Greenwood (2013) offers his agreement to this idea, stating that "Learning to listen to this complex relationship of self and other, human and nonhuman, is the ultimate educational challenge" (p. 99), one that I would suggest falls to all in some way, but certainly to environmental educators in *every* way.

I don't think that Kant's (1998/1781) noumenon attempts to branch into the discussion of animal rights that the protagonist of Coetzee's (1999) story affirmed, but along with Leopold's (1949) idea of numenon, it acknowledges that there are *essences* existing beyond the human senses that we commonly experience nonetheless or for which we have an intellectual intuition that are in some way unintelligible to the human mind.

Kant (1998/1781), Leopold (1949), and Coetzee (1999) have all been drawn upon with respect to topics related to my research. Kant (1998/1781) is with certainty the most highly cited of the three, but not without a few centuries of head start.   A sampling of relevant topics using

Kant's (1998/1781) interpretation of the noumenon include: noumenon-phenomenon dualism (Fuenmayor, 1990), transcendental idealism (Allais, 2004; Greenberg, 2006; Santo, 2011), the skeptical hypothesis (Heidemann, 2011), phenomenology (Jeyasingam, 2013), aesthetic judgement (Van den Braembussche, 2009), and humanity (Dean, 2013). Leopold's (1949), *A Sand County Almanac*, is cited by literally thousands of authors for a diverse range of topics such as ecological services (Daily, 1997; Farber, Costanza, & Wilson, 2002), soil health (Doran, Sarrantonio, & Liebig, 1996), fish ecology (Schlosser, 1991), feminist theory (Plumwood, 2002), land management (Noss & Cooperrider, 1994), management theory (Gladwin, Kennelly, & Krause, 1995), ecosystem management (Grumbine, 1994), energy principles (Odum & Odum, 1976), animal rights (Callicott, 1980), eco-socialism (Pepper, 2002), and connectedness to nature (Mayer & Franz, 2004) just to name a few. While many of these topics fit well within the realm of environmental education, it is pedagogy of place (Gruenewald, 2003) and co-evolution of social and environmental systems (Norgaard, 2006) that speak most directly to my feelings of tension within EE. Finally, Coetzee's (1999) influence ranges from the ethics of killing (McMahan, 2002), to the moral lives of animals (Bekoff & Pierce, 2009), to ecological ethics (Curry, 2011; Marais, 2001), to animal ethics (Aaltola, 2010; Thompson, 2010; Bishop & Nolen, 2001), to food ethics (Korthals, 2004), and ecotourism (Bulbeck, 2013), reflecting but a sample of the subjects into which his work has been drawn.

In my mind, I have juxtaposed the ideas of the loss of concepts, the noumenon, and understanding another being (at least sympathetically if not empathetically), and I stand in tension over relationships that may or may not exist. Though concepts and their underlying values may be trans-situational and even transgenerational, they remain personal and contextual. The numenon of Kant (1998/1781) and Leopold (1949) is imaginable but arguably

imperceptible, unquantifiable, and as Kant (1998/1781) suggests an "intellectual intuition, which… is not our own, and the possibility of which we cannot understand" (p. 361).

If as Shultz (2001) states, "the type of concerns an individual develops is based on the degree to which they *perceive* [emphasis added] an interconnection between themselves and other people (altruistic), or between themselves and nature (biospheric)" (pp. 336-337), and the environmentalist, as Evernden (1993) offers, is "one who experiences a *sense* [emphasis added] of value in nature" (p. 4), then like Leopold (1949) and Kant (1998/1781), I believe the sensing that Evernden speaks to goes beyond the big five—seeing, hearing, tasting, touching, and smelling—and is more about finding balance, harmony, and fit within the greater world, all of which again, may be too subjective to acknowledge or measure sufficiently by present means. This lack of standardized measure does not negate the value one could place on sensing or perceiving by a broader definition, but it does hold open the challenge of *visibly* creating or expressing the value for those that are addicted to minimizing time and maximizing dollars—the measure of numbers. Too often I have succumbed to justifying my position through a value that I do not hold as there can be pressure to appease diverse audiences. I find myself conflicted because the use of a specific tool or measure endorses a specific value. For example, by measuring profit, I can attest to the specific number of people who both had the means and desire to join a given environmental education event. I may even be able to infer the strength of a marketing campaign to a target audience but it would be a mistake to suggest that the attendance numbers could reliably speak to the quality of the experience for each individual. By using the measure of profit, the value of the experience is reduced to that of an object or commodity, with no value (or at best an averaged value) assigned to the personal encounter and resultant meaning making, which I believe is the impetus and the true goal of the happening in the first place.

Evernden (1993) captures this betrayal experienced by the environmental educator arguing that, "monetary evaluation distracts us from the fact that the values at issue are not economic in the first place" (p. 11).

With these ideas in mind, I hold my tensions between that which is valued, that which is perceivable, and that which is measurable: Somewhere within this space is the importance I place on the experience of nature and the value of environmental education. The meaning goes well beyond curricular or factual to something conceivable but quite possibly immeasurable, at least in quantifiable terms. Not unlike the Crow's loss of concepts or Leopold's (1949) woodcock, its value is known in its presence, lamented in its absence, and never fully understood as its meaning seems to be just beyond explanation.

Determining Primacy: Natality and Succession

If there is to be any confidence in an earthly, or *eaarthly*[22] future, I believe we must be able to create or rejuvenate processes and values that will guide us in living ecocentrically, eco-justly, or at least sustainably. We need to awaken from our consumption-induced drowsiness and re-imagine our individual, societal, and planetary well-being, and recognize in the depth of our conscience that humans are at the core of the crisis: this a problem of people, symptomatically and consequently felt as ailments of the earth and its living and non-living entities. But how does one prioritize and mend an entire planet?   Possibly by embracing the processes of renewal.

To consider the natural processes of creation and renewal, the concepts of *birth* and *re-birth* come to mind. Arendt (1958) offers *natality* as not only the birth of the individual but the

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[22] My use of the word "eaarthly" draws from an earlier reference in which Bill McKibbon has suggested the renaming of our planet to "Eaarth," as he believes our actions have rendered this place a different planet that no longer resembles that which we knew as Earth (McKibben, 2010).

re-birth of the world: "the miracle that saves the world, the realm of human affairs, from its normal, 'natural' ruin is ultimately natality. . . . the birth of new men [/women] and the new beginning, [and] the action they are capable of by virtue of being born" (p. 247). In thinking about *natality*, Champlin (2013) adds the following interpretation of Arendt's (1958) idea:

> She introduces "natality" as a conceptual moment when one is born into the political as the sphere where acting together can create the truly unexpected….we must think of an emergence into a social world that both allows one to find one's place but at the same time remains radically open to change. (p. 151)

Champlin (2013) continues, writing that "Natality calls on the idea of birth and re-birth in an iteration that can change the quality of the system. One more person may belong to the given society *or* [emphasis added] fundamentally change it" (p. 164). Both Arendt (1958) and Champlin (2013) emphasize action and change as part of natality and both also bring forward a social or political context, Arendt (1958) with *realm of human affairs*, *men* and *they*, and Champlin (2013) in his reference to *political* and *a social world*. While I feel that their words strike a chord of optimism with the potential that newness brings, especially when considering the state of the planet, I suggest it is prudent to be cautious of newness that is not tempered with a gaze to the past. Cullinan (2011) offers a connection with natality in his characterization of societal formation but also brings forward the importance of a backward glance:

> A society can be regarded as the collective creation of those human individuals that constitute it. A society will come into being when a number of individuals first conceive of themselves as having a group identity and then begin to act in accordance with those beliefs and to structure and order the relations within the group. This is a continuous and

ongoing process involving the generation and development of theories, values and systems" (p. 56).

I am optimistic but cautious of these ideas as *newness, birth*, and *coming into being* are not synonymous with exclusive and unabashed benefit or the correction of past gaffes. Generational rebirth has, not just the potential, but also the tendency to discount or dishonour lessons and knowledge from the past, as primitive structures and technologies seem misplaced and antiquated in the reality of the *new*. New thinking and action is undoubtedly required if the atrocities of anthropogenic climate change are to be abated but at some point in our not too distance past, *was it not newness that shifted us into this particular tailspin?* I imagine the bafflement of a young developer, wanting desperately to build in a river's floodplain but being denied this prime real estate time and time again due to policy and law based on a hurricane decades prior to his birth. How is a thirty, forty, or fifty-year-old going to contextualize the historical and imminent reality of the hundred-year flood cycle, whereby a river breaches its banks to reclaim its natural territory? If there are shortcomings of natality or reformation, they may be a temporal distance from and dismissiveness of the lessons of our past, as well as lack the vision to recognize upon whose shoulders we stand to take our privileged view.

If one were to explore re-birth or renewal through the environmentalist's lens, *succession* might be the term more common in conversation. Succession offers insight into the change over time of natural communities, or "the gradual replacement of one community of living things by another" (Andrews, 1986, p. 57). Odum (1969) considers ecological succession to be defined by three parameters:

(i) It is the orderly process of community development that is reasonably directional and, therefore, predictable. (ii) It results from modification of the physical environment by the

community; that is, succession is community-controlled even though the physical

environment determines the pattern, the rate of change, and often sets limits as to how far

development can go. (iii) It culminates in a stabilized ecosystem in which maximum

biomass (or high information content) and symbiotic function between organisms are

maintained per unit of available energy flow. (p. 262)

 Consider a barren landscape where no signs of life are apparent. Wind or animals passing

through this area drop seeds of *primary*[23] plant species. These seeds are specially adapted to

what many plants might deem harsh conditions and are therefore able to be moved into areas

uninhabitable by others and establish or create the conditions they need to survive. It is by way

of the cycle of living and dying in this environment that they change the qualities of the space,

making it more hospitable for other life forms, such as secondary plants, decomposers, or other

animals, and ultimately less hospitable for themselves and their progeny—they alter the

environment thus reducing its suitability for their own kind. This process of augmenting the

environment and creating an ever-changing community continues until a climax community—

one defined by offspring that are able to flourish within the shadow of the parent organism

(Andrews, 1986)—is reached, or the area is returned to its barren state by fire, flood, or another

event of renewal. Odum (1969) also draws parallels of societal evolution and eventually

homeostasis, referred to as *human ecology*, with succession and the achievement of a climax

community:

In the pioneer society, as in the pioneer ecosystem, high birth rates, rapid growth, high

economic profits, and exploitation of accessible and unused resources are advantageous,

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[23] A primary species, be it plant or animal, is the first species to arrive when considering a lifeless environment and tends to first thrive in conditions unsuitable for the vast majority of species. However, in altering the environment through its success, it makes the environment less favourable to its own successive generations, and more favourable to another species (Andrews, 1986).

but, as the saturation level is approached, these drives must be shifted to considerations of symbiosis (that is, "civil rights," "law and order," "education," and "culture"), birth control, and the recycling of resources. A balance between youth and maturity in the socio-environmental system is, therefore, the really basic goal if man as a species is to successfully pass through the present rapid-growth phase… to the ultimate equilibrium density stage, of which he as yet shows little understanding and to which he now shows little tendency to adapt. (p. 269)

A common element to both natality and succession is that both are processes whereby the world is more amenable to successors rather than predecessors. This transitioning is catalyzed not by changing the species but rather the environment. Those able to adapt may flourish while others will decline. This is just one mode of renewal within the short term of human generational time[24]. Natality also offers renewal of another familiar process, *education*. Arendt (1977) proposes that education as renewal is imperfect but what we are trying to accomplish is not necessarily perfection, just the opportunity to improve:

 We are always educating for a world that is or is becoming out of joint. . . . To preserve the world against the mortality of its creators and inhabitants it must be constantly set right anew. The problem is simply to educate in such a way that a setting-right remains actually possible, even though it can, of course, never be assured. (p. 189)

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[24] It is important to note that in using the term *short term* when considering the generational cycles of species, I am using a number defined within each species, not an absolute timeframe that is easily compared. A generation of one species may be a few hours, while in another, like humans, is measured in years or decades. Mutations, which allow for a change within a species, not just the individual, occur over generations, creating a new species or variant of the species, and represent change over longer terms than being discussed here.

Odum (1969) shares the opinion that education has a part to play, but he simply asks that we start teaching ecology early, preferably by third grade.

Odum (1969), as a theorist and researcher, has had a significant impact on the works of many that have followed him, with thousands of citations, primarily in the diverse fields of ecology and biology, including aquatic chemistry (Stumm & Morgan, 1981), plant ecology (Grime, 2006; Larcher, 2003; Oliver & Larson, 1990), biodiversity (Tilman, 1982; Whittaker, 1972), metabolic theory of ecology (Brown, Gillooly, Allen, Savage, & West, 2004), sustainable development (Daly, 1996), insect ecology (Price, 1997), and marine ecology (Valiela, 2013). His ability to transpose the processes of ecology to that of social scaffolding makes his ideas not only relevant to the environmental educator, but of such importance that they reach a doctrine-like status. Arendt (1958), on the other hand, is widely cited within numerous political works (Bernstein, 2005; Del Mar, 2009; Lee, 2004; Bessant, 2004; Ranson, 2012; Honig, 1991; Corbett, 2015), discussions of feminism (Guenther, 2012; Paini, 1997), social justice (Santoro, 2010), and a varity of aspects within education (Gibbons, 2007; Lund, Panayotidis, Phelan, Towers, & Smits, 2003; Meyer & Fels, 2014), but I would suggest is less well known within the environmental education. Yet here too, her words have relevance, if not on their own, in tandem with Odum (1969) and others.

If we consider that education is a process embedded within natality, then one step towards renewal of the planet would logically be taken within education. If we could hope that Orr's (1994) principle whereby "all education is environmental education" (p. 12) were to become widely adopted, environmental educators could breathe a sigh of relief knowing that support for EE, in terms of process, time, and finances, would be forthcoming. This is not to suggest that we place the liabilities created by generations past and present at the feet of children

but rather take the lessons learned through the age of cause-and-effect type thinking and use these lessons to enhance a more systemic approach to living.   To be completely honest, I have to admit to having some doubt with such a plan as I have no anecdote of widespread global cooperation in which to foster such optimism. While natality and education may be practical in their philosophy and methodology, I don't believe they are completely sufficient.

To take this research from the wide-angled view of literature into the close and personal context of EE practitioners, one must be aware that the type of knowledge to which we offer primacy will affect not only the approach but also the possible understanding and answers we seek. Kyburz-Graber (2013) writes,

approaching environmental problems requires not only scientific knowledge but also inquiries on how people interpret and value what they came to know about a specific scientific problem….thus, environmental problems cannot be adequately approached if it is not taken into account that they are shaped by interests, needs, values, interpretations, conditions, and social contexts of the people concerned. (p. 25)

To return to the original layering of natality and succession with determining primacy, there is the potential for dismissiveness. One could read that the natural order of things is that every animal competes on its own to survive: if the order is unfavourable to some species while preferential for others, humans may simply be out competing others. However, if one understands basic ecological principles such as the principle that *an increase in diversity means an increased stability within an ecosystem* ensuring all biota maintain resiliency in their ability to subsist, then the survival strategy for human existence is to support as much diversity as possible.

CHAPTER 3

NAVIGATING THE STARS

In this research, it is my desire to consider the constellations of influence as drawn from the personal and professional journeys of four environmental educators, contemplating our individual and collective journeys as environmental educators. I also wish to better understand the perceptions of the participants as related to the arguments of authority previously outlined and bring to light their hopes and tensions as well. Jickling and Wals (2013) state, "environmental education is valuable in that it draws attention to overlooked educational priorities" (p. 69). By highlighting the narratives of environmental educators, I believe it is possible to unmask themes significant not only to their *personal* and *professional* histories but also to offer a glimpse at *overlooked educational priorities*. Minimally, I think this research will draw interest from the EE community to further define the hopes and tensions embedded within this praxis, creating greater visibility, awareness and validation of the lived experience of each story's author, and possibly uniting the collective in a better defined EE praxis. *So how does one do this?*

When considering an appropriate research methodology, the options with regards to quantitative, qualitative, or mixed methods approaches seem limitless. Patton (2015) considers the strengths and weaknesses of each approach, noting that "qualitative methods facilitate study of issues in depth and detail…without being constrained by predetermined categories of analysis" (p. 22), creating rich data but typically for a small participant group. Regarding

quantitative approaches, Patton (2015) suggests that their advantage "is that it's possible to measure the reactions of a great many people to a limited set of questions, thus facilitating comparison and statistical aggregation of data" (p. 22). Mack, Woodsong, MacQueen, Guest and Namey (2005) offer, "the key difference between quantitative and qualitative methods is their flexibility…. [with] quantitative methods [being] fairly inflexible" (p. 3), while "qualitative methods…allow the researcher the flexibility to probe initial participant responses" (p. 4). It is also worth noting that quantitative approaches typically are stronger in offering generalizable results, while qualitative methods offer understanding in context (Patton, 2015).

To consider when qualitative methods offer an advantage over quantitative approaches, Maxwell (2013) suggests five research objectives each of which are particularly well suited for qualitative methods:

1. Understanding the meaning, for the participant in the study, of the events, situations, experiences, and action they are involved with or engage in….

2. Understanding the particular context within which the participants act and the influence of this context on their actions….

3. Understanding the process by which events and actions take place….

4. Identifying unanticipated phenomena and influences…

5. Developing causal explanations. (pp. 30-31)

As the goal of this research was to achieve an understanding of the influences as well as tensions held by EE practitioners, an open, flexible process that allowed the researcher to return and probe deeper into the participants' life histories was vital to both expand their stories and verify data analysis. To this end, I considered narrative inquiry.

Narrative Inquiry

Clandinin and Caine (2008) write that "Narrative inquiry is first and foremost a way of understanding experience….[and] aims at understanding and making meaning of experience through conversations, dialogue, and participation in the ongoing lives of research participants" (p. 542). Connelly and Clandinin (1990) expand this idea, offering that narrative inquiry is multi-dimensional, being "both a phenomenon and method. Narrative names the structured quality of the experience to be studied, and it names the patterns of inquiry for its study" (p. 2). In looking at narrative inquiry through a wide-angled lens, I would suggest the field of narrative inquiry could have embedded within it some of the same definitional challenges as the word *environment,* or even some of tension I describe in determining *what is authentic EE*, an assertion with which Squire, Andrews, and Tamboukou (2013) agree: "Aside from this current ubiquity within social research, 'narrative' is also a term frequently heard in popular discourse. Often, these popular uses of the term work to connote a particularly acute understanding" (p. 2). The contentiousness is also not lost on Caine, Estefan, and Clandinin (2013), as they assert that we as researchers need to "argue for greater clarity regarding what counts as narrative inquiry (p. 575). Caine, Estefan, and Clandinin (2013) remind researchers that,

> Narrative inquiry is marked by its emphasis on relational engagement, whereby the understanding and social significance of experience grows out of a relational commitment to a research puzzle….[I]t is important that narrative inquirers carefully consider who they are, and who they are becoming in the research puzzle. (p. 577)

This point resonated with me as a researcher as I considered narrative inquiry as a methodology. I was acutely aware that while researching, I would be participating, and in both roles, I could not help but be influencing the research process, the participants' stories, and my own. Wells

(2011) and Andrews, Squire, and Tamboukou (2013) observe hat narrative inquiry is challenging

and can be overwhelming, which as noted by Squire, Andrews, and Tamboukou (2013) could be

that "narrative research offers no automatic starting or finishing point" (p. 2). With these

challenges in mind, I determined that narrative inquiry is still the most flexible and compelling

way of creating warrantable research which holds individual meaning making in as high (if not

higher) regard than generalizability but in seeking to implement narrative inquiry, I felt I would

need an approach that would be trustworthy and create discipline for me. To this end, I

determined that the most appropriate qualitative approach that would embrace the uncertainty

and untidiness of working with highly subjective and contextualized study areas must include

Pinnegar and Hamilton's (2009) Self-Study of Teacher and Teacher Education Practices (S-

STTEP) approach.

Rationale for a S-STTEP-inspired Approach

As an environmental educator and researcher, I felt profoundly understood after reading

Pinnegar and Hamilton's (2009) words, "locating a living contradiction in our practice means

paying attention to irony in our life space" (p. 58). My *tensions* and *personal* narrative could

almost synonymously replace *contradiction* and *life space* respectively. I also appreciated

Pinnegar and Hamilton's (2009) understanding of the messiness and insecurity that occur as one

enters into research and attempts to sustain resolve in the conduct of research:

> As S-STTEP researchers, what we study is not just about understanding what we do and
>
> how we do it, but also about how we can improve it (practice). In this way, we stand in a
>
> place of growth and change. Such ground is never solid and secure; it is not a ground
>
> from which foundational claims about what we know can be made, since what we know
>
> changes and evolves as we act upon it. However, as we study we develop confidence in

what we understand, how we act, and how we share what we know within the larger arena of research literature. (p. 4)

In many ways, the S-STTEP research methodology resonated with me as it acknowledged the veracity of lived experience, the certainty of intuitive knowledge, the unifying capacity of the narrative, and the transitional quality of all things learned. That which we know and experience as our truth is trans-situational not unlike values but is also transitional—it must be allowed to move and grow, to mature and evolve, like a perpetual work in progress. *But how could this type of temporal and contextualized research be valuable to others?* As Pinnegar and Hamilton (2009) suggest, it is through its honesty in the eyes of others:

The value of research is best established by the readers' judgment of the trustworthiness of the researcher of the study, the integrity of the study, and the assertion for practice presented in the account. In other words, trustworthy studies attempt to establish the accuracy of the account of the practice. They do this by constructing an account that resonates with the reader and provides insights that have the potential to improve or enlighten practitioners….S-STTEP research is judged trustworthy by others when the assertions for an action or understandings seem plausible and when results can be used to guide action in practice. In this way, studies are valuable not so much for

their contribution to knowing but because of their contribution to acting in practice. (Pinnegar & Hamilton, 2009, p. 50)

S-STTEP research is also characterized by the dual role held by the researcher, that of researcher and participant. Though the name might suggest that the researcher complete her study alone, there are rich collaborative elements as the researcher dialogues with colleagues and/or participants in a concerted effort to advance their praxis.

Pinnegar and Hamilton (2009) offer that S-STTEP methodology places emphasis on "self in relation to other" (p. 107). It shares its techniques and strategies with other qualitative research methodologies, and one might expect to see interviewing, dialogue, observation, document/archive review, self-reflection, and focus groups as just some of the methods employed by S-STTEP researchers. Methods of S-STTEP relevant to the present study include narrative analysis, semi-structured interviewing, dialogic interviewing, and self-reflection practice: specifically, thematic narrative analysis was used to consider data, as well as journal reflections and a combination of question/answer responses as they fed researcher/participant dialogue.

Gaining Access to the Field

For this research, I accessed participants with whom I had a personal connection through our shared professional spaces. It was my goal to have three participants who shared specific EE career attributes:

- Ten or more years of teaching experience in environmental education;

- EE teaching experience related to the school experience but not necessarily exclusive to school (for example, camp type experiences were considered appropriate as part of the experience profile);

- EE teaching experience within Ontario but not necessarily exclusive to Ontario;

- Active employment or employment within the last three years in an EE teaching capacity.

As the interest of this study was in deeply understanding the participants' influences as they related to EE, I determined that a total of four participants, me included, would be manageable and appropriate for this research.

I approached a total of five individuals by telephone or by meeting in person to discuss my research and invite them to participate. The conversations included an overview of the research question, details surrounding what they could expect in the way of activities, timelines, locations, a discussion regarding confidentiality should they agree to participate, and an opportunity for them to ask questions about potentially participating. Of the five individuals, three agreed to review the research consent information once sent to them: one declined, and one was unsure. To avoid creating unwanted pressure for the unsure candidate, I gave her the option of contacting me should she wish to consider participating. She did not reconnect with me on this matter but continued to be in contact on other topics which I accepted as a decline to participate. The three candidates who reviewed the informed consent material all agreed to participate without hesitation (see Appendix A, Informed Consent, *Conceiving of One's Practice*).

To ensure maximum convenience for participants while also guaranteeing access within agreed upon timelines, I travelled to participants' homes or places of their choosing that were able to provide sufficient privacy for open dialogue. On one occasion, an interview was held via telephone to ensure our meeting could be both timely and considerate of the travel conditions.

Research Procedures

Pinnegar and Hamilton (2009) consider their own research and how theory and practice interrelated. They determine that researchers must arrive at their own answer to *which came first, the practice or the theory*? Rather than defining the research process post-literature review, it begins with the curiosity of the researcher. Pinnegar and Hamilton (2009) offer a framework-for-inquiry as a starting point that allows researchers to narrow their interests until they reach the focal point of their curiosity: "This Framework-for-Inquiry planner asks a series of questions that

invite reflection on practice, experience, and the issues that provoke the researchers *toward a study* [emphasis added]" (p. 40). It is a process that often involves dialogue with a colleague to assist in the refinement of the question.

To consider my process, the inquiry-planning stage was completed with multiple refinements to my initial query, honing the focus as I grappled with concepts related to my tensions. Where I amended the S-STTEP format was in choosing *not* to involve participants in this refinement. It was my decision that the opportunity to reconsider stances, questions, and practices would be available as part of the inquiry, and by introducing participants earlier in the study, I would run the risk of inadvertently skewing their narratives. While the refinement of the research question was completed in isolation, the actual research process was designed to invite a sharing of contemplations and rich dialogue, and is outlined below in four phases.

Phase 1. Written Narratives

The first phase was my request that each participant take their story to paper, creating a written version of their narrative. While I considered it desirable to keep the task completely open to individual interpretation, I provided a prompt in writing to serve both as a reminder and guide. I wanted each participant to feel that they had as much breadth and span as they saw fit for expressing their story but also did not want to burden them by *not* providing parameters (See Appendix B – *Reflecting on one's path to EE; A Participant Outline*). Narratives were collected and stored digitally in password-secured files on an external hard drive at the researcher's home.

Phase 2. Semi-structured Interview

The next phase of the process included completing a semi-structured interview with each participant. The desired outcome for these first interviews was to ensure I had a clear understanding of the participant narratives submitted in the first stage of the process, and to

verify timelines that I generated from their hard copy narratives. The semi-structured interview style was chosen because it allowed me the flexibility of employing prepared questions about each story individually, confirming and/or enhancing my perception of their narratives. It also allowed me to follow any new streams of thought that the participants offered during the retell, "probing replies in order to draw out respondents' meanings in their own terms" (Quality Research International, 2012-18).

Phase 3. Review of Researcher's Narrative

Upon completion of the first interview, participants were invited to review my narrative. A hardcopy of the story was provided to them with the knowledge that at the next interview session, we would have the opportunity to discuss our stories in relation to each other. This narrative appeared earlier in Chapter 1 within the section *The Personal Element: An Educator's Journey.*

Phase 4. Dialogic Interview

The approach to the second round of interviews was slightly different from the first interviews. For these interviews, I wished to accomplish three very different goals from the first interview, specifically:

- deepen my understanding of participants' influences and/or tensions related to EE left undeveloped from the first interviews;

- determine the convergences and divergences of the participant and researcher stories *from the perspective of the participants*;

- discuss the tensions I as a researcher/participant identified as my *arguments of authority*.

The primary difference in the second interviews was that there was a key shift in the relationship between me and the other participants: I was continuing the work of reconciling my understanding of the participants' narratives, but now the participants were offering analysis about my story and my influences. For these interviews, a more dialogic method of inquiry was emulated, described by Way, Zwier, and Tracy (2015) as,

> allow[ing] people to suspend assumptions about the world, open themselves to new viewpoints, and abandon a win–lose perspective. When interviewers engage in dialogue, participants are met by kindness and acceptance, enabling them to let down their defenses and listen to themselves. (p. 723)

One aspect of the second round of interviews that I felt was not completely supportive of a dialogic method was that the interviewee, while guiding aspects of our conversations, was not given full capacity to direct all aspects of the discussions (Quality Research International, 2012-18) as I wanted to ensure that we had the opportunity to reflect upon the arguments of authority I had included.

It was anticipated that there would be two to three interviews per participant and that the themes of prepared questions would potentially arise or be introduced at an appropriate juncture. (See Appendix C, Proposed Interview Questions, *Conceiving of One's Practice*). Each interview was expected to take between 45-60 minutes, be audio recorded, and then digitally stored in password-secured files on an external drive at the researcher's home. Interviews actually took between 90 and 120 minutes. Transcribed versions of each recording were also stored digitally at the researcher's home.

With regards to the timeline, it was anticipated that participants would complete their narratives in the first week of the research, commence with the first interviews within the next

two week period, complete a second interview within the following two week period, and potentially a third interview within the next four weeks. Due to scheduling conflicts, the entire research period from narrative to second interview was approximately six months.

Interview sessions were held at places of convenience and comfort for the participants, often at their homes but also at a local restaurant in one case. In addition to audio recording the interviews, field notes were taken during, pre-, and post-interview. Field notes were handwritten and later transcribed and stored digitally stored in password-secured files on an external drive at the researcher's home.

To offer the highest regard and effort of ensuring confidentiality, each participant's data was stored with only an alias; the key for this coding is stored in a coded file separate from the actual data.

