Learning with and through Emotion: A Case Study of Outdoor Environmental Educators Engaging with Eco/climate Emotions Towards Climate Justice Possibilities

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Abstract

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The field of Environmental Education (EE) is facing multiple crises around the climate crisis and an overdue recognition of the racist and ableist assumptions within EE spaces (Bang et al., 2014; Miller, Schmidt). These two issues are profoundly intertwined with emotions of anger, fear, shame, and disillusionment. In EE teaching and learning, focusing on what I describe as eco/climate emotions—the range of emotions people experience in relation to environment, environmental injustice, the climate crisis, and their intersectionalities in EE—provides opportunities for critical reassessment of environmental ideologies and teaching practices that prioritize Whiteness. With this dissertation, I rely on Intersectional Environmentalism (Thomas,

2020), sociopolitical learning theories, and embodied learning practices, to examine how engaging with emotion can motivate, shift, and transform environmental educators' teaching and learning towards more just practices. The study took place in collaboration with Cedar Harbor (CH), a non-profit EE organization that provides both school programs and a graduate program for environmental educators. Utilizing methods of critical design ethnography and social design experimentation, I provide a case study of environmental educators walking in conversation to build critical theories through emotion and interaction with the land, engaging with emotion as a process of learning through contradiction toward individual and institutional change, and embracing pedagogical climate courage. Weaving together their stories of tension, community, and belonging allowed emotion to be centered as a sense-making tool necessary for cultivating EE spaces of acceptance, justice, transformation, and thriving. Providing this critical space for engaging with emotion in embodied ways with the lands and waters, positions EE as having an integral role in the environmental and climate justice movement.

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Acknowledgments

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Dedication

To all of those who are dreaming and creating worlds where every being can thrive.

Chapter 1: Introduction

Study Significance

Intersectional Environmentalism (IE), "argues that social and environmental justice are intertwined and that environmental advocacy that disregards this connection is harmful and incomplete." (Thomas, 2022, p.21). IE is an emerging field that addresses the color evasive (Annamma et al., 2017), culturally normative, and heteronormative versions of environmental education (EE). IE supports the creation of learning spaces that are inclusive of diverse environmental histories, cultural traditions, stories, and experiences (Thomas, 2022). In part, this work centers historically excluded Black, Indigenous, Latinx, Asian, and Pacific Islander environmentalists to share their own stories in order to evolve beyond the climate crisis to the sustainable communities we are all striving for. Creating an intersectional EE program is an opportunity to create learning spaces that honor the revolutionary work of environmentalists like Hazel M. Johnson (the mother of environmental justice), the sustainable lives that Black and Brown families lead, and the courage of young activists who don't wait to demand justice for the land, water, and communities that depend on it (Thomas, 2022). By developing intersectional EE practices that reflect the world's people, their realities, and their efforts to live in harmony with lands and waters, this project can be part of the movement towards environmental justice. The pedagogical strategies offered here push against the status quo and offer a more heterogeneous understanding of environmentalism and a more inclusive and justly focused effort to fight the effects of climate change. This study will contribute to the literature within the field of EE as well as the learning sciences. In particular, I hope to contribute discussions of learning and emotion that attend to varying intersectional identities and how these identities inform nature-

culture relations (Bang, Warren, Rosebery & Medin, 2013) and the ways emotions are negotiated in and out of conversations about justice-centered EE.

Environmental education programs need to reckon with how BIPOC voices, emotions, and connections to the environment, get taken up or not. Researchers have considered how teacher candidates understood themselves, their intersectional identities, and what this means for becoming educators (Varghese, Daniels & Park, 2019). In similar ways, environmental educators must contend with their identity development and positionality within EE spaces as well as how they teach about socioecological issues and their relationships to power. The field as a whole, and environmental teacher educators, must examine and more directly address how white supremacy and neoliberal capitalism are upheld through the erasure of BIPOC histories to land, water, and environment (Forsythe & Chan, 2021; Thomas, 2022) and enact intersectional EE in response. In committing to this work, white dominant ways of knowing should be re-examined as taking up "positions of unjust power" within classrooms in order to center forms of knowledge, expertise, and conceptions of socioecological worlds that have been ignored, erased, stereotyped, and romanticized within EE (Bang et al., 2018; Paris, 2021).

The field of EE is facing multiple crises around the climate crisis and the long overdue racial reckoning within EE spaces (Bang et al., 2014). These two issues are profoundly intertwined with emotions of anger, fear, shame, and disillusionment. In keeping with Varghese et al. (2019), emotions are fundamentally linked to identity and social location and profoundly intertwined with race and racialization (Zembylas, 2011). Thus, there is a pressing need to explore and navigate collective emotions, racialized disciplining of emotions, and cultural norms surrounding emotions in EE spaces. In being part of a paradigm shift that addresses the current, unequal power dimensions of land relations tied to race, class, gender, nation, and ability, the

field of environmental education needs to authentically consider how emotions are expressed, understood, and critically examined in conversations about climate change/climate justice and the environmental pedagogies we engage.

In the U.S., emotion and learning have often been siloed into separate phenomena where emotions are meant to be controlled before learning can take place (Herrenkohl, 2010; Hoffman, 2009; Vea, 2020). These views on emotions and learning tend to position emotions as individual rather than collective, and de-emphasize how cultural norms and power shape and regulate acceptable emotions within learning spaces (Hoffman, 2009; McMain & Strong, 2021). Vea (2020) examined the relationship between emotions and learning to understand how emotional norms based on different social identities and relationships to power shape learning. Based on sociocultural activity within an animal rights organizing space, Vea (2020) argues that emotions are implicated in the learning of social practice and are shaped by norms, ideology, and power relations within a social setting. Rather than studying individuals' emotions in isolation, Ahmed (2004) and Davies (2014) suggest an alternative approach in which we "explore what [emotion] does by tracing the material and relational effects of its spillage." (McMain & Strong, 2021). This approach allows for the study of emotion and learning to be centered on relational and cultural interaction.

By focusing on eco/climate emotions[1] in environmental educator teaching and learning, we can uncover injustices and inequitable foundations and approaches that remain hidden within EE due to the historical prioritization of whiteness. Whiteness in EE is often visible in two related ways: what is taught as environmentalism and who is taught to be environmentalists.

[1] Eco/climate emotions- the term I use to describe the range of emotions people experience in relation to environment, environmental injustice, and the climate crisis, in addition to the emotions people experience in relation to EE, based on their intersectional identities and experiences.

McLean (2013) points out that environmental educators often problematically teach environmentalism by focusing only on the effects of environmental destruction and the "socially acceptable solutions" (p.357) such as, buying organic produce and recycling. These common approaches hide and depoliticize the root of these issues—colonialism, capitalism, and white supremacy—by centering white, normalized ways of living (McLean, 2013). Focusing attention solely on "saving" the environment through individualistic and capitalistic means also positions white settlers as the only ones who can save the environment (McLean, 2013; Tuck et al., 2014). Further depoliticization is often seen in the promotion of the white dominant narrative that frames humans as separate from nature, nature as a place to escape to, and land as a resource for domination and extraction (Bang et al., 2014; Gomez, 2020; McLean, 2013, Simpson, 2014; Tuck et al., 2014). According to Curnow (2017), Gomez (2020), and Tuck et al. (2014), knowledge from marginalized communities, such as Black, Indigenous, Latinx, Asian, and Pacific Islander communities, is often acknowledged in minimizing, romanticized, and appropriative ways within EE. "Unless the dominant narratives of Whiteness are disrupted, outdoor education students are problematically positioned in their quest to occupy and reconnect with wilderness." (McLean, 2013, p.361). In other words, continuing to center Whiteness as the only narrative within EE rather than centering stories and histories of communities of Color, allows EE learners to problematically continue viewing land as a commodity or resource. Problematizing this standard of Whiteness in EE by taking the time to disentangle and deconstruct our eco/climate emotions could provide new opportunities for environmental and climate justice.

The recent popularization of eco-anxiety and climate anxiety presents opportunities for critical reassessment of environmental ideologies and practices (Ray, 2020; Wray, 2022). Eco-

anxiety and climate anxiety often stem from the fear of change—needed change that interrupts "business as usual", and the prioritization of white settler-colonial ways of living white futurity (Mitchell & Chaudhury, 2020). Instead of remaining mired in fear and/or suppressing these feelings of anxiety, depression, guilt, and helplessness, educators can use this opportunity as a moment to shift power relations, toward a more intersectional approach to environmentalism. As Cachelin and Nicolosi (2022) describe, this discomfort in the form of anxiety is often needed to build sustainable lives beyond the climate crisis, as the discomfort comes from the recognition of our participation and complicity in settler colonialism and intersecting forms of oppression and that real sacrifices are necessary for actual change (Bang, 2020). Making space for educators to authentically engage with their eco/climate emotions, allows individuals and communities to see their emotions as healthy, tied to compassion and care for all lands and waters, and a directive toward action (Atkinson & Ray, 2022).

Overview

This study is a qualitative case study that utilized methods of critical design ethnography (Barab, Thomas, Dodge, Squire & Newell, 2004) and social design experimentation (Gutiérrez & Jurow, 2016) to examine how engaging with emotion can motivate, shift, and transform environmental and climate justice teaching and learning. Bringing together understandings from social justice movements and sociocultural learning theories about how emotion can be better engaged with in teaching and learning contexts (Ahmed, 2015; brown, 2017; Curnow & Jurow, 2021; Higheagle Strong & McMain, 2020; Vea, 2020) and the understanding that EE is moving in an intersectional direction (Forsythe & Chan, 2021; Murdock, 2020; Thomas, 2022), the study aims to address the following research questions:

1. How does moving outside in conversation surface nature-culture relations and commitments to environmental and climate justice?
2. How do environmental educators' identities, histories, and emotions impact their understandings, participation, and teaching toward environmental and climate justice? And
3. How can critically engaging with educators' emotions shift their understanding, participation, and teaching toward environmental and climate justice?

In collaboration with an EE graduate program, we developed a deeper understanding of environmental educators' eco/climate emotions in practice, both individually and collectively, how race, gender, class, ability, and cultural identity are bound up in this process, and how critically engaging with these emotions disrupts historical Whiteness and other intersecting forms of normativity in EE toward sustainable and just futures.

Outline of Dissertation

In this introduction chapter, I outline how my research is grounded in EE and histories of resistance literature. Through problematizing how the field of EE excludes environmental histories, knowledge, and stories of Black, Indigenous, Latinx, Asian, and Pacific Islander communities and ignores how "compulsory able-bodiedness/mindness" is often the norm (Schmidt, 2023, p.263), I highlight how the mainstream field can learn from social movements to make room for more sustainable, just, and thriving possibilities. I rely on Intersectional Environmentalism (Thomas, 2022) to signify the importance and value of learning about environmental crises as entangled and inseparable from social crises, and demonstrate how BIPOC communities and disability communities' knowledge are critical to this shift in practices.

Building off of the literature review, I describe my conceptual framework and demonstrate how understanding and engaging with emotions and emotions related to the climate crisis, can provide a pathway to learning environmental and climate justice within the context of EE. Guided by sociocultural and social practice theories of learning, I make connections between how emotions exist in relation with sociopolitical realities and the process of engaging with emotions. I then advocate for emotion as an important sense-making tool within learning environments, point towards embodied practices, such as walking, as part of healing emotions, and outline how engaging with emotions to understand what they are telling us and how they can transform us leads to new enactments of environmental and climate justice in EE.

With Chapter 2, I provide detail around the methods used to build a research partnership, collect qualitative data, and analyze the data. Importantly, I begin to describe the walking practice I utilized throughout the study and that served as a vehicle for critical storytelling and theory building. In Chapter 3, I extend the discussion of walking interviews by analyzing how walking in conversation with environmental educators led to important interactions with the natural world, including moments of (re)structuring attention. I also share my walking interview protocol and the limitations of the methodology. In Chapter 4, I use the framing of *learning through contradiction* as a way to analyze how participants were simultaneously being shaped by the processes of learning within a justice-oriented EE graduate program, reckoning with racist and ableist foundations of EE, and using emotion as a sense-making tool to shift outdoor EE practices. Chapter 5 focuses on the conceptual framing of *pedagogical climate courage* to highlight how the participants engaged with their own and their students' eco/climate emotions toward more just climate learning spaces and realities.

Between each of the analysis chapters, I take a moment to pause and reflect on how my life outside of graduate school informed and intersected with this dissertation process, and how doing this work has shaped me and the responsibilities I hold as an advocate for environmental, climate, and racial justice. These narrative interludes are included as a form of personal storytelling and are meant to give the reader a window into my process of learning with and through emotion. I conclude with a few offerings based on the participants' stories and my analysis and invitations for practice within EE and Learning Sciences Research.

Literature Review: Groundings in Environmental Education & Histories of Resistance

Environmental Histories and Narratives in Environmental Education

When looking at the mainstream environmental movement more broadly, the imbalance of power is evident in how Black, Indigenous, Latinx, Asian, and Pacific Islander communities are included. When communities of Color are not completely erased from the movement, their knowledge and hard work is often siloed as a racial justice perspective and viewed through a deficit lens (e.g. communities of Color are only involved because they are more impacted by environmental degradation) (Curnow, 2017; Gomez, 2020). Power relations within EE control the narrative of what environmentalism has been, how it exists today, and what it can look like in the future. Black, Indigenous, Latinx, Asian, and Pacific Islander communities' histories of resistance exemplify just how white supremacy and colonialism act to disempower their communities from sustaining their environmental knowledge. Mexican and Filipinx farm workers of 1950s Central Valley, California (Nash, 2006), Native Americans a part of the Red Power Movement in the early 1960s, and Black residents of Warren County, North Carolina in the 1980s (Bullard and Wright, 1987) had personal and consequential understandings of human-environment relationships, particularly when it came to physical health, but their environmental

knowledge was brushed off because of the color of their skin, their "lack of education", and their opposition to neoliberal human-nature relationships.

Since the early 1920s, a prominent issue in the immigrant labor community was, and continues to be, illness from continuous exposure to pesticides, but because farm workers lacked healthcare, skin irritation, blurred vision, swelling of the face, irregular heartbeats, and even cancer went unchecked (Nash, 2006). Their knowledge from extensive experience in the field, about the relationship between human health and the increasing amounts of pesticides being used in agriculture was not considered valid environmental knowledge. Through sharing stories of feeling sick in the fields, farm workers began to realize they all had similar stories. For years, they expressed their concerns to public officials, but what they were fighting against was a racist and xenophobic white majority, fearful of Brown folks' alleged health threats and lack of hygiene (Nash, 2006). Eventually, with the leadership of Larry Itliong and Cesar Chavez, Filipino and Mexican laborers banded together to bring national attention to these ongoing environmental health issues (Cowan, 2019). It took more than forty years of organizing, striking, violent illness, and hospitalizations for any regulations on pesticide usage on crops to be recognized as necessary (Nash, 2006).

Similarly, in their 1960s protests against government-constructed dams and reservoirs, Seneca and Tuscarora environmental knowledge was unacknowledged and disrespected. Construction of the Kinzua Dam broke the Treaty of Canandaigua, took 550 acres of land from the Tuscarora reservation and 10,000 acres of land from the Seneca people, forced roughly 700 Seneca people off their land, and minimized the cultural values held within these lands and all living beings residing (Gilio-Whitaker, 2019). State officials claimed that most of the Tuscarora land was "not used for any purpose at all." (Rosier, 2013, p.716) and that the dam was necessary

to control floods and improve water quality. It was eventually found that building the Kinzua dam was not an optimal solution to flooding in this area. After sternly defending their treaty, exploring less damaging flood control solutions, rallying additional support to delay construction of the dam, and eventually physically blocking and protesting, the Seneca and Tuscarora people couldn't stop the U.S. government from this dispossession, displacement, and disrespect (Gilio-Whitaker, 2019; Rosier, 2013).

A comparable example of making environmental knowledge invisible is seen in the events that started the environmental justice movement in the U.S. In the summer of 1978, 32,000 cubic yards of PCB (polychlorinated biphenyl)-contaminated soil were illegally dumped along roadways in fourteen counties of north-central North Carolina (Bullard and Wright, 1987; Bullard, 1993; "55 Arrested in Protest at a Toxic Dump in Carolina", 1982). Though full of cancer-linked chemicals, federal and state leaders decided they would bury the contaminated soil in Warren County, North Carolina with a 64% Black population ("55 Arrested in Protest at a Toxic Dump in Carolina", 1982). Warren County residents contended that this decision was racially motivated. They believed that their political vulnerability, living in a poor and predominantly Black county of North Carolina, was the primary reason Warren County was chosen as the burial site.

These are some of the first recorded histories of environmental movements in the U.S. and these stories continue to go untold in white dominant society. Meanwhile, many Black, Indigenous, Latinx, Asian, and Pacific Islander communities continue to have limited resources and capacity to fight "industrial polluters, public and private waste disposal giants, and moonlight dumpers who target their neighborhoods for their operations." (Bullard and Wright, 1987, p.32), and are consistently left out of climate justice efforts (Evelyn, 2020). Yet, their

actions and stories continue to move society forward in just ways, evidenced in the Standing Rock Sioux Tribe's ongoing protests of the Dakota Access pipeline, the Lower Elwha Klallam Tribe's victory in removing the Elwha Dam, and food justice, food sovereignty, and climate justice movements around the world. "If histories are stories, they must continuously be told, added to, and retold." (Murdock, 2020, p.7). It's in sharing these diverse stories of environmentalism that the power within EE shifts—whose stories are told and who gets to tell stories. The impact of sharing diverse environmental stories can change environmentalism and how all humans live with and on land into the future.

According to Bang et al. (2014), EE as it exists in white dominant spaces is one of many critical sites of struggle for Indigenous peoples because of how these spaces typically concretize histories of oppression. These spaces, where dynamics of settler colonialism often go unnoticed, are also sites of potential transformation, where engaging with land-based perspectives and desettling is necessary for Indigenous futurity and socioecological thriving for all beings and the land (Bang et al., 2014). When EE focuses on individualistic solutions to environmental degradation and climate change and/or positions humans as separate from nature and nature as a place to escape to, white middle-class ways of living are being centered and the roots of these complex socio-scientific issues—settler colonialism, capitalism, and white supremacy—are hidden and depoliticized.

In Cachelin and Nicolosi's (2022) experience with university students part of an interdisciplinary environmental studies program at a predominantly white institution (PWI), "understanding that the physical environment cannot be separated from the cultural, political, economic, and historical elements that shaped it [was] new for many students." (p.2). Knowing and experiencing environmentalism as an ahistorical ideology, disconnected from social systems,

has resulted in a climate reckoning rooted in fear and represented in privileged feelings of anxiety, depression, guilt, and helplessness. Cachelin and Nicolosi (2002) describe that they are deeply concerned about the emotions students have responded with when learning about the ways "political, economic, and social systems maintain environmental injustice" (p.2). However, when students engaged in critical thinking about the disproportionate impacts of environmental degradation and climate change on Black, Indigenous, Latinx, Asian, and Pacific Islander communities, they were challenged to (re)examine their conceptions of *environment*—environmental literacy centered on justice requires that conceptions of environment void of human habitation be reworked to include all realities (Mohain, Pellow, & Roberts, 2009; as cited in Cachelin & Nicolosi, 2022). Students then "confront[ed] the ways that their initial conceptions of environment [were] based in some element of privilege, and moreover, function as a form of Indigenous erasure that perpetuates inequity (Calderon 2014)" (Cachelin & Nicolosi, 2022, p.2). This kind of reexamination challenges dominant Euro-Western conceptions of environmentalism, as well as students' identities with(in) environmentalism.

Families, communities, and in particular Women of Color have practiced environmentalism and sustainability for centuries, but in ways that decenter capitalism out of necessity (Finney, 2014; Murdock, 2020; Silverman, 2020; White, 2017). For example, White (2017) details how in the late 1960s Fannie Lou Hamer and the Freedom Farm Cooperative (FFC) strived to provide everything from housing to healthy food to education, when those with white power denied the Black community of rural Mississippi the necessities of life. By providing these basic necessities to their community, Hamer and the FFC facilitated farm workers' ability to be civically engaged and self-determined and to develop their political consciousness as a community. Similarly, in Alice Walker's essay, *In search of Our Mothers'*

Gardens (1994), she shares stories of her mother's gift of growing extraordinary flower gardens. Her stories beautifully highlight how environmental relationships grow from relations of care and nourish one's spirit in lives of hardship. She emphasizes the beauty in how Black women nourish the lives of their kin by demonstrating love and care for art (in this case through gardening), when black women are often told that nothing is valued more than their labor. She says,

> Whatever she planted grew as if by magic, and her fame as a grower of flowers spread over three counties. Because of her creativity with her flowers, even my memories of poverty are seen through a screen of blooms—sunflowers, petunias, roses, dahlias, forsythia, spirea, delphiniums, verbena...and on and on...I notice that it is only when my mother is working in her flowers that she is radiant, almost to the point of being invisible—except as Creator: hand and eye. She is involved in work her soul must have. Ordering the universe in the image of her personal conception of Beauty. Her face, as she prepares the Art that is her gift, is a legacy of respect she leaves to me, for all that illuminates and cherishes life. She has handed down respect for the possibilities—and the will to grasp them. For her, so hindered and intruded upon in so many ways, being an artist has still been a daily part of her life. This ability to hold on, even in very simple ways, is work black women have done for a very long time. (p.408)

By excluding the ancestral knowledge, stories, and histories of resilience, ingenuity, and deep connections to the land, inexplicably woven into many Black, Indigenous, Latinx, Asian, and Pacific Islander cultures from EE, we are completely disregarding the traditions of millions of people who know just where to start when it comes to sustaining life on this planet. In a *How to Save a Planet* podcast interview, Colette Pinchon Battle discussed how many people in the environmental movement, more specifically the climate movement, come from places and lives of privilege in which they have not had to struggle to merely survive, and therefore seek extreme ideals and/or remain stuck in how things have always been done. She highlighted how The Movement for Black Lives can bring much needed creativity and ingenuity to the climate movement because it is "full of people whose lives have to be creative every day just to survive" (Silverman, 2020). Approaching EE with a lens of intersectionality that many social movements

already use, provides opportunities for creative and transformational change within environmentalism. The field of environmentalism owes much to these Black Feminist beginnings if we are to truly be intersectional and justice-oriented. The least we could do is recognize their environmental histories.

Critical Race Theory & Disability Justice in Outdoor/Environmental Education

With more recent goals of equity, diversity, and inclusion in outdoor or place-based EE, a critical examination of power, hegemony, and race is necessary. Critical race theory (CRT) allows for the examination of "whose narratives have been (historically) and are (continuously) silenced, and whose voices have been (historically) and are (continuously) considered default, normal, or dominant", necessary for "supporting eco-justice and equitable learning" (Miller, 2018, p. 846-847). By applying CRT within EE, Miller found that "the dominant narratives of American whiteness seem hidden and benign to white instructors", and that through encountering personal struggles, people of Color are often the main drivers of exposing oppressive structures (Miller, 2018; p.854). Consequently placing the burden of change on those who have more to risk. At the same time, people of Color and other marginalized groups of people are often asked to rely on "their own grit" and resilience in response to personal encounters with racism and other forms of oppression. CRT in this context challenges educators to consistently reassess critical consciousness and how racism permeates learning environments, even in the outdoors, especially considering the racist foundations of environmentalism.