Relationship to the Research

My relationship to the research is multi-faceted. I am a certified teacher in Ontario, qualified to teach at the junior, intermediate, and senior levels, with credentials specific to science and environmental science. I also hold a certificate in Adult Education. While I have limited experience teaching within the school system, I have over twenty-four years of experience working in an environmental education setting, working with students from grades two to twelve in both single day and overnight outdoor education experiences.

In addition to teaching, I have held roles related to education administration, engaging with a diversity of stakeholders to ensure equitable access to EE experiences. Presently I hold such a role but have occasion to provide professional development on a range of EE related topics to educators both within and outside of the school system in Ontario.

While it is acknowledged that I am within a privileged position in my present role, I was intent on conducting my research with participants outside of my organization to avoid creating tension and/or misunderstanding between the professional and researcher roles I have. I was also explicit in my description of the research, confidentiality statements, and the rights of my participants to withdraw from the research at any point during the study.

With these processes and disclosures in place, I am confident that though I knew each participant prior to this study, these pre-existing relationships did no harm and were actually of benefit to this study.

Data Analysis

Similar to the framework-for-inquiry provided by Pinnegar and Hamilton (2009), a framework-for-analysis has guided the post-literature review research, considering questions around the purpose of their study, such as what counts as data, how data will be integrated with self, the merging of data and self with the larger literature, and what new questions emerge from the study. With the purpose of the study defined earlier, this section considers primarily what counts as data. The remaining three questions regarding integration with self, merging data with self and the literature, and new questions that emerge are revisited in *Chapter 8*.

Data adopted multiple forms in this study, ranging from raw formats such as the digital/hardcopy narratives, audio recorded interviews/dialogues, transcriptions of audio files, and researcher field notes, to developed data visualizations. All data contribute to the study at hand and allow the research to maximize the depth of understanding as well as the breadth of audience. I imagine a rhizome running between Howard Gardner's (2006) thinking about multiple points of entry to any topic or discipline one desires to understand (p. 123), and Andy Kirk's (2016) definition of data visualization: "the representation and presentation of data to

facilitate understanding" (p. 19). Both thoughts seem intent on increasing the capacity for individuals to learn, Gardner (2006) by considering the individual's aptitudes and Kirk (2016) by building *bridges* that ease the transition between what one knows and may wish to know. Kirk (2016) also offers his three principles to good data visualization design—it must be trustworthy, accessible, and elegant (p. 30)—all of which are preserved within this research. While I consider trustworthiness and accessibility as being undeniable attributes one must ensure, I was pleasantly surprised to see 'elegance' as prominent within Kirk's data visualization criteria. Kirk (2016) writes:

> Elegant design is about seeking to achieve a visual quality that will attract your audience and sustain that sentiment throughout the experience, far beyond just the initial moments of engagement. This is presented as the third principle for good reason. Any choices you make towards achieving 'elegance' must not undermine the accomplishment of trustworthiness and accessibility in your design. Indeed, in pursuing the achievement of the other principles, elegance may have already arrived as a by-product of trustworthy and accessible design thinking. Conversely, the visual 'look and feel' of your work will be the first thing viewers encounter before experiencing the consequences of your other principle-led thinking. It therefore stands that optimising the perceived appeal of your work will have a great impact on your viewers. (p. 42)

With trustworthiness, accessibility, and elegance in mind, a diversity of data analysis methods and data visualization artifacts were used, including the following:

- Summaries of participant narratives (participant verified);
- *Maps of Influence* - Narrative timeline charts with preliminary coding (participant verified);

- Table of narrative themes defined, coding drawn from participant narratives;

- Sankey diagrams outlining influences on participants' careers in EE, drawn from participant narratives;

- Collective Sankey diagram outlining amalgamated influences on participants' careers in EE, drawn from participant narratives;

- Radar diagrams (*constellations of influence)* showing influences on participants' careers in EE, drawn from participant narratives;

- Collective *constellation of influence* - Radar diagram outlining amalgamated influences on participants' careers in EE, drawn from participant narratives;

- Summary of participant responses to researcher's primary tensions, *Arguments of Authority*.

Summarized participant narratives

Pinnegar and Haynes (2007) consider that "what narrative researchers hold in common is the study of stories or narratives or descriptions of a series of events…[and] usually embrace the assumption that the story is one if not the fundamental unit that accounts for human experience" (p. 4). Herman and Vervaeck (2001) indicate that,

A narrative never provides a perfect copy of the reality constituting its subject. A person who narrates what has happened to him will always summarize, expand, embellish, and leave out certain aspects of his experience. Since a narrative text is restricted to language, it will never show reality directly. (p. 14)

Reissman (2008) offers that "the fundamental difference between narrative methods and grounded theory flows from the case centred commitment" (p. 74) of narrative analysis versus theorizing across cases which exemplify grounded theory. This present study attempts to remain

true to Riessman's case centred commitment in allowing each narrative to stand alone as a singular case study as represented by the narrative summaries but also identifies themes in relation to the other participants, using thematic narrative coding. Each story becomes part of a larger story; denying the opportunity to relate it to others in field would have been dismissive of their individual contributions to a shared story.

In approaching the presentation of the narratives for this research, I determined that to meet the outcomes of honouring each participant's content, lexical choices, and tone, I would involve one of the processes of thematic narrative analysis described by Riessman (2008)**:**

> The investigator works with a single interview at a time, isolating and ordering relevant episodes into a chronological biographical account. After the process has been completed for all interviews, the researcher zooms in, identifying the underlying assumptions in each account and naming (coding) them. (p. 57)

Riessman (2008) references research conducted by Gareth Williams[25], describing his work in the following way:

> Williams reproduces excerpts or segments (some fairly lengthy, from the long interview narratives) that are interspersed in the written report with his interpretation, theoretical formulation, and references to prior theory. Speech quoted from interviews is 'cleaned up' to some degree, for his texts erase dysfluencies, break-offs, interviewer utterances, and other common features of interview conversations….Consequently, 'messy' spoken language is transformed to make it easily readable. (pp. 57-58)

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[25] The research by Gareth Williams referenced by Riessman in her example is Williams, G. (1984). The genesis of chronic illness: Narrative re-construction. *Sociology of Health & Illness, 6*, 175-200.

I acknowledge that in creating the summaries, I am *retelling* the narrative of another and in doing so, use my threefold lens as an interested member of the EE community, as a participant in the research, and as the researcher.

The first presentation of data is in the form of a narrative summary, arranged in case study chapters for each participant. This type of data presentation is used to maintain the integrity of each narrative in a summarized form. Also included within the case study chapters are sections summarizing researcher field notes from the first interview with each. Data from the second set of interviews are placed within the researcher's case study chapter as these interviews are focussed on gaining insight from each participant about my narrative.

Each participant sent their written narrative to me via email prior to our first interview. The first meeting was intended to clarify elements of the narrative, deepen my understanding of specific experiences, and to hear each participant tell their story. These meetings were audio recorded and transcribed. Rather than include both the written and oral/transcribed submissions in the raw data forms, I created a summary of each participant's story, generating a "retell"— someone telling another's story—explaining the best I could the meaning/intention behind and within each story. In making this choice, I understood that there was the potential of inadvertently changing the participant's meaning or manipulating the stories through my lens to something unintended or invalid of the participants' experiences. To reduce this bias or impact of misrepresenting the participants, three actions were taken:

- I sent the individual case study chapters via email to participants for their review, revision (if deemed necessary);

- I included a brief description segueing each narrative, conveying how the story was presented by the participant, including details from my field notes (where applicable) reflecting my reaction to their presentation choices;

- I incorporated a snapshot depicting the visual character of their chosen format for two of the three narratives. The third narrative's snapshot was excluded from the case study chapter due to the fact that the submission was in a hand-written format and had the potential of reducing the covenant of anonymity for this participant.

Each chapter ended with a summary of field notes expressing my initial thoughts after the first interview sessions and outlining reflections on intended follow-up during our next meetings.

Maps of influence - Narrative timeline charts with preliminary coding

As mentioned earlier, the maps of influence represent a primary scan or high level coding of the narratives and is based not only on organizing life events chronologically but also categorizing them generally as embedded in *tension*, depicting *hopefulness*, and/or being a turning point or *pivotal* decision-making situation for the participant. Maps of influence modestly offer some re-contextualization to the participant's story. Determination of descriptive themes within and between narratives is forthcoming in Section (c) – Narrative themes defined.

In considering how best to visualize the narrative in a referential manner, I thought about how the food chain described in Chapter 1 (see Figure 1) was able to show the energy transfer as well as *temporal relationship* of the energy flow between species—one species consumed another species and it happened in a specific order. It seemed to me that each participant's narrative structure was similar to the food chain organization with the participant's significant events running parallel to the food chain's *eat or be eaten* events: the temporality associated

with events was directly analogous.   Unlike the food chain model, generalized age periods of childhood, postsecondary education (denoted as *Post Sec*), new graduate (denoted as *New Grad*), and adulthood (denoted as *Adult*) were added to the maps of influence as were the general contextualization categories of *tension, hope*, and *pivotal*. I thought that both of these additions were necessary because unlike energy transfer events in the wild, activities and decisions at specific times in life are more or less significant in terms of the pressure and impact felt by individuals. For example, if one is to consider career choices, there is a different sense of what a career choice means as well as implications of that choice depending on if you are considering the life stage of child versus an adult or post secondary student. I'm not suggesting that the end career choice will be different—it may well endure from one age to another—but I would anticipate that the impetus, urgency, and critical factors influencing the choice are likely to change with the life stages.

In creating these maps of influence, one is able to convey a *visualization* of the data that had only been available through oration or studying text. As was acknowledged, the map is a simplification of each participant's narrative and lacks the rich descriptiveness of the full story but does allow for clearer referencing and comparison to the other stories. A portion of one of the maps appears in *Figure 3 – Subsection of Marion's map of influence,* showing a segment of Marion's narrative timeline as a postsecondary student. To read the map of influence, consider that:

- The label, **Post Sec,** indicates the life period, *postsecondary*;

- The **arrow** signifies progression through the life periods with the right terminus
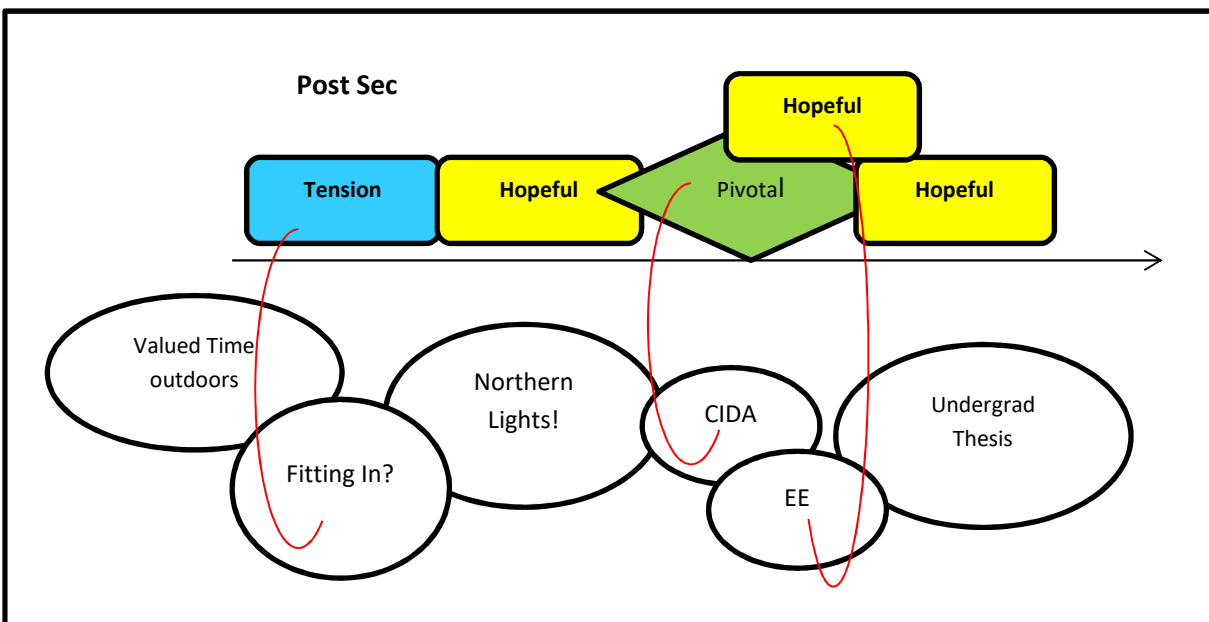
Figure 3. Subsection of Marion's narrative timeline

indicating more recent experiences relative to the left terminus. In each map, the arrow

continues for two or three lines (stacked) with the upper most line indicating earlier

experiences than lower lines (not apparent in Figure 3);

- The **ovals** or **bubbles** encapsulate significant moments, activities, or thinking of the

participant. The bubble's size does not denote significance but rather the space

necessary to contain the thought only;

- The **rounded rectangles** indicate the high level coding of events/experiences as either

tension in a blue rectangle and/or *hopeful* in yellow. The word, *tension,* is meant to

convey personal conflict or uneasiness with the situation but does not suggest a valuing

of good or bad. The word, *hope (*meant only as a shortening of hopeful*),* denotes an

enlivening or aspirational experience. Where the rectangle was easily positioned over a

bubble, the coding references that bubble. Where there are double codes applied to one

bubble, or where there are multiple bubbles under one coded rectangle, a red 'hook' has

been used to clearly show the intended labelling.

- The **green diamond** represents an event or situation where a decision or choice was

  being made related to the participant's journey to and within EE. Note that an event may

  have a *tension* or *hope* coding as well a *pivotal* coding.

Each map was created independent of the other maps with coding common to all. As with the

narrative summaries, the maps were sent to each participant for their review and revision to

ensure accuracy and reflectiveness of the story.

Narrative Themes Defined

Within the maps of influence, the high level coding labels *of hope, tension*, and *pivotal*

were used to aid in categorizing events.   The next stage of analysis was completing a close

reading of each narrative at which time I was able to discern underlying themes emerging. I felt

that it was important to consider each participant's narrative independent of all others, wanting to

ensure that their stories and themes were autonomously considered, honouring the individual.

After analysis of each narrative was completed, I reflected collectively on the themes that

emerged. The process as to how I completed this analysis is outlined below.

Phase 1. Preparing transcripts and creating meaning units

To ensure I was seeing as many themes as possible, I re-transcribed each narrative into

what Riessman (2008) would refer to as "thematic stanzas, or meaning units" (p. 35), looking at

the tone of the conversation, the emotive qualities, as well as the intellectual content. During

each read, I jotted key words or phrases on sticky notes that captured my initial reaction to each

meaning unit. The notes were placed in order according to the transcript. It was not an easy

process: I read and then re-read the transcripts multiple times to ensure that I was not simply looking at the superficial ideas. Each narrative was reviewed individually and coded individually.

Phase 2. *Reviewing and amassing meaning units*

Once I had completed the initial review of each transcript, I studied the sticky notes to determine which stanzas were unique and which could be considered parallel or similar to others. This exercise was completed within each narrative, not comparatively. When similarities in meaning units arose, I reviewed the thematic stanzas to determine if they actually shared a theme or stood alone. An example of two units that blended into one was when a specific stanza was describing the inquisitiveness of a child's experience and another describing curiosity. While it is arguable that they could be unique, I determined that the theme best applied was *curiosity*.

Phase 3. *Reviewing meaning units between narratives*

As I became satisfied with the coding within each narrative, I reviewed the final sticky notes between participants. Similar to reviewing the coding within narratives, I read meaning units that my coding suggested were similar and determined which would stand alone and which would be considered comparable in nature. This close reading resulted in a total of seventeen themes (see *Table 1 – Narrative themes defined*) amongst all of the participant narratives.

Phase 4. *Limiting bias*

Steps taken to limit bias where two-fold. The first choice I made was to review my story after all others had been completed. Because I was closest to my own story, I wanted to not only ensure I was reading my story with the least amount of preconception or assumption, I also wanted to ensure that I was reviewing in the most disciplined manner, something I felt would be most acutely developed near the end of the exercise. The second choice I made was to have

participants review their "case" chapters and offer their feedback on these chapters. While it was not the same as reviewing my coding of each meaning unit with them, it did ensure that I was hearing their story and clarifying my understanding of it with their input.

Phase 5. Defining themes

The final phase involved describing each narrative theme. Through my research and my career, I have indicated the frustration of using language which has shifted in meaning, so it seemed prudent to define something as important as the narrative themes to ensure maximum understanding of the intended meaning.

Table 1 - *Narrative themes defined*

Narrative theme	Definition of narrative themes
Activism	Engaged in activity of/for political or social change
Adventure Seeking	Engaged in activities that were exciting, independent, and/or risky for them
Argument of Authority - *accounting of learning*	Engaged with the idea of measurement and/or warrantability of measures as it relates to EE
Argument of Authority - *authenticity*	Engaged with the concept of determining what is true EE, valued as EE, or what counts as EE
Argument of Authority - *integrity*	Judged their personal accountability as it relates to EE
Argument of Authority - *determining primacy of lifeforms*	Engaged with the concept determining primacy of lifeforms, valuing lives both inclusive and exclusive of humans, and valuing life unto itself
Argument of Authority - *privilege*	Acknowledged their opportunities and advantages relative to others as it relates to EE
Awestruck	Experienced feelings of wonder and/or reverence
Sense of belonging	Felt a sense of acceptance
Burnout	Felt emotional and/or physical exhaustion resulting from unresolved stressors
Curiosity	Felt inquisitive and energized by learning new things
Disconnected from nature	Felt a lack of engagement with natural world and/or outdoor pursuits
Misalignment	Sense of identity is out of synch with their goals, ambitions, or truth
Political willfulness	Possessed strong feelings and/or directed action towards governing bodies
Sense of place	Felt a strong connection to a particular location, site, or landscape
Sense of professional identity	Felt an awareness or attunement to a career path
Validation	Felt affirmed in their abilities and/or choices

Sankey diagrams

The Sankey diagram is not the typical tool or chart that a researcher completing a qualitative study consider, *but why*? Riehmann, Hanfler, and Froehlich (2005) describe the Sankey diagram in the following way:

> Sankey diagrams are traditionally used to visualize the flow of energy or materials in various networks and processes. They illustrate quantitative information about flows, their relationships, and their transformation. Sankey diagrams represent directed, weighted graphs with weight functions that satisfy flow conservation: the sum of the incoming weights for each node is equal to its outgoing weights. (p. 1)

Key words and phrases in their description that might steer a qualitative researcher away from a Sankey diagram include *flow of energy*, *networks, processes*, *quantitative information*, *directed, weighted*, and *the sum of incoming weights for each node is equal to the outgoing weights*. This tool seems well matched to engineering or computer studies! Riehmann, Hanfler and Froehlich (2005) used interactive Sankey diagrams to "explore complex flow scenarios" (p. 1) such as the energy flow through a city. Wongsuphasawat and Gotz (2012) used the Sankey diagram to show "event progression pathways" (p. 2659), again using software allowing interaction and manipulation of data to better understand the impact of changes to flow. To consider a static Sankey diagram application, Papargyropoulou, Wright, Lozano, Steinberger, Padfield, and Ujang (2016) employed the Sankey diagram to study food waste within the hospitality sector. While each of these studies share a quantifiable aspect, two of the studies are ultimately interested in better understanding a social issue.

As I reconsidered Riehmann, Hanfler, and Froehlich's (2005) description through a qualitative lens, it seemed to me that the energy flow diagrams presented in *Figures 1* and *2* offered a parallel to the *flow of energy and materials* considered in the studies mentioned. I also considered the potential of other data visualizations that may on the surface offer a similar graphic representation, such as bar and line charts, but found that they fall short in the depicting the emergence of new themes or the re-emergence of themes previously encountered during another period. In consideration of Kirk's (2016) criteria for good data visualizations and the employment of Sankey diagrams in the aforementioned studies, I determined that the Sankey diagrams met the requirements of being accessible, elegant, and trustworthy, and would be an appropriate data visualization tool to show the flow of themes/influences related to EE throughout the lives of the participants.

In this study, the coding of narrative themes over the four life periods was recorded for each participant. The frequency of each code's appearance within a life period was recorded as the *weight* of the code, hence having the capacity to change. Intensity of the situation/context in which a theme was coded was not considered as part of the weighting. The manner in which I have defined the weight of the code has the potential to be confusing as it could be construed that a greater weight is equal to greater significance or intensity which is not the intention of this research and is recognized as a limitation of this study.

Once the data was weighted, it was then entered into the SankeyMATIC[26] (Bogart) online software for initial diagram generation, which was then downloaded, labelled, and formatted. One of the formatting decisions I made was to shift the orientation from the typical landscape

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[26] The SankeyMATIC online tool code is built on open source software which can be found at github.com/nowthis/sankeymatic.

presentation (flow moving from left to right) to a portrait presentation (flow moving from bottom to top). I preferred this orientation as it allowed me to envision the multi-directionality of the rhizome concept through this particular data visualization technique. Individual Sankey diagrams are included in *Chapter 8.*

Collective Sankey diagram showing amalgamation of participants' influences

The collective Sankey diagram compiles all participants' themes as they were related to the age periods, displaying the data in one unified diagram. Weights for each theme per age period were determined by adding common theme/period weights together. All treatments with regards to production used the SankeyMATIC software. Download, labelling, and formatting were the same as for the individual participant diagrams.

Radar diagrams (constellations of influence)

Radar diagrams[27] are another way of showing the weighed theme data, creating a constellation-type visual for analysis. *But why use two different data visualization tools to represent the same coded data?* An additional data visualization format offers a different view or dimension using the same data. Like Howard Gardner's (2006) work that considered multiple entry points or lenses for learning, I offer that representing the data in multiple formats has a greater potential to see connections, patterns, and divergences that may not have been as apparent with one format alone. Another advantage to displaying the same data in multiple formats is that individuals may be able to interpret one style more easily than other, thereby creating more accessible data analysis. As an example, I am able to read the Sankey diagrams more quickly and fluently than the radar diagrams but this preference and/or affinity that I show should not limit the opportunity for others whose fluencies lie with the radar diagram. It is worth

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[27] Radar charts or diagrams may also be referred to as spider or star diagrams.

noting that there are multiple other data visualization formats that could have been used within this research but I determined that having three data presentation formats (narrative, Sankey, radar) would be sufficient in number and offer appropriate of diversity of data expression.

Radar diagrams create what I think to be a most interesting visual and, as I have referred to previously in this research, parallel the essence of a constellation not only with their two-dimensional appearance but the depth and layers of information that each data set represents. While interesting, they are not as intuitive to read as other charts so I have included two examples that explain element of reading a traditional radar diagram, and then a third example to explain how I presented the participant radar diagrams for review in this research. It should be noted that all radar diagrams presented in this research were created using the chart creation functions of the software, Microsoft Office Professional Plus 2010 (version 14.0.7015.1000).

Elements of a typical radar diagram could be compared to a dart board. Each has multiple axes emanating from a central point like spokes and each also has concentric lines forming repeating shapes of increasing size emanating from the central point, similar to the ripples when a stone is thrown into still water. Unlike a dart board, in a radar diagram, the concentric shapes emanating from the central point of dart board are always equidistant from the adjacent shape. As well, if considering the labels of dart boards and radar diagrams, dart board labels the wedge between two axes, while in radar diagrams, the axes are labelled.

Figure 4 shows elements of the radar diagram with the dart board as a point of reference.
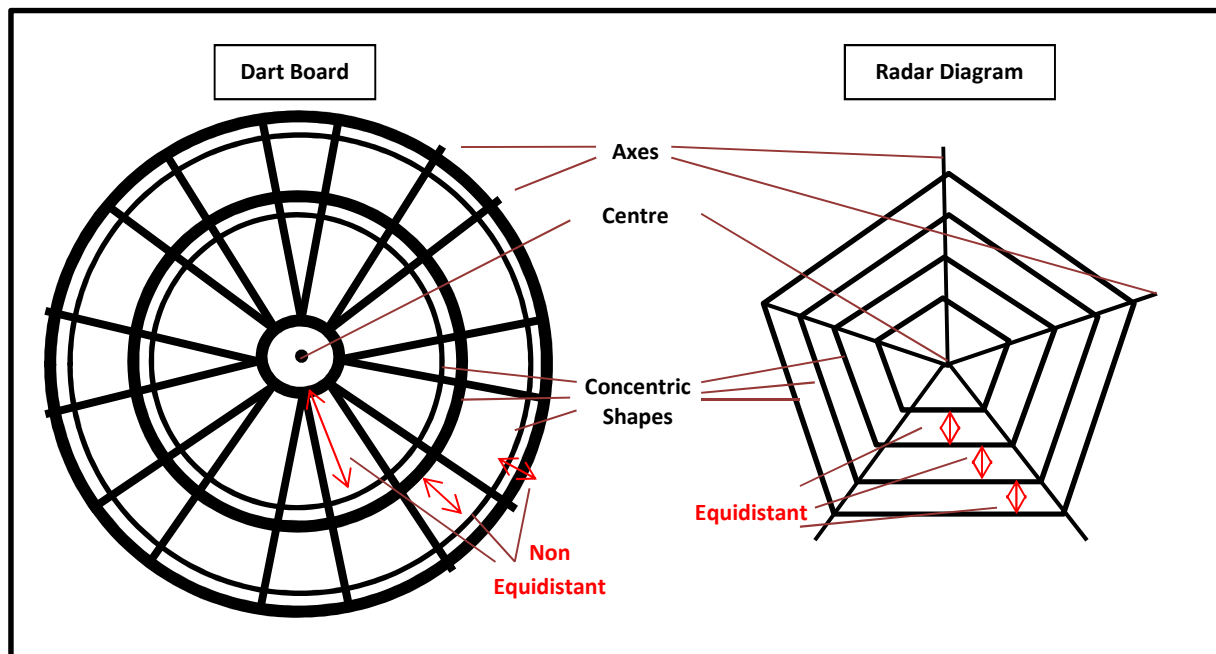
Figure 4. Elements of radar diagrams

To understand how data are plotted on a radar diagram, consider *Figure 5 - Relative Abundance of Herbivores*. Each of the five axes represents a species of herbivore and each step of the concentric shape emanating from the centre-point represents the abundance scale, labelled in *Figure 5* with numerals in red. The plotted points may then be connected and filled (as seen in Figure 5) or may be left detached. This diagram shows the shape skewing along the chickadee axis indicating the greater relative of abundance of this herbivore compared to others. More complex radar diagrams may add multiple categories of variable on the same chart, offering superimposed data for analysis.
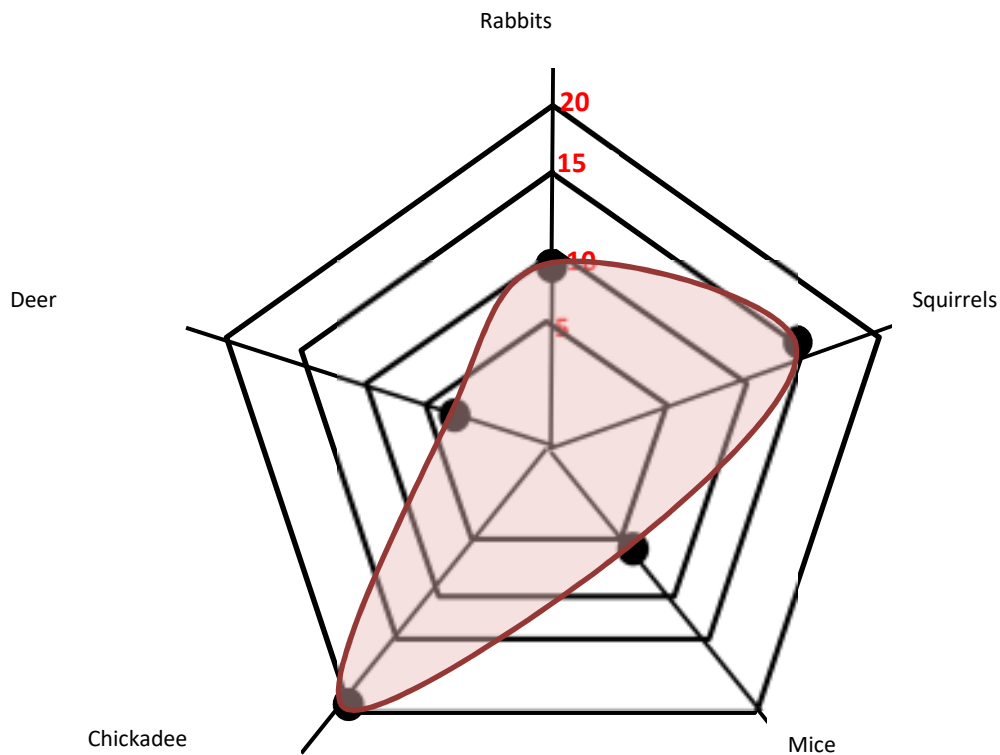
Figure 5. Relative abundance of herbivores

In working with the data for this study, I configured the radar diagram in a slightly different way than the traditional format just described. The data to be plotted had three aspects rather than two: the age period of the participant, the themes related to each age period, and the relative magnitude of each theme within specific age periods. To explain how to read this version of a radar diagram, I refer to *Figure 6 - Radar Diagram Sample*. The data contained within the radar diagrams are the same data as are represented in the Sankey diagrams. Each shows the narrative themes displayed by life period with a magnitude assigned. The magnitude is based on the frequency of the theme emergence in the coding of the individual narratives as per the Sankey diagrams.