Similarly, the field of EE has historically worked from the assumption that "compulsory able-bodiedness/mindness" is required to both access and connect to nature, and to be seen as a contributor to the creation of a more sustainable and ecologically just world (Schmidt, 2023, p. 263). Seen in the ways that outdoor EE often requires learners to travel to somewhat

inaccessible, and secluded locations (e.g. forested, rural areas), and encourages embodied practices like forest walks or listening to birds and other wildlife, the assumption is that one needs to be able to move, hear, and see in particular ways to connect to nature. This kind of ableist discourse creates unnecessary and harmful binaries in the process of learning to see oneself in relationship with nature. Western colonial ways of thinking that have created the nature-culture divide contribute to these "hierarchical binaries of abnormal/normal and natural/unnatural" (Schmidt, 2023, p.260), that exclude many people who identify as disabled from the movement and limit how people of all abilities connect to and work to sustain the world around us.

However, both disability justice activists and environmentalists have been demanding an otherwise for EE (Jacquette Ray, 2009). Approaching EE with a slower "pace of life" could create more just conditions for those with disabilities to participate in EE and lead to a deeper appreciation for the natural world. By reconfiguring our expectations of pace to be better attuned to diversity in movement capabilities and ways of physically engaging with the world takes the pressure off of folks to fit their connections to the natural world into a particular box. Similarly, Schmidt (2023) and Ware (2020) highlight cripping EE as a necessary approach to envisioning and cultivating eco-futures where people with disabilities are seen and treated as essential, rather than a problem, deficient, and the root cause of disconnection from nature.

Within EE, cripping demands that educators and scholars: (1) critically deconstruct the narrative that nature is only "out there", (2) disrupt the ways in which disability is used as a framing for inability to connect with and care for nature (e.g. nature deficit disorder), (3) "refuse the current positioning of environmental justice and futures as only possible with the eradication

of disability" (p.252), and (4) imagine and reckon with how disability alters and expands our understandings of environment and nature.

Learning from Social Movements about Environment and Emotion

Environmental educators can learn a lot from social movements, including the Environmental Justice (EJ) movement. The initial reckoning brought on by the EJ movement is critical to how environmentalism moves forward as a way of caring for the earth. In the late 1960s-1970s, the EJ movement largely emerged as a movement for communities whose environmental realities were marginalized based on race, class, and ability (Bullard, 1993; Murdock, 2020). The environmental realities of many Black, Indigenous, and Latinx communities were and continue to be unsafe, unhealthy, and stressful, but their knowledge was not often considered to be "environmental" by those more privileged in the mainstream movement. Additionally, when their lived experiences of environmental injustice were shared with dominant society and more affluent communities, they were not trusted as experts on their own realities, emotions, and interests (Murdock, 2020). While the disbelief and erasure of many marginalized communities shows up in EE, the environmental justice movement offers expansive possibilities for (re)examining human-nature relationships and whose relationships count.

Considering the long histories of structural injustices that many Black, Indigenous, Latinx, Asian, and Pacific Islander communities have faced, they often have "hundreds of years of intergenerational knowledge and experience in combating the global regimes of power that have attempted and continue to attempt to appropriate their lands, degrade their environments, extract their resources, and disenfranchise—as well as oppress—their peoples" (Shiva, 2015;

Gilio-Whitaker, 2019; as cited in Murdock, 2020, p.14). And it's from their diverse and unique environmental histories, heritages, and identities that potentially new human-nature relationships can grow, not only from years of resistance and survival to environmental degradation, but from their cultural and ancestral beginnings beyond colonialism, capitalism, and white supremacy. Only attuning to marginalized communities' experiences of injustice and trauma can lead to "the overlooking of important environmental heritages, histories, and stories that are deep wells of knowledge and resilience directly applicable to our current planetary environmental crisis." (Murdock, 2020, p.14). Moreover, orienting toward an environmental justice that honors and celebrates the "wealth and diversity of knowledges, resistances, and adaptations of these powerful communities, who survive and thrive in the face of incredible obstacles." (Murdock, 2020, p.14), makes room for possibilities that we haven't seen or felt in the mainstream environmental movement yet.

Abolition, as a movement and way of knowing, is another set of histories and knowledge that environmental educators can learn from. Through the prioritization of radical love, abolition provides a critical framework for imagining possible futures. Thompson (2020) intentionally brings abolition into conversation with EJ, bridging EJ and sustainability concerns to advocate for a less reactive and more futures-oriented environmental justice. "A futures-oriented EJ is one that builds the capacity to create just communities rather than only and primarily responding to the polluting of our communities." (Thompson, 2020, p.90). Abolition's emphasis on futures helps to frame the work of EJ as rooted in care and love. Abolition is ultimately about growing sustainable, loving communities of interconnected beings and land, by improving access to resources and creating alternatives to oppressive systems (Thompson, 2020). It is not just about dismantling, it includes providing affordable housing, adequate and accessible healthcare,

healthy food and clean water, and green spaces, as well as feeding our communities and holding each other accountable. The Freedom Farm Cooperative (FFC) started by Fannie Lou Hamer in the late 1960s is a great example of how abolition, EJ, and sustainability can work together. Everything those with white power denied the Black community of rural Mississippi, the FFC strived to provide, from housing, to healthy food, to education, to civic action (White, 2017). "Perhaps abolitionism is what sustainability resembles when we prioritize anti-racist, anti-colonial justice first and foremost, and (re)claim a justice that comes from a place of radical love" (Thompson, 2020, p.21-22).

Similarly, brown's (2017) emergent strategy provides space for intentional change in ways that grow our collective capacity to "embody the just and liberated worlds we long for" (p.24). To build towards just and liberated worlds, we have to let go of the belief that facts, guilt, and shame are going to get us there (brown, 2017). Creating transformative, sustainable change comes from a place of love, joy, and pleasure.These ideas are often counter to capitalism and systems of supremacy. Within a capitalist society, we are taught that we are valued for what we produce and that emotions only impede our ability to produce. In a similar way, we are taught that our feelings and thoughts are unimportant as young, Black and Brown, feminine, and/or queer people. So how could emotions and sensations, especially those of pleasure, be the driving force of change within this kind of system? Well, brown (2017) emphasizes creating space for emotions and feelings to be felt and expressed in the process of transformation.

Keeping feelings repressed can keep us in relationships and spaces that don't serve us, so we need to collectively work to understand how these feelings can direct collective action. To do so, brown (2017) calls for the practice of being in "liberated relationship" (p.143), which is rooted in being radically honest with yourself and others. It's about actually living your truth

with compassion and kindness, acknowledging power dynamics and being "in the complexity of living inside these constructs while evolving beyond them through relationship" (p.143), and seeing people not for what they should change in themselves but for the unique ways they live, have lived, and will live. Being in liberated relationships could allow for engagement with emotions that directs action and transformation with more clarity and purpose.

Based on the sociocultural activity of animal rights organizers, Vea (2020) outlined three dimensions of emotion that guide the analysis of learning. The first dimension being, "emotion is implicated in the learning of social practice, both as practice (of expression/emoting and emotional management) and in its relations with other forms of practice." (p.315). This was seen in how some health-motivated vegetarians and vegans, part of the animal rights movement, reconfigured their emotions to fit within the broader political context of advocating for the lives of nonhuman animals (Vea, 2020). For some individuals, this reconfiguring included shifting from initially experiencing/practicing emotions around not eating meat because of personal health concerns, toward situating their practices within the larger political context of advocating for the lives of nonhuman animals. After joining the animal rights movement, their emotional configurations supported collective learning and became tied to the shifting of politics and power (Vea, 2020).

Building off of the work of feminist scholars, Vea (2020) and McMain & Strong (2021) emphasize that emotional dimensions of experiences have been historically marginalized because of Euro-Western society's normative assumption that emotions are feminine. According to Vea's second dimension, people are positioned into particular emotional norms based on different social identities—"norms, ideology, and relations of power shape who is allowed to emote, about what, and under what circumstance" (Vea, 2020, p.317). As for the third and final dimension, as

people's emotional configurations are politicized, collective action evolves. For example, in Vea's (2020) study, the animal rights activists' chant, "It's not food! It's violence!" (p.331) presented an opportunity for the activists to reevaluate who the targets of their protests were. They made new connections between the emotional configuration of "violence" and who/what the perpetrators are when it comes to animal rights. So instead of broadly targeting restaurant chain's as the perpetrators, they changed their focus to more specifically target the chains' deceivingly inhumane marketing, because of the potential of more direct change. In their description of emotional configurations, the author also challenges the idea that emotions exist purely as individual, internal states and instead emphasizes how emotionality is meaningfully in relation with and situated within our social realities (Vea, 2020).

Intersectional Environmentalism

Environmental education should be intersectional and center environmental justice in ways that uplift and support thriving sustainable communities everywhere. To do so, we need to move beyond environmentalism as keeping the oceans clean and icebergs from melting for the sake of outdoor leisure and retreat in pristine nature, and advocate for the protection of all people and the planet (Thomas, 2022)— acknowledging the inseparable nature of environmental and social crises (Gomez, 2020). "IE [Intersectional Environmentalism] focuses on achieving climate justice, amplifying excluded voices, and approaching environmental education, policy, and activism with equity, inclusion, and restorative justice in mind." (Thomas, 2022, p. 21-22). This includes acknowledging BIPOC communities as environmental experts (Gomez, 2020), as many have been living and practicing environmentalism that sustains cultural and community thriving for years (Murdock, 2020; Tuck, et al., 2014).

Building from the work of the Combahee River Collective (CRC) and Dr. Kimberlé Crenshaw, IE is a movement that advocates for the protection of both people and the planet, emphasizing that the injustices imposed upon marginalized communities and the earth are interconnected (Thomas, 2022). Rooted in the desire to dismantle unequal power dynamics" (p.26), and the systems that perpetuate intersecting forms of discrimination experienced by marginalized communities, Crenshaw's theory of intersectionality is a "framework that can be applied to environmentalism to accomplish the goal of environmental justice: the fair treatment of all people, regardless of identity, in regard to their environment." (Thomas, 2022, p.37).

Intersectionality allows for the unveiling of the interconnective systems of oppression that work to undervalue, commodify, and exploit all forms of life (human and more-than-human) and the land, so that we can unite to build stronger, connected movements for liberation. This was one of the goals of the CRC. They sought not to support exclusivity and separatism, but to give those who experience oppression in multilayered ways, due to capitalism, racism, homophobia, sexism and more, a platform to advocate for themselves and their liberation (Thomas, 2022). It is from these Black feminist foundations that we can understand environmental justice, climate justice, and intersectional environmentalism as "expressions of the same question for environmental liberation" (p.37-38), instead of competing ideals.

According to Thomas (2022), "ecofeminists, environmental justice scholars and leaders, Indigenous rights and land sovereignty advocates, and climate politicians" (p.5) have emphasized the intersections of social and environmental injustice for decades, but modern EE has not yet taken up this intersectionality in a deep way. Through IE, environmental education can be a learning space that is inclusive of diverse environmental histories, cultural traditions, stories, and experiences, especially those who have been historically excluded (Thomas, 2022).

"Environmental education has an overdue responsibility to make visible and begin to address the assumptions of settler colonialism within the field." (Tuck et al., 2014, p.3), and to prioritize the need for Black, Indigenous, Latinx, Asian, and Pacific Islander environmentalists to share their own stories in order to evolve beyond the climate crisis to the sustainable communities we are all striving for (Thomas, 2022).

It is important to emphasize that centering Black, Indigenous, Latinx, Asian, and Pacific Islander environmental knowledge, stories, and histories is radical love in the context of EE. Creating spaces where Black, Indigenous, Latinx, Asian, and Pacific Islander students see themselves and their communities as experts who have and continue to sustain healthy nature-culture relations both positions them as necessary and important in the fight for environmental/climate justice. It also encourages the embracing of cultural ways of knowing in environmental solutions that have been systemically ignored or hidden. Bringing attention to the fact that a diversity of cultures and communities cultivated sustainable human-nature relationships before extractive mechanisms of colonialism, capitalism, and white supremacy became widely accepted, highlights how Black, Indigenous, Latinx, Asian, and Pacific Islander histories, heritages, and stories are deep wells of knowledge critical to environmental, climate, and community resilience into the future (Murdock, 2020). An example of this critical environmental knowledge is evident in the sustainable forestry practices of the Ifugao community.

The Ifugao, an Indigenous community of the Philippines, rely on traditional community-based forest management, or muyong, to conserve and protect resources, native plants, and their ancestors (Camacho et al., 2016). Muyongs (forested uplands) are critical to the sustainability of the rice terraces, as they "provide ample water supply and nourishment to rice paddies and help

minimize soil erosion" (p. 7). Because Ifugaos deeply understand the relationship between the forest and the water table, they are able to minimize flooding and erosion within the watershed and maintain a large biodiversity of native plant species. It is through their traditional communal practices that this can happen. It is no coincidence that currently about 80% of the world's biodiversity exists on lands stewarded by Indigenous peoples (Toledo, 2001)

A few of their practices include, not harvesting Ficus trees for timber because they help maintain sufficient groundwater, controlled burning, and planting four seedlings in a family muyong when a new child is born (Camacho et al., 2016). Underlying these practices are intentional, respectful, and reciprocal nature-culture relationships that sustain Ifugao cultures and livelihoods. While the rice terraces are now well-known UNESCO World Heritage Sites, protected by the Ifugao community under the Indigenous Peoples Rights Act, the community of farmers struggle with major environmental threats brought on by the infiltration of modern colonial practices. These include transition to inorganic fertilizers, which has led to degraded soil drainage and fertility, and the abandonment of farming in muyongs and rice terraces as livelihood, for higher-paying jobs elsewhere (Camacho et al., 2016).

This is one example of resilience strategies in communities of Color that come from connections to land, that can be brought into environmental educator learning spaces to open up conversations about complex socio-ecological systems and issues in intersectional ways. While my family is not part of the Ifugao community, learning about this particular example of environmental knowledge has cultural relevance to me, as my elders come from the Philippines and hold cultural sustainability practices. As someone who has often not seen myself, my family practices, or cultural environmental knowledge represented in EE, learning with this environmental knowledge impacts how I feel about environmentalism and climate change—

angry, proud, and encouraged by the continuation of cultural environmental practices like muyong amidst colonialism.

Black, Indigenous, Latinx, Asian, and Pacific Islander knowledge systems should also be centered in the ways we engage with emotions. Social-emotional learning (SEL) is traditionally grounded in Western developmental frameworks, prioritizing white, middle-class knowledge systems, by recognizing learning as purely cognitive, treating SEL as another skill to master, and treating resilience as an individual quality (Higheagle Strong & McMain, 2020). Indigenous frameworks of SEL encourage educators to, "foster a relational resilience in which students are encouraged to engage with their emotions, welcome their intersectional identities, and work toward compassion for themselves and those around them." (Zembylas, 2013; as cited in Higheagle Strong & McMain, 2020, p.4). As Kaler-Jones states, "SEL devoid of culturally-affirming practices and understandings is not SEL at all" (as cited in Higheagle Strong & McMain, 2020, p.3). If we don't start from a culturally sustaining (Paris & Alim, 2014), culturally revitalizing (McCarty & Lee, 2014), and adamantly anti-racist (Weaver, 2020) and anti-colonial (Liboiron, 2021) design standpoint, we close the door on environmental and climate futures that have not yet been imagined.

Emotions, Environmental Education, and Climate Change

Based on how emotions are currently discussed in relation to environment and climate, environmental educators should take up these conversations with attention to power. With an increase in use of terms like eco-anxiety and climate anxiety, there are new opportunities for the perpetuation of dominant perspectives, rooted in colonialism, capitalism, and white supremacy. Firstly, eco-anxiety often stems from the fear of change—needed change that interrupts "business as usual" and the prioritization of white settler-colonial ways of living. Some may feel

anxiety because the change that is needed requires living equitably and reciprocally with the planet and all people, which is counter to systems that extract from the planet and extract human labor to support a stratified society. While these are real feelings and emotions to have, they are not the only ones. According to Whitcomb (2021), people latched onto terms like eco-anxiety and climate anxiety in 2019 because there weren't yet English words available to encapsulate "the complex range of emotional responses to climate change".

Now, experts across fields argue that the buzzwords cannot capture the complexities of climate change, leading to further marginalization of communities and voices with less power (Whitcomb, 2021). To move towards a more just environmental movement the experiences of white, wealthy communities need to be decentered in these narratives. Whitcomb (2021) quotes Clinical Psychologist, Garret Barnwell saying, "It's actually just a perpetuation of colonialism…By individualizing distress, we miss what is politically happening around the world to various communities". Because the terms eco-anxiety and climate anxiety come from a white dominant perspective, they don't address the immediacy and specificity of the climate threats many communities of Color, communities of the Global South, and low-income communities are currently experiencing. What many experts are calling for is a "more nuanced discussion of climate change and mental health" (Coffey, Bhullar, Durkin, Islam, & Uher, 2021; Whitcomb, 2021).

Ray (2020) begins to provide a more nuanced discussion of climate anxiety, particularly regarding how we think about and approach action. While attending to the immediacy of the climate crisis in communities disproportionately impacted by the increase in natural disasters with urgent desires to help, it is essential to take the time to reflect and engage with our emotions, so that the efforts are justice-centered and sustainable long-term, particularly for those

with climate privilege (Ray, 2020). This is also emphasized as a critical part of avoiding climate defeatism and paralysis. According to Ray (2020), social justice activists, and scholars alike (brown, 2017; Higheagle Strong & McMain, 2020), looking to make change only at the individual scale creates feelings of defeatism. "The myth of rugged individualism [that] undermines resilience by making us think we are alone in our efforts as well as in our feelings of despair." (p.71), works to disrupt the necessary and often underestimated need for building relationships and connections that sustain us in change making (Ray, 2020). The critical work of creating sustainable futures is work that builds over time (brown, 2017), which necessitates and is much deserving of time dedicated to critical and thoughtful engagement with emotions—engaging our emotional intelligence (Ray, 2020).

To understand how our emotions serve or do not serve our well-being and interests (i.e. emotional intelligence) we must ask ourselves,

> How [do] your emotions empower you to do the work that needs to be done in the world [?] What emotions do you need to feel in order to wake up in the morning feeling generous and compassionate? How can pleasure, joy, humor, play, wonder, hope, and optimism be harnessed with sadness, guilt, and mourning as powerful defenses against the largest problem of our time? (Ray, 2020, p.91).

Mindfulness and emotional intelligence experts say that reflecting on these kinds of questions, both individually and collectively, allows one to identify core beliefs that underlie emotions and to disrupt the body's fight-or-flight response, which is key to acting effectively in a crisis. Ray (2020) highlights the power of emotions to direct change, indicating that emotional intelligence needs to be prioritized in any approach to the climate crisis. Practicing emotional intelligence in this context is importantly about regaining some perspective, "so we can operate from an orientation of abundance and spaciousness instead of panic and scarcity." (p.90). Maintaining a balanced perspective of abundance not only disrupts scare tactics in climate change action

efforts, it amplifies stories of resilience and sustainable thriving from Black, Indigenous, Latinx, Asian, and Pacific Islander communities that often operate from epistemologies and ontologies of abundance.

As an environmental educator in the westernized Global North, what is required then is 1) a recognition that eco-anxiety and climate anxiety can be a fear-based response to the loss of privileges and comforts of modern capitalist life, and 2) that power shifts when emotions like eco-anxiety and climate anxiety are engaged with and addressed collectively. Cachelin and Nicolosi (2022) draw from Ginn et al. (2014) who describe eco-anxiety as a potentially "necessary corrective to an environmentalism too often caught between suppressing its apocalyptic despondency on the one hand and embracing a techno-managerialist optimism on the other" (p.117). In other words, eco-anxiety as a "valuable source of discomfort" can be helpful in reevaluating one's way of living, so that further oppression in the form of relying on hyper-capitalist technology based solutions to save the planet and ignoring real issues and realities, don't persist (Verlie et al. p.133; as cited in Cachelin & Nicolosi, 2022). Looking at eco-anxiety with this in mind shows how "emotion shapes political possibilities and opportunities for collective action." (Vea, 2020, p.315). Cachelin and Nicolosi (2022) argue that part of EJ education is striving to engage students in honest and critical assessments of socio-ecological systems, so that they can learn to move beyond paralyzing eco/climate emotions and/or disengagement that serves to protect one's privileges, toward practical and collective change. Much intentionality and care is needed to do this difficult work, so that healthy thriving futures can be (re)built (Cachelin & Nicolosi, 2022).

Higheagle Strong and McMain's (2020) Social Emotional Learning for Social Emotional Justice (SEL-SEJ) framework presents a more nuanced approach to engaging with eco/climate

emotions. SEL-SEJ recommends that "resilience strategies utilized by communities of color to help all students adapt through the current 'pandemics'." (p.4). In other words, students of all backgrounds and identities can benefit from the resilience strategies that communities of Color have developed and relied on living amidst ongoing, institutional challenges. Drawing from Indigenous frameworks, Higheagle Strong and McMain (2020) understand resilience as relational, constantly being shaped by cultural and political contexts. To foster and practice resilience in this way, especially when it comes to discussing the realities of climate change, young people should be encouraged to engage with their emotions, as it makes sense to them in their intersecting identities and their cultural ways of practicing and supporting resilience.

Thinking broadly about some of the critiques of emotion and expression of emotion (Vea, 2020; McMain & Strong, 2021), some critical questions environmental educators should reflect on include: How are my current practices influencing youth's eco/climate emotions? How have strong emotions shown up in my learning spaces—and why? How are youth being encouraged and discouraged to express their eco/climate emotions? How might I be inhibiting youth from expressing and critically examining their emotions in the ways they are comfortable doing so? How might I be responding to youth's emotions differently based on their race, cultural identity, gender, and/or ability—and how does that relate to how I and they understand EE and environmentalism itself? When have youth's eco/climate emotions helped lead the learning group toward new iterations of collective action? When I take time to sit with these kinds of questions, I am reminded of what brown (2017) and Thompson (2020) share about love, because refocusing on love and liberated relationships allows for emotion to be recognized as a necessary driver of change. Without love and compassion for, among, and between Black, Indigenous, Latinx, Asian, Pacific Islander, disabled, queer, and all marginalized cultural groups, we close

the door to socioecological possibilities and futures that often live in the wide array of emotions tied to diverse environmental realities.