Breaking down the interpretation of the modified radar diagram, I begin with the data variable, *age* or *life* period. As was noted in the Sankey diagrams, four age periods were considered: childhood, postsecondary, new graduate, and adult. Referring to the diagram keys, the age periods are noted by referring to the Axes Key, marked in green font within *Figure 6*. In

Radial Display Key

Sense of prof. identity	10
Arg. of auth. (authenticity)	11
Sense of place	12
Misalignment	13
Sense of belonging	14
Curiosity	15
Adventure	16
Validation	17
Arg. of auth. (integrity)	18
Activism	19
Awe	20
Arg. of auth. (det. primacy)	21
Arg. of auth. (acc. of learning)	22
Political sensitivity	23
Arg. of auth. (privilege)	24
Burnout	25
Disconnect with nature	26

Axis Key

Child	Axes 1-3
Post Sec	Axes 4-10
New Grad	Axes 11-15
Adult	Axes 16-20

Figure 6. Radar diagram sample

referencing the diagram, it can be seen that there are 20 axes to this particular diagram, each labelled with a green number. Looking at the Axes Key, it can be seen that data plotted on axes one to three references childhood themes, axes four to 10 are postsecondary in nature, eleven to fifteen are new graduates' themes, and sixteen to twenty represent the adult period. Data plotted on an individual axis represents data belonging to a specific age period.

The other legend or key represented by red font refers to the *Radial Display Key*. This key contains the narrative themes determined for Marion, with each assigned a numerical label.

On the diagram, the concentric, circular shapes emanating from the centre point are marked with red numbers that begin at 0 and increase by steps of 5 until the upper limit of 30 is reached. If one looks at the concentric ring marked "10" and references the Radial Display Key, one can see that *Sense of Professional Identity* is the narrative theme referenced by "10". By referring to the diagram, it can be viewed that there is a total of 4 black dots at various points along the "10" circle, denoting that during each of the four life periods, *Sense of Professional Identity* was a theme of some significance.

The final piece of information conveyed in the radar diagrams is the weight or magnitude of each theme as it is considered against the age periods. The weight is conveyed by the relative size of the data marks or 'dots' place on the radar grid. The size of the dot was determined by the frequency in which a theme was noted per age period, the same as the weighting within the Sankey diagrams. The smallest size of dot represents a theme that was mentioned only once in a particular age period, as can be seen with the dots marking axes 2, 6, 7, 10, as well as others. In comparison, a frequently mentioned theme in a particular age period shows a much larger data dot, such as can be seen on axes 17 and 19. While the size of each data point can be difficult to discern on its own as a magnitude, the data points are useful in seeing at a glance the themes that were more frequently influential at a particular time of life. It is also useful to compare the consistency of the influence of a theme over the various life periods. It can be seen that the largest data point occurs in adulthood (axis 17) and falls on the theme of *Argument of Authority – Authenticity*. This theme, while the largest of all data points, occurs only during adulthood, while the theme, *Sense of Place*, occurs with smaller magnitudes across three age periods (axes 1,9, and 20). Other factors worth noting about the radar diagrams include:

- the number of axes per participant varies by the number of themes represented in
  each of their age periods as well as the emphasis placed on each age period in
  their narrative as each participant determined how much time was spent
  discussing each period;

- all themes do not appear for each participant;

- joining adjacent points together has the effect of creating a shape or constellation
  for comparison to other constellations. It should be noted that if comparing with
  other constellations, the order of the themes of the radial display must remain
  constant or the constellation loses any value for comparison. For the upcoming
  radar diagrams, the radial display is ordinal in nature.

Collective radar diagram showing amalgamation of participants' influences

The collective radar diagram is another way of compiling all participants' themes as related to the age periods. As in the case of the Sankey diagrams, weights for each theme per age period were determined by adding the data of common theme/period weights. The Microsoft Office Professional Plus 2010 (version 14.0.7015.1000) software was used to create the collective radar diagram.

Summary of participant responses to researcher tensions, *Arguments of Authority*

The participant responses to the researcher's (my) most prominent tensions are presented as a compilation of the three, second interviews. Like the narrative summaries offered for each of the participant stories, this compilation offers direct quotations by each participant to theme areas initiated by the researcher and/or the participants. It is important to note that the dialogues were conducted as three separate events with individual participants but the dialogues have been

presented as a compilation. Participants were never together (as in a focus group) for the second interviews.

The conversational format and reflection on the researcher tensions by the participants demonstrates the most explicit connection of this research to self-study—participants shared their thoughts on the relationships between our narratives and their thoughts about the arguments of authority I presented. These dialogues were an important aspect of the S-STTEP methodology, as the validity of the research is found within the acceptance of the reader, colleague, and participant (Pinnegar & Hamilton, 2009).

Limitations of the Study

While I am confident in the processes I have outlined regarding this study, there are limitations which must be considered. Time was one of the greatest limiting factors and impacted considerations such as the number of participants that could participate as well as the geographic range which could be covered reasonably. I believe that this study could have raised more tensions, considered more varied EE contexts, included more extensive reflection, and connected with more participants, but I am confident that within its limits, this study has had the capacity to respond appropriately and meaningful to the queries posed.

As the researcher initiating this study, I have contemplated extensively the advantages and disadvantages of conducting such an investigation. My extensive experiences within the field of EE have afforded me greater access to both existing knowledge and participants in a very active time in EE's history. As well, my progression from an entry level position in this field to one of management has given me opportunity to gain perspective from many angles. However, each of these would-be advantages could also be seen as detrimental in such a study if left unchecked. I acknowledge that my familiarity has the potential to lead to partiality in selection

of the participants. It is also worth considering that my opportunity to experience many aspects of EE can also lead to pre-disposed assumptions of understanding.   But with these factors clearly exposed and the process of review with the study's participants at regular intervals, I am confident that the integrity of this research is maintained.

Significance of the Study

A study such as this one makes no promise of generalizability or the creation of a master narrative for the EE practitioner. What is does offer is the opportunity to consider this practice in relation to others within the field and reflect upon the similarities and differences in our approach and reconciliation of tensions. In understanding the influences and challenges of praxis, we are offered an additional way of thinking or piece of the puzzle that fits within our own story, allowing us individually and collectively to understand the behaviours and actions that will lead us closer to the goals and objectives that brought us to this particular calling. While a collective identity was not the aim, giving voice and acceptance to that which makes an educator and *environmental educator* may have removed some of the burdens one carries, allowing more energy and effort to be directed towards a better praxis in EE, stronger support for that which we value, and a healthier, balanced planet for all beings.

CHAPTER 4

MARION'S NARRATIVE

I anticipated Marion's story. It immediately took me by surprise and yet knowing Marion as I do, I shouldn't have been surprised at all. Marion has been an environmental educator for more than 18 years and I have been witness to many of those years, admiring her creativity and non-traditional way of thinking, so seeing her narrative crafted with multiple colours, shapes, and line structures really shouldn't have surprised me, but it did. I remember feeling a little envious that I hadn't been so imaginative with my own story.

Marion's Story

Marion's story began with the declarative statement, "My path to environmental education began in the woods." She told of the strong rural influence and the conscious, deliberate efforts made by her parents to ensure she and her siblings had every opportunity to engage with nature, validating the successfulness of their efforts with the simple but powerful assertion, "[f]rom a very young age, I loved being in nature."

Marion grew up visiting the provincial and national parks with her family, holding great admiration and respect for the staff she met there. These environmental educators and natural

heritage interpreters were significant figures in Marion's life, building upon the passion for being in nature kindled by her parents—she was determined to follow in these educators' footsteps.

Following high school, Marion chose to continue her education in a post-secondary setting feeling "most connected to nature and engaged at university." She reflected "I am happiest when I am a student. I love being surrounded by like-minded people who were also trying to solve the world's problems and figure out how they fit in." Her expression of this peer group as being *like-minded* was in reference to their caring approach to the environment as well as their desire to spend free time in outdoor pursuits, much like her.

Marion shifted her story from the timeline she was keeping to express the poignancy of a natural phenomenon that impacted her deeply, the Northern Lights. She conveyed, "I can't talk about my path to (and through) environmental education without mentioning the northern lights. Northern Lights are magic. I have a physical reaction when I see them."

While in university, Marion was able to travel abroad through a government aid program, the Canadian International Development Agency[28] (CIDA) seeking to enhance social and environmental development. She recalled that while her peers engaged with the forestry activities assigned, she "[drifted] away to chat with elementary school students about their lives." This was a "pivotal experience" for Marion, bringing education and her passion for the environment together.

As she moved beyond her post-secondary lifestyle, Marion recalled working within the non-profit sector in northern Ontario—her "first 'real' job." The opportunity did not go as planned, leaving her with a sense of being "way beyond [her] depth," finding comfort in the time

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[28] CIDA "delivers Canada's official development assistance around the world, working to reduce poverty, promote human rights and support sustainable development." (Government of Canada)

where she could facilitate teaching, learning, and sharing." She reflected that "after experiencing serious burn-out, it was time to leave the north and start over. I had no idea what I was going to do, but I knew that I wanted to stay in environmental education."

Marion then did something that surprised her university friends and even herself—she left the north, moving to *Toronto*. Her impetus was a fresh start and "you have to go 'where the jobs are' and for the most part, the jobs are in the city." She quickly found work with the local conservation authority (CA), noting that it was here that she learned "how to navigate support systems—natural, professional, organizational, financial, societal—you name it." She was able to direct her career path from teaching and facilitating into management but was aware of a tension that was building with these transitions. She was finding it a challenge to be able to typify the lifestyle and commitment to an environmental ethos that she endorsed to others. In her words, "I spent so much more time talking about how we wanted other people to live, and so much less time actually living that way." This reflection was an enduring tension that continued to follow her throughout her narrative.

Marion left the CA but remained a significant figure within the environmental education by working in the non-profit sector. She found herself continuing to question environmental education, not for its values or intentions but rather how we engage others in it. She asked some big questions of herself, including "Is there really a space for innovation and creativity within environmental education?...Do we actually want recycling? robots...Is fostering nature connection enough?" Her questions reflected the conflict she was feeling in setting expectations for her learners that she struggled with in her own life: "I had a childhood steeped in the woods—I love nature! And I live in the city, sit at a desk all day, have a terrible work-life balance, eat take-out…I have felt more out of synch with the natural world."

As Marion's retrospective shifted to her present-day situation, she noted her gratitude and good fortune for being within her EE career. But she continued to pose even deeper questions of EE praxis:

> How [can we] redefine success in this field so that it doesn't mean we have to give up so much of what started us on this path? How can we develop new standards of practice (maybe through organizational development and reframing) that call us to 'walk the talk' more easily and achieve balance?

Marion narrative ended as creatively as she began, but rather than the sense of joy and contentment that adorned her childhood, there was a humbling tone and sense of culpability, not because of EE but rather the lack of conclusiveness in how to best facilitate learning that embodies an environmental ethos while guiding students on a path towards a thoughtfulness of the natural world. Her statements were hard to read, not because of any disappointment I felt in Marion—I celebrate her honesty and vulnerability. My disappointment was in EE. She self-assessed as failing many of EE's teachings: she takes long showers, she spends too much time in front of screens, and she eats take-out. As an environmental educator, she was feeling the relentless professional and personal scrutiny to be better.

Her final remarks reflected her lifelong commitment to engaging with the natural world, but she questions if these actions and activities have created the desired outcome:

> I am a product of the kind of nature-connected childhood that we are trying to foster.
> I could name more local tees than corporate logos.
> I knew what compost was and how to make it.
> I slept in a tent.
> I went on field trips to outdoor education centres.
> I did all the activities listed in the Children's Outdoor Charter.
> I ended up here.
> Is this really what an engaged environmental citizen looks like?

Figure 7 represents Marion's narrative timeline showing pivotal events as they relate to her choices in EE, times of hope, as well as times of tension.
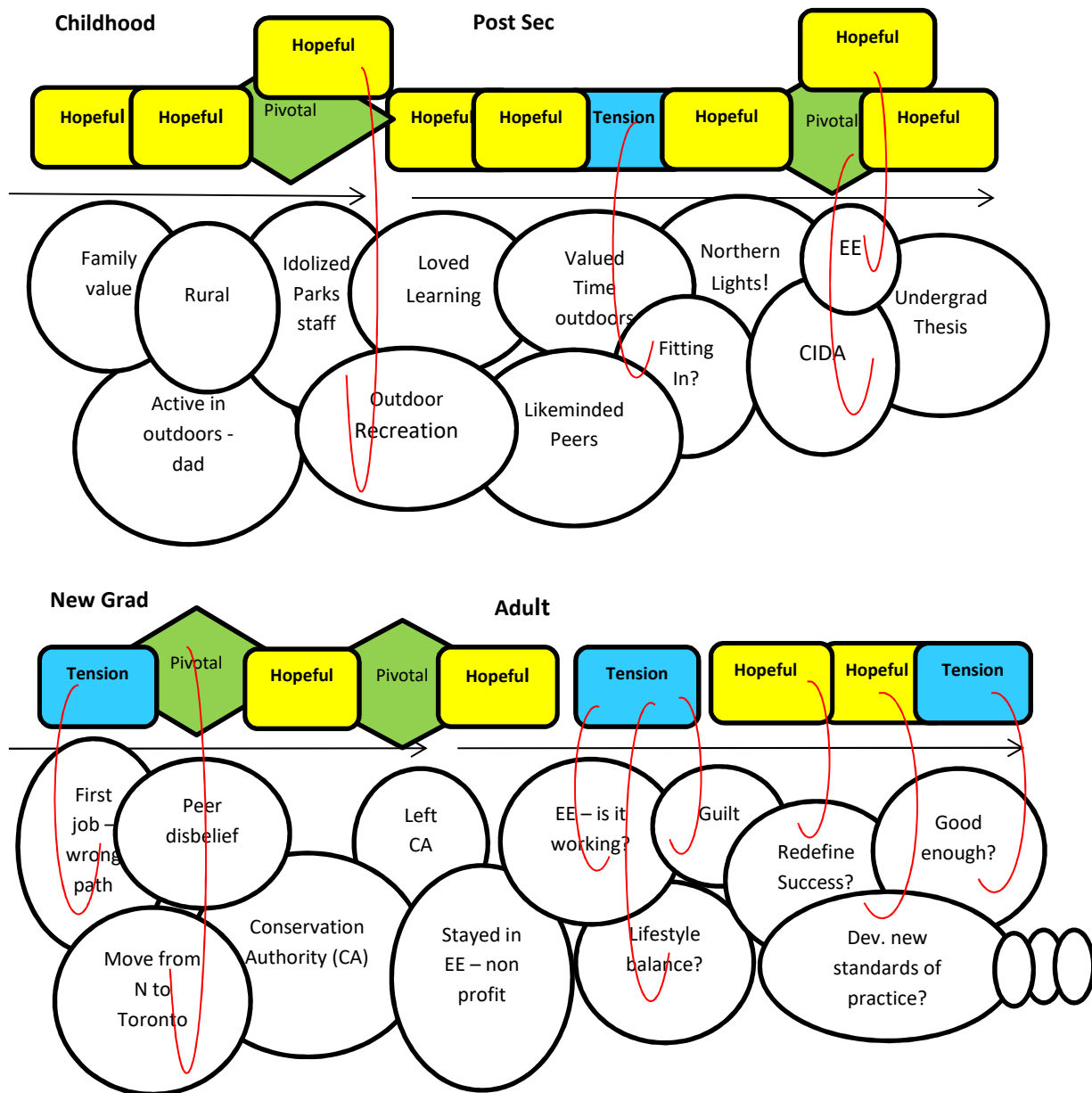
Figure 7 . **Marion's narrative timeline**

Engaging with Marion's Story

There were several observations and many more questions I had after reading Marion's narrative. As mentioned earlier, the first thing that sprang from the pages even before her words was the creativity and innovation that Marion applied to this task. Her story was being conveyed through her arrangement of pictures, colours, structure and patterns, and *then* by her words. Where her words gave substance to her path, tensions, and hopes, it was her style that retold the story. I was taken by Marion's ingenuity. *Figure 8* offers additional examples of her narrative style, offering symbols, logos, blocking and illustrative methods which conveys messages beyond the strength of her text, offering mood and tone to her message.

Figure 8. Sample of Marion's narrative style

I prepared notes to stay organized and mindful of Marion's time. My notes included questions as well as observations that I hoped she would confirm or for which she might offer an alternative explanation. Generally speaking, I observed within her words that:

- She was exposed to the natural world in a positive manner at a very young age and consistently through her childhood;

- She had role models in her parents who valued the natural environment and wanted this tenet to persist in Marion and her siblings;

- She is well educated, creative, imaginative, and whimsical;

- She is self-reflective and holds herself to high standards.

I also saw ideas or themes repeat throughout her EE story that I wished to understand better, including her sense of belonging, questions of authenticity and integrity in EE, misalignments between philosophy and practices, disillusionment, and awe, as these elements formed the basis of themes emerging from her story.

Marion—Interview One

The interviews completed are best described as unstructured interviews or possibly dialogic interviewing. As the interviewer, I was completely involved in the conversation, wanting to give as much air time to the interviewee as they wished but also probing them with questions and my own experiences. I had two goals: gaining a better understanding of the story presented to me digitally and filling in gaps of the story. I had prepared both common and unique questions for each participant (see Appendix C) and began by asking Marion about experiences that she considered significant to her journey of becoming and being in EE. She immediately wanted to clarify that while her story may have conveyed a less than optimistic outlook, as environmental educators, we have "the best job ever"—it just has "all of those extra little tentacles." The experiences she gained with CIDA solidified her desire to pursue the field of EE, and even became seed for her undergraduate thesis, an environmental education guide that would accompany the host country's national curriculum. While she was not in an education-

based program, she was moved by the "tangible" impact she could have merging her science-based background with a social cause. She also credited the environmental and natural heritage educators from her childhood visits to provincial and national parks as being significant role models for her: "They were like gods to me!" She gained her penchant for EE at a young age, rebelled against it, and then returned to it on her own.

The next area I was interested in understanding more deeply was Marion's experience with the Northern Lights: "It's that magic, secret sauce….that unexplainable joy that is associated with an experience you can't have anywhere else." While I know it was well within her repertoire to explain the phenomenon through a scientific lens, she continued to describe the sensory and visceral implications of even imagining them:

> I get goosebumps when I see even a picture of the Northern Lights. It sort of brings me back to a time when the mystery of nature is still present and the discovery of nature is still present. It's not something you could ever capture from reading a field guide cover to cover or going onto Google….I also think it's something that can only happen under very specific circumstances, at very specific times of the year, and very specific places. In that way, it's really special because you have to want to see them.

When asked if she could remember the first time she saw them, she was unsure of the exact age but suspected it was as a child. What was resonant in her memory was the feeling.

I asked Marion about turning points along her path. She remembered when EE was removed from the curriculum in Ontario, effectively removing jobs associated with it and creating some doubt as to the career opportunities. She also recalled a time in her life that she considered herself to be in a rebellious streak whereby she denied the field more as an act of

defiance against her parents—her mother was an educator. Marion recounted having the option of pursuing Outdoor Recreation at university or going into the Forestry program, both allowing her an environmental direction. She chose the Forestry program but found she was a black sheep among her classmates. Her interest in a holistic education was considered quite strange by her peers who held the scientific lens in higher regard. I think that these were points of exploration for Marion, times to question, test, and consider her options in the context of others.

She identified her time at the conservation authority (CA) as being another pivotal time. The experience made her "really think about the systems lens and [recognize that] pulling a thread has impacts that ripple out. That was really good learning for me in terms of how to operate within this community and within the broader movement of environmentalism." But she also identified tension building for herself around authenticity and integrity while with the CA: "we talk a lot about how we want other people to live and [yet we have] so much less time for actually living that way." The work/life balance was weighing too heavily towards a work priority, and she decided to move to other opportunities within EE. Marion reconnected with an earlier point about systems and practices associated with EE:

> There's only one way to participate…there's only one way to access nature without destroying it, and there's only one gate at the conservation area you can walk through….It's almost prescriptive the way we talk to people about being an environmentalist and connecting with nature. It's so far away from the magic of the Northern Lights, where no one told me where to lie down or that I couldn't lie down there….Just [think] about all those boundaries and all those rules and that different ways to participate are restricted by the infrastructure.

The unraveling of the tension continued, bringing to the forefront her reflections on theory of change as it relates to EE.   She used an EE example, "child plus nature equals nature connection:" if we situate children in nature then they will have a nature connection. She questioned why we do not hold ourselves more accountable to our theories—our assumptions— and test them rigorously. "Could it be possible that child plus nature *does not* equal nature connection? If it doesn't, then, what do we do about that? ... Are we doing what we say we're doing?" This point of true concern is one that Marion hopes to explore further.

I continued my questions, asking Marion to consider if her goals, objectives, or expectations of EE had shifted from when she began her career to present day. She had already discussed outdoor recreation versus forestry, the mechanics of navigating the system, and the authenticity/integrity of her praxis. Initially, she just needed a job, but then realized she was in the midst of something more complex: a business that looked at the return on investment (ROI). She was frustrated with the lengths that non-profits must go to justifying their existence and compared it to a *for-profit* business:

> Apple [computers] is never asked when they sell an iPod, 'what is the impact of that iPod?' …So this idea that we, in terms of funding, have to jump through all of these remarkably crazy, complex hoops to even sustain the work we do, that's where my heart is right now…helping to define those goals in a clear way and come up with a way of forecasting outcomes in a clear way that satisfies the funders but doesn't compromise what we're trying to do by burdening every single program with saving a child's lost soul from the television!

Then we laughed. Marion's ambition was defined as determining and clearly expressing the goal of EE, because she felt "we haven't done a good job at defining the goal…. It's really hard to row a boat to somewhere you've never been." She also wanted to rethink the standards of practice, prioritize balance in our lives, and build integrity by "walking the talk." She believes that EE is its own particular paradigm because "we work with entities like school boards, conservation authorities, [and] large foundations that are used to a very different way of being and a different model of tracking success and ROI." In short, EE is using someone else's measuring stick and it will take someone (like Marion) to stand up and say something.

I shifted the conversation to see if there was one special moment that Marion relived over and over again, giving her strength during challenging times and hope for the future. She said, "Moments when I am actively modelling what I talk about and teach about and try to convey." She then referenced "environmental sins" from her narrative, reflecting that they are "burdens I don't take lightly." She stated that she feels the "hypocrisy" when she doesn't live up to the standards she sets for herself. With guilt enveloping us, I asked Marion what was the ideal version of herself as an environmentalist. She offered, "I think that the ideal self would be when the inconvenient triumphs over the convenient in the name of the environment." I was in awe.

Our conversation continued about Marion being a "gold star collector," her way of saying that she is externally motivated. She also used the term "shame sponge" to describe environmental digressions. Marion offered the insight, "our dialogue with students is often 'one small change, one small action' but we can't forgive ourselves for one small action sometimes on the other side." I understood what she meant: this was the duplicity where we environmental educators hold ourselves to a different standard, a higher standard, than those around us. I wondered if this is our ego or our shame.

From greatest moments, I directed our conversation to Marion's greatest tension(s) in EE. She had already offered some previously, but she conveyed that "not being able to walk the talk…. I still have all of these flaws around how I feel as a model or how I feel as someone who can be a part of this movement." But it goes beyond the external motivation of people watching Marion. She noted the internal pressure, the integrity, as being as great of a tension.

As the interview drew to a close, I felt that Marion had validated some of my initial speculations from her narrative and deepened immensely my understanding of her journey. I gave her the hardcopy of my journey to consider and made plans for our next discussion, the contents of which appear in *Chapter 7 – Engaging with Arguments of Authority*. Included in *Chapter 8 – Following a Shooting Star,* are the following summaries of Marion's data:

- a Sankey diagram showing narrative themes related to age periods;

- a radar diagram representing her constellation, based on narrative themes related to age periods.

CHAPTER 5

CATHERINE'S NARRATIVE

Catherine has been an environmental educator for approximately 18 years, working both within and outside of the formal education system. I see her as one of those people who seems to be in attendance at everything that the EE community has to offer, or at the very least, knows about it and promotes it through her network. I have never worked directly with Catherine from an employment sense, but I know she garners the respect of her colleagues and associates – her name comes up on many occasions and in many contexts. She is the only participant within this research who works/has worked for a school board in Ontario, giving her somewhat privileged institutional knowledge—not privileged in the sense that it is a secret but rather that it is the knowledge, politics, and praxis that one can only gain from *within* a system. This is her story.

Catherine's Story

` Catherine sent her story to me, and I admit, I wasn't sure where to begin. I looked at several pages that were somewhere between a timeline, a flowchart, and a mind map—another story presented in a fashion very unlike my own. To present her story within this research, I tried to stay as true as possible to the submission she provided but to avoid repetition in the upcoming interview section, I have presented elements from the interview that enhanced my

understanding of Catherine's narrative in this section. Not unlike with Marion's story, I was a little amazed and a little envious of the creativity that was applied to the narratives.

Catherine's story began with a childhood steeped in outdoor time. She was an urban child, and enjoyed her unsupervised, "free-range" lifestyle. Her play involved exploring the ravines with her brother and cousins, as well as camping, cross-country skiing, and canoeing with family. She remembered her dad giving her a pocket knife and setting her loose and recalls how much her family supported her interests. The importance of doing something with her life that made a difference in the world was also impressed upon her. She attributed the imprinting of this value most strongly to her mother while her father was "that person who made it possible."

Catherine recounted that during her teenage years, she was very focused on school and achievement. She was a strong student and at the time, accepted the authority of others over her education with indifference: she retrospectively described it as being like a vessel that is filled up, "just pouring in the information, regurgitating it." She was not inspired by her education in her secondary school years, but she was good at it. Her interest in the outdoors was not satisfied by association with her school peers or friends: "Any kind of outdoor or nature, natural connections were made outside of school in my free time." She worked part time from grade eight onward and this strong work ethic, along with the support of her parents, allowed her to choose summer jobs based on interest rather than wages. Working at the summer camps indulged the side of her that craved being outside.

In attending university, Catherine was excited by the sheer amount of choice that had opened to her. She still felt the strong influence by others over her choices but gained great

confidence and autonomy as she saw a world of learning and experiences unrestricted to her through classes in kinesiology, jazz, women's studies, and the many other course and extracurricular activities. But it was a professor in Catherine's outdoor education (OE) class who convinced her to be independent in her choices as life was her story to write—she is the author:

> Now someone who was standing alongside me is asking me to own my own learning and really question things—be the person who directed the path instead of the person who is receiving information. I would decide if I wanted to turn right or left. I felt like it was a lot more reflection and a lot more personal investment in my education which was good. I loved that and just thought, 'This [referring to EE] is what I'm going to do'.

For Catherine, this sense of self-directedness and autonomy was transformational, so when it came to choosing between that which might have been considered a logical trajectory, Sport Management, and her passion, OE, it was a difficult decision. She elected to take a year to complete an internship in athletics and then returned for the fourth year of her degree with a decision in hand: she would pursue OE. While it was her decision, she found that she was met with a less than supportive response from one of her professors: "Good luck with that—there's no jobs in outdoor education. Why don't you find something that will serve you better?" Catherine's annoyance was amplified to defiance: she decided she was going to prove this naysayer wrong.

Catherine continued her pursuits related to outdoor education, learning wilderness guiding, adventure-based learning, therapeutic applications (related to the environment), and enjoying a more holistic approach to understanding the world in which she lived. As her degree

was coming to a close, she arrived at another decision point – continuing in a postgraduate degree program or joining the workforce. Catherine knew of the *Trails Youth Initiative* (TYI), a non-profit with the mission is to "challenge and equip vulnerable youth from at risk areas to become contributing members of the community" (Trails Youth Initiatives). She had also been accepted into a highly sought after Master's program. The decision was a difficult one but she decided to defer commencement of the Master's program and accept the job offer. It was opportunity to do something that she knew mattered in this world and she couldn't let it slip away.

After juggling multiple jobs and multiple intakes of the program with TYI, Catherine took an administrator's role with the non-profit as it would allow her to honour the integrity the TYI's mission, advocate for her participants, stabilize her income, and focus her time. While she enjoyed the autonomy of the advisory and leadership roles, over time, she found the intensity of this type of work to be prone to burnout and not conducive to her desire to start her own family—making $25,000.00 a year wouldn't be sufficient. She thought about her options and after considerable contemplation, shifted her career direction to teaching as she felt that, within this space, she could possibly make real change in a system that was not serving her TYI participants well. She wanted to infuse teaching *beyond the classroom* as the new norm, not the exception. She was accepted to and entered a pre-service teaching program.

Catherine was excited to rejoin the formal education community and found that the teacher's preparation program at her university[29] was much more progressive than she expected. Her professors were not traditional teachers: they were "fabulous, forward-thinking"

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[29] In Ontario, the university teacher preparatory programs continue to be colloquially referred to as *Teacher's College,* a term describing teacher preparation programs housed outside of university in the period prior to the 1960's and 1970's.

individuals. "They really integrated everything. They really used inquiry-based learning back then. They were really top notch….Maybe I *can* combine my love of outdoor education with the classroom and I could make a real difference in the public school system." She completed her year but before moving into a formal teaching position with a school board, Catherine found herself "still looking for alternative options" to the classroom. She completed a leadership year with TYI that took her to the Yukon and reflected that it really "taught me the PURPOSE of wilderness trips." Then she started teaching within the formal education system.