Conceptual Framework

Grounding in learning theories

Key to understanding the critical connections between emotion and environmental learning is a solid grounding in sociocultural and social practice theories of learning (Bell, Tzou, Bricker, & Baines, 2012; Engeström, 2001; Gutiérrez & Rogoff, 2003; Rosebery, Ogonowski, DiSchino, & Warren, 2010). Learning is a cultural practice connected to the social, political and material dimensions of our lives. Systems are built over time and carry histories of ideas that shape much of our disciplinary knowledge and what is seen as valuable to dominant society. Students are subject to and learn to participate in these dominant systems, like schooling, to maintain the status quo (Higheagle Strong & McMain, 2020). The knowledge infrastructures upon which school curricula and pedagogy are built can be difficult to disrupt due to the layers of infrastructure within U.S. schools. However, global disruptions to the status quo like social justice movements, pandemics, global climate change may allow people to question how disciplines have been constructed to support some people, practices, and ideas while ignoring others (Star, 1999). These shifts offer opportunities to reimagine taken for granted knowledge within disciplines like science and environmental education (Bang et al, 2018).

Vea's (2020) description of emotional configurations provides insights into how engaging with emotions impacts teaching and learning about the environment. They say, "By emotional configurations I name these situated and reciprocal interrelationships between feeling, conceptual sense-making, and practice (including linguistic practice) that give emotion social

meaning in the learning of individuals and collectives." (Vea, 2020, p.315). From a sociocultural perspective, emotion is fundamentally a part of learning as it is more than just predisposed, individual, internal states. Emotion includes the "in-process configurations that include meaning-making and embodied practices in the social world." (p.315). It lives in the language and material activity of social actors (Vea, 2020). Taking the time to understand one's emotions, disentangle the power relations that constrain the practice of emotions, and learn from emotions in open and critical ways can fundamentally shift the practices of environmental teaching and learning, shaping political possibilities and forms of collective action.

Engaging with emotions provides openings to question norms and *learning through contradiction* within an activity system—a person/group of people engaging with one another, objects, environments, and larger systems that provide resources and constraints for these interactions (Engeström, 2001; Greeno & Engeström, 2006). As Engeström (2001) describes, "contradictions are historically accumulating structural *tensions* within and between activity systems" and are a driving force of change in activity (p.137). Activity systems are open systems making them subject to new ideas and activities. Consequently, when new elements are introduced and adopted they often lead to tension and contradiction—old elements colliding with new elements generating disturbances that reveal areas of needed change and possibilities for transformation (Engeström, 2001). To further understand how emotion is used as a sense making tool, we must be open to what we can learn through contradictions in activity systems. These contradictions are accumulations of tensions between historical structures and potentially transformative ones.

How emotions exist

Taking into consideration how teacher education researchers have addressed and conceptualized emotion, teacher identity, and learning (Varghese et al., 2019; Zembylas, 2003), I offer a conceptual framework of *Engaging with eco/climate emotions as part of environmental and climate justice* (see Figure 1) for environmental educator teaching and learning. "Emotions are clearly a fundamental part of identity construction and negotiation, and therefore a fundamental part of teaching and learning to teach" (Dutro & Cartun, 2016; Zembylas, 2003, 2005; as cited in Varghese et al., 2019, p.25). Within the context of EE, I understand eco/climate emotions as the range of emotions people experience in relation to environment, environmental injustice, and the climate crisis, in addition to the emotions people experience in relation to EE, based on their intersectional identities and experiences. Understanding how emotions exist and how we engage with them can open up more justice-centered learning and teaching possibilities in EE.

Two important ways in which to recognize and understand our emotions connected to the environment and climate change are (1) emotions exist in relation with our sociopolitical contexts (Ahmed, 2015; Vea, 2020; McMain & Strong, 2021) and (2) emotions exist as indicators of change (brown, 2017; Ray, 2020). Emotions about the state of the climate crisis and/or one's role as an environmental educator differs depending on what one understands as "normal" based on their cultures and positionalities (including how these shift over time), and their environmental and social lives. This is seen in how people are positioned into particular emotional norms based on different social identities. "Norms, ideology, and relations of power shape who is allowed to emote, about what, and under what circumstance." (Vea, 2020, p.317). For example, Varghese et al. (2019) found that it could be risky for teacher candidates of Color

to express their anger about the Whiteness of their program outside of their race-based caucuses because of how their emotions could be interpreted as unprofessionalism. This importantly demonstrates how histories and social dynamics of injustice are embedded within emotions—emotions show us how histories live on in the present and how certain futures are possible (Ahmed, 2015)—and highlights the situated and contextual nature of emotional discourses and reactivities (Vea, 2020).

Drawing from Indigenous frameworks, McMain and Strong (2021) emphasize that "Dominant frameworks also tend to view identity and emotion as contained within individuals, rather than recognizing the relationality of affective experiences." (p.9). They describe emotion as existing in relations, between oneself and those they are socially connected to. According to Elliott-Groves (2019), how one is socially connected to others has deep implications for how emotions and mental health are engaged with and treated. "Locating oneself in relation to others, to the natural world, and to the cosmos places young people in the context of multiple support systems, which can expand possible approaches to mental health in a culturally responsive way." (Elliott-Groves, 2019, p. 14). Different systems of relationships heavily determine how one approaches life in the present, past, and future. Knowing and experiencing emotion as relational is also cultural. This is evident in how emotions and ways of expressing emotions are treated in classrooms.

McMain and Strong (2021) use the example of what it means to "act out" in some Japanese schools to demonstrate how many Euro-Western schools frame emotion as a means to control behavior and academic productivity. Within the example of Japanese schools, the approach to students' emotional experiences is more collectivist. Students are not viewed as a disturbance to classroom activity, but are seen as potentially not feeling part of the community

(McMain & Strong, 2021). Therefore, the students' heightened emotions are viewed as a relational problem, rather than a behavioral problem, that should be learned from and attended to with restorative interpersonal connection (Hoffman, 2009; McMain & Strong, 2021).

Thinking specifically about eco/climate emotions, it is necessary to foster relationships and community so that the emotions can be attended to with the intention to learn from the bigger picture the emotions paint about environmental and climate injustice, rather than to correct behavior. For example, when an individual expresses feelings of hopelessness in relation to the climate crisis, there is an opportunity to invite the individual in to unpack how these emotions are serving them (Ray, 2020), how structural inequities might be enabling these feelings, and how they can better be supported in community to take their next action steps. Understanding eco/climate emotions as relational also means connecting with others in a learning community over shared feelings and experiences to make change.

Atkinson and Ray (2022) share that college students who engaged in discussions around eco/climate emotions really emphasized the aspect of building community. "In the process of sharing difficult emotions or engaging in other activities that build trust and community with their peers, students say they feel less isolated and therefore more empowered to take action." (p.46). Engaging with eco/climate emotions allows individuals to recognize connection and community in their environmental/climate work—"they don't have to shoulder the burden of climate action alone and can be part of a greater community working toward solutions in solidarity with each other." (Atkinson & Ray, 2022, p.46). According to Emergent Strategy (brown, 2017) and abolitionism (Thompson, 2018), the ability to do this kind of relational work requires radical love, trust, care, and intentionality. brown (2017) calls for the practice of being in "liberated relationship" (p.143). Liberated relationships encourage people to be radically

honest with oneself and each other, acknowledge power dynamics without dwelling on them, and recognize each person's unique gifts, all while practicing compassion and kindness. This kind of love and care is necessary as educators navigate the process of critically assessing eco/climate emotions, so as to avoid becoming paralyzed and or disengaged—it takes radical love and care to have critical conversations aimed at change.

How emotions are expressed is also historically and culturally situated. Euro-Western dominant values often disregard emotional expression that is not verbal (McMain & Strong, 2021; Hoffman, 2009). For some cultural groups, non-verbal emotions are the norm and talking about emotions can be viewed as insensitive and harmful. To express one's emotions verbally, one also has to feel safe doing so. This ties back to being in trusting relationships. Since being emotional is historically positioned as a "feminine, bodily, irrational, and subjective" (p. 3-4) experience, one cannot expect others, especially womxn of Color, to willingly participate in this kind of emotional expression. Like Vea (2020) explains, this is rooted in learning normativity (Esmonde & Booker, 2017). The ways in which humans recognize, perform, and assess others' emotional configurations are shaped by what we understand as "normal" and who determines what is normal—there are power implications tied to emotionality in all contexts (Vea, 2020).

Engagement with emotions

Engaging with our emotions in different ways can shift how our emotions exist. Drawing on Susie Orbach's (1999) work, Ahmed (2015) suggests that in the process of seeking justice, engaging with our emotions, particularly what we often think of as "bad" or "negative" emotions, should be more about staying with and accepting emotions long enough to make sense of them in meaningful ways. Because when we don't engage with our emotions in this way, there is often a desire to overcome these emotions to "feel better", erasing how the emotions are rooted

in injustice (Ahmed, 2015). While the goal in seeking justice is not to feel better, even for those tirelessly enduring political struggle, "feeling better does still matter, as it is about learning to live with the injuries that threaten to make life impossible." (Ahmed, 2015, p.201). Leaving room for feeling better is justified when the space is used to make personal sense of emotions. Because once you can make personal sense of the emotions, you can enter into different and perhaps new relationships with the emotions as a form of healing and learning (Ahmed, 2015).

Emotion is implicated in sociocultural practice (Vea, 2020), including practices of environmental education and environmentalism. How we engage with our own and young people's eco/climate emotions largely impacts environmental and climate justice. As educators, we have the potential to change the direction of environmentalism and climate change when we deeply consider emotion, where it comes from, how we treat it, and how we move forward with it. By orienting EE practices toward critical engagements with eco/climate emotions, my hope is one similar to what Leah Thomas (2022) describes in her Intersectional Environmentalism work,

> …it's truly my biggest hope that one day in the future we won't need to preface "environmentalism" with the word "intersectional"; we won't need to create separate safe spaces and curriculums that seek to be inclusive. One day I hope that when people think of an environmentalist, they'll automatically envision a person who cares very deeply about both people and planet. I hope that one day environmental programs will reflect the world's people and uplift their stories. I truly believe that day will come soon if we wake up to the realities of the climate crisis and environmental injustice and begin to unite and advocate for those unheard voices, the voices of people who face the largest threat of the climate crisis. If that happens, I believe we can create the intersectional future that we want to see: one that is green, regenerative, sustainable, and more equitable for all people–not just a select few. (pp.12-13).

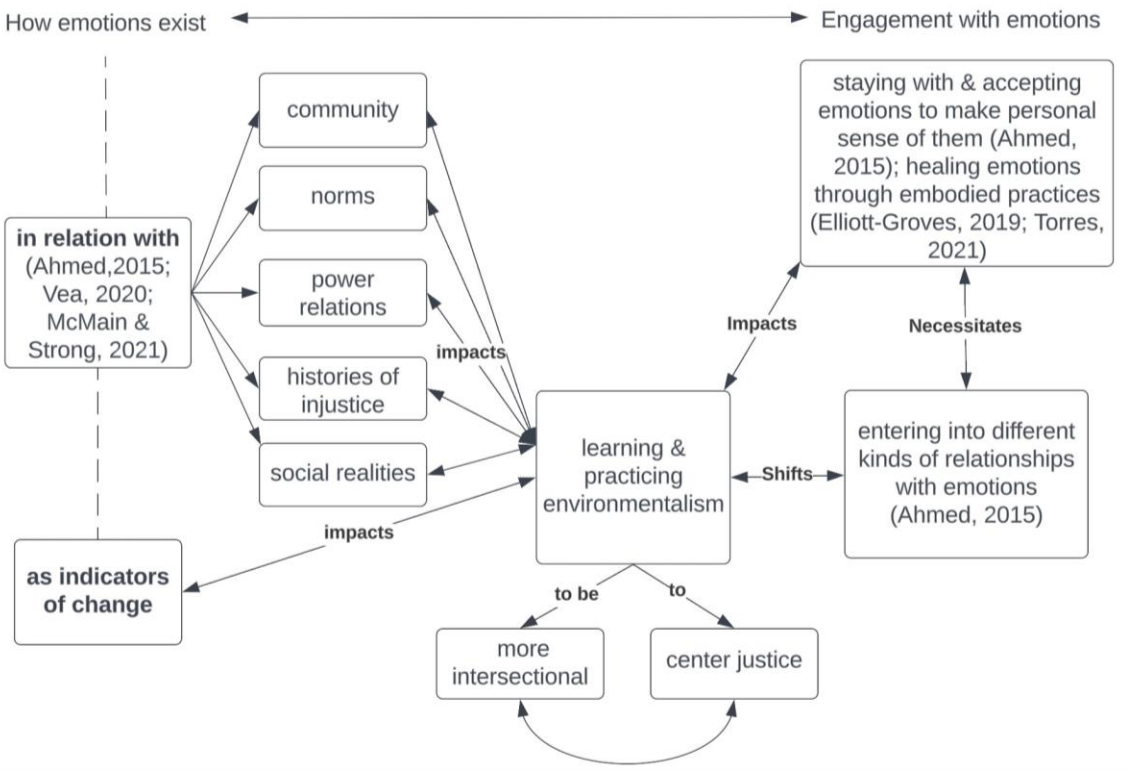
In the context of environmental educator learning spaces (i.e. programs focused on learning theory and pedagogies for environmental educators, and/or professional learning communities for environmental educators who facilitate outdoor EE learning experiences), taking the time to individually reflect on one's emotions related to environmental degradation,

climate change, and/or environmental injustices, and to collectively engage with emotion-centered practices is an important step in learning intersectional environmentalism. Asking yourself why you might feel angry when you think about the increase in wildfires across the globe, how you feel about access to healthy food in your neighborhood, and/or how EE spaces make you feel, could lead to deeper understanding of your subjectivities amidst climate injustice and in the work of justice-centered EE. Engaging with eco/climate emotions as they relate to individual and collective subjectivities, allows for critical thinking about the social, political, and ecological contexts of one's life. Being willing and able to engage with these emotions, subjectivities, and questions (verbally and/or non-verbally) in a learning community, can foster connection and relationship, necessary for building collective and sustainable action.

In Figure 1, I conceptualize how taking time to understand how our emotions are interconnected with our sociopolitical and cultural contexts and how they exist as indicators of change or needed transformation, alongside engaging with these emotions in different/new ways, can and should be part of environmental and climate justice. As depicted along the right-hand side, making personal sense of one's emotions by staying with them and accepting them, rather than ignoring them or taking them lightly facilitates different and perhaps new relationships with one's emotions. When we think about eco-anxiety, for example, taking a moment to process what the anxiety might be telling you about your relationship with the natural world and what needs are not being met, could lead to shifts in how you are approaching climate action. Another important part of engaging with eco/climate emotions is engaging in embodied practices to heal with our emotions. Practices like walking in and with nature is one way to facilitate this kind of emotional healing, which I provide more detail around in Chapter 3, *Walking in Conversation as an Environmental Education Practice*, and exemplify with educators' stories in Chapter 4,

Moving together in conversation: Unpacking emotional stories of environmental education towards justice and healing with nature. Throughout the study I use this conceptual framework of engaging with eco/climate emotions as the foundation for new theorizing.

Figure 1: Conceptual Framework - Engaging with eco/climate emotions as part of environmental & climate justice



Orientations to Teacher Education

EE programs must include opportunities to examine one's identities and positionalities as an integral part of programming, because of how the white-dominant environmental field has

upheld white supremacy and neoliberal capitalism through the erasure of BIPOC histories to land, water, and environment (Forsythe & Chan, 2021; Thomas, 2022), as well as BIPOC voices and emotions in EE spaces. Critical to environmental educator identity development and understanding one's sociopolitical relations is the ability to reflect on one's own experiences with the environment, environmental education, and/or science (Thompson, Mawyer, Johnson, Scipio, Luehman, 2020). For example, diving into "one's own K-12 experiences with science in and outside of school and into the dominant and unbalanced narratives that are often portrayed in science learning environments" (p.50) can illuminate how educators have been impacted by systems of power and the ways in which they have upheld systems of unjust power (intentionally or unintentionally).

Developing and refining a teacher identity is a process of ongoing negotiation between existing identities and positionalities and the teacher identity one desires (Luehmann, 2016; Varghese et al., 2019). From a practice-linked identity perspective (Nasir & Hand, 2008), this is part of a process of "becoming" that involves practicing as a "whole person who embodies her histories" (Luehmann, 2016, p.21). Practice-linked identities help make important connections between identity, teaching, and learning. This framing characterizes identity development as (1) the ability to acquire skills and knowledge, (2) to build "a deep sense of connection with participants", and (3) to understand "who one is and who one is in the process of becoming through participation." (Nasir & Hand, 2008, p.176). Social/cultural practices, such as teaching, ask us to make these connections between the self and the practice.

However, developing a practice-linked teacher identity requires that learners' have rich opportunities to participate and to see themselves as the teachers and/or change agents they want to be (Luehmann, 2016; Nasir & Hand, 2008). This includes having "access to identity

resources" within the practice, so that individuals can merge their existing identities and lived experiences with "expert" practices and a teacher identity. When identities and experiences do not merge with existing teacher identities and practices, tensions—opportunities for change and growth (Gutiérrez and Rogoff, 2003; Herbard, 2016; Varghese, et al., 2019)—can arise, as well as the ability to create new teacher identities and practices. Using a practice-linked identity framing allows for tensions to be studied in a way that makes room for new possibilities. Because congruence between the processes of identity and learning are necessary for practice-linked identities to develop (Nasir & Hand, 2008; Nasir, 2012), studying tensions within teacher education allows for new possibilities in how we learn and develop as teachers and educators.

These kinds of tensions are generative and necessarily a part of developing a teacher identity. As pre-service teachers and educators in graduate school grapple with what they value in their identities as teachers and educators, there are opportunities to shift practice (Gutiérrez and Rogoff, 2003; Hebard, 2016; Varghese, Daniels & Park, 2019). Engaging with tensions in teaching practices is an opportunity to diversify who is considered to be a teacher and what teaching looks like, and to "honor the complexity of teaching" (Herbard, 2016, p.30).

Belonging & Learning

Within communities, there is a fundamental human desire to feel belonging and support (Allen, Kern, Rozek, Mclnerny & Slavich, 2021). Belonging is understood to be an individual's subjective feeling of being part of or likely to be "accepted and respected as a valued contributor" in their surrounding environments and systems (Allen, et al., 2021; Healey & Stroman, 2021, p.3). As Allen et al. describe, people can experience belonging as a trait and/or a state—belonging as a trait is a core psychological need, and one's situation-specific sense of belonging is a state. State belonging is influenced by the experiences and stressors of daily life,

potentially contributing to fluctuations in how belonging is perceived in moment-to-moment activity. Someone can experience state belonging in variable ways throughout a day, depending on the variability of the situations they encounter and the opportunities they have to establish a "trait-like sense of belonging" in the particular environment (Allen et al., 2021, p. 90).

Experiences of belonging are facilitated by the systems and normative practices of our society, "that position certain groups, behaviors, and ways of being as superior or as the default along the lines of race and ethnicity, gender and sexual identity, language, class, indigeneity, or ability" (Allen et al, 2021; Healey & Stroman, 2021, p.2). For those with systemically marginalized identities, worries about belonging in a given context can become persistent and pervasive, leading to disengagement and an inability to identify with the ingroup. This is particularly true in contexts such as schools where many have been forcibly assimilated, and the outdoors, where many have been forcibly removed and systemically disconnected based on race, gender, sexuality, ability, class, religion and language. To assess one's sense of belonging in a given context, we subconsciously look for cues in the environment like, "interpersonal interactions, the presence (or lack thereof) and success of people who share our identity markers, the spoken and unspoken rules, and the opportunities we have to participate in and shape the environment" (Healey & Stroman, 2021, p.3). How each person interprets these cues is shaped by our identities and past experiences.

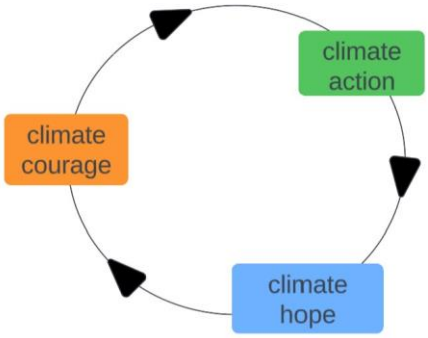
In learning contexts, interpreting cues of belonging can come at the cost of learning. Because "social, emotional, and cognitive processing are neurally intertwined", when a learner feels physically or emotionally unsafe, attending to cues of belonging become a priority for them over sense-making, reflection, and future dreaming for the sake of learning. (Healey & Stroman, 2021, p.4). Though spaces of learning can be designed to promote belonging across boundaries,

how cues of safety and belonging are determined before learners even enter the learning environment is a critical consideration. Our assessments of whether we belong or not are informed by "racist, sexist, and classist narratives and beliefs about intelligence and merit that permeate learning environments" (p.3). In schools, for example, this can look like enforcing exclusionary dress code and hairstyle policies specifically targeting Black students or exclusionary policies for trans students that enforce sports team participation that aligns with their gender assigned at birth. Recognizing how oneself, others, and diverse forms of knowledge and ways of being are positioned within society, and understanding people as agentic actors in challenging societal inequities, otherwise known as political clarity (Madkins & Mckinney de Royston, 2019), is necessary in creating learning environments that support a sense of belonging for all people.

Pedagogical Climate Courage

Based in radical hope, climate courage is the acknowledgement that systems of colonialism and capitalism foster unsustainable ways of life and are causing climate change, and the commitment to action and transforming social structures without promise of a happy ending (Marvel, 2018). This kind of climate courage works from the understanding that to be hopeful about our climate presents and futures, we first need the courage to take action (Lauria, 2022). As depicted in the figure below (Figure 2), having climate courage leads to climate action, which then leads to climate hope, creating a cycle. According to Sarah Jacquette Ray, this form of active hope is "a byproduct of action, not a prerequisite for it" (as cited in Lauria, 2022).

Figure 2: Climate courage cycle



Turning to climate hope before climate courage and action, ignores the realities of colonialism and capitalism by assuming that someone else will solve the climate crisis (Heglar, 2020). We need courage to process eco/climate emotions such as grief, anxiety, and anger, and to learn from and listen to what these emotions are telling us about transformation. We need courage to act in big and small ways, like engaging with sometimes challenging emotions, learning to grow your own food, and teaching climate justice in classrooms. We need all of this and everybody.

As I detail in Chapter 5, climate courage is important in the work of education. I use these framings of courage, radical hope, and action to name *pedagogical climate courage* as a needed practice in EE amidst a climate crisis. As they shared stories and experiences of teaching outdoors and teaching climate change and climate justice, the environmental educator participants framed the practice of pedagogical climate courage. Stemming from the recognition that climate futures are uncertain and that teaching climate justice is complex, everchanging and sometimes messy, pedagogical climate courage provides the strength and willingness to keep building the sustainable futures we need and want and with our students.