Catherine's teaching career began with "so many expectations [and] little support." As each year passed, the grade level she taught was shifted which made it difficult to do what she yearned to do—establish "an alternative way of teaching and [space for] student voice." Despite the challenges, she was able to fit OE into her praxis in small ways, such as by instituting "Wednesday Walks" with her students and taking on a leadership role with the *Living School* movement which incorporated EE within school life. But the annual changing of her grade level assignment was not her only challenge. With so much to do in keeping up with curricula, she had to let many of her OE certifications lapse. The financial cost and lack of time made sustaining them impractical. Catherine found her first years of teaching to be overwhelming and while teaching became easier, she questioned if it was becoming any better?

Catherine's life then took another big turn, shifting her priority to marriage and motherhood—for her, family comes first. She reflected that OE had shifted in her life as well: "Outdoor education mattered but it mattered in the context of my family." Shortly after the birth of her second child, Catherine also became caregiver for her mother and "nothing mattered except looking after her." By the time Catherine had completed her second maternity leave and spent time caring for her mother, she had been out of the formal education system for about a

year and half. Her life experience since last being in the classroom had taught her some important lessons. She now measured the importance of each moment and decided, "I'm not wasting my time in places I don't feel valued or I don't feel like it's my passion."

Catherine was already feeling anxious about returning to the classroom when she participated in a workshop with *Learning for a Sustainable Future* (LSF), a "non-profit Canadian organization that was created to integrate sustainability education into Canada's education system" (Learning for a Sustainable Future), and she credited LSF with reconnecting her with OE and connecting OE to the teaching world! She also learned that a secondment opportunity she had applied for had come to fruition and she was accepted to teach as one of the school board's outdoor education centres. It "felt like I was coming home but this time I was more equipped to be a *change maker*, especially with respect to inquiry and program delivery." She also found herself connecting with "likeminded folks" such as the Council of Outdoor Educators of Ontario (COEO)[30], Forest School Canada (FSC)[31], the York Region Nature Collaborative (YRNC)[32], and Toronto and Region Conservation Authority (TRCA)[33].   This was a positive time and space professionally for Catherine.

While working at the OE centre, she took time to reflect critically on her praxis. She was excited to return to her OE roots but she was determined to bring forward "transformative and inquiry-based learning, empowering her students in their own learning." Catherine continued to

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[30] COEO "is a non-profit, volunteer-based organization that promotes safe and high quality outdoor education experiences for people of all ages. It also acts as a professional body for outdoor educators in the province of Ontario" (Council of Outdoor Educators of Ontario).

[31] FSC "is the flagship educational project of the Child and Nature Alliance. We provide evidence-based, practical, and inspiring professional learning opportunities for everyone interested in supporting the healthy development of children through play and learning outside" (Child & Nature Alliance of Canada).

[32] YRNC has a mission "to empower the early learning communities of York Region to engage meaningfully with nature on a daily basis (York Region Nature Collaborative).

[33] TRCA Education has "its roots in the Conservation Education movement and partnership building, [with]… a rich fifty-year history in formal and non-formal education" (Toronto and Region Conservation Authority).

challenge the system norms, trying new things and taking risks. She wanted the OE experience to be more than a day away—she "wanted to work with teachers…wanted there to be transference. … [she] wanted to keep communicating with the teachers, support them." Catherine was being innovative and at the same time understanding of the fact that what she was dreaming of with regards to OE in the classroom may have been asking too much of teachers who were also carrying the weight of traditional classroom expectations. She loved working on these challenges, having access to expertise, and making decisions to improve teaching practice. She also faced roadblocks around the sharing of resources and was tested in trying to have others realize that what she was doing at the outdoor education centre could be done, at least to some degree, in the classroom. One initiative she was very excited about was a pilot project that focused on advancing OE closer to the classroom. It was intended to be a three-month project but was shortened due to job action within the system. It lacked the unpacking and debrief that she felt was critical to the experience. This was not what she had envisioned.

While taking a break to visit her cottage and pondering what she would do next, Catherine had an experience she will never forget—a wolf sighting. She had awakened early one morning, something that was atypical for her, and was mesmerized watching two wolves eating from a deer carcass. One showed signs of an injury. She observed them as long as she could and wanted desperately to capture their image but her phone and camera were both drained of power. "It made me just realize that you're not in control. You can't take this picture and it's okay. You just need to take in the moment." In conversation with an Indigenous colleague, Catherine learned that wolves signified a connection to her instincts or intuition. This made a lot of sense to Catherine as she was trying to determine her next career step and was lamenting what to do. She considered that "if you slow down enough, you're going to see things – they're going to

come out and present themselves and it's going to be okay." The next morning, she saw their

tracks of the injured wolf and thought, "I feel kind of injured this year. I feel like I have a little

bit of a limp this year…I need to just kind of heal this year." This was a special message for

Catherine to receive and she did the best she could to honour the guidance given and move

forward, thoughtful of this intervention with nature.

Catherine then embarked upon a DSP[34] year which she intended as a time to focus on her

family but it was "difficult to let go of opportunities to grow and learn more." She traveled,

completed the Outdoor Council of Canada (OCC)[35] instructor course, collaborated with her

former professor/mentor, worked on her FSC portfolio, sat as an executive member of YRNC,

and became more even more determined to create a shift within her school board. She attended a

three-day, LSF institute with 30 of her school board colleagues but this time, not as a

participant—she was a facilitator! She loved facilitating versus teaching. She was "helping

others on their journey but not being 'the expert'." This experience represented transformative

education and *this* was her thing!

With her DSP year over, she interviewed for a number of placements within her board

and was offered several opportunities. She was incredibly grateful that she was so well received

and turned to her family to help her decide. They determined that Catherine should "embrace

classroom teaching, approach [it] with a new lens, [and give herself] permission to experiment

and take risks." She was anxious about her capacity to take chances and try new things in the

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[34] DSP refers to a deferred salary plan where a teacher determines a term and then takes a reduced salary for that term allowing her to take a year off from teaching and be paid through the savings from the pay reduction. For a term such as a 4 over 5, the teacher receives 80% of their pay each year for 4 years, saving 20% each year. The combined savings totals 80% of her pay which is then paid out during the fifth year when the teacher is off (Educators Financial Group)

[35] OCC offers leadership training courses with regards to outdoor education skills, such as hiking, paddling, and equine skills (Outdoor Council of Canada).

classroom environment, and also feared that she might again be overwhelmed by the day to day demands of classroom teaching.

Catherine reflected on what her world would look like five years into the future, and while unsure, she considered that it was possible she might leave the school board and look for other opportunities that better allowed her to express her ideas about OE, inquiry, transformative education, and ultimately, "affect change." *Figure 9* represents Catherine's narrative timeline showing pivotal events as they relate to her choices in EE, times of hope, as well as times of tension.

119

Childhood

Hopeful Pivotal **Hopeful** **Tension**

Tension **Tension** **Hopeful**

Post Sec Pivotal

Ravine Play — Family support — Make a difference — Peers not outdoor minded — Focus on School — Vessel — Sport & Outdoor Rec. — Take control of learning

GTA, urban — Active in outdoors — Outdoor *fix* via camp — Influence by others — Love of OE nurtured

Free Range — Camp

Post Sec (cont'd) **New Grad**

Tension Pivotal **Hopeful** Pivotal **Hopeful** **Tension** Pivotal **Tension** **Hopeful** **Hopeful** Pivotal **Hopeful**

OE or Sport Mgmt.? — Wild. Guide, Leadership Adventure — Master's or Non-profit? — System change? — OCT — Classroom teacher — OE matters for new reason!

No OE jobs! Prove them — Validation@ Non-profit — Non-profit Leadership year — Marriage/ motherhood

Adult

Pivotal **Tension** **Hopeful** **Hopeful** Pivotal **Hopeful** **Tension** Pivotal Pivotal **Hopeful** **Hopeful** **Tension**

2nd mat. leave — LSF — OE Centre placement with Board! — COEO, FSC, YRNC, Nat. Curiosity — OE proposal to board — Transformative Educ. is my thing — Now what?

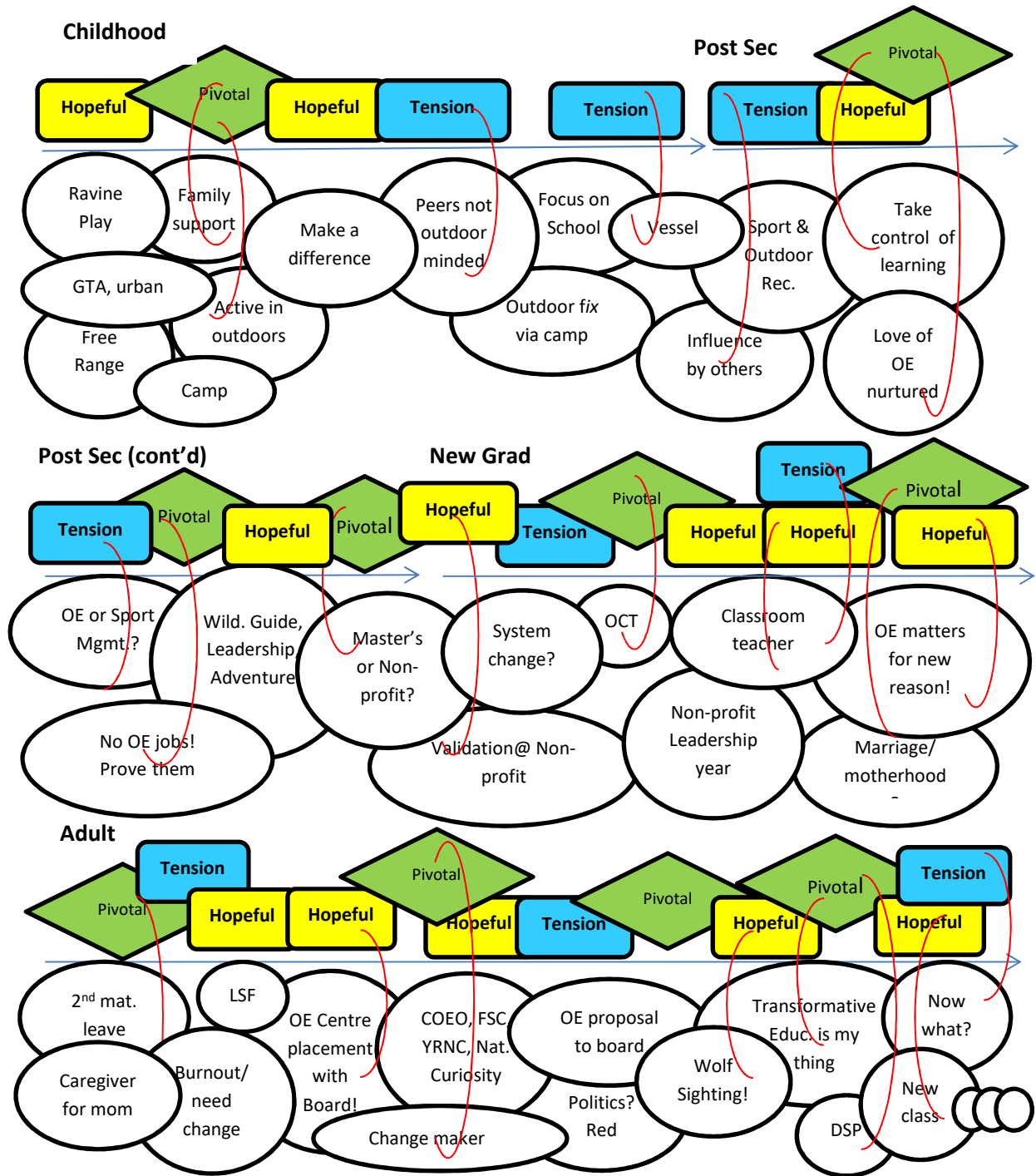Caregiver for mom — Burnout/ need change — Change maker — Politics? Red — Wolf Sighting! — DSP — New class

Figure 9. Catherine's narrative timeline

Engaging with Catherine's Story

Catherine's story was consuming and compelling at the same time. I was left feeling like I was in the midst of a hurricane, taking in all that Catherine had accomplished and all that she wanted to do. When I reviewed my field notes and looked at Catherine's story, I observed a person who I considered to be:

- Curious as a child, loved the outdoors, and was given the gift of being "free range." Her curious nature was consistent throughout her story;

- Part of "a loving family who supported [her] doing something that made a difference." *Family* reappeared several times in Catherine's story;

- Excited to try new things and excelling at everything from academics to sports and outdoor recreation;

- An environmentalist with a strong focus on people and helping them find their way;

- A supportive, caring person.

I could also see that I needed to better understand ideas and tensions that seemed to be reoccurring, including her relationship with her EE identity and sense of belonging, her professional curiosity, the power of activism and autonomy in her life, and the times she was challenged by misalignments.

Catherine—Interview One

After Catherine had taken me through her story, I wanted to gain a clearer understanding of the meaning she applies to certain terms or phrases. The first word/phrase I prompted her to define was *holistically* or *teaching holistically*. Catherine offered, it's "teaching the whole body….Head, heart, hands, teaching stuff that to me, was meaningful." I pressed her to

elaborate on what she meant by *meaningful* to which she responded, "I think *meaningful* to me is when it can actually shape someone." She also brought forward the importance of time as significant to teaching holistically:

> Time to process stuff, there's time to sit and let things settle….That's why I like canoe trips. They're so powerful because you have the time to go through processes with the group. I think any outdoor experience, like canoe trips, [are] powerful because there is an ebb and flow; there's a rhythm to it.

Her definitions seemed significant as they supported the importance Catherine places on transformative education within or as a part of EE.

I was also intrigued to learn more about Catherine's sense of the term *experts* or *expertise*. As a person who played sports at the varsity level, earned countless certifications, held two degrees, and was accepted into a Masters level program, she denied the label of an *expert*. However, she was generous in referring to others in the field with the term. Catherine responded, "I think definitely it comes back to how I feel about myself as an outdoor educator, that I don't feel I'm an expert at anything.…we're all doing this, we're all creating this, we're all having an important voice, like that whole equality piece." She was comfortable recognizing others for their accomplishments but saw herself as more of a collaborator. I wondered if her deference limited her voice, *her politics,* or if it embodied them?

Another point I wished to clarify was around what I thought of as *rebelliousness*. We discussed her recollection of when she had been so definitive that she was going to pursue OE and a professor with whom she shared this idea was less than encouraging, almost mocking. Catherine offered, "I really dislike someone telling me what I could or couldn't do." Catherine

acknowledged that she is a high achiever and determined to complete that which she starts. I rethought my initial sense of the situation she described and rather than thinking of her as rebellious, I thought that she is a defender—*a guardian*—of those for whom she cares and those who she feels are in need of care. In this case, she was defending an important decision of her own but also that the decision was about *doing something that mattered*.

One point that I found interesting was a realization that Catherine had made regarding Outers[36] clubs. She remembered that while there were no outers clubs in secondary school, there was actually an outers club at her university. She never joined. She was very involved in varsity sports and many other activities so she could only assume she didn't become a member because there was no person connecting her to it. She speculated, "maybe that's my thing, that I need to have a relationship connection somehow." This would not be the first time that relationships were of great significance and influence in decision making about her life—she spoke of her parents, her professors, her husband and children, the non-profits' staff and participants. Catherine already identified herself as a collaborator and people person. Her thinking about the outers club validated how significant this sharing and listening to the ideas of others was to her decision-making process.

Shifting from gaining clarification about elements of Catherine's particular story to general questions I had for all participants, I began by asking her about moments or decisions that she felt were pivotal along her EE path. Catherine began a list: "So outdoor education [at university] definitely, Trails [was] huge, Teacher's College [was] huge, back to [outdoor] education, and becoming a mother—seeing the wonder of nature through my children's eyes."

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[36] *Outers clubs* are organizations composed of people who share a passion for outdoor pursuits such as camping, canoeing, and rock climbing. They are often student-based associations found at the secondary and post-secondary levels.

Catherine also referenced how important both time and space were in helping her make the decisions she was trying to make: sufficient time and space in and of themselves were pivotal elements on Catherine's EE journey. I then asked her about her goals and objectives along her path and how they had shifted or remained consistent. She offered that she

> had both the opportunity and the ability to do the piecemeal outdoor ed[ucation]
> thing…the contract, transient work. I didn't have the responsibilities in the family so that
> allowed me to really embrace all of those pieces of outdoor ed[ucation] that I loved
> without feeling I was needed elsewhere.

I thought that this comment harkened to the previous thinking about time and space, notions Catherine brought up several times in our dialogue. She recognized that as her family grew, she needed to be more selective about work opportunities than was necessary as a new graduate. Her family became her top priority which meant their needs would come before all else.

> Our discussion moved to her greatest moment in EE or what made her so passionate about this job on the difficult days. This was a hard question for Catherine to answer: she didn't have an immediate response. After thinking for a moment, she offered,

> My path diverged so much when I took outdoor education courses [at university]. I
> thought of it as a career. I feel like when I continue to do that, I'm allowing people not
> just to look ahead of them but to see all kinds of other options. It's something about
> opening people up, empowering them with options.

Catherine's moment was in giving others the time, space, and experiences to make choices that they never knew were options.

I followed her greatest moment with her greatest tension or conflict she experienced in the practice of environmental education. With little hesitation, Catherine said, "probably that it's not valued as much as should be." She offered that even with the family unit, her work is not always well understood as it can often take time away from them. As well, students haven't always valued it, which makes environmental education an even greater tension because you're doing this for them. I continued to try and understand if Catherine felt that it was not valued at all or if it was just not prioritized as highly as she would like to see. She thought about it and agreed that it wasn't that environmental education is not valued at all but rather is just lower in value. I asked Catherine what might supersede EE within the education system. She was clear: "the perception of excellence instead of the perception of amazing citizens who can make great decisions and change the world." I was awestruck.

The next question I asked Catherine had to do with change—what would she change in the practice of OE or EE if she could change anything? There were two responses. "More exposure whether it's an OE course in high school or a post-secondary opportunity, or a job opportunity" and related to this, " a societal shift in how we value and see not only our careers in OE but outdoor education in our lives, and our own families, and communities." Catherine seemed to want to see us 'walk the talk' a bit more. I pressed her with the question, *Why—why is that important if people feel they're doing fine without it?* She was emphatic with her response:

> For the health of ourselves, for our planet—how we're going to treat humanity. I think outdoor education has the magic pill that nobody knows about that can really tap into so many of those things. It really can be transformative. It has people think about how they treat each other and it speaks of our planet. …I wish the beauty of outdoor education

could be, 'of course this is important, of course is what we should be doing' instead of feeling like an outlier who's doing something strange."

I thought that there are so many ideas in that response—health of people and planet, how we treat each other, transformation, being accepted for what we do.

The last question I had for Catherine in this first interview was to describe how she would measure her own success in this career. It wasn't an easy answer but Catherine knew that she needed to "get back to the systems piece" where she could "be part of rich conversations the impact change and are really transformative." Catherine reflected on her secondary school days when she felt like others were filling her up with knowledge and that she really wasn't in charge of her own education or path. She recognized that one has to be self-determining if they're going to look after the greater good: "I think we can't do the bigger level unless you yourself feel empowered. I think it's hard to affect huge change with other people if you're not able to do that with yourself—your own learning—which is what I've figured out." Finding one's own way and then helping others to find their way is indeed *success*.

I left Catherine with a copy of my story for discussion in our next meeting, the contents of which appear in *Chapter 7 – Engaging with Arguments of Authority*. Included in *Chapter 8 – Following a Shooting Star*, are the following summaries of Catherine's data:

- a Sankey diagram showing narrative themes related to age periods;

- a radar diagram representing her constellation, based on narrative themes related to age periods.

CHAPTER 6

STEVEN'S NARRATIVE

Steven has been an environmental educator for more than twenty years. Immediately there was something comfortable for me when reading his story—it was familiar in a way that extended beyond knowing Steven. He wrote his story in an essay format, like me. He shifted between narrating and being the protagonist, like me. It seemed that we shared so many experiences, but at the same time, they were not at all alike. This is Steven's story.

Steven's Story

Steven is a storyteller, so it made perfect sense that I would see many pages in which paragraphs alternated between two fonts signifying when he was telling his story and when there was a story within a story. He began by recounting a time when as a child he was preparing for a field trip with his class. He was very excited and recalled asking his parents for a camera to take with him which his mother obligingly provided. But the camera was not the prize for Steven: he "imagined capturing photos of deer in the field, a fox coming up ahead of the group on the trail, perhaps a hawk perched on a branch overhead."   He already knew what to expect of this excursion because Steven grew up in a rural area surrounded by forests. Being in nature was not novel but being on a field trip with his class, experiencing it through the eyes of an interpreter who could enlighten him even further than his own adventures, *that* was special. It meant

something to have an adult beyond his family validate his sentiment that these spaces were important.

In his teenage years, Steven continued to enjoy the outdoors near his home, "hiking and biking on its trails, fishing on the shore of the creek, climbing its trees, making hot dogs and hot chocolate over campfires." He remembered escaping to nature when he was angry, marveling at the Northern Lights, and even experiencing a rite of passage—his first kiss—in the forest. To Steven, the forest was "sacred."

Teaching was a career direction upon which Steven had decided by secondary school. He was fairly certain he would one day return to his high school and not only teach but also be the faculty lead in charge of the Outers Club. His times on canoe and camping trips "were some of the key highlights of [his] experiences in high school."

It was not until Steven left his small hometown for university that he experienced the first pangs that his vision for the future, becoming a high school teacher, might not be fulfilled. University was academically intriguing but "was quite a bit of a culture shock….Some of [his] first year lectures had as many people in them as were in [his] hometown"! He found himself succeeding in his studies but had an overwhelming sense of *not* fitting in. In addition, university study was a very expensive pursuit, one which he was self-funding. By the end of the second year, he decided to leave the university and look for his path elsewhere—he felt that he could always return at a later time. Steven never made any mention of being outdoors or enjoying his pastimes in nature while at the university.

Steven began working full time and found that he "spent very little time in the outdoors." He shared an apartment with a friend who was planning on returning to school for aviation.

Steven perused the course calendar and discovered a program called *Outdoor Recreation Leadership*. The description brought back many wonderful memories of time outdoors on his own and with his friends. He decided that he would take a chance and re-enter post-secondary, this time as a college student. His new goal was to become a canoe guide, eventually take over an outfitting business and transition it to an ecotourism focus. Steven enrolled and wrote, "College was everything university was not." He was happy, not only with the smaller class sizes and the immediate kinship with his cohort but also with the relationships he forged with his professors:

> I liked my professors and session instructors as well. I appreciated that they had strong connections to the outdoor field and lots of real world experiences. They were different from most of my course instructors from University who were very aloof and impersonal. My college professors and course instructors became mentors and friends, some of whom I maintain contact to this day.

Their humanness was integral for Steven.

The college courses went well beyond his expectation of just the hard skills of outdoor recreation, like rock climbing and navigation. Steven also learned about "botany and wildlife as the soft skills of group dynamics and leadership." These soft skills were not only theoretical – there was a need to practice them which meant teaching others. "This stirred [his] dormant aspirations to become a teacher. [He] realized that there was a path that could combine the two, that I could teach and spend my time outdoors at field centres and camps." He adjusted his life compass towards teaching once again.

At the same time his post-secondary was finishing, the provincial government introduced significant reform within the education system:

> Austerity measures…and a decrease in funding and programs that I would have aspired to….Boards of education began cutting programs at their own outdoor education centres. People were no longer going to moving through progressive positions so entry-level opportunities became scarce….Low paying, short term contracts were all we could hope for and I was lucky to be able to get the ones I did.

Steven felt lucky, not only to have employment but to work with such high caliber people, each supporting the other as they weathered consecutive years of scarcity and restrictedness for job opportunities in EE. Steven moved through positions at camps, guiding school groups in Temagami, running after school programming, assisting with kindergarten, and teaching for a school board outdoor centre. He was committed to staying within the field he loved.

Though he had found joy in each experience, stability was elusive until the opportunity arose to teach at an outdoor centre. Steven described it as "a beautiful oasis of nature within the city limits, lush and green and home to so much wildlife." He used the word "magical" to define the sheer size of creatures in this haven, and wrote, "The only downside to this opportunity [for children] might be how we jaded our young participants for similar experiences in the future. I imagine some of them attending a similar program elsewhere in later years with …a sigh and 'Oh, I've seen much bigger before'."

Like his roles before the outdoor centre, this job was also without permanency. He moved to other positions, never complaining about the low pay because he was working with incredible people and learning so much. In working at an outdoor education centre serving the

GTA, he "really began to learn about the holistic nature of outdoor and environmental education. How it has many facets, and is more *a way of learning* [emphasis added] rather than a subject area." Steven recalled witnessing a very significant event for a young girl visiting the outdoor centre, which became a very significant event for him as well:

> It was the end of the students' first afternoon…and we were just coming out of the forest….The students were about to have a bit of free time before dinner….I was bringing up the rear and the first big flakes of the first snowfall of the season drifted down from the sky like the petals of apple blossoms on the breeze….Two young girls were standing still, about twenty feet behind me. They were from South Korea, the one having just arrived in Canada at the beginning of the school year. She was mesmerized with her face towards the sky and letting the big soft flakes land on her palms. Her friend looked at me and said, "She's never seen snow before." I stood there in silence, taking in the scene and the look of pure joy and innocence captured in the girl's expression. I think of her whenever anyone questions the power of what we do, or need to remember how lucky I am to work in this field. This is what it's about."

Steven also reflected on his reticence towards teaching to the curriculum and transferring knowledge for our employers: "none of that matters without creating a sense of magic and wonder that gives it value to our students." He had touched on *values* earlier in his story and I noted that it felt like a crescendo forming, a case was building for values, those of his students as well as his own.

The shifting career dynamic continued for Steven, moving from contract to contract and doing his best to support his young family. He felt pressure to find work that was permanent,

offering his wife and children some stability. He shifted back into the retail world but realized it was a place he no longer fit. However as quickly as he realized that this first attempt at moving out of OE was not for him, he found a position combining the world of retail with the world of OE. It was a space he felt valued, was paid well, and he "even got to keep those teaching skills in practice a little by delivering presentations." It was good for a while but with little growth opportunity, he found himself seeking new challenges.

While looking in a local paper, Steven found himself staring at an ad for an outdoor/environmental educator with the local conservation authority. He applied and was the successful candidate. He "had finally obtained full-time work (at a good pay rate) in [his] desired field of employment and most importantly, was doing what he loved." He was confident in his knowledge and skills, transforming the "stagnant" EE programs of the 90's. He also found himself attending more professional development and encouraging his colleagues to do the same. Steven enjoyed re-establishing himself within the field and "developed a strong reputation amongst [his] peers as a leader and a person with good ideas." He positioned himself well within the OE/EE community, and literally became a voice with the "movers and shakers," a responsibility that he didn't take lightly or for granted.

Steven reflected that he has been in the "outdoor environmental education field" for over twenty years. He defined himself as both an outdoor educator and an environmental educator, using a definition for each from Frank Glew, a noted author and creator of the EE game, *Instincts for Survival,* well-known in the EE community. Steven paraphrased Glew's definitions: "outdoor education uses nature for the students' benefit, environmental education uses the student for nature's benefit." Steven continued, stating,

ALL outdoor education must have a component that connects students to the natural

systems of the world and ALL environmental education must have an outdoor component

that connects students on a values level, not simply knowledge based. There are those

who think that those in our field are idealists. I believe that the best of us have to be

[idealists].

Steven concluded his narrative considering what might be coming next. He was facing

another period of change in his personal life and anticipated that these changes may precipitate a

shift in his career. Regardless of what the future was to bring, he was resolute that his time as an

outdoor and environmental educator would remain engrained within him and be a part of his next

journey in some way. *Figure 10* represents Steven's narrative timeline showing pivotal events as

they relate to her choices in EE, times of hope, as well as times of tension.

Childhood

Hopeful — Pivotal — Hopeful — Hopeful — Hopeful

Post Sec

Tension — Pivotal

Rural / Family / Forest / School Field Trips / Wildlife

Outdoors with friends / Outdoors alone

Rural / Forest = sacred

Wildlife, Wild Spaces

Career in teaching?

Hiking, biking, fishing, climbing, campfires, ski

Outers Club

Culture shock / Urban

Do I belong here? / Left university

Post Sec (cont'd)

Pivotal — Hopeful — Hopeful — Hopeful

New Grad

Pivotal — Hopeful — Tension — Hopeful — Hopeful — Pivotal

Working – time for outdoors?

College – Outdoor Rec. Leadership!

Sense of belonging here!

Soft skills - people

Hard skills - certifications

Peers/profs connected to OE

Rural

Validated teaching OE

Career guiding or teaching?

Low pay in OE but great people

Multiple short term contracts

Many Mentors

Gov. decreased EE in schools – no jobs!

Adult

Hopeful — Pivotal — Hopeful — Pivotal — Tension — Pivotal — Hopeful — Pivotal — Hopeful — Tension

First snowfall – magic!

Magic – Mud Lk.

Holistic

This is what it's about!

Value

Fresh, authentic

Life leading curriculum

Family

Building reputation expertise

Not OE but OK

Leave OE to support family

F/t OE at CA

PD!

Active OE Leadership & Influence
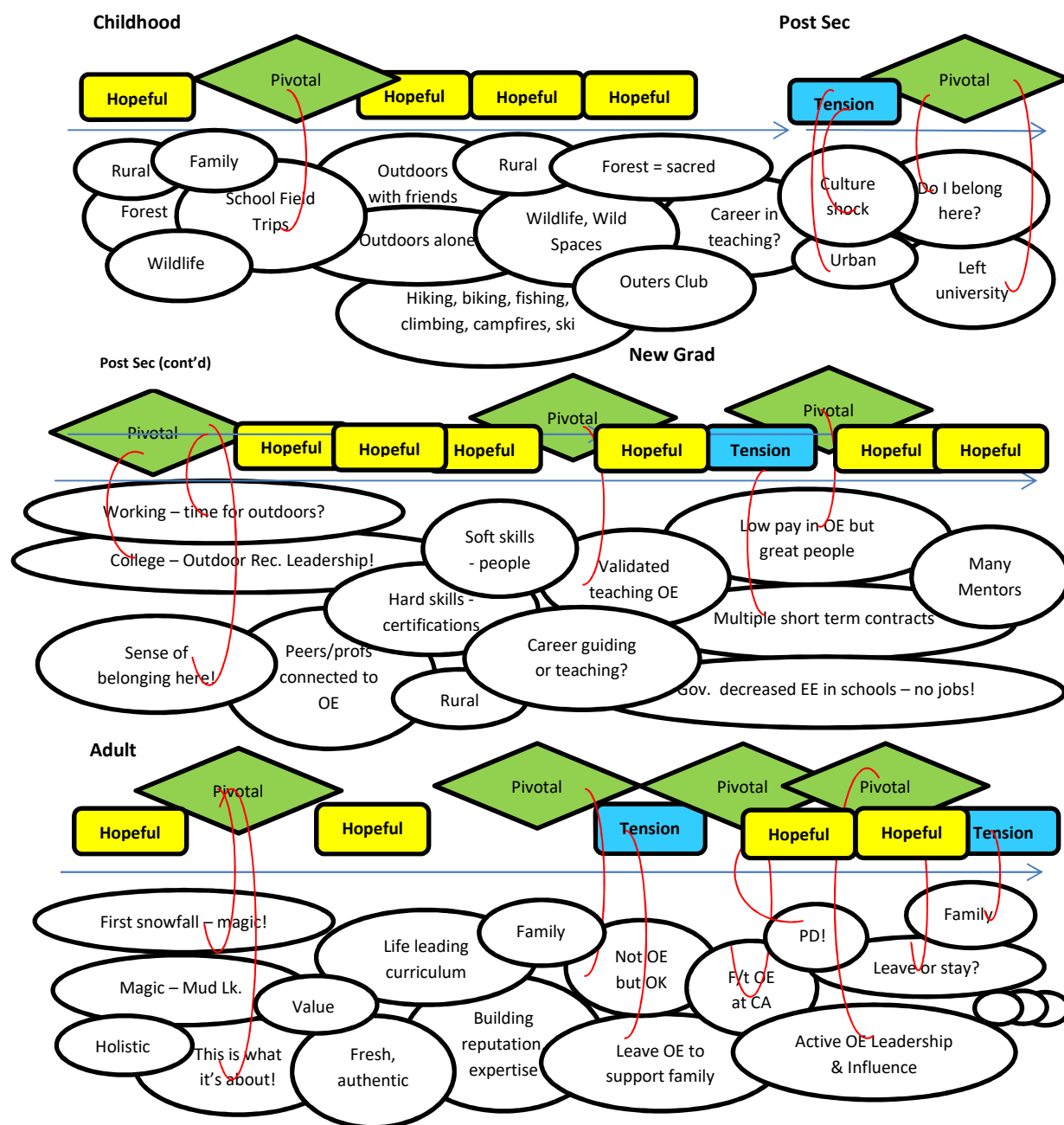
Family

Leave or stay?

Figure 10. Steven's narrative timeline

Engaging with Steven's Story

Steven's story was easy to read which is not surprising because, as I've already stated, he's a storyteller. He knows how to maintain a story's pace so that his audience remains engaged, and also understands how to weave a message between his sentences, subtly building significance, empathy, and maybe even a moral imperative. That which made his story so approachable for me was at least partly that *it was written for me;* as many good storytellers would do, I have considered that he has tailored his narrative to me, his audience. What is noteworthy was that even though I knew he was responding to my inquiry, *my study*, his story came across to me as very authentic and one that he would share with others who do not have our comparable experiences.

Steven presented himself humbly, like a flawed protagonist, offering great detail and sincerity as he described trials, tribulations, passions, values, and triumphs. His themes included a keen sense of his professional identity, an awestruck view of the natural world, a strong sense of place, a lean towards validation from his professional pursuits, and an affinity for the political elements of EE. I was intrigued to clarify with Steven that what I was reading and understanding was truly *his story* and not simply me assigning meaning because of the parallels to my own narrative. Our stories were by no means identical but they appeared to have a restrained kinship.

Steven—Interview One

Since Steven's story required less evaluation of symbols and maps than the other participants, I was able to jump immediately into the core questions. I began by asking Steven to reflect on his life experiences that seemed most significant to his journey to and within EE. He immediately considered how many times he had been asked a question such as this one by

friends or new acquaintances, and how their responses were variations of "Oh, that's such a cool job. You're so lucky to do that." He recounted from his narrative that he had always planned to teach secondary school but then shifted in direction when he decided to leave university. The potential to be an outdoor educator resurfaced with college and was reaffirmed by placements and numerous jobs. He noted an important realization which came when he was working through his college program. He was teaching an EE program to "young kids who just really [were] embracing it, [and it] stirred back those feelings of wanting to be a teacher….[He] kind of consciously made the decision that [he] wanted to teach, teach outdoors….That's how this outdoor environmental educator was born." Steven also reflected on how great an influence the experiences of field trips (in elementary school), outers club, a semester-long outdoor education program (in secondary school), as well as having wonderful, passionate teachers made in this life decision. Having access to opportunities and adult mentors who guided him through these outdoor experiences planted a seed in Steven the importance of which he didn't realize at the time but certainly which became a recognizable provocation from his formative years.

Moving from our discussion about his path, I asked Steven to tell me more about how he defined *outdoor education* versus *environmental education*, as it seemed like we were using them interchangeably. He knew immediately how to define them and referenced his narrative and a passage in which he had mentioned Frank Glew and how Glew had distinguished the two. Steven said "outdoor education used the environment for the benefit of the students and environmental education uses the students for the betterment of the environment. I liked that." I had wondered if Steven would have shifted this definition in any way from what he had written but he was resolute as to the meaning he associated with each. To follow-up, I asked him if he felt there were any problems with these definitions because as he and I had discussed at length,

there are at least two foundations to the thinking about what it means to be an outdoor educator *and/or* environmental educator. He reflected that his "first priority is not that they know all about the conservation authority; [his] "first priority…is that they feel personal connections to the natural environment." He continued,

> First we've got to make sure they just appreciate a tree for a tree and all the things a tree does for us and the ecosystem as a whole….They are exposed to so much, but it comes back to what they value—that's what they're going to act on….There are others out there with a value system that have no problem with [children caring less and less about nature] because to achieve their goals and what they see as the purpose of society's existence, the ecology doesn't matter—that it is profitability….All good environmental ed[ucation] has to have some outdoor components; all good outdoor ed[ucation] should have an environmental component."

Steven and I then discussed the Ministry of Education Working Group's definition, and I asked him if they got right, referring to the document, *Shaping Our Schools, Shaping Our Future* (Ontario Ministry of Education, 2007). He replied, "I think the document was probably, with no money attached to it at the time [to implement change], it was probably as good a document as we could expect…for the most part."

We continued with a deeply political dialogue, discussing the polarity of values and how financial support tends to follow values—*but whose values*? When the majority is comfortable there tend not to be revolutions or demands for change. Steven offered,

> We have a very comfy society for the most part where our citizens generally don't feel they need to have revolutions. But it also tends to leave a lot of people disengaged. As

long as their little hill is okay, they're more concerned with what's going on in their immediate world.

I agreed, but also wanted to know why it was different on *his little hill*. He replied,

> I think it's got to be with consciousness but your consciousness has to do with your programming….Programming is based on our experience and that is through our family life, our school life, our societal life—all of those things as we grow up become our behaviours.…The challenge today… is putting our priorities on consuming, on accumulation, monetary value, leisure, and there's nothing wrong with leisure but leisure to the point that everything should be as minimal effort as possible.

He reflected on times when he could have "gone either way," when he was not active outdoors or was feeling the pressure to earn a higher wage and consume more, but found that as his experience and consciousness expanded, those inducements had less and less influence over him. We laughed about an analogy he drew to the movie, *The Matrix*[37], where one of the characters spoke of people existing in the matrix but that they were not really awake, nor were they ready to be awoken, due to the programming and conditioning they have experienced. One could not wake them until they're ready. Steven said,

> That's sort of what I feel environmental educators are about: we walk amongst so much of our daily lives with everybody else, and everybody else can be nice people and can be doing really good things in lots of aspects of their lives…but they are still part of the consumptive lifestyle. They're not thinking about their impacts on the environment because that part of them just isn't woken up at that moment.

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[37] *The Matrix* is a 1999 movie that describes a world ruled by computers and in which human heat and electrical energy creates power for the computers (Internet Movie Database).

We continued to talk about consumptive lifestyles and I pressed Steven to identify the systems that are working against us. *Was it capitalism*? He agreed that it might be capitalism but noted how he "appreciated the evolution of the term *corporatism*," essentially larger corporations swallowing up smaller corporations. He also identified why he thought corporatism isn't a problem to the larger population at present: "the environmental challenges are not yet impacting us as directly as the perceived benefits from the consumption side of things." Right now, we have it all—*we* being the privileged. Steven has faith that people could turn this around however it will be challenging, even painful. He seemed to think what choice is there—"all ecosystems have a carry capacity." He and I could not agree more on this point.

The idea of ecosystems having a finite capacity to support life led our conversation to our role as environmental educators. Steven did not feel it was our job to save the world as the world was fine before humans came along and constantly evolves: "No, the world doesn't need saving…it's us that needs saving." I asked him if his job was he trying to save humans. His response was,

> On my best days, that's what I believe we're doing. The important thing is not to come out all doom and gloom and sound so scary…because if you say that to a six year old, or a ten year old, or twelve year old, or even a fifteen year old, they're going to poop their pants, and they're going to feel really helpless….Part of our job is to be empowering.

Steven and I then moved the conversation to our organizations and the alignment or misalignment of personal values to corporate values. He offered that there have been times when the span of misalignment has been more difficult than presently and while he didn't suggest that his values and his employers have come closer together, the gap has closed on their

understanding of each other. He is not threatened by the existing space and stated. "If I want to match up exactly with my values, I should go and start my own NGO and try to accomplish those goals that way." He considered his organization to be centrally located in its values—"not far out on either end of the spectrum" and he can live with a 30%-40% gap between their values because they're moving in the right direction.

I shifted the conversation again, asking Steven to tell me more about his goals as they relate to his career path, and how these may or may not have changed over time. He had a response ready:

> The environmental aspect becomes more and more important to me every year….the ecological consciousness…those issues are more and more important. When I started, I appreciated the outdoors and nature and enjoyed interpreting nature with students and teaching about trees and plants….The movement away from that to now has not exclusively got to do with the fact that I'm older….It's that that pathway allowed me to wake up more and more and more….My values have changed….I also diverge a lot from my peers, my sociological peers. I don't fit in.

I asked Steven how he lives with not fitting in amongst his peer group and he admitted it's not easy and there was a great deal of sacrifice personally for Steven but he's "happy with who [he] is." He recognized the differences between him and his family and again made reference to a movie[38] theme: "the dark side is easier—it's easier to get there….I just think that the light side, even though it's harder, is a better place to end up." For Steven, the dark side is consumerism and accumulation; the light side is ecological consciousness.

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[38]Steven was referencing the *Star Wars* movies, making no reference to a particular movie in the series.

Steven and I moved forward in our conversation, with me asking him about his greatest moment in his EE praxis. He said, "That young girl, I get choked up every time I think about her….I don't know how big an impact it had on her but it had a huge impact on me." He went on to describe that for this student, in that moment, "she was making a huge connection. You could see the impact and it wasn't anything I had done – that was the magic of it. It came from her direct relationship with natural environment…that snowflake." He cherished that memory and others like it, bringing them to the surface at times when the magic is not occurring.

I asked about his greatest tension on his EE journey and it took no time at all for him to reply, "The lip service that is paid to what we do." Education often rises as a priority in theoretical discussions about priorities but falls short when funding or time demands are applied. He compared the best efforts of the publicly funded education in the province, offering that the best school boards "are providing a maximum of six days" of EE and this is when a teacher chooses to champion the cause. Teachers supporting EE often stand alone. "They're not getting supported by their administrators and they're not getting supported by their colleagues, and the biggest sin in that is that they don't get recognized for how they're influencing the values of students." This reminded me of earlier references to *fitting in*.

My last question for Steven was about any change he would make to his EE practice. He said his dream was to create his own school where students would learn the curriculum but through the lens of ecological sustainability, "so that it becomes part of their value systems."

We chatted a few more minutes and I passed a hard copy of my story for his review, the contents of which appear in *Chapter 7 – Engaging with Arguments of Authority*. Included in *Chapter 8 – Following a Shooting Star*, are the following summaries of Steven's data:

- a Sankey diagram showing narrative themes related to age periods;

- a radar diagram representing his constellation, based on narrative themes related to age periods.

CHAPTER 7

NANCY'S NARRATIVE & ENGAGING WITH ARGUMENTS OF AUTHORITY

Chapter 7 is my case study, the researcher story, with a few shifts in presentation from the other case studies. I recall writing my story and lamenting over how others would receive it: there is a certain level of vulnerability when one tries to tell her own story, particularly when you know or *think you know* your audience. I questioned if I was being completely honest, if I was interesting, if I was too controversial, or insufficiently provocative. The one solace I had was that there were probably three other people feeling similarly exposed. This was a necessary evil if my awareness was to be raised.

 I have included my narrative timeline (*Figure 11*) and as with the other participants, have presented my Sankey and radar diagrams depicting my narrative themes in Chapter 8. Unlike with the other participants, I determined it was unnecessary to provide a summarized version of my narrative as it appeared in Chapter 1. Also, where I had included field notes and areas I wished to explore when conducting the interviews with each participant, I have omitted these sections but replaced them with the discussions from the second round of interviews, specifically the discussions revolving around *the arguments of authority* as these dialogues pertain specifically to the reflection about my story and my tensions. Discussion regarding arguments of authority appears in Chapter 8.
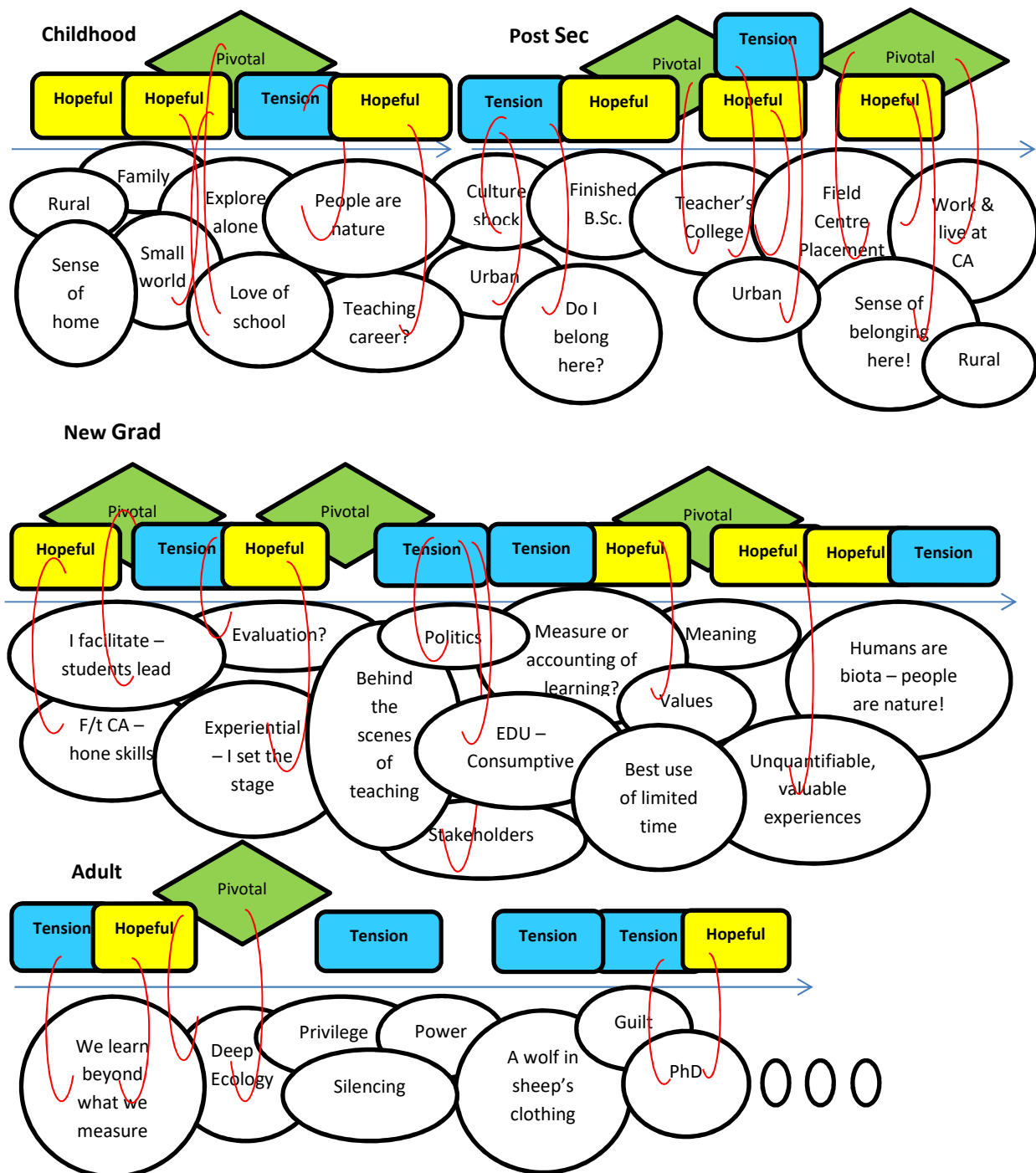
Childhood

Hopeful | Hopeful | Tension | Hopeful

Pivotal

Rural | Family | Explore alone | People are nature | Sense of home | Small world | Love of school | Teaching career?

Post Sec

Tension | Hopeful | Tension | Hopeful | Hopeful | Hopeful

Pivotal | Tension | Pivotal

Culture shock | Finished B.Sc. | Teacher's College | Field Centre Placement | Work & live at CA | Urban | Do I belong here? | Urban | Sense of belonging here! | Rural

New Grad

Pivotal | Pivotal | Pivotal

Hopeful | Tension | Hopeful | Tension | Tension | Hopeful | Hopeful | Hopeful | Tension

I facilitate – students lead | Evaluation? | Politics | Measure or accounting of learning? | Meaning | Humans are biota – people are nature! | F/t CA – hone skills | Experiential – I set the stage | Behind the scenes of teaching | EDU – Consumptive | Values | Best use of limited time | Unquantifiable, valuable experiences | Stakeholders

Adult

Tension | Hopeful | Pivotal | Tension | Tension | Tension | Hopeful

We learn beyond what we measure | Deep Ecology | Privilege | Power | Silencing | A wolf in sheep's clothing | Guilt | PhD

Figure 11. Nancy's narrative timeline

I chose the rather lengthy and common phrasing, *argument of authority*, as it introduces each element as a tension, having at least two points of view, and with a status whereby a norm of power and compliance has been established. The arguments of authority included in this

chapter are *authenticity in EE*, the *accounting of learning in EE*, and the *determining primacy/valuing of lifeforms*. Though not part of my original set of arguments, two additional arguments arose from the participant data, *integrity* and *privilege*, which I have defined here, but have chosen to discuss in Chapter 8.

Before layering the discussions with participants' thoughts, it is valuable to offer definitions of how each has been contextualized for this study:

- *Authenticity* is "the quality of being real or true" (The Cambridge Dictionary, 2018). With reference to EE considers, it considers what is true environmental education, what do we value, what and counts as EE;

- *Accounting of learning* in EE considers not only how we count but its roots of accountability to various stakeholders. Not unlike with authenticity, the consideration of what matters or what is valued is prominent but from the standpoint of making it visible;

- *Determining primacy and valuing of lifeforms* relates to not only *who* counts, with 'who' extending beyond the human organism to all lifeforms, but also in what sequence. Not only should this argument be a consideration of interspecies and *intra-species* prioritization, but also *who* decides the priority;

- *Integrity* emerged from within this study and speaks to being true to oneself, honoring one's values and morals when no one is watching. It overlaps significantly with the ideas of authenticity and accounting of learning;

- *Privilege* is another emergent argument that relates to integrity and self-awareness with the distinction of acknowledging opportunity afforded by advantage. It

challenges the notion that there is ever a *level playing field* within or amongst

species.

Arguments of Authority: Authenticity

The second interview with Marion immediately jumped into the argument of authenticity

in EE. Marion wanted to understand my phrasing, *a wolf in sheep's clothing*, as "It sounds so

nefarious." I spoke of my angst with the words *environment* and *education* as it seemed to me

that their underpinnings were philosophical opposites and I questioned if by their nature they

could be put together as *environmental education* without one overwhelming the other. I

explained how I think of the word *environmental* as parallel to ecological which I confessed is a

narrow use of the term but it is rooted there for me. It is grounded in systems thinking and

principles such as there being a limited carrying capacity to this planet and that all aspects of the

system are essential and inextricably linked to one another. To me, *education* is more akin to

business thinking and limitlessness, particularly when considering profit. Elements such as

standardized testing are remarkably similar to standardized outputs—everything produced has a

minimum standard and assumptions of sameness are preferable. It is not every element of

education that mimics business models but I expressed that I do find there to be sufficient

parallels to warrant questioning. I explained that when I tried to bring the two words together as

environmental education, *education* became the wolf and *environmental* represented the sheep. I

wondered if they could stand together without one consuming the other. I offered, "I'm trying to

get through in my own mind how to take two different philosophical approaches and make them

still have value and meaning to each other and unto themselves."

Marion considered if my tension was about authenticity *and* causality in what we do. She

wondered, "Are there other examples in the world that we can draw from where that type of

burden is placed on education, where….it's attitudes and behaviour shifts"? This thought was a fresh perspective for me as it seemed to take education away from being the villain in this discussion. The closest she could come to answering her question was to consider social justice, but she saw the moral imperative more transparent and steeped in religion and community. She offered that we needed a philosophical underpinning, an idea with which we could re-engage from time to time. We needed an idea sufficiently radical to make change but not so far from the public core that people couldn't make the leap. Marion described the challenge as a revolution that starts with one,

> but in this case, it's sort of strange—it feels almost insurmountable because it is a full-on philosophical shift….It's moving the needle in a way that you actually just can't do on your own because you're working within these social constructs and institutions that are well established and regarded as legitimate. If feels very radical to think about shifting that at all.

We discussed that the challenge in educating ourselves and others is that there is no common message or theme as of yet. When *everything* is environmental education, is *anything* environmental education? It is almost competitive—our own civil war about what we're defining as EE and how we gain ground.

In discussing the environmental and education mashup with Steven, I reiterated my tension over that which I consider divergent underpinnings, with the former subscribing to ecological, systems thinking principles and the latter is somewhat prone to commodification and consumeristic principles:

I think they battle each other, and I think that's part of the angst in this, is that the education system is built … on a capitalistic space, on a consumeristic space, on training rather than educating, so you're *producing* something …rather than authentically educating—creating decision makers. …Whereas I think environmentalism is coming from, what I hope it is coming from is in a systems base where you can't do anything in isolation…. It's always got a repercussion somewhere, a ripple effect. When you stick the two together, environmentalism has fit inside the education box rather than around the other way because it's a subject. If you look at it from a curriculum point of view, it's a subject area, rather than a way of living or a value base…. the subtext is fighting each other?

Steven offered, "The way I see it is our public education is all about creating cogs in a wheel and about teaching…them enough to do what you want them to do without them realizing that you are just part of that." He also thought that not all education systems are created equally with regards to EE and that private schools have a greater deal of flexibility.   He gave an example involving the amount of time prioritized for EE by a local private school versus a local school board for the span from kindergarten to grade twelve: respectively the difference was 55 days of OEE and EE compared to 3 days. He also stated that with an environmentally-minded teacher, those three days could rise significantly; it isn't all on the system but also the teacher. Steven mentioned that some alternative schools straddle lines a bit. They can be funded from public dollars but align with a need of specific communities, and can "incorporate a value system that fits very well with environmentalism…. creating [a] more positive groundwork that fits well with environmentalism, so environmentalism is a component of just creating good people."

Catherine and I also discussed education as steeped in business sense. She shared that in her experience with the school board in which she worked behind the scenes more, she saw "the [school] board [as] a business, and being involved in a business, there are certain policies and barriers in place that keep you knocking your head against the wall." She noted that despite the many certifications, training, and ongoing professional development, environmental education still is not seen on equal footing with other subjects, such as math. Different subjects are valued differently. She also offered that the board looks "for the experts within our network," whereas she would look for people with a different outlook or different point of view; "diversity brings so much more strength."

The argument also found its way to definitions of environmental education. Catherine stated that EE is "shifting people to a more bio centric viewpoint." She commented, "Whenever I use the word environment, I think of nature…. Maybe environmental education needs to be nature education." Beyond defining *what* it meant, Catherine also considered a critical element to EE, *time:*

> I think the biggest gift I had in working at the outdoor education centre was time….In our schedules, if we are doing science for an hour or anything that could actually involve a lot of playful, inquisitive, curious questioning, time is a barrier in the traditional education system whereas in outdoor education, it seems time becomes not as important as what the group needs.

Catherine noted that EE is not defined well and offered, "I feel like it almost completely needs to be rebranded as *how we think of the world*." Maybe this is the common thread that Marion alluded to EE needing.

We circled back to our discussion about relationships and Catherine's affinity for the social dimensions of EE; "it's like I feed off other people's connections." I admitted, "I find it very exhausting." The group, relationships, and the social element of EE had surfaced many times with Catherine, so I asked her to expand on the *people* element of EE. She paused, absorbing what I had said and offered, "family is huge for me and definitely making a change is huge for me—making shifts for people and helping them see things a little bit differently." She continued, adding the enormity of climate change to the discussion and concern for her children: "I look into their eyes and I think, 'What can we do so that the world is a good place for you and your children and their children?'" She spoke of feeling paralyzed at times by doom and gloom and noted that, "I try to remember the ages of the kids I'm working with and remember that connection comes first, and then action, and stewardship." She spoke of First Nations perspective, spoke of the world requiring more than science, and spoke of individual actions being a good way forward. She also offered "that leadership scares me" and "I think it's giving me goosebumps right now," referring to the political world. She genuinely looked horrified as she paused to reflect, finally saying,

> Well, it's because it's a reality….it really does hurt my heart to focus on what reality is, so I try to focus on things that I can do. But this very healthy defence, it's not looking good, sister friend, it's not looking good.

And we broke into laughter.

Marion offered another idea to the discussion of authenticity in EE, something that she thought was a rare point of view in EE. She had participated in a workshop which used an approach where indoor activities and outdoor activities were both presented but neither was

valued over the other. She said, "What was great about the way it was presented was it's not indoor versus outdoor. It's not environment versus classroom…..Indoor has its place, outdoor has its place, and let's not ask them to be things they're not."

It was settling to embrace this tension directly with each participant as their recognition of my angst was validating. The summary and analysis of this discussion regarding authenticity in EE is provided in *Chapter 8*.

Arguments of Authority: Accounting of Learning

In considering the accounting of learning in EE, one question has haunted me for several years: if what we're doing works, then why isn't it working? I justified judgement that it isn't working because the world is getting worse—we're losing ground! Steven had thoughts on this argument of authority but considered the angst in a slightly different way: "If we weren't doing what we were doing, how bad off would things be"? I recognized this point as one that I had made often but I felt it was somehow indefensible and that was frustrating to me. It is like any preventative argument where the frequency and intensity of certain risk is the motivation for installing a barrier or practice to prevent a specific consequence. Guardrails on machinery, driver examinations, and vaccinations against influenza speak to preventative strategies that are commonly accepted. We anticipate or extrapolate the outcomes but I have never seen measures for how many fewer people were *not* injured in workplaces, how many fewer people did *not* have a motor vehicle accident, or how many fewer people did *not* contract the flu. It seems we only need the presence of an undesirable situation to warrant preventative measure. Why are the aforementioned preventative measures supported but the same is this not the case with regards to the state of the planet? Steven and I discussed that one reason may be that at all stages of any controversy, there are stakeholders who stand to gain an advantage or miss an opportunity: with

vaccinations, it might be drug companies, hospitals, and patients of the treatment. Stakeholders also assess the return on investment (ROI) – how will I benefit/suffer and under what timeline? Marion had also thought about this idea, succinctly stating, it's "competing priorities as well. One person's success is another person's failure." Some don't want to admit that what they value and/or how they measure their success will be at the expense of others, present or future. Some will admit it, and it's rationalized as a very natural phenomenon, *competition*, or *survival of the fittest*. It may also be a question of proof, as Steven stated: "It is hard to evaluate the impact that you have because we don't have a parallel Earth where we didn't do these things." He continued,

> The reality is that I think we've made some impacts.…People that are now adults that have gone into this field or something related to this and they trace back to the moment or my involvement in their life as one of the moments that led them down that path….It's unknowable to know if we've done as much as we could, but I certainly know that if we weren't there, it would be, yeah, we'd all be a little bit further in the other direction we aren't supposed to be in.