Chapter 2: Methods

Using methods of critical design ethnography (Barab, Thomas, Dodge, Squire & Newell, 2004) and social design experimentation (Gutiérrez & Jurow, 2016), this study focused on reorganizing theoretical and pedagogical training for current and future environmental educators. According to Gutiérrez and Jurow (2016), in social design experiments, "equity and learning are brought together to design for consequential learning and transformational change." (p.569). In these configurations of design and research, knowledge and expertise of communities of Color is historicized and centralized in learning designs (Gutiérrez & Vossoughi, 2010). Although the majority of the study was conducted with white graduate students, the curriculum and professors center BIPOC ways of knowing, doing, and thriving throughout the program. With this in mind, I studied the activity system of the graduate student cohort to understand more about how environmental educators center communities of Color and disability justice, how predominantly white students take up these ideas in relationship to their histories, identities, and emotions, and how they talk about developing their pedagogical practice with this in mind. In addition to centering the knowledge and expertise of communities of Color, learning was supported by the design and implementation of mediating processes, like engaging in walking practices and with cultural grieving practices, that deepen preservice teachers' practices in systemic change and transformation (Cole & Griffin, 1983). In a similar sense, critical design ethnography aims to build "a socially responsive design with the goal of supporting change", while utilizing more traditional ethnographic methods like participant observation and interviewing to develop a thick description of the context and build trust and relationships toward participatory, community-centered design (Barab et al., 2004, p.265).

In an effort to disrupt whitewashed narratives of the environment, climate change, and emotion, CH graduate faculty, consisting of half women of Color, jointly designed and iterated on the research design. Throughout the course of the research partnership, data collection and analysis of student experiences informed curriculum design and pedagogy for the graduate course within the study. The data collection practices involved participant observations within graduate courses and curriculum co-design meetings, as well as recorded data from ethnographic, walking interviews. The data gathered from the walking interviews with graduates provided vital information for design and transformation within the climate justice and emotions course and beyond.

Study Context

This study took place in collaboration with Cedar Harbor (CH)[2], a non-profit EE organization in the Pacific Northwest. CH was purposefully chosen as the research collaborator because of their emphasis on justice, equity, diversity, and inclusion in place-based EE. In partnership with a public university, their graduate program focuses on in-residence environmental education training that centers justice-oriented EE, experiential and student-centered learning, and culturally responsive pedagogies. Within this intensive program, graduate students participate in a teaching practicum, alongside taking graduate courses, and participating in different professional development opportunities. The teaching practicum consists of facilitating experiences for 4th-6th grade students who visit CH for five days of learning outside. Graduate students plan and prepare lessons, develop teaching tools, strategies, and practices, and apply theories from graduate coursework in an informal science education context.

[2] Cedar Harbor (CH) is the pseudonym given to the outdoor environmental education program/graduate program/research collaborator.

The activity system of the study is the graduate program with a cohort of 17 master's students. The cohort reflects the larger field in that it consisted of predominantly white educators. However, CH continues to work towards developing a more diverse cohort each year through recruiting and curriculum changes. The co-design that was studied for this project is the curriculum development and instruction of a new graduate course on climate justice, emotion, and teaching.

Cedar Harbor's Graduate Community

Cedar Harbor's graduate program is intentionally built to develop a student community through the structure of the program, and pedagogical practices of faculty who consistently facilitated spaces for students to deepen relationships with one another throughout the 10-month residency. This living and learning community first comes together during CH's extensive graduate program orientation. Their orientation served as more than just a time to collect information about program expectations. It was meant to give students time and space to build relationships with each other, faculty, staff, and the place and its histories. For example, during orientation, the graduate students practiced leading school group activities with faculty and alumni teachers to develop relationships and to integrate into the existing community, while building their own community amongst the cohort. Intentional community building and accountability extended to the coursework and professional development opportunities as well. Faculty were responsive to student feedback and the current social and political context in the ways that they teach, the graduate courses and curriculum they offered, and the mentorship they provided. For example, they recently developed and taught a course on teaching climate justice and emotionality in response to the changing landscape of climate change and teaching, as well as incorporated a researcher in residence program to support more students who were interested in doing practice-oriented research with CH.

Research Participants

Out of the 17 CH graduate students[3],10 students and I engaged in an embodied practice of walking in conversation to build theory through storytelling about emotions, connection to nature, and teaching climate change. After getting to know them during their first quarter courses and introductory meetings, I met with each of them individually for a walking interview. Five of the interview participants also participated in the second half of the study that focused on the graduate course on *Teaching Climate Justice, Climate Change and Emotionality*, and diving deeper into emotion as a sense-making tool. These graduate students were joined by four additional graduate students who did not participate in the walking interviews. I include a table below with participant pseudonyms, their racial identity descriptors, pronouns, and information about how they participated in the study.

Table 1: Environmental Educator Participants

Pseudonyms	**[4]Racial Identity**	**[5]Pronouns**	**Participant Engagement**
Ash	Person of Color	she/her	Walking interview & climate course
Benny	White	he/him	Climate course only
Chloe	Asian American & White	she/her	Walking interview & climate course
Eli	White	he/him	Walking interview only

[3] Throughout my writing, I interchangeably refer to the study participants as "educators", "environmental educators", and "graduate students" because of how they exist prominently in both roles.
[4] In this table, I use participant-chosen descriptors within the category of "Racial Identity". I recognize that categories of race, gender, sexuality, ability, and class are socially constructed and are dynamic and problematic (Collins & Bilge, 2020; Leonardo, 2013; Omi & Winant,1994). However, the participants racial and other intersecting identities continue to inform how they interact and relate to each other and places. This is particularly true within Environmental Education as it continues to be a predominantly White field.
[5] In an effort to keep participants' identities as anonymous as possible, I have chosen to only include the pronouns that participants use and have shared with me, rather than providing details about their gender identities. In line with this, I have chosen to group participants in some areas of the analysis to avoid singling out stories that include important and powerful, yet strongly worded responses.

Gabe	White	he/him	Climate course only
Marjorie	White	she/her	Walking interview only
Rachel	White	she/her	Walking interview only
Rio	Person of Color; Multiracial	she/they	Walking interview & climate course
S	White	she/her	Walking interview & climate course
Sage	White	they/them	Climate course only
Seth	White	he/him	Walking interview only
Theo	White	he/him	Walking interview only
Valerie	White	she/her	Walking interview & climate course
Willow	White	she/they	Climate course only

Statement of Researcher Positionality

I am a third generation Filipina American, born and raised in Florida, on Timucua and Seminole homelands. I identify as a brown cis woman and a settler. Growing up in central Florida, I was surrounded by many different cultures, Filipino American (at home), a wide variety of Latinx and Asian American (at school), and southern American (throughout the state). These racialized and cultural identities and histories shape how I exist in spaces every day.

In my research, I am drawing from my early learning experiences in and with nature. I am privileged to have had opportunities to freely explore estuarine rivers, mangroves, intertidal zones, and gardens outside of school and with people I love and am inspired by. These experiences are foundational to how I understand caring, just, and thriving socio-ecological relationships today. I recognize that these experiences are cultural and personal and shape how I enter into, exist in, and interpret research and teaching.

I think sharing my environmental narrative and histories is in part key to attending to the unequal power dynamics in qualitative research. While I am a researcher, part of a large academic institution, I am also a graduate student, a lifelong learner, and an environmental educator. By establishing common ground as environmental educators with similar understandings of the settler colonial and white supremacist foundations of the field we work in, while emphasizing the different experiences we have based on our varying identities and positionalities, I served as a thought partner, resource, and supporter of the graduate student participants in this study. I have learned so much from them about justice-centered environmental education and plan to maintain many of the relationships I formed into the future.

Data Collection

Data collection occurred from August 2022 - May 2023, either on the Cedar Harbor campus, the partnered university campus, or at a nearby cafe. Qualitative research strategies such as, participant observation, ethnographic interviewing, and artifact analysis were used to address the purposes of the research. Additionally, co-design and some co-analysis were utilized during the design-based research portion of the study, in which I worked with a CH faculty member to study a course on climate change and emotionality. In this section, I describe the primary data collection activities that took place with each set of participants, as well as my approaches to data analysis. In the table below, I have outlined each data collection method, the type of analysis I used with each kind of data collected, and the research question I worked to address with each method. Throughout this section, I will provide details and a more nuanced discussion of each collection and analysis method and why I chose to design and use them.

Table 2: Types of Data & Analysis

Data Collection Method	Data Analysis Method	Research Questions Addressed
Participant observations during graduate seminars -generally meant to help establish connections and relationships with students; helped with vibe checking and understanding the community	Thematic analysis of fieldnotes -helped with establishing inductive coding system	How do environmental educators' identities, histories of environmentalism, and emotions impact their understandings, participation, and teaching toward environmental and climate justice?
Walking interviews w/ graduate students -getting to know participants on a deeper level & connecting outside	Narrative analysis of interview transcripts & content logs	How does moving outside in conversation surface nature-culture relations and commitments to environmental and climate justice? How do environmental educators' identities, histories of environmentalism, and emotions impact their understandings, participation, and teaching toward environmental and climate justice?
Climate course co-design data -giving back to the community & iterating on designs	Narrative analysis of recorded class discussions content logs and transcripts & artifacts in the form of student work	How can critically engaging with emotions shift environmental educators' understandings, participation, and teaching towards environmental and climate justice?

Participant Observations

Participant observations were critical during the graduate student seminars and co-design meetings, as these pieces informed the design iteration of this proposed study. According to Jorgensen (1989), participant observation allows the researchers to focus on the relationships among participants within the specific context, how they organize themselves, and how relational dynamics might shift from instance to instance, to gain insight about the processes of an activity system (in Shea & Sandoval, 2020). Considering that graduates were engaging in practices such as building relationships and storytelling, participant observation allowed for close analysis of how educators are developing and changing as a collective in practice from their perspectives. During co-design meetings for the graduate course on climate justice and emotionality,

participant observation and field-noting facilitated close analysis of the design iterations as co-design meetings provided space for instructors to reflect on students' sense-making and potential transformation.

Walking Interviews

A subset of CH graduate students (n = 10) participated in individual walking interviews, in which the interviewer (me) and the interviewee walked in conversation in an outdoor space of the interviewee's choosing. The interviews were ethnographic with some prepared questions, leaving room for emergent questioning and conversation while on the move. As opposed to engaging in more standard, face-to-face interviews, a side-by-side, walking interview method was utilized to encourage interaction with the natural world while in conversation (Marin & Bang, 2018; Riley and Holton, 2016). Sharing climate stories and outdoor/environmental teaching experiences while with the lands/waters allowed for theory-building in conversation with the more-than-human world, unlike what would have been possible sitting inside, face-to-face.

Mobile methods like walking interviews are participatory (Carpiano, 2009; Kinney, 2017; Lennette & Gardner, 2021) and political in nature (Kinney, 2017; Riley & Holton, 2016; Taylor, 2018). The act of walking side-by-side during an interview helps in reducing the power dynamics between interviewer and interviewee, especially when the interviewee chooses the place to walk (Becker & Geer, 1957). Lenette and Gardner (2021) discuss how walking positions the interviewees as part of the research or "co-researchers who actively contribute new knowledge and exercise agency through the research process" (p.306). Because walking interviews are meant to be participatory and the participants were asked to share their lived

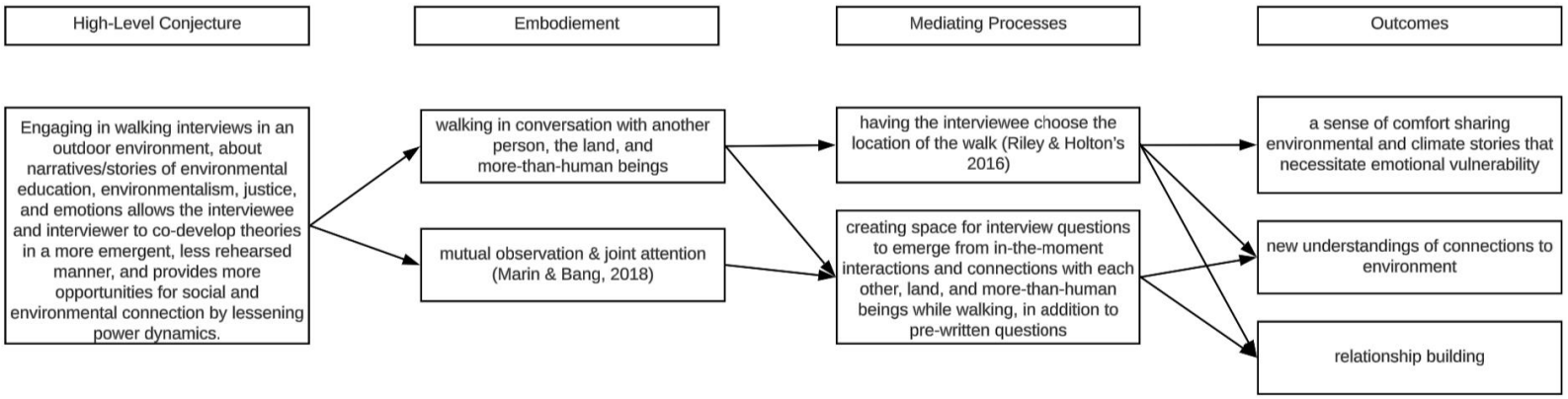
experiences, it was important to emphasize the co-production of knowledge throughout the data collection and analysis processes of this study.

Having the interviewees choose where the walking interviews took place was also meant to give them the space to establish comfort and safety while walking outside considering their racial, ethnic, gender, and disability identities and positionalities (Riley & Holton, 2016). Our identities and positionalities are tied to place in different ways, which should be carefully considered in qualitative research. Place, particularly when outside, shapes how one performs and participates in their different identities, especially for Black, Indigenous, Latinx, Asian, and Pacific Islander people. "Being seen (or not) in a particular place" can largely impact how one responds in the interview (Riley & Holton, 2016 p.5).

The location is also political in the sense that the act of walking in conversation can be an opportunity to vent. Practices like "bimbling", commonly used within activism spaces, are focused more on stepping away from highly politicized environments to perhaps "blow off steam" (Anderson, 2004; as cited in Kinney, 2017, p.2). This practice emphasizes walking in conversation as less about the actual walking route and geographical area and more as an opportunity for participants to to recollect their experiences and articulate them (Kinney, 2017; Riley & Holton, 2016). Since the study participants were living and working in a space that was relatively new to them, the focus was not so much on understanding their relationships to the specific place that each of them walked, but on how the act of walking was an opportunity to be with the natural environment in the process of storytelling, especially as the following questions are considered: *How did you experience the natural world as a young person? How has this shifted? Can you tell me a story about how you got into environmental education? How does it feel to talk about this? Can you name any specific emotions? Can you remember a time in which*

you experienced strong eco/climate emotions? How do you think about your identities in relation to environmental education? How do you see yourself being part of the environmental and/or climate justice movements? More detail on the method and findings from these interviews will be discussed in chapters 3 and 4.

Figure 3: Walking Interview Conjecture Map



Graduate Course & Co-design

In the final phase of data collection, I co-designed a climate justice and emotions course and studied how graduate students built new theories of learning through their engagement with the course. A conjecture for the design of the course (Sandoval, 2014) was that environmental educators who have the opportunities to engage with and critically reflect on their eco/climate emotions within their preparatory programs can transform EE to be just-centered and environmentalism to be intersectional, by uncovering the ways in which systemic injustices and whiteness are tied to eco/climate emotions and normative narratives (see conjecture map in Figure 4). The full design of the course was based on analysis of data from the fall and winter

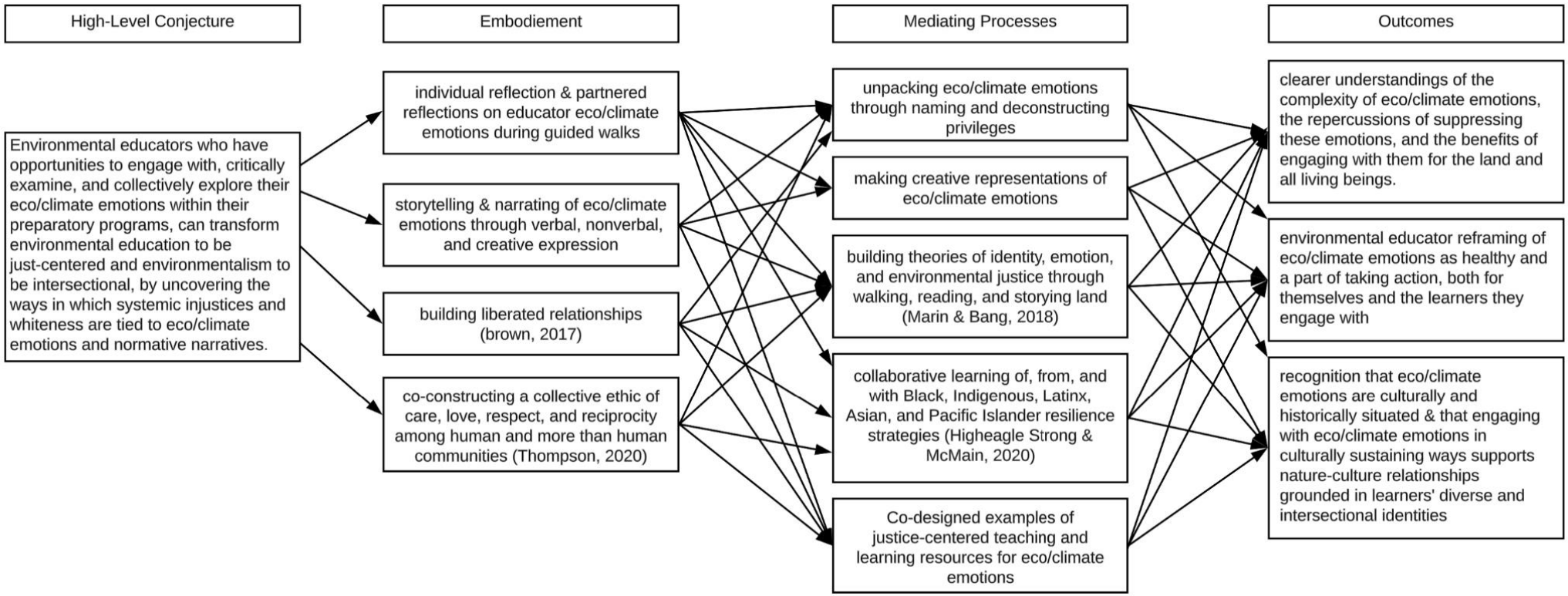
terms and was informed by and responsive to ideas from graduate students participating in the study (Gutiérrez & Penuel, 2014) — design happens in ways that allow theory to be developed with specificity to a local context and research participants to make meaning from their experience with the intervention, so that the learning can be sustained in ways that are culturally relevant (Bell, 2004).

Potential embodiments of this high level conjecture include initially grounding the course work in a co-constructed, collective ethic of care, love, respect, and reciprocity (Thompson, 2020), allowing participants to develop liberated relationships within the learning community, so that diverse and culturally sustaining forms of expressing emotion are welcomed (brown, 2017; Higheagle Strong & McMain, 2020). Grad students also participated in eco/climate emotions reflections individually and in small groups during guided walks (Marin & Bang, 2018), as well as storytelling and narrating of eco/climate emotions through verbal, nonverbal, and creative expression (Solórzano & Yosso, 2002).

Within the learning community, mediating processes included: unpacking eco/climate emotions through politicization, making creative representations of eco/climate emotions, building theories of identity, emotion, and environmental justice through walking, reading, and storying land (Marin & Bang, 2018), collaborative learning of, from, and with Black, Indigenous, Latinx, Asian, and Pacific Islander resilience strategies (Gutiérrez & Jurow, 2016; Higheagle Strong & McMain, 2020), and co-designing justice-centered teaching and learning resources for engagement with eco/climate emotions. With this design, potential outcomes for environmental educators were to (1) gain a clearer understanding of the complexity of eco/climate emotions, what the repercussions of suppressing these emotions are, and the benefits of engaging with them for the land and all living beings, (2) reframe eco/climate emotions as

healthy and a directive toward action, both in themselves and the learners they engage with, and (3) recognition of eco/climate emotions as culturally and historically situated and that engaging with eco/climate emotions in culturally sustaining ways supports healthy nature-culture relations grounded in learners' diverse and intersectional identities (Bang et al., 2013).

Figure 4: Conjecture Map - Climate Justice & Emotions Course



Data Analysis

My Data Analysis Process

My approach to data analysis was both inductive and deductive. I started with emergent content logging and open-coding each interview, and selective interview transcription, to "identify and formulate any and all ideas, themes, or issues they [the data] suggest, no matter how varied and disparate." (Emerson, Fretz, & Shaw, 2011, p. 172). By remaining open to emergent codes and themes, the researcher is more likely to develop original theories, while explicitly naming their subjectivities in relation to the data (Emerson, Fretz, & Shaw, 2011; Smagorinsky, 2008). From my first round of content logging and open-coding, I developed inductive codes such as, *tension, contradiction, climate courage, emotional oscillation, embodied belonging in nature, attention directed/paused by nature, healing and relationality, politicizing emotions, solidarity, wellbeing, role of environmental educator.* Based on my literature review (Higheagle Strong & McMain, 2020; Hoffman, 2009, McMain & Strong, 2021; Varghese et al., 2019; Vea, 2020), some of the deductive codes that guided the analysis included: *feelings of belonging, connection to nature supported, connection to nature not supported, verbal frustration, nervous/frustrated laughter, community, solidarity, resilience strategies.* These descriptive and emotion codes (Miles, Huberman, & Saldaña, 2014) helped to, "manifest what theory would say about data" (Smagorinsky, 2008, p.399).

Using a constant comparative method (Glaser & Strauss, 1967), I also searched for patterns in how the educators made sense of race, disability, the environment, and emotional stories of climate change/injustice, named or described their emotions, and/or verbally emoted, with an emphasis on how emotions circulated and "spill[ed] into" the learning context of CH (Merriam & Tisdell, 2016; Glaser, 1965). Guided by both my initial conceptual framework and

the inductive coding/content logging process, I also engaged in analytic memo writing to develop lower and higher inference claims about learning and emotion in the EE context of CH. According to Charmaz (2001), memo-writing prepares the researcher to think about and see patterns in the data, using constant comparative methods. Making these comparisons led me to pose the following analytic questions: (1) How does the act of walking in conversation encourage storytelling and create space for processing emotions around teaching and learning in outdoor environmental education? (2) How did making space for emotions allow for critical perspective taking and *learning through contradiction*? And (3) How are environmental educators engaging with pedagogical climate courage in their discussions and lesson planning?

Data collection, data analysis, and writing happened in an overlapping way, simultaneously guiding and shaping each other throughout the process (Bhattacharya, 2017; Charmaz, 2014). In each case, I sought to learn from participants to iterate on the study and curriculum design in order to support more just teaching and learning arrangements within EE.

Narrative Analysis

Narrative analysis was used to get at a more holistic story of participants' emotional experiences and learning related to the environment, climate, and environmental education. A narrative approach to research explores identity in the ways it develops in talk, social interaction, and self-presentation, as well as the discursive environments and emotions that make this identity development possible (Earthy & Cronin, 2008; Zembylas, 2003). Because of how emotion socially exists within an activity system, it is essential to attend to more than just the discourse participants use when experiencing and sharing emotions. As Vea (2020) describes, "How people work materially with artifacts, spaces, and other embodied actors can provide evidence of the felt texture of social life that exceeds its presentation in language." (p.327). According to

Elliott-Groves (2019), orienting to an individual's life narratives allows the researcher to see how they understand their futures in relation to their past and present (McAdams, 2001), which is key to understanding environmental educators' roles in supporting just futures. Throughout this study, I sought to more deeply understand how emotion is socially, culturally, politically, and ecologically situated within environmental educators' lives and practices to co-create the intersectional environmental learning spaces and sustainable futures we will want and need.