I agreed, still fearful that we're outpaced with the detriments the planet is facing but wanting above all else to have hope.

In discussion with Catherine about the goal of improving the state of the planet, she laughed and offered, "Good goal," but I disagreed stating, "It's a frustrating goal because you can't measure the goal, and it's [the state of the natural environment] actually getting worse…how can we be doing it right when things are actually getting worse?" For Catherine, it

was about breaking the goal down into smaller goals—nudge others, push their limits even slightly, and this will result in far-reaching change.

> I think at the core, I have faith in the ripple effect and I don't think of myself as the person that has to make the changes but I think of myself as a network of people. I think, 'just do your bit' and that will ripple to the next person and that's going to create change.

There was something comforting for me in Catherine's thinking; the weight of the world could be distributed amongst the world.

I was also interested in another element of measurement that came up in each participant's interviews: the intangible and/or immeasurable components of EE. Marion and I discussed at length my interest in phenomenon and noumenon. I had offered that phenomenon was something that could be measured whereas noumenon was more like something you know is real but is you sense or feel—it doesn't lend itself to standardized measure. I described it as being an intangible like love or creativity; "you know it when you see it or you know it when you feel it." Marion surprised me when she said, "so do we just need a name for it then? People know what love is, people know what that feeling in nature is but it doesn't have a name." We discussed *biophilia* and determined it wasn't as accessible as this idea needed to be. There had to be a word that everyone would understand what is being sensed—measured and valued in a very personal way. Marion also considered that it wasn't just the lack of a word: "explaining the intangible is really hard to people that are consumed with measurement. But they've all felt love before…for another person….[it's] the Northern Lights." I added, "Exactly…they can appreciate that there's something bigger than me out there…. There's something bigger out there that I'm not responsible for but I'm responsible to." Marion admitted that she is often the one at

the meeting questioning, "How do you know that? What is your evidence to support this statement you've made?" When this level of rigor is applied to explaining the impact of the Northern Lights, she had no explanation. "They're just magic," was not a statement that she made because she couldn't explain them through a scientific lens. Science just can't measure the feeling of awe, which for Marion, is the most valuable part of the Northern Lights experience. I thought that maybe each person's magic is different, and it can only be determined individually, and while Marion agreed, she thought the same of *love*, but we really don't ask people to measure or justify it. I agreed emphatically!

I recalled a parallel recollection from Steven's interview when he discussed seeing magic—one of his students experience snow for the first time. He didn't even have to teach anything, just set the stage for an experience to happen. It was intangible, immeasurable, and his most cherished memory of teaching EE.

I asked Catherine about how she knows she has achieved that 'aha' moment with her students. She offered that even when we're not seeing learning, it is happening and "we need to be okay as environmental educators that if there's all kinds of different things happening around us, there's learning happening and we don't have to measure everything." I agreed, adding that sometimes what we measure isn't actually what we cared most about in the lesson; we often just measure what we can measure at the time. For Catherine's accounting of learning in EE, she offered,

> I don't see it quantitatively, that's for sure. I see it qualitatively, and I get frustrated that there is no way to measure that. I get frustrated that I can't articulate it. I get frustrated that it's just more of an intrinsic, like I know I made a difference with this group.

I shared my irritation with it as well, expressing that there is learning beyond the curriculum, beyond the digested numbers. EE allows valuing of people for more than their performance on a test or essay—it acknowledges the success of taking risk, or being kind and inclusive, and being a leader and a follower. We both reflected that we really don't know what will be important to know or will be impactful to our students thirty years down the road, so let us cast our net wide.

The participants related seamlessly to this tension even though it did not appear as one of their narratives' primary themes. The analysis/summary of this discussion regarding accounting of learning in EE is provided in *Chapter 8*.

Arguments of Authority: Determining Primacy of Lifeforms

I noted with apprehension that the aspect of my story that resonated the least with the other participants was the argument of authority dealing with prioritizing of lifeforms on the planet. Catherine, Marion, and Steven each focused their narratives on more of the human elements of EE, specifically relationships, social justice, activism, and political elements. All held memories of outdoor recreation and nature study but it seemed to me that justice for the non-human beings was not registering as highly with their environmental priorities as mine. I had to consider that when I introduced the research being embedded in EE, it may have created a focus on people unintentionally. I brought this tension up explicitly in a conversation with Marion. She considered what I was saying but then corrected my assumption: "to be honest, I think it really correlates to where I'm living now." Being in a large city has focused her attention of that which surrounds her daily, whereas if she moved to a more rural environment, she "would be more impressed upon by clear cuts and animals perishing, and habitat loss." This

made complete sense to me because I live rurally and do not experience firsthand the social

crises often more concentrated or visible in the city environment.

Steven had a different take on my concern. He explained,

It's not about giving up your ideals; it's just about learning two things: how to funnel

your ideals in a way that allows them to be productive in the parameters of our existence,

and then the other side is prioritizing what are the ones you really need to stick to, and

what are the things you can let go. There are some people who EVERYTHING is a flag

that has to be planted.

The valuing of non-human life is my flag to plant, not Steven's, Marion's, or Catherine's.

Maybe I needed to consider that my disappointment with others not planting this flag is mirrored

when I do not reflect the social justice priority that they prioritize. It's not that we don't care

about each other's EE causes—there are just a lot of causes to care about in EE!

In chatting with Catherine, I described what I was seeing as our affinity for others but

that *others* meant different things: my 'others' were non-humans and the causes associated with

animal injustices while I saw Catherine's 'others' as being about people and social injustices.

She immediately agreed and offered,

I really saw a difference growing up and because of that difference, there was a feeling of

this just isn't right, this doesn't seem fair. I have always been really drawn to social

justice issues – any social justice issues—that make people challenge their notion of why

one person has more privilege over another….Empathy, I think, was a big focus for me.

I pushed about social justice and empathy as being a part of EE, to which she responded,

I think it absolutely is a part of environmental education because I think it is a

mindset….That mindset helps direct you in terms of how you nudge people, how you

share information, how you receive information, and what things are important to

you....Sometimes we judge too quickly as environmental educators.

I could not argue this point. While we feel judged, we are often judging others. This is one of

the concerns Steven mentioned as being so off-putting about environmentalists—the sense of

judgement others feel in our presence. How strange is it that we think of ourselves as being

accepting and yet, as "flag bearers" of causes, are simply off-putting to those we hope to

influence?

It was very interesting to me that while the ecological versus anthropological framing I

was using had little reverberation, discussions about succession and natality as they relate to the

changing ecological landscape were very rich. I had discussed with each participant the idea of

succession whereby earlier communities actually change the environment to become less

favourable for themselves but more favourable for a new species, until a climax community is

reached, at which point the offspring of the parent generation are able to tolerate the conditions

created by their own species. I paralleled this to human communities, not from a species

standpoint but from a generational one. I considered the cell phone, bank machines, and even

computers are artifacts of my parents' generation. However my generation and successors have

adapted to use these tools and modify them into something that is unrecognizable, even

incomprehensible to my parents. They are challenged to identify with the adapted technology.

For their own reasons, they shift away from these inconvenient conveniences into the comfort of

the world in which they flourished. They created a technology that would eventually succeed

them, altering the world in such a way that it became less attuned to their adaptation strategies

and identity. I paralleled this technological succession to a crime whereby identity was lost, not due to a natural or technological succession, but rather through the expunging of culture—the story of the Crow. Forced to move to reservations, they lost their customs, traditions of self-sufficiency, and sense of how to exist in a world where their identities and their meaning was denied. While effort was made to give the story of the Crow to successive generations, the reality of the young people fell out of alignment with the history of their parent's and grandparent's generations, resulting in an eroded culture where tools, skills, and ceremony became a way of the past and unrecognizable to the heirs. If one could consider Arendt's (1958) *natality* to be the social parallel to ecological succession, then ideas of past generations *could* be carried forward, albeit through the eyes and influence of the new generation. The question becomes how much of the core experiences, lifestyle, and history are required for the idea, *the culture,* to thrive in successive generations?

Steven noted that he doesn't want to go back in time 200 or 300 years ago with "people dying at 40" from a variety of things that we take for granted we no longer have to worry about today. For him, "it's recognizing what are the values [from] then without taking the negatives." I agreed—we need to maintain the values. Marion thought of these ideas as akin to *baselines* or more accurately, baseline shift[39], normalizing the present state as if it were the always the status quo. Marion considered that from generation to generation, there is a shift in what we consider normal. She recalled a study out of Korea projecting that "96% of males under the age of 40

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[39] Baseline Shift Syndrome was mentioned by Daniel Pauly in an article discussing fishery depletion. Pauly (1995) offered that "each generation of fisheries scientists accepts as a baseline the stock size and species composition that occurred at the beginning of their careers and uses this to evaluate changes. When the next generation starts its career, the stocks have further declined, but it is the stocks at that time that serve as a new baseline. The result obviously is a gradual shift of the baseline, a gradual accommodation of the creeping disappearance of resource species, and inappropriate reference points for evaluating economic losses resulting from overfishing, or for identifying targets for rehabilitation measures" (p. 430). He added that to be able to correct for the shifting baseline, the use of anecdotal evidence should be considered if creating a restored ecosystem was the goal.

would be myopic…not because they're spending too much time on screens....They're not being exposed to the brightness of the sun and they're eyes are actually developing elongated instead of round." We talked about the ability of humans to adapt, by making eye glasses or contacts but questioned, are we're evolving or devolving? Is it acceptable that the baseline is myopia?

Catherine offered another idea that paralleled Marion's baseline point: "My memories going back were just constantly playing in a ravine, so that way it was a part of lifestyle because it was regular and repeated." She noted that her childhood in nature was unsupervised—she would roam in the ravines with her brother or cousins, something that today she thought might be considered *risky play*[40]. Not only was Catherine able to engage in activities like "climbing trees, building bridges, [and] building forts," she was also given a pocket knife "and it wasn't a big deal." I recalled my own adventures using my mother's paring knife to carve in trees, not at all concerned with cutting myself but rather the circumstances to be faced if I lost the knife! It was interesting because she reflected that her son, age six, asked for a pocket knife, and her response has been, "it's not an age thing…it's an, *are you ready for this* thing." She thought that her parents probably didn't think about her readiness for a knife in the same way she contemplates it: "It wasn't, 'Are you ready for this?' It was just, 'Here's the knife—you need something to do. Here you go.'" I asked why she thought this shift has occurred and she said, "I think there's more judgement…more developmentally appropriate chat. I think there's a fear of repercussions….I just don't think that our parents would have frontloaded things as much as we frontload things." Without using the term baseline shift, I thought Catherine had described the idea well.

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[40] *Risky play* has been considered by Ellen Beate Hansen Sandseter (2009) as having two categories of risk, environmental and individual, where environmental characteristics are concerned with "features of the play environment" (p. 3), and the individual characteristics are concerned with "how the play was carried out by the child" (p. 3).

Steven also thought of the experiences of children today versus our own baselines as children, and the differences in what is available to today's youth that wasn't a part of our youth. We talked about virtual experiences through a rainforest or going on a hike with your favourite personality with the added security of never leaving your classroom or living room, or the cost savings of not paying for a bus or transportation—we can reduce the inconveniences as well as inequities created when there is a cost to an excursion or experience. *But without risk, without actual feedback that results in consequence, has the experience been experienced?* Are we comparing apples to apples when virtual reality replaces real experiences? Without any other sort of baseline, we decided it is fair to say that it is an experience based on *their* reality. Every generation has a reality and it is undoubtedly a shift from that of previous generations. Steven offered, "It goes back to the challenge of value systems…. We have to influence them within the world they live in, not the world we wished they lived in or that we think we lived in when we were their age." In his mind, he and I didn't have to save the world but we need to "[Buy] time for the next generation to maybe have a few more people that work a little harder."

My apprehension of lack of engagement with this tension was relieved. A deeper analysis and summary of this discussion regarding authenticity in EE is provided in *Chapter 8*.

CHAPTER 8

FOLLOWING A SHOOTING STAR

The data made available by narrative analysis is wide ranging. There have actually been five chapters preceding this one which I would say function to present data and offer primary analysis of data. Consider that within Chapter 3, while I offered descriptions of both the research and the data analysis methods employed, Table 1 provided the first glimpse at the narrative theme coding. The case study chapters (Chapters 4 through 6) presented the summarized and participant-verified narrative data, narrative timelines for each participant, as well as researcher field notes. Chapter 7 presented the researcher's timeline and also included the arguments of authority discussions generated from the second round of interviews. The focus of this chapter is to provide a secondary level of analysis in which I use data visualization tools (Sankey and radar diagrams) to make more apparent the convergences and divergences within the narrative themes. While I was tempted to include the individual Sankey and radar diagrams within each case study chapters, I decided that I would place them in Chapter 8 for two reasons: the diagrams represented working with the data at a deeper level, and if included in the individual participant chapters, they would be separated from the collective diagrams and their analysis. In addition to the data visualization analysis, this chapter also includes a section whereby I offer reflection rather than a simple summary on the participant thinking around the arguments of authority.

Chapter 8 has been formatted to present the coded data as Sankey and radar diagrams. Sankey diagrams were used to show the emergence of each theme related to timeline age periods for each participant, and then as a collective of all participants. A full explanation of interpreting Sankey diagrams is offered in Chapter 3. Similarly, radar diagrams were used to offer another lens/interpretive tool for the thematic coding and are explained in Chapter 3. The different perspectives of the data presentation between Sankey and Radar diagrams is purposeful: the Sankey diagram shows the full range of the weighted theme areas across time as well as points of emergence and patterns of re-emergence related to persistence or transience, while the Radar diagrams show a constellation of the weighted themes related to age periods.

Narrative Themes Represented as Sankey and Radar Diagrams

I chose to represent the narrative themes in two formats as each chart type creates unique context and understanding. As was described earlier in Chapter 3, the weighted, directional bands of the Sankey diagram makes it possible to visualize energy or matter as it moves from one state or location to another (Papargyropoulou, et al., 2016), and it is my opinion that it can also be used to visualize the magnitude and the movement of the *themes* across time periods of participant stories. Not only can one clearly see the relative prominence of each theme within the narrative told, one can see the emergence of them according to specific events or activities by age, and also see the flow terminate and potentially re-emerge multiple times with varying significance in other periods. The Sankey diagram also allows for comparison across participants, showing convergences and divergences in themes. When the data of all participants are combined in one diagram, the reader is given an overview of collective impact of weighted themes over time.

Radar diagrams were also described in Chapter 3 as another way of showing the weighed narrative theme data, with the output creating a constellation-type visual for analysis. If one considers a Sankey diagram to be comparable to a "profile" view, a radar diagram would be the relative "bird's eye" view. The intention of bringing forth the radar diagram is that it produces an image format that may be familiar and more memorable as many readers could be acquainted with this imaging through constellations.

Sankey and radar diagrams were produced for each participant, based on the narrative themes drawn from their stories and the age periods represented in their individual timelines. A summary of the analysis for each participant as well as the collective is provided in tandem with each diagram.

Summary of Analyses of Marion's Sankey and Radar Diagrams

In reviewing Marion's Sankey diagram (see *Figure 12*), fourteen of the seventeen collective themes emerged from her narrative, with the most heavily weighted themes being *sense of professional identity, argument of authority (authenticity), argument of authority (integrity), sense of place, misalignment*, and *sense of belonging*. When looking at Marion's themes as compared to others, there were no themes that were completely unique to Marion's narrative but half of Marion's themes were shared with only one other participant: *disconnect with nature, burnout, political sensitivity, argument of authority (privilege), activism, awe,* and *argument of authority (integrity).* Noteworthy is that *argument of authority (integrity)* was very heavily weighted in Marion's story and just registered as a theme in the only other narrative where it had presence.
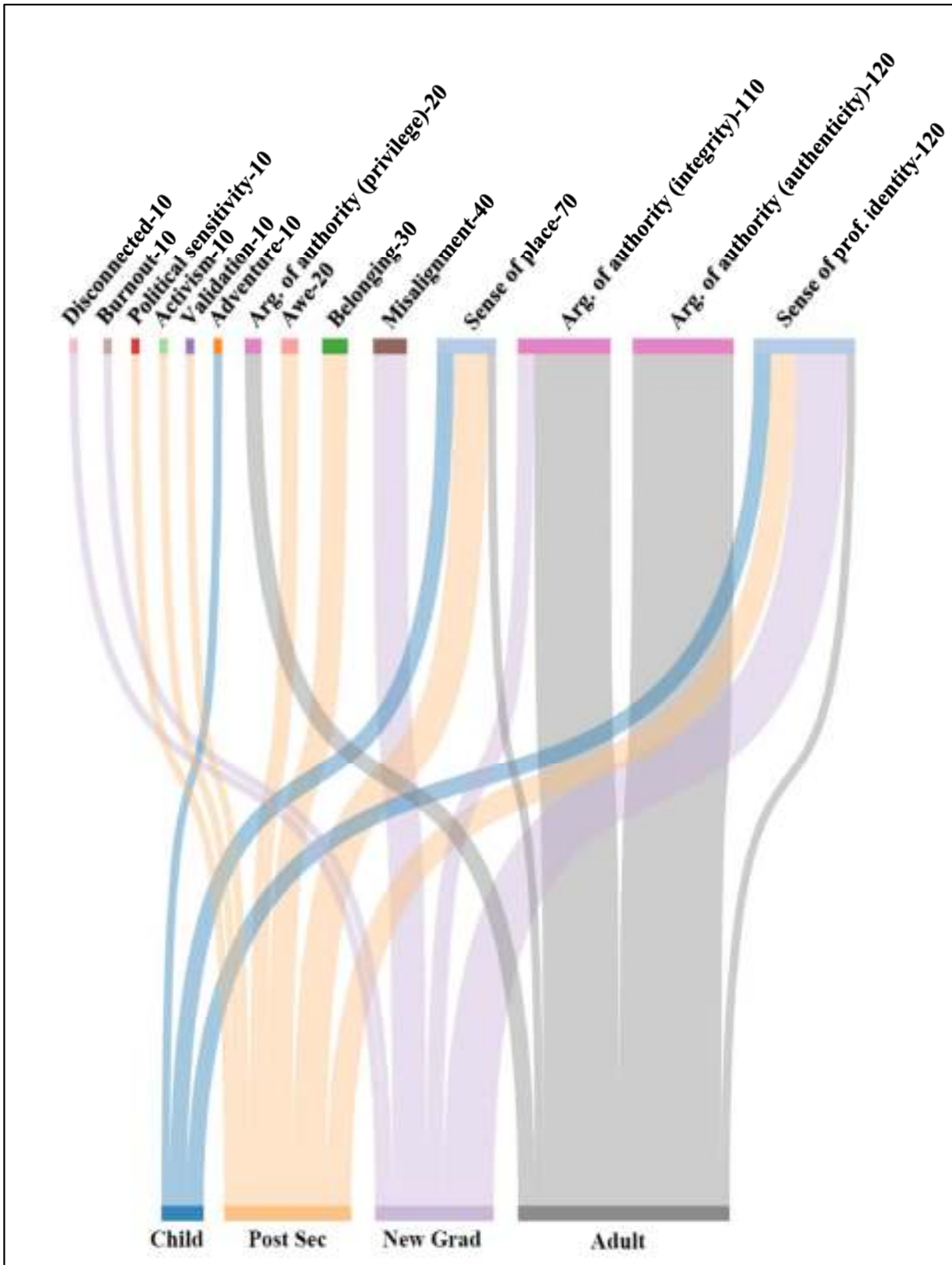
163

Figure 12. Sankey diagram of Marion's narrative themes, showing relative weighting

To consider themes and their frequency as related to various age periods, Marion's s*ense of professional identity* was captured in all categories, from child to adult, building from Child through New Grad periods, with sharp decline in the Adult period. The s*ense of place* theme was noted over three categories, and the *argument of authority (integrity)* showed in both of the older age periods, New Grad and Adult*,* presenting itself in the New Grad period but dominant in the Adult period. It was during Marion's postsecondary span that she recalled events fitting into seven of her fourteen themes.

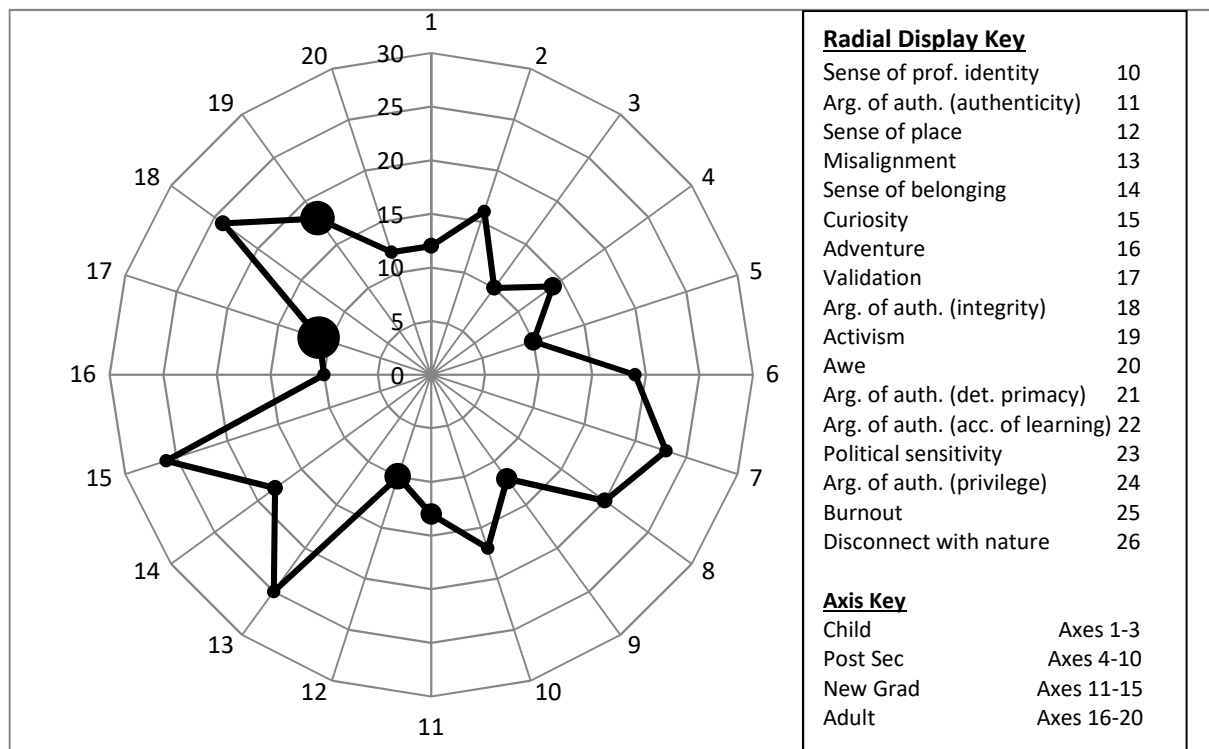The radar diagram (see *Figure 13*) shows the intensity of the themes, *argument of*

Radial Display Key

Sense of prof. identity	10
Arg. of auth. (authenticity)	11
Sense of place	12
Misalignment	13
Sense of belonging	14
Curiosity	15
Adventure	16
Validation	17
Arg. of auth. (integrity)	18
Activism	19
Awe	20
Arg. of auth. (det. primacy)	21
Arg. of auth. (acc. of learning)	22
Political sensitivity	23
Arg. of auth. (privilege)	24
Burnout	25
Disconnect with nature	26

Axis Key

Child	Axes 1-3
Post Sec	Axes 4-10
New Grad	Axes 11-15
Adult	Axes 16-20

Figure 13. Radar diagram (constellation) of Marion's weighted narrative themes

authority (integrity) and *argument of authority (authenticity)* in Marion's adult years. It does not show as clearly as the Sankey diagram that the *sense of professional identity* cumulatively over age periods matched the relative magnitude of impact of the theme, *argument of authority*

(authenticity): *sense of professional identity* is dispersed amongst all age periods while

authenticity was present in one period only. No two life-phases in Marion's radar diagram have

an identical pattern.

Summary of Analyses of Catherine's Sankey and Radar Diagrams.

In reviewing Catherine's Sankey diagram (see Figure 14), eleven of the seventeen themes

were represented in her narrative. The most heavily weighted themes beginning with the highest

were *sense of professional identity, curiosity, sense of belonging, activism, adventure,*

misalignment, as well as *argument of authority (authenticity).* While no themes appeared across

all four of Catherine's age periods, most of her heavily weighted themes were present in three,

sense of professional identity, sense of belonging, adventure, misalignment, and *argument of*

authority (authenticity). As an adult, Catherine's Sankey showed 10 of the 11 theme areas

represented. No themes were unique to Catherine's narrative but four themes, *burnout,*

argument of authority (integrity), activism, and *curiosity* were shared with only one other

narrative. Noteworthy is that *curiosity,* while relatively rare as a theme presence was one of the

highest magnitude themes in Catherine's story.

In consideration of Catherine's radar diagram (see *Figure 15*), it can be seen that her

adult years show the largest magnitude or intensity for the themes of *curiosity, activism* and

sense of professional identity, while the theme *sense of belonging* is significant in its cumulative

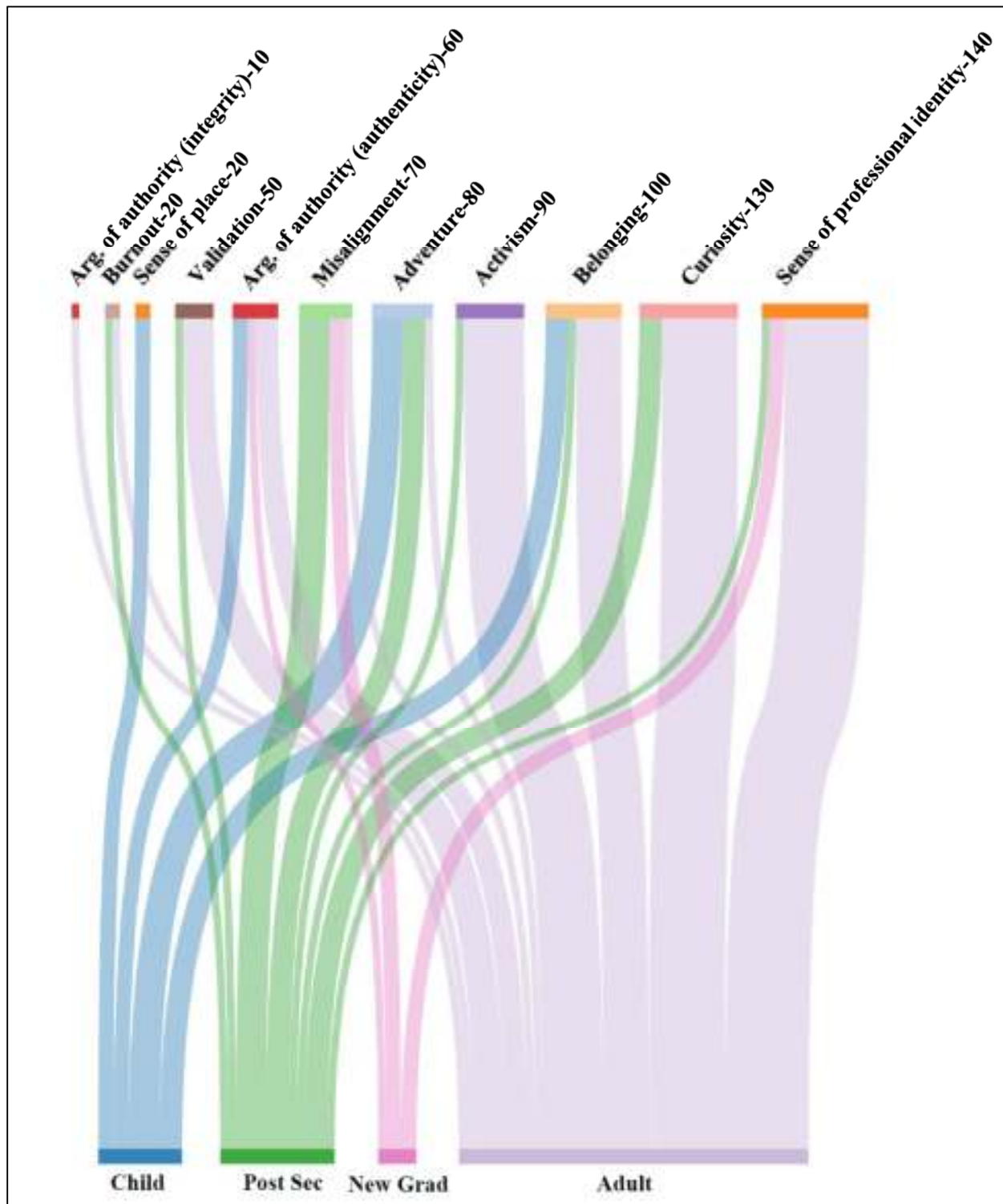magnitude over the multiple age periods to which it belongs.

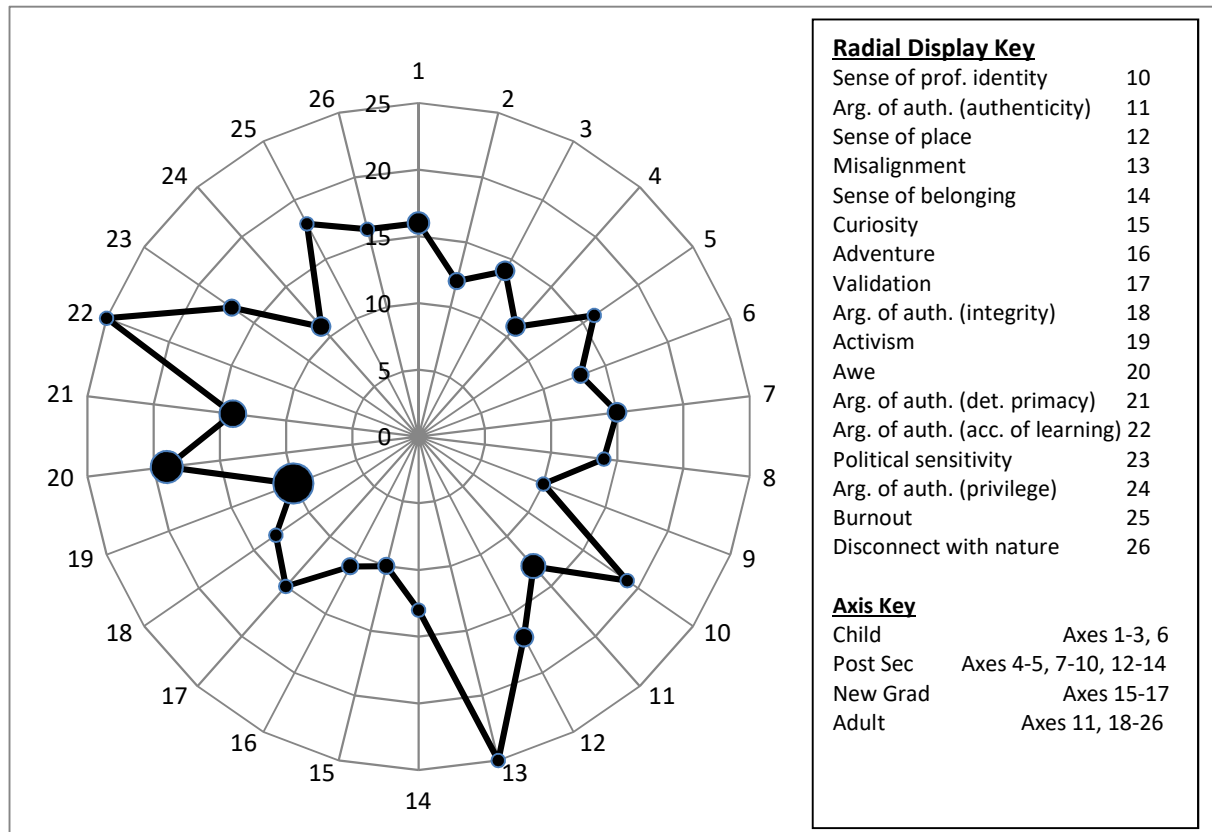*Figure 14.* Radar diagram (constellation) of Catherine's weighted narrative themes

Radial Display Key

Sense of prof. identity	10
Arg. of auth. (authenticity)	11
Sense of place	12
Misalignment	13
Sense of belonging	14
Curiosity	15
Adventure	16
Validation	17
Arg. of auth. (integrity)	18
Activism	19
Awe	20
Arg. of auth. (det. primacy)	21
Arg. of auth. (acc. of learning)	22
Political sensitivity	23
Arg. of auth. (privilege)	24
Burnout	25
Disconnect with nature	26

Axis Key

Child	Axes 1-3, 6
Post Sec	Axes 4-5, 7-10, 12-14
New Grad	Axes 15-17
Adult	Axes 11, 18-26

Figure 15. Radar diagram (constellation) of Catherine's weighted narrative themes

Summary of Analyses of Steven's Sankey and Radar Diagrams

With Steven's Sankey diagram (see *Figure 16*), nine of the seventeen themes were noted. His most heavily weighted themes were *sense of professional identity, sense of place, awe, validation,* and *political sensitivity.* Two of Steven's themes appeared in all four age periods, *sense of professional identity* and *sense of place.* During Steven's adult period, he expressed eight of his nine themes. It is also worth noting that *sense of professional identity* was expressed as 42% of the weighted theme combined. While he had no themes unique to his narrative, three
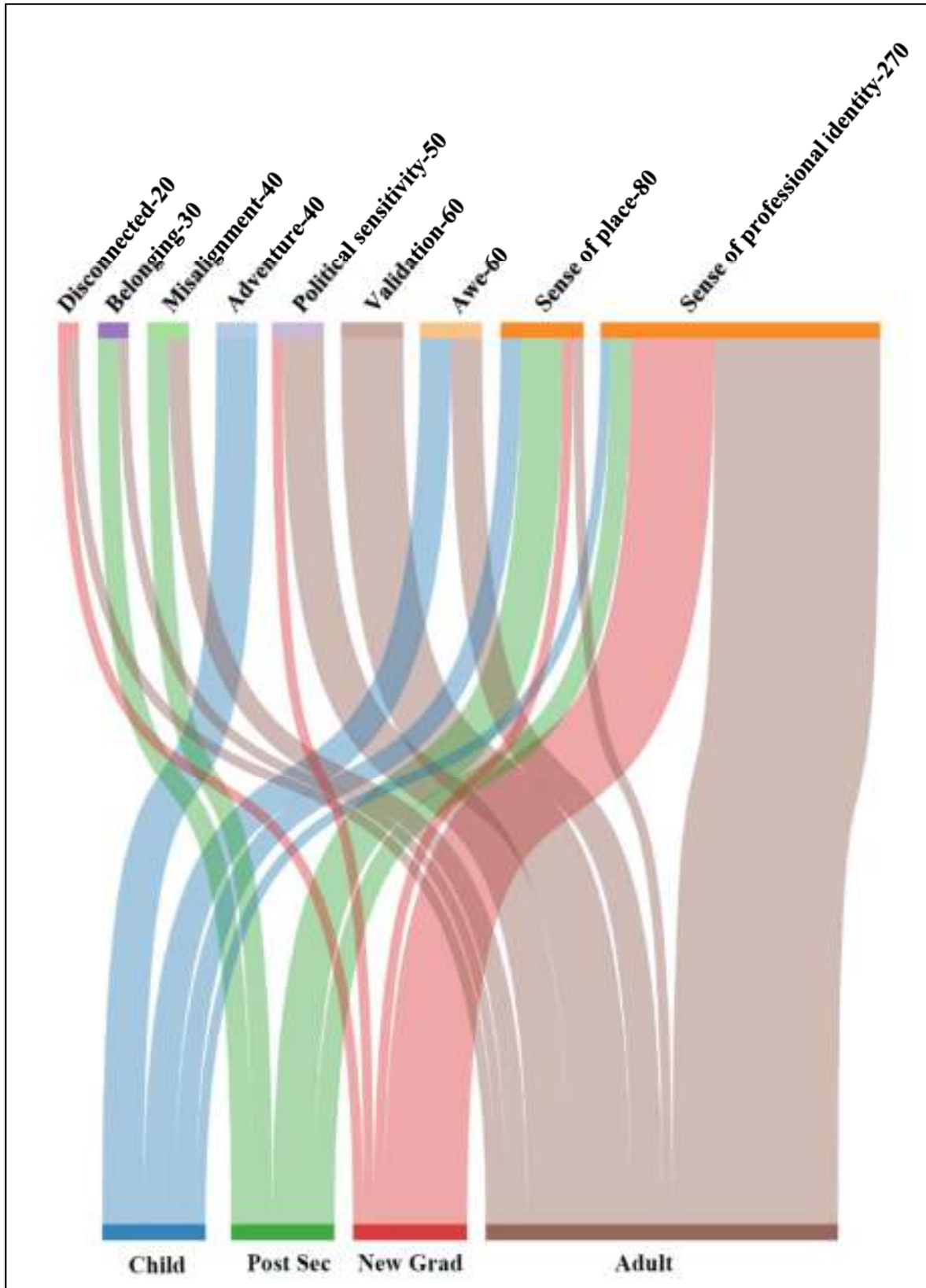
Figure 16. Sankey diagram of Steven's narrative themes showing relative weighting

themes were shared with only one other person, *disconnect with nature, awe*, and *political sensitivity*. Noteworthy is that *awe* and *political sensitivity* were of high magnitude for Steven's themes and very minor on the one other narrative that showed their presence.

Steven's radar diagram (see *Figure 17*) showed the highest degree of symmetry of any the constellations but offered no discernible pattern to the researcher. The greatest magnitude of a theme in a specific period can be seen clearly in his adult years and is repeated in the age period New Grad as well. The theme *sense of professional identity* was both individually and collectively the most highly weighted theme in Steven's constellation by a significant span, showing within all four periods at ever increasing magnitude. *Sense of place* was also present in all periods but showing a more consistent magnitude in each.
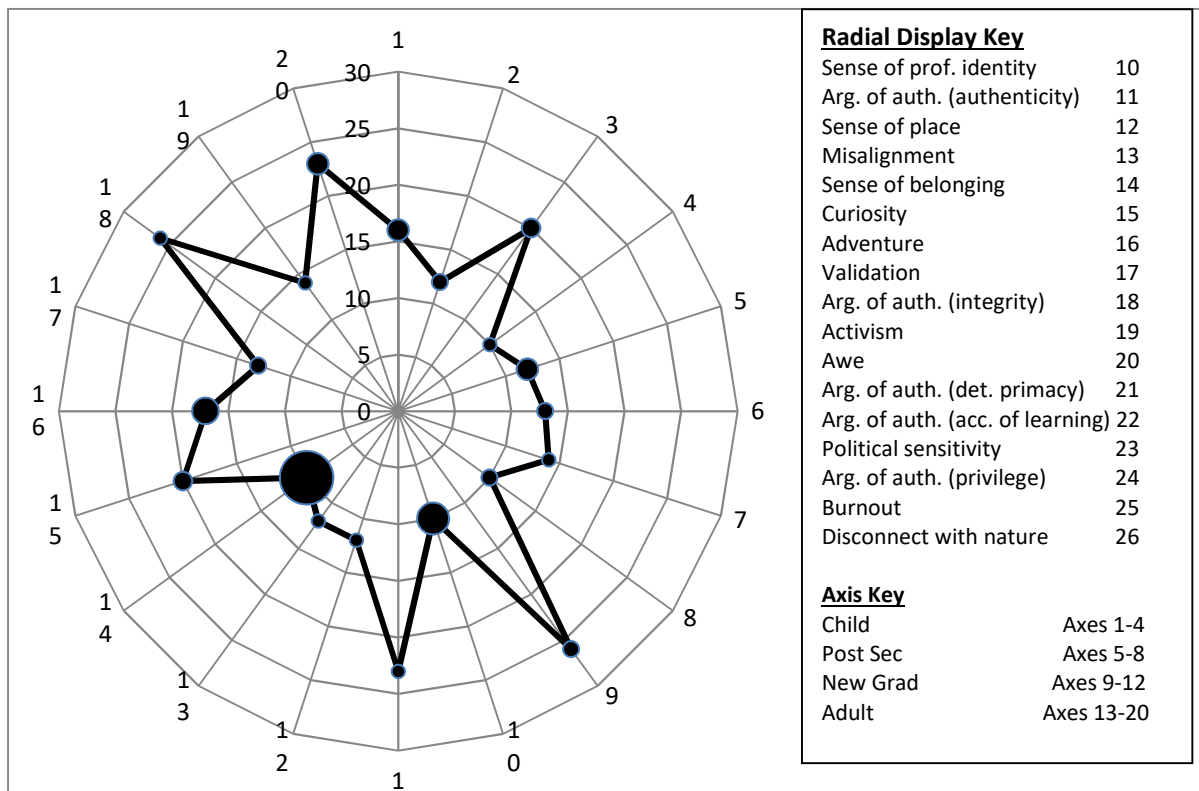

Figure 17. Radar diagram (constellation) of Steven's weighted narrative themes

Summary of Analysis of Nancy's Sankey and Radar Diagrams

With my Sankey diagram (see *Figure 18*), nine of the seventeen themes were coded to my narrative. Most heavily weighted themes included the three main *arguments of authority (authenticity, determining primacy, and accounting of learning)*, followed by *sense of place, sense of professional identity,* and *misalignment.* Only one of the theme areas crossed all age periods, *sense of professional identity*, with most being split between two age groupings**.**

Unique to my thematic profile were two themes, *argument of authority (determining primacy)* and *argument of authority (accounting of learning)*. Two additional theme areas were shared with only one other, *argument of authority (privilege)* and *curiosity*. One theme, *sense of professional identity*, spanned all four age periods of narrative, with all others being either singular or spanning just two age periods.
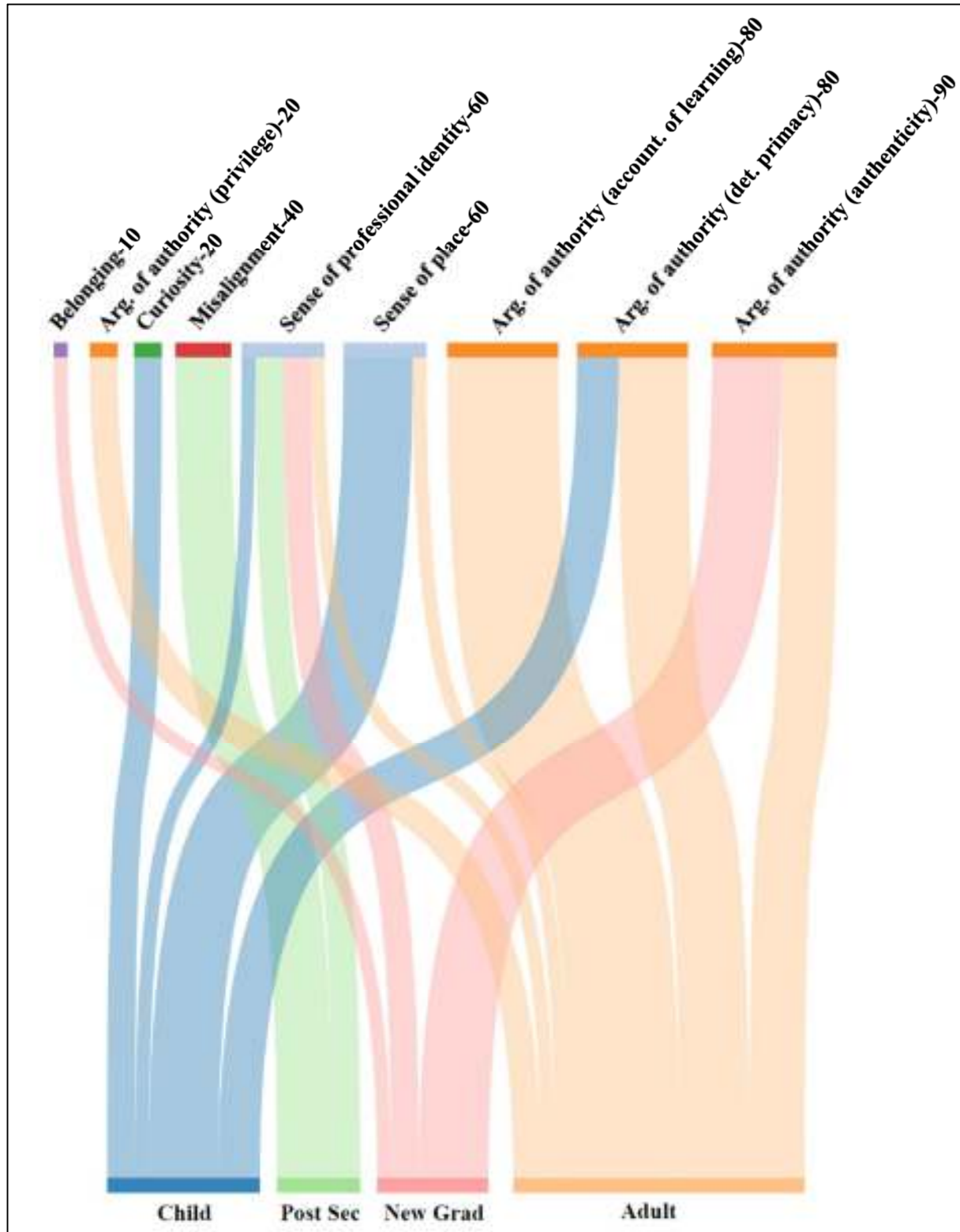
Figure 18. Sankey diagram of Nancy's narrative themes showing relative weighting

My radar diagram (see *Figure 19*) offered no discernable graphic to me and no symmetry. The greatest magnitude of thematic influences, *argument of authority (accounting of learning)* and *argument of authority (determining primacy)* presented in my adult period, but there was the consistent thematic star showing of *sense of professional identity* showing across all periods
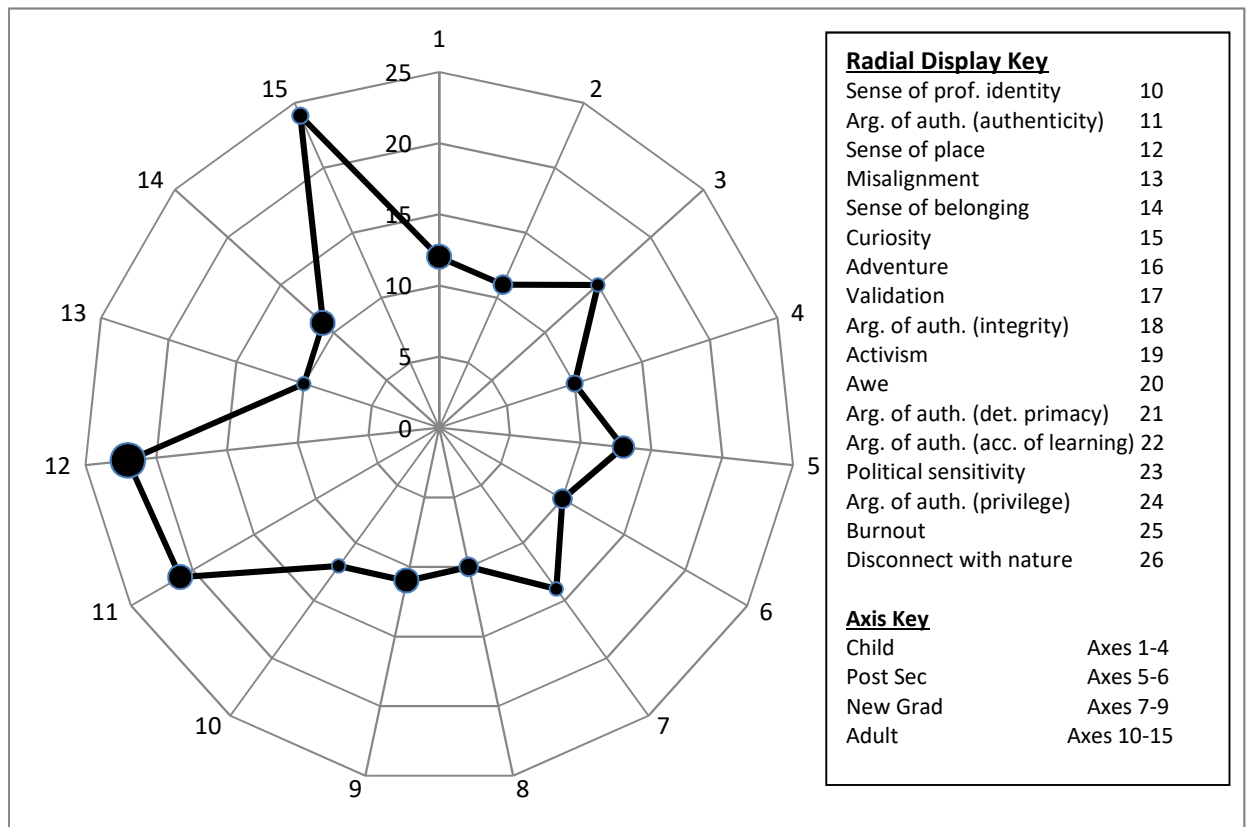

Figure 19. Radar diagram (constellation) of Nancy's weighted narrative themes

Summary of Analysis of Collective Sankey and Radar Diagrams

The collective Sankey diagram (see *Figure 20*) representing the weighted narrative themes of all four participants was inclusive of all 17 themes, as anticipated. The greatest weight in themes included *sense of professional identity, argument of authority (authenticity), sense of place, misalignment, sense of belonging,* and *curiosity*. Themes which were included in four out of four of the age periods included *sense of professional identity, sense of place, and sense of belonging*, while themes common to three periods were *argument of authority (authenticity), misalignment, curiosity, awe, political sensitivity, and burnout*. The age period of Adult included all 17 narrative themes represented. It is interesting to consider that in the top weighted themes, the age periods of Child, Post Sec, and New Grad were represented in all but one; Adult as represented in all six. Noteworthy is that the Adult age period was represented in all themes.
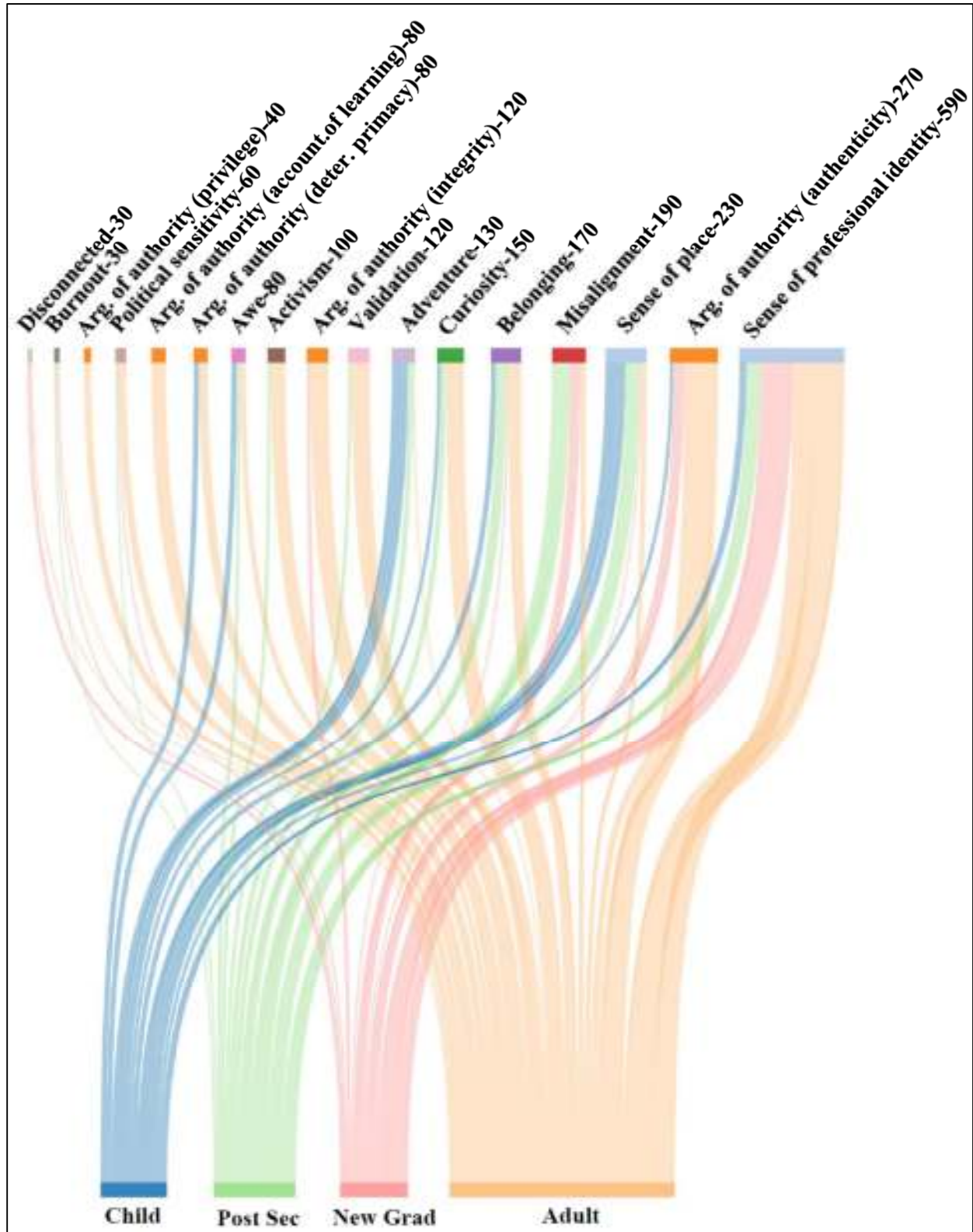
Figure 20. Sankey diagram of collective narrative themes showing relative weighting

In reviewing the collective radar diagram (see *Figure 21*), it was the only one that presented a discernible graphic or pattern to me. While I can appreciate that is bears a resemblance to a pinwheel, as an environmentalist I cannot help but be overwhelmed by the resemblance to a bird in flight. It clearly shows the greatest magnitude themes as being represented by the theme *sense of professional identity*, both as elements of the Adult and New Grad periods but cumulatively as well.
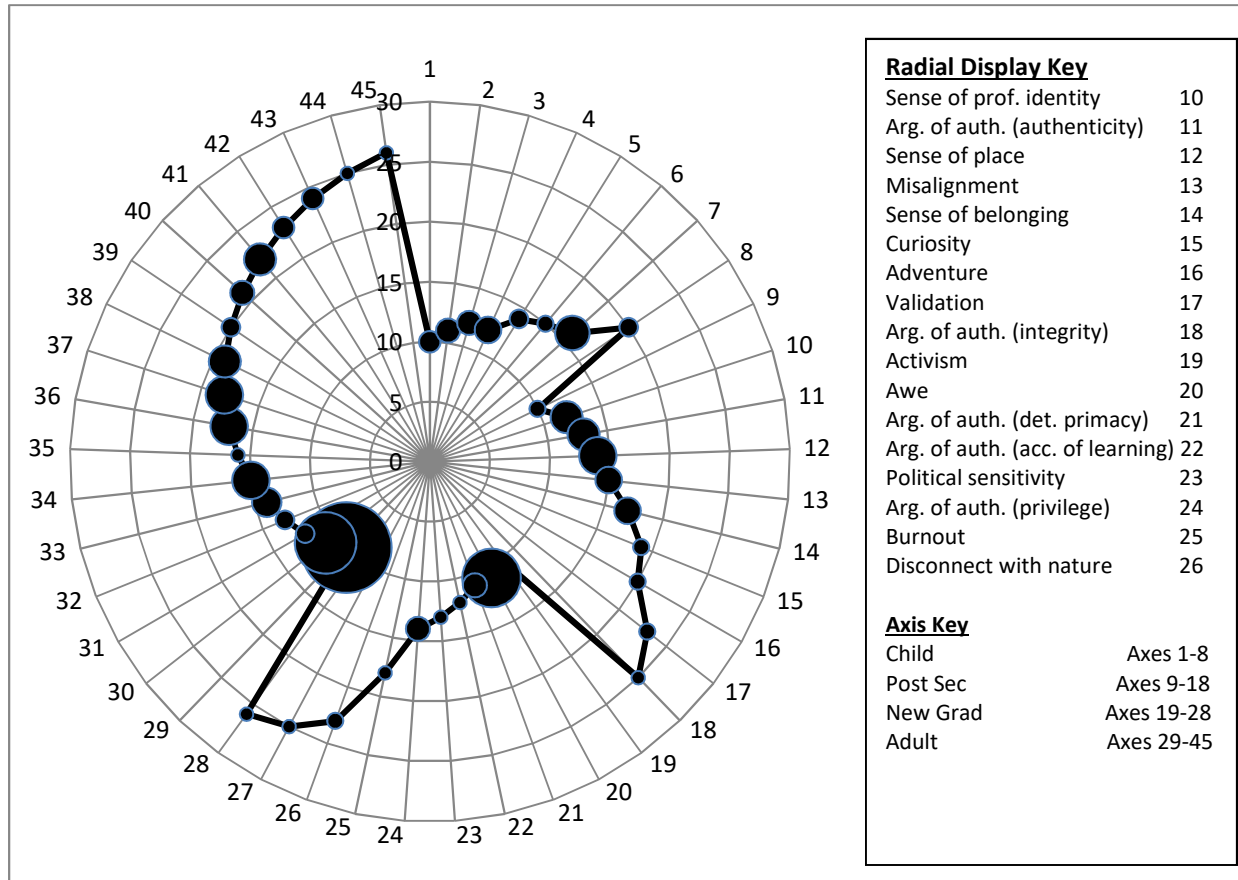

Figure 21. Radar diagram (constellation) of collective weighted narrative themes

Arguments of Authority Discussions

This summary refers to Chapter 7 where I discussed the three, specific arguments of authority I hold with each of the three participants. They offered their thinking about the three arguments, and I captured their collective thinking. The data are derived from each Interview Two.