From the analytic questions stated above, I was able to hone in on particular stories of racism, ableism, navigating eco/climate emotions, and working with students' eco/climate emotions, as well as instances of interaction with the natural world during walking interviews. Utilizing narrative analysis, I deepened my arguments for emotion as a critical sense-making tool in justice-oriented environmental education and walking in conversation as a powerful tool in qualitative research and as a pathway for sense-making in/with the environment and for future environmental learning opportunities. In Chapter 3, I extend the methodological discussion of walking interviews and rely on educators' interactive storytelling with the land to build a narrative of walking in conversation as a potential pathway to deepening relationships with the natural world, that takes into account one's felt experiences. With Chapter 4, I focus my analysis on attending to how all ten educators were talking about or not talking about racism, ableism, community, and belonging in our conversations about emotions. Lastly, in Chapter 5, the analysis was focused on how the educators were able to work with tensions to build repertoires of practice that intentionally included emotional sense-making. This included analyzing artifacts, in the form of course projects and assignments, to trace their narratives of eco-grief, climate courage, action, and hope.

Narrative Interlude: Becoming radicalized and connecting to my ancestral roots

Learning about and from histories of resistance in the U.S. and environmental histories of Black, Indigenous, Latinx, Asian, and Pacific Islander communities, I have come to know myself, my identities, and my cultures in different and transformative ways. Reading about people like Larry Itliog, who comes from the same lands and waters as my family and ancestors, helped me to see myself in the environmental movement differently. I have come to recognize my community as a community of fighters and survivors. Filipinx Americans have been a part of critical environmental justice work in the U.S.

Though I know that life outside of the U.S. is extremely challenging in different and often life-threatening ways, becoming more critically aware of the ways that systems of oppression, domination, and extraction operate, I can't help but wonder what it would be like if my family never immigrated to the U.S., or if the Philippines were never colonized. Learning to question more of what seems normal has allowed me to see my own and others' histories in powerful, life-changing ways, and have made me question my ties to settler colonialism, both as a settler on Coast Salish lands and a descendant of people whose homelands and relationships to place have been permanently altered due to imperialism. I have unlearned a lot and am continuing to unlearn and grow. Being open to this learning process has brought me closer to my own culture and heritage and allowed me to see sustainability, environmentalism, and caring for the lands and waters, as practices that have always been a part of me. And I think somewhere inside me, I already knew this. I felt it. This kind of care work, for the earth and the thriving of all communities, feels like the path I was meant to be on, and I'm looking forward to where it takes me next.

Chapter 3: Walking in Conversation as an Environmental Education Practice

Introduction

In this chapter, I describe how the walking interview methodology used in this study encouraged storytelling and created space for processing emotions around teaching and learning in outdoor environmental education (EE). I argue for the value of this practice in the context of environmental education research, outlining the walking interview as both a powerful tool within qualitative research and a pathway for sense-making in/with the environment and future environmental learning opportunities. By highlighting instances of interaction between the educators and nature that arose during conversation, I demonstrate how walking interview methodologies help shift interactional practices, topics of discussion, and emotion in desirable ways. I also describe the use of two emotion-wheel tools that were used before and after the walking interviews, to show how walking in conversation with lands/waters and more-than-humans can serve as a space to engage with and shift one's emotions. Lastly, I describe the limitations of the method and how the emergent nature of the interviews led to future methodological design considerations.

Theoretical grounding for walking interviews

As a settler researcher in the specific context of environmental education, I recognize that it is critical to acknowledge the origins of walking as a relational method of learning to both avoid appropriation and romanticization of knowledge and to respectfully learn from and engage in walking practices to disrupt methods of separating humans from nature. Walking is a social practice across cultures and species. In many Indigenous communities across the globe, walking is a cultural method for learning about, with, and from the natural world (Cajete, 2010; Marin &

Bang, 2018; Simpson, 2011; as cited in Marin, 2020). It supports models of education that center learning and living in relationship with nature. For better or worse, walking (i.e. due to forced migration, displacement, leisure activity, or travel) allows for the entanglement of natural and social worlds, and consequently, the development of reciprocal relationships.

As demonstrated by Indigenous scholars, *relational methodologies* like walking are about being in "relationships with humans, more-than-humans, lands/waters, and mobility" as part of the learning process (Marin, 2020). They build from the understanding that to understand the complexity of human learning and development, both lands/waters and mobility are necessary within the designs of research and education. Western commodification of nature and histories of restricting the mobility of Indigenous peoples and peoples of African descent have made these relationships overwhelmingly invisible within processes of learning and development (Marin, 2020). This has resulted in western understandings of human relationships with nature (i.e. humans as separate from nature, nature as purely a resource for extraction, or human dominion over lands/waters) as the norm in many learning spaces, including outdoor environmental education. However, "walking and lands/waters have always been and continue to be central to human learning, development, and activity." (Bang et al., 2014; Marin, 2013, Marin & Bang, 2018; as cited in Marin, 2020, p.282).

"Bodies in motion" facilitate the pursuit of knowledge with the whole body and situate the relationships between the body and lands/waters as "a location for knowledge making" (Marin, 2020, p.284). As Simpson describes, the recognition that knowledge is created as we move and interact with lands/waters encourages "generative generations of loving, creative, innovative, self-determining, interdependent, and self-regulating, community-minded individuals" (Simpson, 2019; as cited in Marin, 2020, p.281), because of how the natural world,

the physical, spiritual, intellectual, social, and emotional come together to create new possibilities for learning and living. While movement in/with place foregrounds the body in relationship with the natural world, lands/waters shape learning by structuring attention and observation.

A unit of analysis helpful in examining the learning going on between people in motion, lands/waters, and more-than-humans is "ambulatory turns" (Marin, 2020). Within an ambulatory turn, the focus is on the shifts in interaction between the person/people and the environment that orient attention and observation (e.g. someone stopped walking). Ambulatory turns allow researchers and educators to examine how people move their bodies in relation to land to make meaning. Using ambulatory turns as the unit of analysis, Marin describes paying close attention to how more-than-human life, like birds chirping or fish jumping, invites people's attention and shapes their actions. For example, as two people are walking together alongside a river, one might stop at the sight or sound of a fish jumping in the water and call the other person's attention. Their change in movement from walking to stopping in response to land/water and more-than-humans, their joint attention, and their potential discussion becomes an activity of interest. For the purposes of this chapter, I draw attention to how meaning can be made in an embodied way with nature and how what we learn shifts when we purposefully include movement in/with the natural world.

Within the context of interviews, ambulatory turns as activities of interest are important for building theory with/in place. In contrast to speaking face-to-face in a more traditional style of interviewing, walking and sitting side-by-side in conversation allows both the interviewee and interviewer to interact with the natural environment, sparking emergent stories, questions, memories, and emotions. Drawing from Marin and Bang's (2018) methodology of "walking,

reading, and storying land" (p.89) and geographers Riley and Holton's (2016) place-based interviewing, *walking interviews* cultivate relationships with place while storytelling. They provide space for interaction with the environment and the sharing and untangling of the "feeling" or "vibe" of a place or experience, which is not as easily achievable when verbalizing a story in a face-to-face interview (Riley & Holton, 2016, p.6). Walking in conversation is a dynamic developmental process that brings together the sometimes different, yet connected worlds of people and more-than-human beings (past, present, and future), allowing for theory-building with one another (Marin & Bang, 2018).

Within qualitative research, walking interviews help in reducing power dynamics. Mobile methods like walking interviews and go-alongs (Carpiano, 2009) are participatory in nature (Kinney, 2017; Lenette & Gardner, 2021). The act of walking side by side—interviewer and interviewee—in a place chosen by the interviewee gives the interviewee agency to move in a place and engage with their surroundings (Carpiano, 2009; Kinney, 2017). This positions the interviewees not just as research participants, but as "co-researchers who actively contribute new knowledge and exercise agency through the research process" (Lenette & Gardner, 2021, p.306). Walking in conversation lends itself to the co-production of knowledge, especially when there is a sense of comfort and familiarity with the place.

As Riley and Holton (2016) describe, one's identities largely determine how the person feels walking in a place due to comfort, safety, power dynamics and more. Something that can help in establishing a sense of comfort is to have the interviewee choose the location for walking—familiarity with the place allows for a particular kind of storytelling. Where we walk in conversation is largely tied to identity, power, and histories of place and should be carefully considered when participating in research. "Spaces may be used to perform particular identities,

and this is an important consideration in conducting interviews as this context may shape the way respondents act, behave and talk and while the methodological literature makes reference to themes of safety and feeling comfortable, our research adds the importance of being seen (or not) in a particular place." (Riley & Holton, 2016 p.5). Walking (Taylor, 2018) and walking interviews are political (Kinney, 2017; Riley & Holton, 2016). Riley and Holton (2016) emphasize the importance of what one might say in relation to the physical environment they are in.

Walking in conversation can be an opportunity to vent or blow off steam, making the location of the interview political in nature. Kinney (2017) describes "bimbling" as "the practice of going for a walk with no clear aim other than to blow off steam" (Anderson, 2004; as cited in Kinney, 2017, p.2). This form of a walking interview has been used within activism spaces when it is necessary to step away from highly politicized environments. It's emphasized that this practice of walking in conversation is more about how the walking allows participants to recollect their experiences, analyze and reflect on them, and emotionally regulate and less about the route and geographical area that they walk (Kinney, 2017; Riley & Holton, 2016). "It is the process of walking and talking that is important." (Kinney, 2017, p.2).

Walking interviews with CH Graduate Students

In this study, I engaged in one-on-one walking interviews with ten environmental educators in an outdoor space of their choosing. Since the majority of the participants were living and working in a space that was relatively new to them at the time of the interview, the focus was not so much on understanding their relationships to the specific physical space, but more on walking as an opportunity to be with the natural environment in the process of storytelling. However, the different places in which we walked sparked memories, stories, and feelings for

some of the educators. In the next section, I describe some of these instances of interaction and emergent storytelling.

Each interview took a slightly different form in terms of movement, location, and route. In the table below, I briefly describe where each interview participant chose to walk and the movements they chose to engage with (including taking breaks to sit or opting to sit when we happened upon a beautiful place). I also indicate where we walked and how we decided on a location, because of the political nature of walking that I describe later in this chapter. In the following sections, I provide more detail around why being open to a diversity of movements in this interview process was important and encouraged. As noted in Table 3, I shared food with some of the interview participants. This was an addition that I chose to include later on in the process after iterating on my interview protocol, to create a research and learning space that felt more human, holistic, and aligned with my values. Feeding people while sharing space and time is part of many cultures, and something I believe should be part of work that is community-centered.

Table 3: Chosen Walking Interview Locations

Pseudonym	**Interview Location & Details**
Ash	Walked a loop on forested Cedar Harbor (CH) trails; ended with sitting together, side-by-side outside with a snack
Chloe	Met for interview off campus for convenience; walked to nearby beach; sat together on a log while looking at the water
Eli	Walked a loop on forested CH trails
Marjorie	Walked along a short trail to a bench facing the water; sat side-by-side and shared snacks
Rachel	Walked a loop on forested CH trails

Rio	Met off of CH campus, per request of participant; interviewed with one additional participant (a group of 3 including the interviewer); walked in conversation on university campus, with trees and manicured lawns; sat on a bench together; ate lunch while sitting in the grass and continuing the conversation
S	Met off CH campus for scheduling convenience; interviewed with one additional participant (a group of 3 including the interviewer); walked in conversation on university campus, with trees and manicured lawns; sat on a bench together; ate lunch while sitting in the grass and continuing the conversation
Seth	Walked a loop on forested CH trails
Theo	Walked a loop on forested CH trails
Valerie	Walked a loop on forested CH trails

Instances of Interaction with Nature

Walking interviews or *walking in conversation* allows for lands, waters, and more-than-humans to be recentered as contexts in which theories of cognition, learning and human development are constructed (Marin, 2020). Looking at the instances of interaction between people and nature throughout the walking interviews offers invitations for conversation that serve to create space for learning in relationship with lands/waters and more-than-humans, solidifying the nature-culture relationship of humans as part of nature. The examples below highlight how ambulatory turns on a walk with nature allowed for short instances of relationship building and relationship deepening. Since ambulatory turns rely on visual cues of shifting movement (i.e. actually seeing transitions from walking to stopping via video recording), and the interview data collected for this study was strictly audio recorded, I instead rely on verbal cues in the recordings (e.g. exclamations, verbally calling the other person's attention, pauses in storytelling, volume of voices changing), field notes, and embodied memories similar to that of ambulatory turns to identify instances of interaction.

Structured Attention: Lands/Waters, More-Than-Human and Human Entanglements

The first instance of interaction demonstrates how lands/waters and more-than-humans structure attention. Chloe and I went on a walk to a nearby beach, where we eventually sat side-by-side on a log facing the water. While sitting, I noticed how "nice" it was to watch the water coming up between the rocks that covered the beach and brought Chloe's attention to it. She replied that she had noticed it too and was wondering whose runoff it might be—bringing attention to local environmental impacts. I responded with, "but it does look pretty clear. The rocks are probably doing a good job."—making a connection to the earth's natural ability to adapt. We laughed and moved back into our previous conversation. This first instance of interaction, in some ways, gave us permission to acknowledge and engage more explicitly with the place we were in. After this first interaction, we each paused the conversation, on different occasions, for the geese that flew overhead and a bird that swooped down to catch a fish from the water's surface.

Image 1: Landscape image from Chloe's walk

Another example of lands/waters and more-than-humans structuring attention was seen while walking with Theo. In the middle of sharing a story about the outdoor spaces he had available to him as a child, Theo paused, started whispering, and pointed to a bird that was sitting just off the path atop a tree stump. We stopped walking, our conversation softened, and I mentioned how much I love birds. Because of how close the bird was sitting to us, I pointed out that they seem very used to people being in this forested area. Theo said, "Yeah, I think a lot of the birds, even the deer, are pretty habituated." During our walk, he also noticed and pointed out mushrooms, which encouraged me to engage more with the more-than-humans around us. Theo's interactions with the bird and mushrooms allowed me to focus my attention more in place.

Image 2: Image of a bird from Theo's walk

I had asked him if he knew the type of mushroom we had first come across, and while he didn't know about the specific species, he had seen them before and mentioned that he has really developed an interest in mushrooms since moving to the area. Knowing that this is an interest of

Theo's, I pointed out mushrooms and lichen as we continued our walk. Pointing out the bright orange fungi cascading down the side of a tree, I asked Theo if he's familiar with this kind of mushroom. He mentioned that he has come to understand that identifying different fungi is quite challenging. You need a "contextual understanding" to really know who that fungus is. "It asks you to think about relationality." In this example, Theo's attention was structured by the presence of the mushrooms, deepening his relationship with nature in this small instance.

For Seth, moments in which lands/waters and more-than-humans structured his attention encouraged reflection on his relationship to the place of Cedar Harbor. Walking with Seth, he paused and pointed out the spring buds on a tree. I remarked that I love spring in this area. Seth responded with, "I feel like I've almost made it through my first real winter." He also paused to acknowledge the mushrooms lining a nearby log—another very indicative feature of this region and climate. While paused, he mentioned that he was noticing more sounds during our walking interview than when he is teaching in this same place. In some ways, Seth was able to reflect on how the stress of teaching has shaped his relationship to this place because of how the lands/waters and more-the-humans structured his attention differently in the specific context of the walking interview.

Another example of one's attention being structured by the land toward reflection on specific relationships is seen in Marjorie's walking interview. As we told stories about the ways we engaged outside as young people, Marjorie led us down a trail towards a marsh. Rounding the corner, the marsh was revealed and Marjorie was somewhat shocked. Sitting upon a bench, side-by-side, she pointed out that the area must've been cleared of brush recently because of how visible the marsh was. I shared that the marshy scene looked remarkably similar to the Florida swamps I'm familiar with, which sparked a story from Marjorie. She described a marsh close to

her house growing up, where they would trudge through the mud to a broken-down boat her and her friends would play in. Marjorie mentioned that growing up, she felt "not too differently" than how she was experiencing being outside during the walking interview. It felt very "familiar" to her, as we walked through the forest. Being in and with this place sparked a memory for her and allowed her to draw connections between a past relationship with the land and a current one.

Throughout these examples, it is hard to ignore how lands/waters and more-than-humans require us to pay attention to our interconnectedness and nature-culture relations. As the interview with Eli demonstrates, the natural world can quite literally stop you in your tracks. When walking with Eli, we came across a fallen tree limb that blocked our path. Pausing the conversation, I asked if we should go around it or find another path. Eli decided to go forward on this path and to temporarily move the branch off of the path. As he held the branch out of the way for me to pass I said, "Thank you for letting us pass, tree.". The tree momentarily shifted our attention to place. Whether it's a fallen tree limb in your path, geese flying above, or water bubbling beneath your feet, moving in/with lands and waters will structure one's attention to nature-culture relationships. The instances of interaction with nature, highlighted in our walking interviews, exemplify one way in which spending time, learning, and storying with nature can reground us in the "interdependent relationships and responsibilities with the natural world" that are necessary for building sustainable and thriving socioecological futures (Bang, Marin, et al., 2018; as cited in Marin, 2020, p.311). In the next section, I briefly describe how the walking interviews served as a space for emotional engagement.

Named Feelings and Embodiment

Since the overall study was largely focused on understanding environmental educators' emotional experiences with the environment and teaching amidst and about the climate crisis, I

utilized an emotions wheel[6] pre-interview (Image 3) and an embodied emotion mapping tool post-interview to gauge how the educators were feeling before and after walking in conversation. By describing their use of these tools, intended to encourage the naming of one's emotions, I point to walking interviews as a helpful pathway to engaging with the emotions we experience with the environment and with environmental education towards action.

At the beginning of each interview, many of the educators described feeling "anxious", "exhausted", "stressed", and "busy", yet "calm", "grateful", "connected", and "present". They mentioned that they were experiencing mixed and somewhat contradictory emotions, because of the intensity of their graduate courses and teaching at the time and having this opportunity to walk and talk together about issues they care about. The walking interviews gave them space away from a particularly stressful context. As Eli described, "I can't do anything else right now, and I actually, like I really do feel present right now which is nice." He shared that he woke up feeling busy and unmotivated, anxious and overwhelmed by everything he had to get done, but he remembered he was meeting me to walk. He said, "We do get to be outside and we have this scheduled. We get to be here." Participating in the walking interview required him to be "present" with the lands/waters and the conversation.

At the end of the interviews, I asked the educators to use the tool pictured below (Image 4) to map their emotions to their bodies. The emotions tool asks: *What is my body telling me it needs right now?* It encourages the participant to examine how they feel in an embodied way, so that they can act in ways that better support their wellbeing. Several educators mentioned that they like this kind of tool and that it could be helpful to use with young students. Seth shared that sometimes you feel like, "What is going on? I don't know what emotion I'm feeling, but here's

[6] The emotions wheel and embodied emotions mapping tool were created by the artist Abby VanMuijen. Graphic Recording | San Francisco Bay Area (avanmuijen.com)

what's happening to me right now." This tool allowed them to name their emotions more concretely.

The educators described a mix of calmness and activation in their bodies post-interview (e.g. “easier breath”, “wiggly limbs”, “active mind/imagination”, “soft jaw”, “active heart”, “soft hands”). Several expressed needs of gratitude because of the walking experience, and that they wanted to “savor it” and to “share it”. They also felt activated to “write”, to “make something”, to “dance”, to “understand more deeply”, and to advocate for a break. Some expressed needs to connect with others. The space of the walking interview allowed the educators to build on what they were learning from their graduate school experiences so far, to reflect on some of their emotions and needs, and served as somewhat of a therapeutic space and a space for dreaming.

Image 3: Emotions Wheel Example

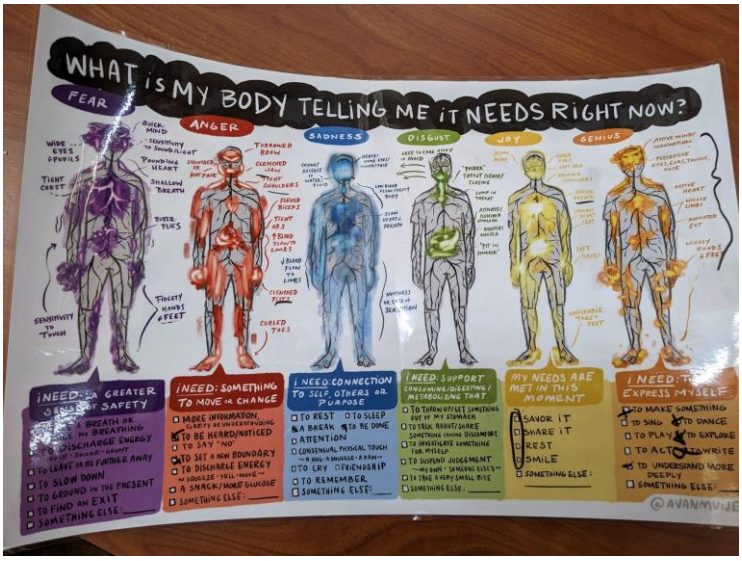


Image 4: Embodied Emotions Mapping Tool Example

Considerations & Limitations

Choosing to design and conduct *walking interviews* began with a personal connection to walking. Like many people did throughout the covid-19 pandemic, I turned to walking as a way to feel grounded and to get out of the house in a relatively safe way. Whether I was walking around the neighborhood, in a city park, walking alone to decompress, or walking and talking with a loved one on the phone, walking felt significant. Because I was living with my partner and friends during the pandemic, I was lucky to be able to walk alongside someone in conversation during this particularly stressful time. This space of reflection and often emotional release became necessary to feel like I wasn't losing my mind or my spirit.

Around this time, I was also processing a lot of my own eco/climate emotions. On my walks with loved ones, I began thinking about how I could utilize this kind of practice in my research, to help others engage with how they were feeling about the climate crisis. This led to the design of the walking interview, which I was able to workshop with my partner and my close

friend. Having each of them take me to a place that they felt connected to or held significance for them, to walk and talk, led to conversations that we wouldn't have otherwise had. To my delight, engaging with each of them in the first iteration of the walking interview led to new understandings of each other, our values, and new ideas for transformation.

To be expected in participatory research, engaging in walking interviews with the educators of this study did not always go as planned. Due to logistical constraints and scheduling challenges, the walking interviews varied from educator to educator. In designing the interviews, I had intended for the participants to choose an outdoor space with significance or meaning to them so that we could walk in conversation in a place they felt comfortable. Because of some unavoidable scheduling constraints, the walking interviews took place in outdoor spaces that happened to be convenient for the participants. Seven out of the ten participants chose to walk on the CH trails they were becoming familiar with, one participant and I met off campus for convenience, while the other two chose to walk off of CH's campus. The choice to walk and talk off campus was intentional for them, because of the political nature of walking and the stories that were to be shared.