Summary of Argument of Authority: Authenticity

Authenticity was the richest argument of authority in discussion, representing the only tension that appeared as a coded theme in any of the other participant's narratives. These discussions began with me setting context for the argument, outlining my angst or tension. For this argument, the following challenges were identified by the participants to this tension:

- There is a complexity and definitional problem with EE. It is about relationships, sometimes with the natural world and sometimes with the human circumstance;

- There are strained underpinnings within EE that require reconciling. It is not about picking sides, such as an indoor or outdoor focus, but rather about accepting the range of entry points without a need for judgement;

- There is a need for a philosophical shift, a rebranding that makes EE accessible to the greater population. It is a subject but also a process and way of being;

- There is a need for schools and school boards to create and/or maintain a value system compatible with environmentalism;

- There needs to be the desire for the equal valuing of environmental education alongside other subject areas in school;

- There are necessary elements to doing EE well, including the *time* to experience and reflect upon the experiences;

Summary of Argument of Authority: Accounting of Learning

While none of the other participants had noted the tension about accounting of learning within their narratives, there was considerable empathy and discussion to be had. I do have an appreciation of the fact that while no one else identified it emphatically as in my story, this idea (as would any of the tensions identified) was not a challenging topic for these participants. I consider that while this tension lacked prominence in the narratives of others, my narrative did not show the elevated level of concern in themes such as *Adventure*, *Validation*, or *Political Sensitivity*. The summary of our collective thinking produced the following:

- While it is challenging to measure progress attributable to EE exclusively, the declining health of the planet may be worse if the EE was not in place;

- Various stakeholders have diverse values and these may be in conflict with EE;

- Saving the world is a noble goal but not measurable in human time. Measures of success need to be scaled to ripples rather than waves;

- Saving the world is not EE's burden to bear alone—it belongs to all people;

- There are intangible, invisible elements to the natural world that can be sensed but not measured. This awe or magic is determined individually and its immeasurable quality makes it no less valuable than one that can be measured;

- As environmental educators, we need not only acknowledge but defend that learning is happening all around us and that it does not require measure beyond the individual's acknowledgement. This is ours to own.

I was most struck that by the fact that at some point in their narratives or their interviews, each participant was able to describe the experience, *the moment*, of their EE *raison d'être* but were challenged to provide any measurement of it. Being awestruck by the Northern Lights,

overwhelmed by the joyfulness of others, or consumed by the goodness of empowering others is not to be taken lightly, not to be forgotten. Quite possibly, it is not to be measured either.

Summary of Argument of Authority: Determining Primacy of Lifeforms

I considered this argument the most controversial as the participants of this study seemed to be much more closely associated with the human relationships and social justice side of EE. The summary of our collective thinking produced the following:

- Our present environment is reality; we prioritize based on what is in our midst;

- There are many flags to plant in EE. Individually we must be our most productive and focus our energy there;

- *Others* include all others, within and outside of our own species;

- Shifting baselines run akin to succession and natality. They normalize our present reality. While relieving the present generation of the guilt of predecessor activities, they may also anaesthetize our sense of responsibility, leaving species of the world to fight their own battle against anthropogenic climate change.

While I do not take lightly the sense of responsibility for correcting the wrongs of the past and defending the value of all life beyond its value to humans, the battle is not one that is being fought independently.

CHAPTER 9

MAKING SENSE OF THE COSMOS

This study was designed to bear witness to the paths to and within environmental education of four educators, intended to offer insight and understanding as to the factors which influenced their journeys in EE, and promised to show the relationships, *if any*, between their experiences. It was also meant to explore my tensions, *a researcher-participant's tensions*, described as the arguments of authority that both inspired and stymied me during my EE career. To add to the complexity of the study, I purposely chose to approach this research with a non-traditional literature review, bringing not one or two theories to the discussion but rather eleven different philosophers, theorists, and authors whose ideas have lingered near this query for several years. I was intent on determining if their theories, juxtaposed with the praxis of four environmental educators, could create understanding where confusion and tension existed. Finally, I wanted to respond to the question, *to what end?* In response to each of the aforementioned expectations, this chapter offers the following conclusions.

I gained my understanding of the participants within this study by reading their narratives, conversing with them, coding their thoughts, and comparing their data. Thematic coding of the narratives was able to offer some level of insight into the content of the participant stories but it was through my field notes that I was able to capture the general atmosphere of each. For each of the participants, I was profoundly surprised by the rigor and uniqueness of their offerings to this study. My sense of Marion was that her passion for the natural world was

nurtured from her childhood by parents who valued nature and wished to foster this value in her. Marion was uniquely creative, imaginative, and self-reflective, elements validated by the narrative themes associated with her story. From the thematic coding, Marion revealed a resilient *sense of place* that was not fraught with tension, like that of Steven's or my own. Marion's most dominant tensions were with *authenticity* and *integrity,* arguments of authority that relate to her capacity to reflect deeply in how she lives. She set high standards and expectations upon herself for how she should relate to the world and impact the planet and immersed herself fully into a world where the teachings of non-formal EE are a way of living a life well lived.

Catherine's narrative overview illuminated a subtext of someone who is gifted in creating and maintaining connections and relationships—a people person! Her caring nature and self-confidence fused to create a social justice activist, one who nudges and enables. Of all the participants, Catherine was definitive in her commitment to both attend and provide professional development related to EE. From the thematic coding, distinctive to Catherine was that she demonstrated the highest magnitude of *curiosity* amongst all participants which I believe manifests itself in her present praxis and enduring professional development. Her narrative concentrated on relationships with people, which supported the strong weighting of *activism* and strong *sense of belonging*, both themes that speak to her strong social justice inclinations.

Steven was the storyteller of the study. His path was most like my own and his approach to this study mirrored my own. He was able to convey a sense of peace with whatever direction his EE path veered, but he was relentless in his effort to break into and remain in the field of EE. His sense of self showed his capacity for self-reflectiveness. Steven's coding revealed that he was most dramatically immersed in the outdoor experiential side of EE, showing an unparalleled

magnitude within the theme *sense of professional identity*. He also held an emphatic *sense of place* and *awe* for the natural world. Steven had the strongest *political awareness/aptitude* of all participants, which showed multiple times throughout his story as an affinity for challenging norms and influencing the direction of the EE field.

The analysis of my narrative themes was predictably skewed to the three *arguments of authority* I posed—*authenticity, accounting of learning*, and *determining primacy*—but the study also made clear how influential *sense of place* has been for me in my praxis of EE. My themes also showed a very direct relationship between my childhood themes and the tensions I hold today.

In considering the convergences of the narrative coding, collectively, the narratives showed the strongest convergences in the themes *sense of professional identity, argument of authority—authenticity, sense of place, misalignment*, and *belonging*. The influence that *sense of professional identity* had for all participants was traceable throughout multiple age periods of their lives. Marion and Steven knew from childhood that they wished to join the ranks of formal and informal environmental educators, and Catherine and I were conscious of our affinity for the field. *Sense of place* and the *argument of authority (authenticity)* were also strong themes for the participants, with *sense of place* showing a higher weighting in childhood and *authenticity* bearing greater weight in adulthood. It was interesting that for Steven and I, *sense of place* had its strongest influence when we were experiencing a deficit of connectedness with our surroundings. Surprising to me was how significant the sense of *belonging* and sense of *misalignment* was to the other participants. *Belonging* was relevant across all periods but was strongest in adulthood which may be an indicator of satisfaction within one's role in the field of

EE.   The weighting of *misalignment* supported the data from *belonging*, with *misalignment* decreasing towards adulthood.

In reflecting on the thinking around my tensions, the arguments of authority discussions opened new ways of thinking about *authenticity* in EE, *accounting of learning* in EE, *determining primacy of lifeforms*, with two additional arguments emerging, *privilege* and *integrity*. With regards to *authenticity*, it was the only argument of authority posed that emerged from the narratives of other participants. It was agreed that EE's complexity makes it challenging to define; unlike the Crow in Lear's (2006) novel, it was not as much as loss of concepts in EE as it is too many concepts making each less significant.   This problem of definition is also a problem of prioritization and valuing alongside other subjects as well as in professional acknowledgement and support. As environmental educators, it is vital that while we advocate for EE, we do not become part of its repression by participating in our own civil war where we battle one supporter battles another. We need to embrace and encourage others in their own interpretations and adopt a *radical* hope, one that Lear (2006) described as "directed toward a future goodness that transcends the current ability to understand what it is. Radical hope anticipates a good for which those who have hope as yet lack the appropriate concepts with which to understand it (p. 103).

The arguments *accounting of learning* and *determining primacy*, while outside of the other participants' themes, invoked deep discussions and thinking. It was determined that using the measure of the planet's overall health to speak to the impact of EE is an unfair and inappropriate measure. Measures that are accountable to the individual and their ability to act are most appropriate, and an increased frequency of *immeasurable* moments in which the individual determines awe and wonder are sufficient, a nod to Leopold's (1949) "imponderable essences"

(p. 138) and Kant's (1998/1781) noumenon. As environmental educators, we must own the challenge of defending the learning that is happening on an individual basis, and that no measure or grade is required to experience.

As concerned as I was that *determining primacy of lifeforms* was to be either the least informed or most controversial, the tension emerged with great thoughtfulness applied. I reflect on Coetzee (1999) and the idea that while we as humans can never think our way into the mind of the bat, we can sympathize with this unique and special creature, and honour its existence regardless of our ability to understand completely. But what happens if we do not assume this value or have a baseline of understanding that protects life for the sake of the species and not its worth to people? The collective thinking was that baseline shift, like succession and natality, is a reality—we tend to acknowledge that there is a history pre-dating us, but we react to our own histories. Responding to the crises of life imminent to us may lead us to Odum's (1969) *human ecology* and provide empathy for the crises of others. As Arendt (1977) said,

> To preserve the world against the mortality of its creators and inhabitants it must be constantly set right anew. The problem is simply to educate in such a way that a setting-right remains actually possible, even though it can, of course, never be assured. (p. 189)

We must challenge ourselves to continue planting ideas and planting flags and encourage those who will come after us to find their causes, *their injustices*, to right: there is no shortage of wrongs to set right.

In bringing forward eleven theorists, I thought that I was emulating Ball's (2007) thinking around complex problems requiring a toolbox of theories, and while I believe this research has profited from that notion, greater still is the realization that an ecosystem or ecology

of thought is required to create understanding. Through the interaction of the ideas from Deleuze

(1987), Guattari (1987), Commoner (1971), Hayles (2016), Ball (2007), Lear (2006), Kant

(1998/1781), Coetzee (1999) , Leopold (1949), Arendt (1958/1977) and Odum (1969), it was

possible to see the emergence and re-emergence of influences, as well as the recursive nature of

narrative themes through various life stages. In the arguments of authority discussions, I have

re-introduced several of the ideas and their authors that have resonated with me over the years. It

is with the ideas and philosophers that one can consider *how* we can begin to solve complex

problems.   Visually, the various charts offered images of how the themes appeared like Deleuze

and Guattari's (1987) rhizomes. The rhizome principles (connection, heterogeneity, multiplicity,

asignifying rupture, cartography, and decalcomania) introduced in *Chapter 2*, expressed

themselves in multiple ways through individual participant narratives.   Connection and

heterogeneity were envisioned through the diagrams: themes cross over themes, supporting and

competing for expression. Consider that Marion and Steven had two themes, *sense of place* and

sense of professional identity, emerge over three and four life periods respectively.   Asignifying

rupture and decalcomania were demonstrated through the balancing of the themes, *misalignment*

and *belonging*, and re-emergence of these themes in different age periods. The essence of the

concepts cartography and multiplicity may have been made somewhat visible by the Sankey

diagrams but I would suggest a 3-D scatterplot might offer be a better data visualization tool.

The radar diagrams, while unable to create the imagery of rhizomes, were able to show

recursivity of influences through emergence, re-emergence, and magnitude of narrative themes.

The thread regarding ecology of thinking is further moved forward if one considers

Deleuze's (1987), Guattari's (1987), and Hayles' (2016) thinking around assemblages coupled

with Commoner's (1971) thinking about connectedness. I do not think it is a stretch to parallel

the resiliency of an ecosystem with cognitive assemblages: both are dependent on connectedness, diversity and richness, the first of lifeforms and the other of ideas.

My final thoughts rest with the process of self-study and that which I believe to be the most important tenet of the S-STEPP methodology: professional shift or action. To have completed this research and to disregard this impetus for change would be comparable to leaving the final chapter of book unread—it would be incomplete. While I believe that through this research, I have met the intention of making visible the stories of the participating environmental educators, illuminating their constellations of influence and discerning actionable responses to the arguments of authority, these are not yet commitments I have made.   I acknowledge that there are many more queries to consider in the field of EE, such as the significance of affective and logic themed traits of environmental educators, determining the intersections of collective values and collective impact as they relate to the natural world, and how values and assumptions interact when attempting to forge and employ theories of change. With regards to immediate shifts I can take, I describe my next action, *my grand gesture*, in Chapter 10. I believe that whatever path one takes, we must speak to our past selves and carefully reflect on that which drew us to EE and characterized by its re-emergence. *This is attending to the noumenal, the intangible, and the magic.* I believe that we must reclaim our vision but be open to re-imagining how it shall manifest itself. *This is attending to succession within our lifetime.* And we must find our individual flags to plant. For me, *this is attending to injustice*.

CHAPTER 10

CODA

It seems to me that it is the nature of research to generate questions as one endeavours to find answers to their own specific inquiries, and I'm forecasting that two common questions to this study might be *why focus on ordinary environmental educators* when there are many extraordinary people who have dedicated all or aspects of their lives to the crises of our planet, and *what happens next?* What are the stories recently lived and yet to be lived or imagined by the participants? I wish to offer that while I may not be able to fully address these gaps between the end of my research and present day, I can certainly touch upon them. This coda is my way of extending bridges across these gaps.

To consider the idea of the ordinary environmental educator, let me begin with the fact that *I* am one of the ordinary environmental educators in this study. The word *ordinary* is intended to convey a specific meaning which should in no way be confused with colloquial synonyms such as *boring, uninspired*, or *dull*. To the contrary, I believe my life and lives of the other research participants are eventful, rich, and inspired. That which I would define as ordinary are the *roles* we inhabit as environmental educators, the lifestyles we occupy within our communities, and the absence of pomp and promotion of our daily work. There are certainly moments of local celebration and achievement as well as breakthroughs and personal triumphs

but as ordinary environmental educators, we walk amongst our community not as unique but rather united in mission, undemanding of recognition or exceptionality.

In contrast to the ordinary environmental educator, I would offer the legendary and the iconic, *the extraordinary people* from whom one learns environmental lessons. Most of these giants of the environmental world are non-formal educators, unencumbered by curricula but passionately and purposefully driven towards their specific missions. For example, Rachel Carson was an American marine biologist and renowned author of several works including her 1962 book*, Silent Spring* (Carson), which unmasked the damaging effects of chemical use primarily in agricultural practice, on the natural environment (Lear, 2000). Carson was gifted in her ability to extend the complexity of her technical work to the general public in both a comprehensible and poetic manner, making her ideas accessible and trustworthy, vital traits when considering the implications of the cautionary messages she was broadcasting. Parallel to Carson in many ways, David Suzuki is a Canadian geneticist who is also a passionate activist and author, dedicating his work and his words to challenging those who still believe that humans and the natural world are disparate in nature (David Suzuki Foundation). While there are many examples of scientists who are leaders in the environmental field, there are also politicians, such as former Vice President, Al Gore[41], accomplished author as well as protagonist of the award winning, 2006 film, *An Inconvenient Truth* (Gore, et al., 2006). Actors have also taken the stage of environmental activism, including Leonardo DiCaprio, creating his foundation in 1998 that is "dedicated to the long-term health and wellbeing of all Earth's inhabitants" (Leonardo DiCaprio Foundation). He also regularly speaks out against eco injustices and climate change. Finally, I'll mention teenage activist, Malala Yousafzai, honoured as the youngest Nobel Laureate to date for

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[41] Al Gore was the 45th Vice President of the United States, serving eight years, beginning in 1993 (The Office of Al Gore).

her advocacy of girls' right to an education (Yousafzai, 2014), highlighting a social injustice that is part of the breadth and depth of the global environmental crises. All of these people educate about the socio-ecological struggles of our time and do so in an *extraordinary* way, but I'm sure each would agree that their lives, paths, tensions, and stories stray far from that of the professional role of the environmental educator. For this study, I was and remain interested in the ordinary environmental educator who just happens to exist in their role at an extraordinary time. Our struggles and tensions within EE are not embedded in the dramatic setting of the world stage but in more personal contexts such as wanting their families to enjoy the experiences of their childhoods, wanting their communities to be healthy and forward-thinking, and wanting to create hopefulness for their students' futures. While I cannot speak definitively of this study's participants choosing environmental education as their profession in the absence of the climate change crisis of our time as I did not ask about this idea specifically, their narratives lead me to believe that their interest in EE exists beyond climate change.

With similar rationale to that of choosing the ordinary environmental educator, I chose to bring forward the deep thinking of philosophers, authors, and researchers who are known for their work outside of the environmental education sphere. To touch upon just a few, the ideas of Arendt (1977), Deleuze & Guattari (1987), Kant (1998/1781), and Coetzee (1999) intrigued me not because they spoke directly to my tensions, but because their words offered mirrors to my tensions that I could apply to EE contexts. For example, I found parallels between my understanding of ecological succession and Arendt's (1977) thinking about natality. Deleuze and Guattari (1987) offered their ideas about learning being more rhizomatic rather than arborescent, as well as thinking about assemblages that corresponded metaphorically with my understanding of ecological systems and constellations. I also brought forth *my* environmental

greats, a short list which included Leopold (1949), Orr (1984/2011), Evernden (1993), Naess (1973) and Lear (2006), not because others are irrelevant (there is certainly many great contemporary thinkers) to the field of EE, but because I appreciated the transferability of ideas *between* contexts, where EE was not the focal point. In taking ideas from sources that were seemingly unrelated to my queries, I was able to move outside of looking for answers to looking for congruencies that responded to my need for making sense in a world where solutions are a matter of perspective and circumstance rather than absolute. Considering the ordinary lives of environmental educations against the backdrop of philosophers that may or may not have roots in the environmental world gave space for ideas to percolate and I believe honoured in a very authentic way processes of learning. The bridge to ordinary environmental educators is not one of disregard or judgement, nor is the bridge to non-traditionally thought of philosophers intended to show indifference to contemporaries of EE thought. They are simply meant to show the way in which I as an environmental educator have created my worldview and made sense of a world that in so many ways is nonsensical.

The second bridge I feel needs to be placed is one that spans the chasm of *now what* gap in which I consider how one actively moves forward in the face of ecological uncertainty. In reflecting on the political climate of the world today, I am unsure if there is more turbulence and unrest associated with environmental and socio-ecological matters or if I am simply more aware or sensitive to their presence than I have been at other times in my life. I hold my tensions—*my arguments of authority*—close to my praxis but even closer to my heart. Even as this research was finding its naturally resting point, *I* have been restless, needing to move my empathy for circumstances larger than one's life into action. But what is the next step? What is a reasonable next step? What is possible?

The first thoughts that come to mind when I see my own words about moving forward in the face of ecological uncertainty is Jonathan Lear's account of social *and ecological* injustices imposed upon Plenty Coups and the Crow (Lear, 2006), and the radical hope required to move his people forward into a new and uncertain existence. I was recently introduced to Roger Simon's work, *Empowerment as a Pedagogy of Possibility*, and couldn't help but see a kinship in his thinking and Lear's as he discusses the essential quality of hope embedded in education. Simon (1987) writes, "education is fundamentally about our hopes for the future given an understanding of current realities" (p. 370). While his words are offered in the sense of the civil world, I see little reason why they could not apply to the environmental world, after all, it is well documented that the ecological crises of our time are as much political in nature. Simon (1987) continues, offering that "pedagogy is simultaneously talk about the details of what students and others might do together *and* the cultural politics such practices support. To propose a pedagogy is to propose a political vision" (p. 371).   His thinking has forced me to take pause and consider how much time I have spent denying political involvement or acknowledgement and avoiding brazen activism: maybe I have been deceiving myself these many years! In this same article, Simon (1987) considers words from Ernst Bloch's 1986 work, *The Principle of Hope*:

> Dreams come in the day as well as at night. And both kinds of dreaming are motivated by the wishes they seek to fulfill….The content of the daydream is not, like that of the night dream, a journey back into repressed experiences and their associations. It is concerned with, as far as possible, an unrestricted journey forward, so that instead of reconstituting that which in no longer conscious, the images of that which is not yet can be phantasied into the world. (p. 371)

Simon (1987) draws upon Bloch's *images of that which is not yet* and finds his own parallels between dreams and education. For Simon (1987), education, like dreams, "always presupposes a vision of the future….curriculum and its supporting pedagogy are a version of our own dreams for ourselves, our children, and our communities" (p. 371). Simon's words echo in my mind as I think about my description of the ordinary environmental educator, wanting to know that their work has made a difference in the climate change crisis but nearer to home and heart is the desire to create hope and meaning for their children and their communities. Bloch's words also echo, as I have a dream of my own.

Several years ago, I literally had a dream that reentered my subconscious three nights in a row. I remembered the dream in part each morning and stitched it together during lunch with my colleagues. It was about completing a walk that would take me from my home in Ontario to the overwintering grounds of the Monarch Butterfly in Mexico. In the dream, I traveled the migration path of this butterfly, a *species of special concern*[42] in Canada and on its way to the elevated status of endangered. Every Monarch does not make this journey; only the super-generation that ecloses in late summer and flies the 4200 km expanse to arrive in its winter resting place around November. It is a truly an epic journey for an insect considered by many to be fragile, delicate, and requiring protection to survive. Sadly, the protection needed is not from its natural predators but from human kind.

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[42] The designation, *species of special concern*, refers to a risk level given by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) with regards to the survival of individual Canadian wildlife species (https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/changes-status-wildlife-species-risk.html).

I had this dream of completing the migration walk several years ago and placed it on the "maybe" list as it would require the alignment of several variables in my life[43]. I am now at a point where I believe it is time to take this walk. My goals are simple: complete the walk, experience the journey, and understand myself and the world around me just a little bit better. It is a *gesture* to the planet but maybe even more so to me. My fingerprint on this planet may be temporary but maybe one of the over 500,000 footsteps required will be indelible. I have a vague idea how long it should take but I'm choosing to remain unscheduled and a bit naïve for fear of overestimating my capacity and setting unrealistic expectations—the goal is simply to begin and possibly find another chapter to my story. It is a nod to my tensions, a bow to EE, and a journey that not unlike any other will begin with willpower and one step. I can't say what the future holds for each of this study's participants, but I can say this is my bridge to "*now what*" or "*what's happens next*".

When I think about what's next in the world, I fight with myself not to shudder. I struggle to live bravely and with radical hope but gain comfort in the knowledge that in being part of a community of ordinary environmental educators, I am not alone. I end this coda with one last thought from Simon (1987):

> There are those among us whose future dreams are structured by failure and
> hopelessness. But I will leave you with the thought the dreams can also be the lens
> through which we glimpse possibility; that which is not yet but could be if we engage in
> the simultaneous struggle to change both our circumstances and ourselves. (p. 382)

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[43] It is worth noting that in my work with the conservation authority, I have been embedded within a program that has sought to enlighten educators about this iconic species, teaching them how to merge empathy and wonder for living creatures within their course of educating children.

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Appendix A

Informed Consent Document for Participation

Date: January 25, 2016

Study Title:
Conceiving of One's Practice: Reconciling Dirty Little Secrets in Environmental Education

Researcher:
Nancy McGee
Doctoral Candidate, Graduate Program in Education, York University

Description of Research

In this research, I will be studying my path to becoming an environmental educator, and consider three (3) apprehensions that I hold about my own practice: 1) contradictions within education and environmentalism; 2) finding means of assessment that support the education system but also value the experience of environmental education; 3) how to reconcile a world of natural and human ecological imbalance. I also wish to explore any tensions you hold within your practice of environmental education. I believe that your experience and your story will contribute greatly to this research, and I invite you to participate.

By creating greater dialogue about the tensions rooted within this field, solutions towards better environmental education may be possible.

What You Will Be Asked to Do in the Research:

As a participant in this research, you will be asked to: 1) complete and provide a written reflection outlining your path to becoming an environmental educator; 2) review and comment on the researcher's reflection outlining her path to becoming an environmental educator; 3) participate in two to three interview sessions of approximately forty-five minutes each. The interview sessions will be audio recorded, transcribed, and stored digitally. Your written reflection will also be stored digitally. You will be given the opportunity to review transcripts and discuss data analysis. In total, it is expected that between 90 and 135 minutes of interviewing with the researcher, an additional 30 minutes of narrative preparation and up to 30 minutes of narrative review will be asked of each participant.

Risks and Discomforts:

I do not foresee any risks or discomfort from your participation in this research.

Benefits of the Research to You:

While there is no direct benefit to the participants, this research has the potential to be of benefit to the research community by advancing our understanding of the paths taken by some environmental educators in pursuing their vocation, as well as in better understanding the challenges within environmental education as identified by its teachers. Such research may not

only identify concerns and tensions within this field, but also lead to better teaching, better measurement of learning, and take steps towards a healthier, balanced planet.

Voluntary Participation:

Your participation in this study is completely voluntary and you may choose to stop participating at any time. Your decision not to participate or to stop participating will not influence any relationship with researcher or York University either now or in the future.

Withdrawal from the Study:

You can stop participating in the study at any time, for any reason, if you so decide. Your decision to stop participating, or to refuse to answer particular questions, will not affect your relationship with the researchers, York University, or any other group associated with this project. In the event you withdraw from the study, all associated data collected will be immediately destroyed wherever possible.

Confidentiality:

The information collected will only be accessed by the researcher and her supervisory committee. All data (audio, transcribed, field notes, written reflections) will be stored on a password-secured storage device.   The device and any hard copy notes will be kept in a locked file at the researcher's home. This data will be kept for two years and then destroyed (erased and/or shredded). All information provided by the participant during the research will be held in confidence; your anonymity will be assured by the use of a pseudonym in all documentation and publishing. Confidentiality will be provided to the fullest extent possible by law.

Uses for the Data:

I may quote some of your reflection or interview responses in the final research paper. As well, I may present part of the findings in presentations, other papers, and/or publications at York University or other academic and research contexts. No information that identifies you personally will appear in any publications, papers, or presentations resulting from this study. To keep your identity confidential, I will use pseudonyms to refer to you, your professional context, and any person to whom you may refer.

Questions about the Research:

For questions about the research or your role in the study, please contact the principal investigator, Nancy McGee, a graduate student (PhD) at York University. You may also contact my program supervisor, Dr. Sharon Murphy, and the graduate program office at 416 736-2100 ext. 22051.

This research has been reviewed and approved by the Human Participants Review Sub-Committee, York University's Ethics Review Board and conforms to the standards of the Canadian Tri-Council Research Ethics guidelines. If you have any questions about this process, or about your rights as a participant in the study, you may contact the Senior Manager and Policy

Advisor for the Office of Research Ethics, 5th Floor, York Research Tower, York University, telephone 416-736-5914 or e-mail ore@yorku.ca

I, _____ , consent to participate in *Conceiving of One's Practice: Reconciling Dirty Little Secrets in Environmental Education,* conducted by Nancy McGee, PhD Candidate – York University. I have understood the nature of this project and wish to participate. I am not waiving any of my legal rights by signing this form. My signature indicates my consent.

Signature:_____ _____

Participant   Date

Signature:_____

Principal Investigator   Date

Appendix B

Reflecting on One's Path to Environmental Education - A Participant Outline

It is of great value to this research to gain a better understanding of your story to and within environmental education. Please offer a reflection (word processed version if possible) chronicling why you believe you have become an environmental educator, describing any key events which solidified or shifted your path in this field. There is no correct starting or ending point for your account, so feel free to include/exclude time periods, events, people (who will remain anonymous in all aspects of this research) as you find appropriate. There is no expectation of a particular style, format, or length for your story; I encourage you to write in whatever style is most comfortable for you. Upon completion, please email your story to me or if you prefer, I will be happy to pick up a hardcopy at a place and time of convenience to you. If you have questions or concerns, I am happy to offer clarification or assistance at any time.

Appendix C

Suggested Interview Questions

1. With regards to your reflection about your path to and within environmental education, could you tell me more about the circumstances surrounding the event…

2. What would you describe as being turning points or times when you realized that you had to change your trajectory?

3. How have your goals/objectives/expectations changed from when you began your environmental education journey to now?

4. In what ways do you see your story and my story:

    a. Aligning?

    b. Diverging?

5. Describe the greatest moment in your practice of EE. Why was this your greatest moment?

6. Describe the greatest tension within your/the practice of EE? What is it about this tension that causes you conflict?

7. Tell me about the one thing you could change about your practice if you were granted to power to change anything within it.