As described above, walking, the places in which we choose or choose not to walk, and the act of walking in conversation is political. One's different identities influence how comfortable and safe they feel walking in different locations and environments, as well as how comfortable and safe they feel being perceived walking in these places. The place directly impacts what one might say in an interview. Therefore, allowing the participants to choose where we walked in conversation was important. For some of the interview participants, it made more sense to walk off campus, where they would be perceived less by the folks in their outdoor environmental education workplace. Identity and positionality shaped the design of the walking

interviews through the emotional and mental wellbeing needs, as well as the physical accessibility and wellbeing needs of the participants.

After the first few walks, I realized that I hadn't intentionally designed the interviews with accessibility needs in mind—I was thinking of walking in one particular way and prioritizing one way of physically existing and engaging with the outdoors, rather than providing multiple ways in which we could be in conversation together outside. While the structure of a walking interview was welcomed by many of the interviewees, sitting breaks and taking moments to rest, drink water, or eat a snack were not intentionally integrated into my design. Upon reading more about disability justice in the outdoors and learning much from the educators in this study, I started to shift my approach. In the second half of interviews, I provided snacks to participants, asked them to set the walking pace, and offered them the option of sitting together side-by-side in conversation while observing and engaging with the place around us.

These shifts, while not attending to all accessibility and ability needs, did allow for more agency in the movement we did together. Making space for a variety of movements in this way also aligned more with the ways in which I personally relate to and connect with the lands and waters—it felt less forced and more familial. The walking interviews in which we ended up sitting and chatting, looking out across the water, and sharing food was reminiscent of how I have spent time with my mom and family throughout my life, and is still one of my favorite ways to engage with the natural world today.

As a woman of Color, I thought intentionally about race throughout the design of the walking interviews—how people of Color are perceived walking through the forest or a public park and what it means to be people of Color moving and storytelling with the lands/waters given many of the shared yet different histories of oppression and extraction Black, Indigenous,

Latinx, Asian, and Pacific islander people have experienced in relation to the land. However, as a non-disabled person, I was not intentionally considering disability and physical accessibilities from the start. Through being in conversation and relationship with the graduate students in this study, I have learned a lot about disability justice in the outdoors and have shifted my approaches and language along the way. As I detail in the next two chapters, this included using *cripped methodologies* (Schmidt, 2023; Ware, 2022) when designing activities centered around movement and problematizing *pace* within outdoor environmental learning.

Concluding thoughts

As Marin (2020) states, "If in our role as researchers [and educators] we are to engage in future-making that disrupts systems of colonialism, racism, and human domination over the natural world, then we need diverse ways of seeing the socio-ecological relationships in peoples' lives as they develop in particular places and on particular lands/waters." (p.312). Alongside this stance, I argue that moving with others in conversation with lands/waters and more-than-humans allows for diverse socio-ecological relationships to develop, deepen, and thrive. "Lands/waters and mobility are fundamental parts of human life.", and walking interviews are one methodology from which lands/waters, mobility, and human interaction coalesce to a space of learning and knowledge making with the whole body and the earth (p.311). Embracing a diversity of movements in this practice not only encourages comfort with(in) the outdoors, it supports a "multiplicity of histories" and ways of being in relationship with lands/waters and more-than-humans, that are necessary as our society continues to grapple with pressing socio-ecological issues such as climate change. These conditions of diverse ways of knowing, nature-culture relations, and interdependence can support the imagining and enacting of sustainable and thriving lifeways.

Narrative Interlude: How walking in conversation made me feel

Practicing my walking interview method with friends and loved ones was an opportunity to reflect on my own experiences as an environmental educator. Walking in conversation with one friend in particular confirmed many of my hesitations and frustrations with the field and led to a lot of beautiful co-dreaming. As two People of Color in environmental education I knew we had shared experiences and stories before walking together. However, walking allowed us to dive deeper and to be more intentional with our conversations about navigating Whiteness in EE, connecting with our cultural environmental histories and ancestral practices, creating the environmental education spaces that we are dreaming of, and wanting to have children during a climate crisis. Being close friends and colleagues, we had many conversations about these topics before, but this time, walking in a park together that holds meaning for Rae, felt different. It felt important.

As we journeyed through a forest-covered ravine, pointing out native plants and sharing stories, I learned more about their environmental journey, from childhood wanderings outside with friends, to connecting with their mom as an adult through gardening and herbalism, to dreaming of a future with collective parenting and revitalizing ancestral practices. I felt nourished by the conversation and the time we decided to spend with each other, the land, and plant relatives. I felt comforted knowing that there were other people with unique, yet similar experiences as my own. I felt invigorated by and relieved that we are dreaming and fighting for similar, sustainable and just futures. I felt held by the place that physically encompassed us and now holds these memories and knowledge. Walking conversations are about feeling, both physically and emotionally.

After walking in conversation with my research collaborators, I felt seen, frustrated, and hopeful—seen or validated in the fact that environmental education and outdoor spaces aren't always welcoming to people of all races, ethnicities, genders, sexual orientations, abilities, religions, and classes; frustrated that these issues are still prevalent; hopeful that many people believe in and are working towards radical change.

Chapter 4: Moving together in conversation: Unpacking emotional stories of environmental education towards justice and healing with nature

Introduction

In conversation with environmental educators, who are actively learning and building upon their knowledge and experiences in the field, I work to address the following research question in this chapter: *How do environmental educators' identities, histories, and emotions impact their understandings, participation, and teaching toward environmental and climate justice?* I focus on how sharing stories about their relationships with nature, lands, waters, and more-than-humans, stories about their experiences teaching outside, and stories about being part of environmental education led to important tensions, learning through contradiction, and opportunities for reimagination.

As described in the previous chapter, I engaged in one-on-one interviews with ten EE graduate students. We walked in conversation in an outdoor space of their choosing (Marin & Bang, 2018; Riley & Holton, 2016), and instead of speaking face-to-face in a more traditional style of interviewing, we walked and sat side-by-side in conversation. This interview methodology allowed both myself and the educators to interact with the natural environment, creating an emergent and participatory space of teaching and learning (Carpiano, 2009; Kinney, 2017; Lenette & Gardner, 2021). Providing a participatory interview space was important for establishing physical, mental, and emotional comfort, so that we could build theory together (Marin & Bang, 2018), with each other and the place. The space we co-created allowed the educators to reflect on their identities within EE and the community they need and want as they fight for environmental and climate justice. The walking interviews were designed to be an

extension of the reflective work already taking place in their program and in EE programs generally.

The graduate program at CH is a justice-oriented learning environment, in which educators are regularly asked to examine their relationships to systems of oppression (e.g. settler colonialism, white supremacy, heteropatriarchy, ableism etc.) and work with and design for the culturally rich communities and personal experiences their students bring with them. Importantly, learning environments like this, that seek to transform how educators understand and are in relationship with the world, build in space for reflection and mediated praxis[7]. This process is important so that learning communities can "lift off the ground to see teaching and learning from a different vantage point" (Gutiérrez & Vossoughi, 2010, p.112). In the process of taking up new ways of thinking, educators uncover new possibilities while grappling with emotions and tensions that arise.

Throughout their stories, the educators referenced the school programming[8], or practicum, at CH. As part of their graduate studies, they participate in a teaching practicum which involves teaching in the outdoor environmental education school program.[9] This typically consists of leading a group of 3rd-5th graduate students in outdoor environmental and science learning during their teaching weeks, and reflecting on their field experiences and planning future lessons during their reflection weeks. During their first year of the program, they teach and take classes as full-time graduate students.

[7] Mediated praxis- learning in close relationship with making change
[8] I will use the terms "school programming" and "practicum" interchangeably to refer to the EE programming CH runs for schools.
[9] The graduate students do not get financially compensated for their teaching during their practicum.

Overview of Findings

Engaging in conversations with educators about how they feel, while walking trails and sitting outside together, allowed them to express their needs for more relationality and space for healing throughout their teaching and learning journeys (Elliott-Groves, 2019; McMain & Strong, 2021). Environmental education is often a space for building and strengthening nature-culture relations, and the outdoors is a space that many people seek out for healing. However, tensions emerge as educators interrogate the terms of healing in outdoor environmental learning spaces. Environmental educators, especially educators of Color and those with disabilities, need spaces in community to not only critically reflect, but to heal and dream, so that they can more authentically do the same with their students. These spaces of potential relationality and healing (Ware, 2020) are necessary during times of socioecological change, when living, learning, and teaching is highly emotional (Bang, 2020; Vea, 2020).

To understand how the environmental educators were able to use emotion as a sense-making tool in our walking conversations, I ask the following question: How did making space for emotions allow for *critical perspective taking* and *learning through contradiction*? I start with sharing their emergent stories of tension to reveal areas of needed change and possibilities for transformation (Engeström, 2001). Grappling with these tensions was a process of interrogating how their emotions exist in relation to power dynamics, norms, and histories of injustice within EE (see figure 1). Through this kind of engagement with emotions, facilitated by walking in conversation, many of the educators were able to enter into different kinds of relationships with their emotions. What made these new relationships possible was learning through contradiction.

The first finding explores notions of community and belonging that the educators have experienced in outdoor EE spaces. Across the ten walking interviews, educators' stories of community and belonging differed based on identities and related life experiences. In particular, the emotions and tensions that emerged were pronounced for two educators who each identify as an educator of Color and/or an educator with disabilities. They talked about the ongoing tensions they had encountered with the outdoor EE community broadly, that often manifest in day-to-day experiences with racism and ableism. Some of those who identified as white and/or non-disabled did not mention these kinds of tensions and mostly discussed their awareness of their positionalities in their work and responsibilities and privileges as educators in the EE community. In some cases, they talked about how they took a stance and fought in solidarity with their peers who experience harm, and others pointed out different tensions with the structure of outdoor EE programming that can lead educators to burn out. With this initial finding, I focused my analysis on attending to how all ten educators were talking about or not talking about racism and ableism in our conversations about emotions.

Secondly, finding community and a sense of belonging was more complex and at times challenging for the environmental educators of Color and educators with disabilities. Often, there was a direct connection between physical, mental, and emotional wellbeing and feelings of belonging or community (Elliott Groves, 2019). With this second finding, I lift up Rio and S's theory-building about community, belonging, and wellbeing in outdoor EE to explore how these themes showed up for the remaining eight educators. The stories that follow illuminate how the ten environmental educators dove into what their emotions were telling them toward different relationships with their emotions of belonging.

Lastly, inspired by the ways that Rio and S each discussed the ways they have approached the tensions they have with outdoor EE, given the multiple truths they hold, I wrap up the discussion of community and belonging with specific moments of learning through contradiction (Engeström, 2001). Importantly, learning through contradiction was partly an acceptance of where the field of EE is at currently, in terms of racial and disability justice, and a commitment to continue this justice-centered work whether it is inside or outside EE. By looking at how the educators' emotional experiences expose institutional contradictions, we begin to see how emotions are used as sense-making tools for transformation. Emotions they experienced while immersed in an outdoor EE space led to new ways of approaching environmental justice and intersectional EE.

Feelings of Belonging & Learning through Contradiction in EE

Giving these educators time and space to process and engage with their emotions gave rise to some much needed areas of growth for the field of environmental education. As Eli described, it is easy to get caught up in the "day-to-day schedule of teaching and [graduate school] classes", and to put racial and disability justice efforts on pause, particularly when you yourself are not directly confronted with the effects of white supremacy and ableism in your daily life. As a predominantly white cohort, Eli recalled there being a lot of conversations in the beginning of the year, between graduate students and faculty, about making their time at CH a "liberatory experience". As time went on, some graduate students often found that they didn't have the capacity to advocate for racial and disability justice efforts on campus due to the hectic and busy schedule of a CH graduate student. At the same time, many graduate students found that the community of their cohort was an integral part of a liberatory learning experience.

Ash, an educator of Color, expressed gratitude for the graduate community at CH. She described that, "it's really draining having to advocate for yourself" at times, and when she no longer had energy to advocate for herself, she saw a lot of her white peers "step in" and actually advocate for her and the other students of Color (Gorski & Erakat, 2019). Within communities, there is a fundamental human desire to feel belonging and support (Allen, et al., 2021). "Most people have a deep need to feel a sense of belonging, characterized as a positive but often fluid and ephemeral connection with other people, places, and/or experiences" (p.88). Even though the graduate cohort does not share the same racial and ethnic background as Ash, she has experienced a sense of belonging. When Ash felt mentally and emotionally drained, her white peers supported her, recognizing that Ash is an integral part of their community (Allen et al., 2021). Ash was able to lean on her community and safely express her emotions even though her peers weren't experiencing those same emotions (Hoffman, 2009; McMain & Strong, 2021). This speaks to the solidarity[10] that is possible within a thoughtfully crafted community of graduate students—something the CH program does exceptionally well.

Although she generally feels safe in the graduate student cohort and feels that she can be open with her identities and cultural experiences, this has not always been the case while teaching in the school program. Ash shared,

> I kind of have to pick and choose which group I talk to about my background, which I know is a privilege in itself, that I can fly under the radar if I need to as sort of a safety mechanism. [...] It's also been very clear to me that the groups of students who I choose to share parts of me with are students in schools that are a lot more diverse or a group of students I'm working with are mostly students of color.

For Ash, feelings of safety and belonging were not always possible in EE due to a lack of racial diversity represented in the student groups coming to CH—a reflection of where the larger field

[10] Solidarity- a political practice of recognizing how oppressive systems impact people in different ways and acting in ways that support the collective liberation of all people (Collins & Bilge, 2020).

of environmental education is at. When Ash discussed needing to “pick and choose” when to tell someone about her racial identity or other aspects of her background, this was a safety precaution. However, Ash noted that this precaution was a privilege of being lighter skinned—she could “fly under the radar” when feeling unsafe about racial dynamics in a learning setting. While her graduate student cohort also lacked racial diversity, feelings of belonging were possible for Ash because of the solidarity her colleagues have shown her.

As educators of Color and/or those with disabilities, Rio and S experienced specific challenges in findinging community and belonging. Rio described, "My inability to make community in our [CH] cohort has forced me into a space where I have to rely on the environment around me for support.". Within their different identities, they have not been able to connect with others in this majority white space in ways that they would have liked and benefited from. They recalled sometimes feeling mad because of how they had to “rely on this space [the natural world] to be able to feel joy or get a sense of calm to be able to continue”. Being an outdoor environmental educator, S has been confronted with the decision to prioritize and protect her health and disability needs or to push beyond her physical limits to participate as the majority does. Often having to choose the former, S has felt somewhat distant from the community in different ways.

For S, feeling community and belonging in outdoor EE was challenged when teaching in the school program, but at the same time she felt a strong sense of community and support from her graduate student cohort of environmental educators. She said,

> The cohort is the reason I stayed in the CH program, even though I had so many other difficulties with it [the program]. They are why I stayed. There are so many dimensions to this; socially and emotionally having people who are going through a similar thing to you […]This cohort means everything to me. We weren't all on the same page when we came [to CH], especially when it came to things like disability [...] It took some work [...] but I am so grateful to have been part of a community that works through that.

S made a distinction between her feelings and tensions with the practicum part of the CH graduate program, in which she taught within the school program, and her feelings and tensions with the graduate classes and cohort. S expressed a lot of gratitude for the graduate cohort and how they "worked really hard to model" disability justice behavior and collective care, especially around covid-19 precautions. Considering S is "a higher risk disabled person in the pandemic", this behavior from a majority non-disabled group meant a lot. S described feeling seen as a whole person because of the cohort's efforts.

Ash, Rio and S' challenging experiences with community and belonging in outdoor EE, forefronts a few questions about the purpose of this kind of environmental education. Who is this kind of environmental education for? How are young people and educators, of all racial and ethnic backgrounds and abilities, supported in feeling like they belong in outdoor spaces? What does it mean to actually make outdoor learning spaces like CH accessible and welcoming to all people? Many of the questions surfaced by Ash, Rio, and S as they described their feelings about being environmental educators highlight how constructs of *nature, land, and environment* are built on unnecessary binaries and assumptions of place and belonging based on race and ability (Miller, 2018; Schmidt, 2023). These questions emphasize how intersectional approaches are really necessary to make EE a welcoming place of learning for more than just White, affluent, and non-disabled people (Thomas, 2022).

In a different way, Theo, a white educator, expressed a lot of gratitude for the community he has had at CH. He said,

> I have a lot of feelings about community and a lot of that is what made me want to be here, but I think that it is like the heart of what makes anything worth doing. [...] I have a lot of gratitude to get to be in a community like this and to just see what other people are capable of—the inspirations on one hand and then the accountability of like, if they're trying this hard, I can try that hard.

Having this community of graduate students and faculty has been an important part of being part of the environmental and climate justice movement for Theo. As Theo shared his feelings about community and accountability, he recognized his privileges as a member of this learning community. Although he did not specify the work he wants and needs to do in this community as a white, non-disabled educator, other white educators more directly discussed belonging in EE environments, which I will discuss in the next finding.

Policing & Belonging in EE: " The police get to come here and the mission of policing is to keep people out of nature, among other things."

According to Miller's (2018) application of Critical Race Theory (CRT) within an EE context , "permanence of racism" or the assertion that "we do not live in a post-racial society, and that racism persists through systems, structures, and individuals" (p.848) makes possible contradictions between what the graduate students were learning in their graduate courses, what they were experiencing with the school programming and the broader CH institution, and the current political moment for racial justice through abolition. The educators of this study point toward a contradiction in some of the organization's actions that supported local police being on campus. CH providing a justice-oriented graduate program as part of their EE organization is in conflict with them choosing to support the institution of policing. The structural and systemic nature of racism facilitates this kind of refusal to see or ambivalence toward the connections between policing, education, and land. Situating EE programs in places deemed to be "nature" by dominant society and relying on the places to be the drivers of equitable learning and pedagogy "without a critical examination of racial discourse and structures in those places" will not lead to equity, justice, community, and belonging with(in) nature (p.856).

Below, I share Eli's story about how the graduate students came together and protested CH hosting the police department on campus that year. From his story, we learn about how he and his fellow graduate students felt in terms of safety and belonging when CH welcomed the local police on campus for an event. While this event was unrelated to the graduate program and school programming, the graduate students expressed concerns for the safety of their community and identified contradictions in the way the actions of the organization were and were not aligning with racial justice. As a white, non-disabled person, Eli talked about acting in solidarity with his fellow graduate students to both advocate for their wellbeing and to push the larger institution of CH to better align with the justice-centered practices that they want the field of EE to value and embrace.

When Eli shared this story and was processing some of his feelings about the institutional problems within environmentalism and EE, he said,

> We live on this private campus that kids get to come to, but they don't necessarily get to bring their families back to, and so much of this [town and surrounding area] is privately owned and very suburban, and I think the people here think, or at least [one individual] does, that the police department is different and deserves exceptionalism from policing as a whole. So you know the police get to come here and like the mission of policing is to keep people out of nature, among other things.

Here, Eli is working with his feelings of frustration and skepticism about who belongs in this space of learning. By highlighting the fact that this place-based, outdoor EE organization exists on privately owned land and that those that hold a lot of power in the organization do not view policing as an institution of oppression and white supremacy in every context, Eli is recognizing contradiction in the organizations' actions. Knowing that the programming at CH aims to be justice-centered, this is frustrating to him. In engaging with his feelings of frustration, he is revealing how the broader field of EE upholds racial injustice and inaccessibility, contributing to who feels safe, welcomed, and belonging.

As he sat with and talked through these emotions, he problematized how CH is advocating for the thriving of both the people and the planet. He explicitly made connections between EE, racial justice, and policing as part of supporting justice-oriented education and intersectional environmentalism. In the above quote, Eli described policing as an unjust institution that supports keeping people, especially people of Color, contained and away from nature. If EE is fundamentally about supporting all people's healthy connections to land, we cannot constrain or restrict how people do that, nor should we support institutions (e.g. policing) that uphold these unjust values.

Eli also shared that there were people in the graduate student community who had personally been affected by police violence prior to coming to CH. Therefore, hosting the police department where graduate students live, work, and learn is detrimental to his peers' sense of safety and wellbeing. Because of this, many members of the cohort wanted to do something in support of their peers. Ash described that one of the big things they were worried about was the police wandering onto the part of campus where graduate students lived, which was a pretty common occurrence when CH hosted any kind of weekend events. She said, "what we were worried about was walking out of our cabins or the lodge […] like our safe space, and literally running into a police officer there." Importantly, Ash and another educator Seth described that the CH campus was their home during the time the police were hosted there, and that they were often told that they should treat it as such. CH staff often described the graduate program as a place for "living and learning in community", so since the graduate students are residents there and part of the community, they should at least be aware of who is brought onto campus and perhaps have a voice in decision making.

Unfortunately, since the graduate students found out about CH hosting the police department only one month prior to the event, they had limited time to act. Some of them felt very compelled to get the event canceled, but realized that this was unlikely due to the timeline. They decided to write a letter and email it to all staff instead, with a plan to also meet with a CH leader to talk about action steps. In Eli's words, the leader agreed to the meeting and described the issue at hand in the following way,

> If I agree that the police [in this area] are a white supremacist organization, then I cannot justify hosting them because it goes against our mission, but I don't agree, because policing as a whole can be bad, but not every police officer is a white supremacist and that's what you all are saying.

The graduate students soon realized that there was a fundamental disagreement in how they understood the institutions of policing and white supremacy and how they intersect with environmental justice, land, and education. Not recognizing how these issues are interconnected goes against the anti-racist values that CH hopes to support, and the social justice initiatives many environmental organizations have been taking up during the recent increase in racial justice uprisings.

As Eli described, graduate students were not able to get the event canceled, but they strongly advocated for a better system in which the graduate students could have more of a say in deciding who CH hosts on campus. This is of particular concern to the graduate students because many graduate students live on campus and often work CH events as a source of income during graduate school. Eli described that while they pushed for this, ultimately no change was made, which made a lot of graduate students feel hopeless. Eli expressed that it feels bad when this happens,

> especially when you have hope in a place like this […] I've heard a lot of people say since then [the conflict about policing], 'I don't care about [CH] anymore'. […] If you

> can't get people at a justice-oriented education institution to recognize that police are anti-justice then…

Even though CH has this high-value, justice-centered graduate program, being nested within an EE institution that continues to ignore some of the broader fields' historical ties to white supremacy and policing led to tensions in how the graduate students were learning to be environmental educators and how they want to associate with the professional community of outdoor EE. As I will describe in more detail later, these tensions are important contradictions within the activity system that are significant to structural change within EE (Engeström, 2001).

Additionally, Eli talked about this kind of protesting as somewhat of a strategic move and a leverage point that graduate students have as environmental educators who teach at CH and leave only after ten months. He described that the permanent environmental education staff, who were not in the graduate program, tended to agree with what the graduate students pushed back on and how the norms of EE should shift and transform, but they don't necessarily have the power to do this kind of problematizing and protesting due to the fact that they are permanent CH staff and part of the community for longer periods of time. Eli said, "There is power in brevity. [...] They're not going to do much to us, so we can say things sometimes. If they did anything to us, they wouldn't have [the school programming]"[11]. Eli is recognizing the privileges and power he holds in ability to take risks as a graduate student in the CH community.

The ways in which the graduate students' expressed emotions of frustration, skepticism, and disappointment during our walking conversations demonstrated a process of engaging with feelings of belonging and how those feelings exist in relation to the social norms, power dynamics, and histories of injustice within EE. The walking conversations served as a pathway to

[11] The graduate students make up the majority of the environmental educators who teach in the school programming. There are only a few environmental educators who are permanent staff and not graduate students.

problematizing how belonging has existed for them in the context of EE, and supported action towards an otherwise in which relationships with feelings of belonging can be different.

The stories in this section are just a few examples of what community, belonging, and solidarity were like for graduate students in their first year at CH. In the next section, I share the stories of Rio and S, two graduate students in conversation together, as they dive into the emotions they have each experienced as part of the CH community. I focus on how they each processed their mental, emotional, and physical capacities as outdoor environmental educators of Color and/or educators with disabilities, the expectations unintentionally put upon them, and some of the structural tensions they came across. Using Rio & S's theory-building and frameworks, I weave in similar stories from the other graduate students that illuminate how mental, emotional, and physical wellbeing can be neglected in the practice of outdoor environmental education.

The Mental, Emotional, & Physical Toll Outdoor EE has on Educators

Extending the conversation of finding community and belonging in outdoor EE, I share educators' stories that push the field to more thoughtfully consider the mental, emotional, and physical toll outdoor EE, as it often exists today, has on educators. The educators highlight how lacking community they can identify with racially, ethnically, and in terms of disability, as well as lacking consistent environmental cues that they belong (Healey & Stroman, 2021) in the context of EE can add to the mental, emotional, and physical toll. As Ash, Rio, and S's stories demonstrate, this is especially challenging for educators of Color and/or those with disabilities. In this section, I start by sharing the ways Rio and S problematized outdoor EE practices and push the work of racial and disability justice forward in this field. I end with the practices and

theories educators shared through story and how they hope to make more space for healing in connection to lands/waters and more-than-humans in the context of EE.

Able-bodied expectations in EE: "I tried to be what they wanted, but it just made me feel way more alienated from nature."

According to Schmidt (2023), "compulsory able-bodiedness/mindness" and the assumption that being in and connecting with nature requires a nondisabled body are often philosophically, conceptually, and pedagogically foundational to environmental education (p.252). Outdoor environmental education has historically centered place-based, embodied pedagogies and frameworks such as "walking through forests, wading through streams, gazing upon meadows, or hearing the songs of birds.", that situate nature as "out there" contributing to a nature-culture divide. Working from a narrative that says connection to nature requires the ability to hear, see, and walk in particular ways also positions disability as a problem, deficiency, and the root cause of disconnection from nature (Schmidt, 2023). Additionally, metaphors like being "blind" or "deaf" to the natural world or nature deficit disorder (Louv, 2008) are commonly used to describe the cause for disconnection and to distract us from the real culprit. This ableist discourse is fundamentally a product of Western colonial ways of thinking that create "hierarchical binaries of abnormal/normal and natural/unnatural." (Schmidt, 2023, p.260).

These themes came up in our conversation. Generally, S felt tensions in navigating the endings of her CH program while advocating for her wellbeing and battling oppressive health care systems. She felt particularly vulnerable having to make a decision about whether or not to join her fellow graduate students in their labor protest because of the ways she had to negotiate her health throughout her teaching experience thus far. S described,

> I feel myself in a really interesting position when it comes to this issue because like I have not been teaching for awhile because of my health situation and a battle I'm in with

> insurance right now, that puts me in a vulnerable position, and so I had to make the decision to like not even go anywhere near risking…not having the privilege to like risk health…I [also] risk the relationships I have with people [at CH] and like my standing in the program, like and have to make the decision between those two, where it feels, like you know they're not giving me crap or anything and they've been like generally very supportive, but like of course it causes tension.

S expressed that in her daily experiences as an outdoor environmental educator, she risks her health as someone with a disability. To think about making a decision about whether or not to teach in protest, adds another layer of risk especially when she considered her "standing" in the program and how this level of vulnerability could impact her relationships at CH. This is a tension she experienced because of how her health and wellbeing are not always supported in the context of outdoor EE. This led to theorizing about what "risking bodies in the wild" (Jacquette Ray, 2009) has looked like for her in this outdoor EE space.

S talked about how Sarah Jacquette Ray (2009) pushes on the norm that being an environmentalist or someone who enjoys the outdoors requires dangerous activities and risking the health of one's body. S shared, "So many environmental activities are predicated on the danger and risk of disability. It's almost like a privilege to be able to navigate those spaces." For example, she described that when she has a health flare up she has to decide between prioritizing her health needs or "performing a certain level of able-bodiedness to be in nature in the ways that we are expected to be, and not in the ways that I've learned that make sense for me and how I would be teaching." Prioritizing health looks different for everyone and S has learned that risking her body and health in certain prescribed ways outdoors (e.g. hiking or being on your feet outside, all day) is not always possible—it's a privilege to do so.

After hearing a story from Rio about saying goodbye to the lands and waters that had sustained them throughout the program and grieving those relationships, S expressed that she felt somewhat sad. She wasn't able to have that level of connection or familiarity with the lands and

waters of CH, because the ways in which she relates to nature weren't always possible or supported while in the program. She said,

> I don't feel like I have that connection because I just felt like that place has imbued me a little bit with like, this isn't for you. Versus when I'm with my partner at a local park, I feel way more connected to nature there because that's a place where like I can be there and my way of being in nature and moving isn't monitored or assessed for whether it's the right way or not, and I can more freely connect with nature.

When S stated that she felt a sense of "this [place] isn't for you", this signified a feeling of not belonging. She felt that this place of environmental education was not for her because she couldn't "freely connect with nature" in the ways she can and wants to on her own and with her students. There isn't a "right way" to be in nature and anyone should be able to find belonging with the natural world. For S, feeling like she belongs in nature requires that her movement not be "monitored or assessed".

She had tried to operate from the problematic narrative that EE often perpetuates by requiring a certain kind of physical ability to be in nature, but doing this started to push her away from nature. S said,

> I think for a long time I tried to be what they wanted, but it just made me feel way more alienated from nature […] And I know that's not like intentional on anyone's part at CH, but it's had an impact on me. So I'm also trying to protect that within myself, because with disability and the process of acceptance and identity formation for me, nature has been a huge part of that, of being *the* place where I can be accepted as I am, without having moral judgment assigned to me or my body and what it can't do. So nature has been huge to me, and being able to protect that is really important to me as well, and has been complicated for me at CH for sure."

Like many people, S's existing relationship with nature is tied to her identities, and plays an important role in her survival and thriving. Nature has been "*the* place" of full acceptance that S can rely on as she accepts and forms her disability identity. S referenced "having moral judgment assigned to me or my body and what it can't do" as a reality of living with a disability, and described that being with nature provides relief from that pressure to exist and perform within

the narrow confines of what dominant society perceives as normal. Nature does not judge how she exists and what her body can and can't do. This comparison between being in nature as a "process of acceptance" when experienced on her own and being in nature on the CH campus as a place of "moral judgment" is a powerful statement of contradiction in the ways S understands and experiences connection to nature and how embodied learning engagements in EE often prescribe "compulsory able-bodiedness/mindness" in the outdoors (Schmidt, 2023, p. 252).

Being able to protect her relationship with nature is essential to S's identities, daily life, and wellbeing and becomes complicated in outdoor environmental education spaces. How environmental educators define, put boundaries around, and mediate relationships with nature impacts sense of belonging. For example, the expectation that being an outdoor environmental educator requires standing and walking for several hours at a time across terrain that isn't often accessible to all bodies and kinds of movement, in order to facilitate learning engagements that are meant to inspire connections to nature, restricts who is deemed welcome and what kind of relationships with nature are acceptable and possible. Operating from these narrow understandings of embodied and monitored connections to nature can turn people away from the broader movement of environmentalism.

Intersections of Whiteness & Ableism in EE: "I'm feeling that white supremacy pressure of like you can try a little harder to be perfect actually."

Rio shared that finding community among the lands and waters was necessary for them and one of the main reasons they decided to join the CH program. As they continue to heal some past traumas, they had to keep reminding themself that choosing to come to CH had much to do with knowing that "there was healing in this space", but accessing that space of healing was often challenging. Their relationship with the lands, waters, and animals of CH felt "bittersweet".

They relied on this place for healing and community out of necessity. However, the context of living on the isolated campus of CH, sometimes limited how they spent their time with the land and waters.

"It [the somewhat secluded, forested campus of CH] felt like this was the only place" where Rio could connect to the land, while living, working and studying there in a somewhat isolated location without access to a car—a consequence of framing nature and land as existing "out there" (Shmidt, 2023). They also described being consistently confronted by the history of the place, which impacted how they engaged with the land generally and for healing purposes. They said,

> And also I think like the history of it […] like I know that this is Indigenous land. I know the Indigenous people, specifically the Coast Salish folks who this land belonged to, they're not stewarding this current land [where CH exists]...There was like this holding of conflict of the daily reminder that I was uninvited here. And my own connection to Indigeneity with land and how that kind of repeats in other spaces [...] Knowing of the exclusion of Indigenous folks, and how that spoke to that full history. It's gonna be hard, just running, taking a morning hike, in this land. Like it's an emotional experience for me every time. It may be different emotionally every time but it's emotional nonetheless.

Rio was recognizing that simply being on this land is emotional and was disentangling their emotions related to being on the stolen Indigenous land that this EE institution exists on today. They reflected on how they consistently reckon with being uninvited on these lands and what this means for them as a descendant of Indigenous communities, who is themself healing with the lands and waters.

> Yeah. And it was good, right? Like don't get me wrong, right? The heaviness is not a bad thing. It was a confrontation of just a lot of the grief that I was holding with my identities, which was confronted in different ways before [coming to CH and before] I came through a few traumatic experiences. So it was more like wow, healing requires that confrontation of the grief and of the anger and the rage that I felt on this land, in the space. That violence could be done to me on land [...] And so it was like wow, I'm in relationship in this space and it's not easy. And part of me expected it to just kind of be a nice warm hug all the time. And it wasn't. [There was] rain, it [was] cold, sometimes rainy and cold, [and] dark.

They clarified that this "confrontation" was a good thing and an important part of healing for them. Rio shared that experiencing the heaviness of being confronted by the impacts of settler colonialism while on the land has allowed them to heal *with* grief, anger, and rage, rather than avoiding those feelings. Being with the specific lands and waters of CH seemed to bring some needed clarity to Rio's relationship with the land, as someone with Indigenous ancestral roots. The relationship they were hoping to nurture and deepen by going to CH led to new unexpected healing. While this was a potential tension, making room for their grief, anger, and rage opened them up to a new relationship with lands and waters (Ahmed, 2015). It is a relationship that is complex and has space for contradictions, like "a nice warm hug" AND a cold, dark, rainy day.

Sustaining their relationship with lands and waters was complicated for Rio because they also risk their body and health being outside in the ways outdoor EE often demands. They shared,

> I feel like I have a lot more risk to be able to put my body out there, and yet there's also like this tempting of fate that I feel like I'm doing. Like, oooo I don't know how far I will need to go before it hurts my nerves or like I actually can't use my hands in class to type, for example, because I've been carrying lunch crates. Even just like the backpack and how much negotiating I've had to do of like well, then if I do this, then I have to sacrifice some things on the weekends. And sometimes the very little community I have with environment is sacrificed because then after a week of [teaching], I can't get out of bed. I'm in so much pain.

Although Rio found community amongst the lands and waters, the physical expectations of being an outdoor environmental educator often inhibited their access and ability to be in community with the environment in the ways they needed to. Rio sometimes found themself leaning into this pressure to be a particular way in this outdoor environmental education context, but that often came at the cost of experiencing physical pain. They described this pressure as an expectation the broader social institution of outdoor EE puts on educators to almost be fearless and to push

beyond one's physical, emotional, and mental limits in order to be fully accepted as an educator in this context (Jacquette Ray, 2009).

This pressure is at odds with finding healing with(in) the natural world. Rio also talked about risking their body as they continued to work with and heal some of their mental and emotional traumas. This is evident in the story they shared about their complex relationship with the environment. They said,

> This week, there was a point where I took the wrong trail with the kids because I went [down to the water]. I never go [down to the water], but I felt pressured to make this a perfect week because it's supposed to be my last week [teaching]. And then I took a different trail and it was the straight-up trail, like the switch-back trail that shoots up, and it was rough…I didn't plan to do this. Asking the kids for support, radioing for support.

In this experience, they described feeling cool and collected on the outside, while feeling fully panicked on the inside, and "betrayed by their mind" and the lands and waters. They said, "Come on lands and waters. Why have you let me down? We've been together all this time." Rio pointed to their relationship with the lands and waters as a reliable part of their mental, emotional, and physical healing process and something they expected to nurture upon joining the graduate program. However, they also acknowledged that this expectation was not fully met because of how often they felt pressured to risk their body in an effort to be a "perfect" outdoor environmental educator (e.g. one that knows all of the trails and can fearlessly lead students up and down rough terrain) (Miller, 2018; Schmidt, 2023).

As Rio described, this pressure is rooted in Whiteness and Colonialism—being one of very few people of Color and very few people with disabilities in this space contributed to feelings of exclusion as well as their reliance on a "grit narrative" and a false sense of meritocracy to perform as their colleagues do (Miller, 2018, p.849). They said,

> And I think that's [her experience panicking while leading a group of students in the woods] what contributes to that feeling of mixed emotions, where like I was feeling good,

> and then being really appreciative of having at least something of a community this year and then also being like, uhhhh [audible big sigh], like this healing, while having these health issues is like a continuous thing. There's not like this, I've reached a certain point and now I'm good, and now I can participate to full capacity in society, or like I've told people things and then people can support. I have to constantly remind myself that I'm not in the same body even though it looks like I am to other people. And that's sometimes because I'm around so many people who don't have [the same] issues, that I forget to check in with myself. And I'm like, they're doing it, I can do it, then I'm feeling that white supremacy pressure of like you can try a little harder to be perfect actually."

As they engaged with their emotions, Rio named an institutionalized problem within outdoor EE. Grit and exceptionalism narratives for people of Color and people with disabilities in the outdoors place the burden of figuring out how to be fully accepted into the community onto the individual and detracts from the unjust structures in place that seem "unmovable" at times (Miller, 2018, p.849). The feelings Rio expressed, while caused unintentionally, are perhaps in part due to the institution of outdoor environmental education's histories of exclusion and the ways that manifests in the culture of CH and the graduate student cohort.

Rio frequently talked about their mental, emotional, and physical health in relation to community (e.g. lack of belonging or community with their cohort and a dependence on the community they were able to find with the lands and waters). They expressed feeling really appreciative of the limited community they were able to find and nurture during their first year of the program, however they contemplated how needing to protect their safety and wellbeing often resulted in feelings of loneliness and pain. Rio said,

> In many ways, it's [the complicated experiences they had with community and belonging outside] not just here and now, but I think it speaks to the Whiteness of public spaces in the U.S. The reminder of that, like not having that safety, and then talking about safety, it's not just about physical harm, that like someone is choosing to hurt me, it's also about exclusion and feeling socially excluded. That has a physical impact on me […] I read a text that affirmed that for me. That like often students of Color who feel physical exclusion from classmates, experience that in their body as pain. Like it's not that it might as well be pain, it is physical pain.To feel lonely. To feel misunderstood. To not feel connected, physically to a human.

Lacking this kind of human connection was an experience of both emotional and physical pain for Rio. It made them question their place in this institution and their connection to the land, "What am I expecting from this land and waters? To substitute the lack of human connection or am I expecting it to heal me?". Not fully feeling belonging and community amongst the people that care so much about sustaining nature (i.e. the environmental education community), while cultivating a relationship with the lands and waters true to their identities was an emotional learning experience.

They were reminded that they are still healing from traumas related to the outdoors and that their lack of community at that time and place was part of what made them forget. Rio highlighted how the lack of community they experienced sometimes contributed to those feelings of needing to be perfect or exceptional, as a disabled, multiethnic, person of Color in environmental education, even when their mind and body disagreed. People of Color and people with disabilities are "asked to rely on their own grit [and resilience] too often", in order to overcome adversity and fit within dominant, oppressive structures (Miller, 2018, p.854; Schmidt, 2023). Rio described that their "journey through liberation is also through nature", recognizing that they are both being healed in their relationship with nature and at the same time, experiencing so much vulnerability with nature (e.g. "pushing [themself] to hike on trails [they] had no business doing just yet." and being confronted by the grief that the lands and waters hold). Starting to untangle these mixed emotions of appreciation, "feeling good", pressure to be perfect, loneliness, panic, anger, and feeling "betrayed" led them to new understandings about their relationship with nature and their mental, emotional, and physical limits teaching outdoors.

Both Rio and S shared complex emotions and stories about risking their bodies as they navigated the often normative narratives and practices of outdoor environmental education.

While risking their bodies outside often felt required to be "successful" in this EE context, they each rely on nature, as they personally relate to the land, to be healthy (Elliott-Groves, 2019). Supporting healthy connections to nature, like Rio and S's, requires cripping environmental education (Schmidt, 2023; Ware, 2020). Cripping environmental education is both refusing disability and ecological justice as in opposition, and envisioning and cultivating eco-futures in which people with disabilities are essential.

"Whether intentional or not, compulsory able-bodiedness/mindedness has been foundational to environmental education in the ways that the field conceives of access and connection to nature, and who is envisioned as part of the creation of a more sustainable and ecologically just world." (Schmidt, 2023, p.263). Cripping, as "a politic and approach to conceptualizing disability that troubles notions of compulsory able-bodiedness" highlights how everyday practices and beliefs are predicated on ableism. (p.255). Cripping pushes back against normative practices aimed at assimilating disability into nondisabled structures, while also "acknowledging, affirming, and centering disabled and mad experiences and ways of knowing" (p.257) as valuable and desirable. Within the context of environmental education, cripping demands that educators and scholars: (1) critically deconstruct the narrative that nature is only "out there", (2) disrupt the ways in which disability is used as a framing for inability to connect with and care for nature (e.g. nature deficit disorder), (3) "refuse the current positioning of environmental justice and futures as only possible with the eradication of disability" (p.252), and (4) imagine and reckon with how disability alters and expands our understandings of environment and nature. As Schmidt (2023) has argued, approaches like Universal Design for Learning (UDL) and urban environmental education (e.g. having access to paved paths and ADA compliant learning spaces from the start) offer needed accommodations and inclusion for

learners with disabilities and nondisabled learners. They provide diverse and flexible pathways to success and do not rely on deficit models, yet don't explicitly affirm and center disabled ways of knowing and doing.

Rather than utilizing a purely inclusion-through-accommodation approach, Schmidt (2023) gives a great example from their own experiences of what cripping could pedagogically look like in EE and how a crip framework provides new possibilities for reconceptualizing connections to nature. In a graduate EE course, the author and their fellow graduate students were instructed to individually go "outside" of the campus building to wander with attention to the natural world. Although this is an impactful activity that encourages learners to understand that the natural world exists all around us, beyond places like National Parks and Forests, it ignores the compulsory ablebodiedness that is required to participate. The author described that it was not possible for them to leave the physical building "to wander for 30 minutes" that day (p. 264). Given their invisible disabilities this accessibility need went unnoticed. Consequently, they took it upon themself to instead wander inside the building and notice the nature within this indoor environment. They noticed indoor plants, even trees, made connections to artwork of natural landscapes, and felt the grain of the wood that was used for tables and handrails.

These engagements all sparked deep reflection and new wonderings about nature-culture relations for them, without even going "outdoors". Schmidt (2023) creatively advocated for themself to participate in the activity in ways that made sense for their body, but students shouldn't have to do this on their own. In this example they are urging EE educators to rethink how we approach accessibility in environmental education by expanding how we think of relationships with nature for learners "with physical disabilities, with invisible disabilities, mad learners, fat learners, learners with asthma, learners with seasonal allergies or bee allergies" and

all learners (p.264). Working towards dismantling our binary ways of understanding the natural world and disability is hugely part of this.

Next, I extend Rio and S's theories of mental, emotional, and physical wellbeing in outdoor education, while thinking with the framework of "cripping" (Schmidt, 2023), to reimagine *pacing* in outdoor EE.

"Slowing down…it makes you learn in the place a little bit more."

Jacquette Ray (2009) so distinctly points out that environmentalists and disability justice activists alike have been demanding a slower "pace of life" (p.278)—to both appreciate the natural world and to push back on the ableist norm that moving at a fast pace is necessary.

> Like many environmentalists, disability theorists argue that society should be more accommodating to varying 'pace of life' abilities. 'Pace of life' expectations are in themselves disabling: 'expectations of pace can make work, recreational, community, and social activities inaccessible' (Wendell, 1996, p.38). A slower pace of life can create the conditions for a greater awareness of nature [too]. (p.278).

Jacquette Ray describes how reconfiguring our expectations of pace in the outdoors allows us to see, feel, and enjoy more within a place, and I would add that it also allows for deeper engagement with a place.

They give the example of limiting private automobile use in a park to encourage movement on foot, bicycles, horseback, and in wheelchairs. These modes of transportation are inherently slower in pace and encourage more thoughtfulness as you spend more time with the environment around you. Rio and S allude to this messaging in their stories. When Rio reflects on their experiences with trauma in the woods, how might their experiences leading kids in the woods be different if the expectations or assumptions of pace and risk shifted to be more in line with Rio's comfort and wellbeing? For example, when they planned their last day of teaching, what if the expectation to push oneself physically to fit as much as possible into one day

(whether intentional or not), shifted to an expectation of sharing with the kids one of their favorite spots on campus and spending intentional time with that specific place at a varied or perhaps slower pace? By giving the place intentional time and energy, rather than encouraging mental and physical risk, teachers and students could come away with a deeper connection and relationship with lands/waters, each other, and the field of environmentalism.

S described pacing in a really important way, that when thought about critically can protect people's identities. Since pacing is essential to daily life for many people with disabilities, it can serve as a mechanism of identification. She said,

> An organization's pacing, whether it's what they want you to do throughout the day, or the kind of movement you're supposed to use, the rate of movement that you're supposed to use, their basing that assumption off of an idealized body and mind they think an environmental educator is. And so like your pace, and the kind of pacing that you use is almost what's going to out you in the field.

This way of identifying a certain pacing or ability level can be helpful, but it can also be dangerous for people with disabilities, especially "in places that don't have a critical awareness of disability". S shared that this mechanism can be used "to identify underperforming educators or people who are not giving students the best outdoor experience because they're not aligning with pacing expectations of the organization." From this framing of pace, whether applied to educators or students, we can see how shifting the pace we rely on within outdoor EE to be inclusive of a diversity of abilities and minds can lead to stronger belonging from the start.

Now, I will take a moment here to weave in stories from a few other graduate students about how they experienced mental, emotional, and physical tensions while working within the structure of outdoor environmental education at CH. While Rio and S shared stories of mental, emotional, and physical tensions intricately tied to their identities as environmental educators of Color and/or disabled environmental educators, the next few educators add to the conversation

by highlighting some structural tensions they have run into as educators in the outdoors and the learning they have done along the way.

From her experiences working with an educator with disabilities, Marjorie reflected on a common rhetoric in outdoor environmental education of needing to fit in as much in the schedule as possible so as not to disappoint the students. Since they are only at places like CH for a short period of time, and no one wants them to feel like they're missing out on anything it is common for educators to want to squeeze a lot in. In the process of squeezing everything into the schedule, accessibility is often not intentionally planned for. Marjorie described that working with a disabled educator helped remind her of how "simplicity is generous". This reminder helped her to subdue the desire to rush through things and to keep any internalized ableism in check. She said, "When curriculum is more accessible, it literally is stronger for everyone."

In talking with Rachel about her different experiences outside as she was growing up, in her adult life, and in her teaching, she shared, "Recently I've been like, I don't know if outdoor ed. is for me." She then discussed how the structure of outdoor environmental education compared to her classroom teaching experiences and how some of the differences have impacted her mental health and wellbeing. A big part of the stress for Rachel has been the pace of teaching in this kind of program. She said,

> I guess last week was just a tough week. [...] Like during the school day you have breaks, even if it's a planning period, and if you're stressed you can like dissociate on your phone for ten minutes or do what you need to do to take care, or go get a coffee or do what you need to do to keep yourself sane for a little while. It's still challenging and you're still having a lot of stress, but you have moments where you can take care of you. And I feel like the way [outdoor EE] is structured is that you have two full days of like 9:30-4:30 and you're around people a lot and I'm an introvert, so sometimes I find it exhausting to be around people that long.

In contemplating how she practices accessible pacing in her pedagogy, and being more mindful of her students' needs and her own needs so that the learning is physically, emotionally, and

mentally accessible to everyone, Rachel pushed on the norms we have in EE around pace. As I will describe in detail, outdoor EE often operates from the assumption that when spending time outside we need to push our bodies to the limit by moving fast or exerting a lot of energy. In Rachel's story, she described that outdoor environmental educators need more time to attend to their mental, emotional, and physical wellbeing. The expectation to be fully engaged with students for an intensive period of time is challenging, so perhaps slowing the pace is necessary and beneficial for all.

Ash also spoke to this idea of pace and slowing down, in terms of physical capacity. She shared that she has a few different health conditions that have gotten worse over the years, which has somewhat limited her outdoor experiences and engagements with CH's school programming. Ash said,

> I have to be very cautious about how much I'm pushing myself and knowing that there will be repercussions afterwards. Essentially, I kind of have to time it out, where I can't do too much before a [teaching week] because I won't make it through the week.

While Ash learned to be in the practice of anticipating her mental, emotional, and physical needs before entering into a week of teaching, this could be different and perhaps less of a large ask for her if the pacing of outdoor environmental education shifted to accommodate a wider range of needs and bodies.

For Eli, slowing down has been part of his ever changing relationship with the outdoors. As he has shifted the ways in which he is in relationship with nature over time, he realized that he previously prioritized human-human interactions over human-nature interactions. He shared that because his interactions were mostly in the context of mentoring youth outdoors, this was his predominant focus. Although at that time he did not have the more academic language to describe these different orientations to engaging with nature, he described having "the inklings of

nature-culture complementaries"[12]. Being part of the CH graduate program, Eli expressed now feeling more confident communicating with students about talking to a plant, for example, because he now has "something [the language and knowledge] to back it up with, not just intuition".

Eli described that physically slowing down while hiking or moving outside allowed him to shift how he interacts with the more-than-human world. For him, not being in a rush when outside naturally leads to more intentional noticing and appreciation of the little things, like the mushrooms growing under the shade of a leaf in addition to the big things, like views of mountains peaking through the clouds. "It makes you learn in the place a little bit more.". Slowing down in our practices of environmental education is not only more welcoming to the mental, emotional, and physical wellbeing of more people, it encourages new or more attuned noticing and connecting with the more-than-human world.

"It's not just about going for a walk in the woods and hoping it makes me feel better today."

At some level, each of these educators sought after a learning environment like CH to nurture their connections with nature and people. They each mentioned having a felt sense of belonging or reprieve from physical and mental hardships when with the natural world. Ash described that "gardens are my space", a comfortable space, and a space to connect with her family and to her culture. Marjorie grew up in the woods and feels comfortable amongst the trees and the magic of the forest. For Rachel, being outside is an important part of connecting with her mom and sustaining family connection. Theo talked about knowing that he's calmer when

[12] Grounded in Indigenous knowledges, "nature-culture complementaries" is a cognitive model of nature-culture relations that includes humans as "a part of" the natural world vs. "apart from" (Learning in Places Collaborative, 2021).

surrounded by farmland, mountains, and lakes. Valerie described her relationship to nature in relation to moments of joy, gratitude, and wonder.

While this truth exists, it is also true that outdoor EE, as it often exists, might not be the place where people of all identities can fully connect and heal with lands/waters and more-than-humans. As seen in these environmental educators' stories, being outside and on the land in and of itself is a multilayered and complicated experience, especially for people of Color and people with disabilities. Adding a structured learning environment around this context, taking away some of the comforts of learning and teaching indoors, uniquely helps to expose some of the fundamental ways racism and ableism underlie dominant societal understandings of outdoor spaces and schooling.

What would it take to be a nourishing place for people of all identities and backgrounds? As the broader field of environmentalism continues its recent push for diversity, how do we avoid narratives of exceptionalism and overcoming adversity to fit within existing structures? Knowing how to better support people of Color and people with disabilities in EE is really important, because people like Ash, S, and Rio hold a lot of knowledge and life experiences critical to environmental and climate justice. Environmental education risks losing critical disability and racial justice perspectives by ignoring how educators' mental, emotional, and physical wellbeing are not fully being supported. How do the values of environmentalism and EE align with ideas of healing[13] and liberation[14]?

Perhaps the process of complicating our connections to nature and relationships with lands and waters seen throughout the educators' stories—adding depth to the

[13] Healing here refers to the process of growing from traumas related to one's mental, emotional, physical, and/or spiritual health

[14] Liberation- the act of being set free from oppressive systems and institutions such as, settler colonialism, imperialism, white supremacy, heteropatriarchy, capitalism, etc.

connections/relationships or accepting contradictions within them—is part of healing and liberation. This process seems integral to a justice-centered EE graduate program. At what cost? S described that this kind of complication of connection to nature can be useful in some cases, but it can also be harmful or discouraging if done without care. She said,

> For people who have established ways of connecting to nature, to not be supported in that way, but also to feel like the way that you connect with nature is actually less desirable, like can so drive a wedge between your identity and sense of self as a naturalist, or an environmental educator, or an environmental steward.

S felt disoriented when her established relationship with nature was not really supported in the practicum teaching space and almost seen as undesirable. Although, she clarified that "not all disorientation is bad". She admitted that parts of her way of connecting with nature certainly "deserve to be disoriented and shaken up a little bit", but in ways that lead to "more just connection to nature, and land, and people that inhabit it, while also not invalidating multiple ways of being in and connecting to nature."

In the next section, I will explore how the environmental educators have answered these interconnected questions in their stories, what this tells us about learning, and how they are shaping environmental futures.

Moments of Learning through Contradiction

Cycles of transformation are enabled when individual participants begin to question and shift the established norms (Engeström, 2001). Within the activity system of this study, the EE graduate program at CH, educators' critical emotional engagements helped disrupt established norms by highlighting the structural tensions/contradictions that came up in their outdoor EE learning and teaching experiences. Across learning environments (i.e. in activism groups, learning and teaching outside, in schools, at home etc.), emotion is an important sense-making

tool. To understand how the graduate students were able to use emotion as a sense-making tool in our walking conversations, I ask the following question: How did making space for emotions allow for critical perspective taking and *learning through contradiction*?

In this last section, I describe two moments of learning through contradiction that surfaced as the educators disentangled their emotions, to further understand how emotion is a sense-making tool. In line with Vea's (2020) description of emotional configurations, when emotions are engaged with, they often become politicized and understood as a pathway to shifting practices and collective action. Expressing their feelings about belonging and community, and telling stories about the tensions they experienced with the physical, mental, and emotional expectations of outdoor environmental teaching ultimately led to the educators designing possibilities for the future with more equitable and just ways of engaging in outdoor EE.

"There is power in being comfortable and learning."

The first example of learning through contradiction focuses on creating and sustaining diverse relationships with nature. The educators described their relationships with nature as being part of what makes them feel healthy and well; each relationship differed based on their identities and life experiences. However, several of them shared stories about how their outdoor environmental teaching has mostly centered around one way of connecting to nature. They described that within the graduate program, they were highly encouraged to think about and design for the development and sustenance of a diverse range of personal and cultural relationships with the environment, but that their practicum teaching in the school program was often limited to supporting a certain kind of connection and way of being and belonging outside.

There is an important distinction to bring attention to in this contradiction. The educators, as you will see below, have been taking up new justice-centered ways of thinking within EE from their graduate coursework and the learning community of the cohort. They are seeing teaching and learning in the outdoors, "from a different vantage point" (Gutiérrez & Vossoughi, 2010, p. 112), but they are not seeing it framed in the same ways within the teaching practicum. S shared that she has been grateful for the pedagogies that were practiced in the graduate classes, "because of the way they modeled multiple ways of participating". She said,

> You're [the instructors of the graduate program] already practicing what this could look like in the context of the graduate classes that you're teaching. It's just not transferring over to the other side of this program. Where it says, okay, now everyone does this one thing, and everyone has these physical expectations of what it means to be an environmental educator in this space. I think that's the part that I think broke my brain a little bit and broke the brains of other people in my cohort. Because we're being taught this really cool pedagogy, that honestly I haven't seen a lot of since I left. And then on the other hand to be faced with these program expectations in [the school program] that seem completely contradictory to these cool things that we're being taught…

For S and several of her cohort members, the contradiction lies within how the organization is structured and perhaps how different the graduate learning part of the program is from the graduate teaching or practicum part of the program. According to Chloe, what is hard is that by "spending all this time in the outdoors teaching, creating, and [learning]", they were bringing stress and rigor into a space that was previously a "source of relaxation and connection, relief and peace".

S described that the educators see and really appreciate what CH faculty are doing with the pedagogies used in graduate classes and the practices they learn about there. "It is so promising. There's a lot of potential here.", it's just not quite transferring over to the school program space where the graduate students teach. For example, S shared some feelings of

skepticism and fear around how EE is shaping the narratives and identities of who can be in the outdoors. In line with the idea of shifting how we think of *pace* in environmentalism, she said,

> If we're showing that [...] this is the way to be in nature and it's being on your feet outside for eight hours hiking, that is the same kind of thinking that for disabled kids that come here might foster alienation and might actually harm people's relationship with nature. Or like kids, if they develop an illness or disability later in life and their pattern for thinking of what it is to be in nature is based off well I need to be able to be outside and hiking and do these things, and if I can't do those things anymore, well then I guess I don't belong in nature anymore.

S is inviting environmental educators to consider how teaching practices limit the "pace of life" abilities welcome in a learning environment. Attuning to a pace within EE that deemphasizes speed, urgency, and risking the body, and focuses more on slowing down and appreciating and connecting with the place and time you are sharing can foster belonging and lead to new ethical considerations (Marin & Bang, 2018).

Seth also expressed concern about the dominant narrative of outdoor education being only for people who like hiking a lot and being outside for long periods of time. He described, "My legs hurt by the end of the day at CH and sometimes I walk eight or nine miles, and that's a lot for me. And then for kids, whose legs are half my size…". The physical expectations are high. Chloe talked about the design of outdoor education learning environments like CH and how they are designed for risk taking. She reflected on how the space was designed with paths and trails that purposefully wind and turn somewhat like a labyrinth, perhaps for a thrill or sense of adventure. She shared that maybe the design could have been more intentionally considerate of how people of "all abilities and disabilities could exist [and belong] in the space together.".

S and several of her colleagues had already begun reimagining how outdoor EE could be more justice-oriented from a disability perspective. For many of the educators, this reimagining started with the graduate program practicum space, or the teaching they did with the school

program. In our interview, S advocated for choice and different ways to participate in the practicum, that includes teaching and learning within the school programming as it currently exists, in addition to working on community education projects, adult education, and/or online education. As S noted,

> [There] are so many generative possibilities [...] like if there were options, then people could pick something that more closely aligns with the way that they're in nature, [and] their personal and professional goals. That makes me excited to think about."

In this reimagining of practicum, S is cripping the ways in which outdoor EE can be practiced—allowing for more choice in how educators create and recreate narratives of EE, making more space for healing and acceptance, which fundamentally aligns with CH faculty lead and teach with in the graduate program.

Ash gave a great example of how having more choice can be helpful for the physical accessibility of educators. After experiencing an injury that significantly impacted her mobility, Ash collaborated with her fellow educators to try a tag-team or stations-based style of teaching, with some educators stationed on the main campus and some leading on the trails, as opposed to everyone traveling everywhere and doing everything. Having some educators stationed on the main campus, with close access to learning spaces like the garden and art studio and paths that are more easily navigable with a mobility aid for example, allowed Ash to move around with more ease. Tagging in and out with other educators also allowed for more natural breaks. Ash shared, "the way we were able to kind of tag team…we would also get to have a break, and that worked out really really well. That was honestly such a fun week." This possibility for outdoor education could allow for educators with more of a variety of physical and mental abilities to feel successful and welcome in the outdoor EE space, by having room for breaks, choice in physical location, and more time to prepare lessons and learning materials. Ash mentioned that as a

consequence of being restricted to one or two locations on campus, she found that she had more time to prepare her lessons and pedagogical content knowledge and felt like the lessons went smoother overall.

Thinking about the physical accessibility needs of the students, Seth shared that providing a more accessible outdoor environmental learning space includes problematizing the narrative that being outdoors equals discomfort. He pointed out that something he appreciates about how CH approaches this is how they made the cabins and beds quite comfortable for students and provide good food. He said, "It doesn't have to be uncomfortable to sleep outside", we don't have to "put kids through this tough outdoor experience so that they'll grow…outdoor ed. should be a place of joy, and it can be. It can be as successful if not more successful if kids can experience comfort in different ways."

Seth described that he and his cohort put in effort to extend this idea of comfort in the outdoors "beyond nice rooms, good food, and breaks". How can outdoor EE emphasize many different ways of being in nature, without alienating kids and making them feel like the only way is to go on long hikes? For Seth, it's about creating more spaces where not only are students' needs met, but students are comfortable. An example practice that he often utilizes is finding a place for "free play", where kids can "explore and enjoy being outside with choice". With this practice they have the option to "sit and enjoy this tree for a long time", explore around at the micro level, or build forts and structures out of sticks. Providing students with moments of choice in how they move their bodies and engage with the lands and waters can in some ways push them out of their comfort zone, "but not in a way that like it's detrimental to their health and wellbeing. Because I think there is power in being comfortable and learning."

"To me, policing is so deeply tied up [with] education and outdoor education."

The second example of learning through contradiction builds from the tensions educators expressed and acted upon in regards to CH hosting an event on campus for the local police. After expressing their emotions in response to this experience, they were able to name the following contradiction and enter into new relationships with these emotions toward transformation. The graduate student educators recognize that the graduate program at CH is a justice-oriented graduate program, but it is a justice-oriented program that is still part of an institution that has racist foundations (i.e. the field of environmental education). This story of misaligned understandings of justice in an outdoor EE context exemplifies where the broader field of outdoor EE is at in terms of racial justice and where there is still room to grow.

This moment of learning through contradiction is not new or surprising, but is a reminder of the histories and structures of oppression that remain deeply rooted within the environmental field. As S described, the disconnect between the graduate program and the rest of CH makes it "almost feel like it's two separate organizations". Many of the educators described being surprised that the organization did not explicitly oppose police being on campus based on the fact that graduate students were engaging with abolitionist readings and critical theories in their graduate classes, and that the overall mission and values of the organization seemed to align with the "rise in critical consciousness in 2020" . Learning from critical Black scholars like Audre Lorde, Bell Hooks, Angela Davis, and adrienne maree brown, the graduate students have had an understanding of how "racism is seeped in[to] every part of environmentalism…we kind of understood that connection between racism and environmental work and social justice in general". Understanding this connection, many of the graduate students were concerned and worried about the police being welcomed to the place in which they live, work, and learn,

because of how bodies, especially Black and Brown bodies are policed in the outdoors, and they brought this concern to those with the most institutional power.

Some of the graduate students emphasized that taking action on this issue was not done with the intention of dismantling the organization or the institution of outdoor EE. Their collective hope was to bring awareness to the nuances of the issue and to collectively do better. As Engeström (2001) describes, the graduate students acted on this contradiction or tension, disturbing old ways of doing environmentalism with new elements of racial justice that need to be thoughtfully integrated into the activity system. Seth said, "I want CH to exist because I think it is doing so much amazing work. I just want it to be better and be a leader in institutions like it." Similarly, Rachel described that it was about holding the institution accountable. To her, recognizing and understanding the relationship between policing and environmental work is critical in staying true to a mission of "support[ing] life-long learners of the environment".

Eli extended this understanding of the relationship between policing and environmentalism and outdoor education with two examples. In his discussion of his emotional experience with the conflict about hosting police on campus, he said,

> Yes, there were police at CH, but also like the people who are fighting to stop cop city are forest defenders. Like it's about human nature-culture relations. It's not even just like, I love trees. It's like we deeply need forests. So I think it's frustrating when you make a lot of noise and it doesn't feel like people hear you…I don't want our time at CH to be forgotten as like, oh yeah, like they brought up these points but like…

Eli was able to learn through this contradiction, in that he made connections between the conflict at CH to how policing intersects with connecting with and protecting nature at a larger scale, highlighting it as an institutional problem. In a similar way he shared a story from his own experience of being policed with a group of students. He described that when hiking with his students over the summer, they were stopped by a ranger asking to see their permit. At the time

they were using an established "social trail" that was not on the map. The ranger was condescending and scolded them for doing so. He said,

> It's common in outdoor ed. programs to teach LNT and then to shame people for not following it…and to be like do you not even care? So to me, policing is so deeply tied up [with] education and outdoor education especially

Eli shared that the ranger prodded them for their knowledge of Leave No Trace (LNT) when going off trail. This moment of tension was particularly harmful because of how the ranger shamed the students for existing "off trail", even though Eli had led them confidently through the space with LNT principles in mind.

Working to address systemic racism and ableism within outdoor EE is a complex and heavy task. Considering these examples of learning through contradiction, the next steps towards transformation are complicated. The educators offered up disability justice practices that would allow outdoor EE to move closer to "collaborative envisioning and a deliberate collective change effort" on a pedagogical level (Engeström, 2001, p.137), but not at the institutional level (e.g., changing the relationship of CH to the policing community), and offering up avenues of change towards racial justice within the context of outdoor EE seem somewhat limited. However, the educators highlighted that reconceptualizing a racially just outdoor EE and one that is accessible to people of all abilities and disabilities, requires a "radically wider horizon of possibilities" (p.137). As described below, outdoor EE, as it exists now, may not be the space of community and belonging that People of Color and people with disabilities need right now, and we may need to look beyond the boundaries of the field.

"I'm trying to be realistic": Future designs for EE Learning Environments

In making sense of the purpose of outdoor EE programs like CH, and what is possible in these spaces, Rio said, "I think I'm trying to be realistic about what the space, physically and philosophically, can hold and contain." Based on their emotional experiences and learning through contradiction, Rio contemplated the purpose of outdoor EE spaces and whether or not that purpose should include people of Color and people with disabilities. They said, "it's like if there's a certain purpose, like maybe if there were certain changes then it would still be good for the education of white, non-disabled teachers". Having a white space for unlearning whiteness in environmental education, and education more broadly is valid, but Rio recommended that this be very explicit so that people of Color and people with disabilities aren't left searching for community and belonging in a space that isn't quite ready for them.

Throughout their interview, Rio shared how they have been making sense of the sadness and frustration they were feeling related to the outdoor environmental education community. As Rio processed what EE can do and what kind of transformation is possible within outdoor environmental education, they entered into a different kind of relationship with their emotions. Coming to terms with the complexity of their emotions allowed Rio to understand and engage with environmental education in new ways, ways that embrace contradiction. Rio shared that they have been trying to be in better practice of "being in relationship and in conflict with people. Having space for conflict and still having a relationship, and allowing that relationship to have a more expansive experience and definition."

As Rio alluded to in their interview, transformation necessitates multiple perspectives, experiences, and spaces. They said, “When I think of transformation [...] I think it's an in-depth, intimate reflection and collaboration and it shouldn't be done with just one perspective or experience.". As a multiracial, Person of Color with disabilities being invited into a learning space historically created by and for white, non-disabled people, they had high expectations. However, they found that the purpose of this learning space might be different from what they had expected.

The expectation that people of Color and those with disabilities should be in outdoor EE spaces and can “feel connected and in community and also have their full authentic sel[ves] valued and recognized and also catered to” was not met for Rio. “Maybe that’s not the point of the space right now.” While Rio expressed needs for a more cripped outdoor EE, they were also locating their process of healing and liberation with lands and waters away from mainstream outdoor EE spaces. Releasing these feelings and truths allows one to let go of relationships that don’t serve them and to be in liberated relationship with oneself, others, places, and time—relationships rooted in radical honesty and healing (brown, 2017).

Eli added to this conversation by advocating for more and different kinds of outdoor EE spaces. He said,

> There [are] so many different ways of being outside and engaging in outdoor ed. That we just need more of that. Like we need more elevation of diversity and more ways of being and knowing as much as possible. We need more institutions basically so that it’s not all under this one.

Eli learning through the contradiction of encouraging multiple ways of having a relationship with nature while only really teaching one way in outdoor EE, led him from feeling frustrated to recognizing that in order for transformation to happen there needs to be a diverse range of outdoor EE contexts. We need to move beyond outdoor EE only existing in secluded forested

places with winding, hard-to-navigate paths and "remote school[s] at 10,000 ft. elevation" with a backpacking requirement.

This idea solidified for Eli after teaching at a school that was really trying to be accessible to all class levels, racial backgrounds, and physical ability levels, but existed in a physical location where it would be very challenging for "a student with a mobility device or a student with a muscular disability" to be in. Saying that your program is accessible to everyone when it really is not leads to harm. "We don't need everyone pushed into places where they don't belong. We need more places where more people belong…more schools that connect people to nature in more ways." While not advocating for segregating people based on their relationships with nature, Eli is advocating for transformation rooted in abundance.

Through this framing of learning through contradiction, we can see how graduate students' emotions existed in complex relation with the histories, power, and norms of environmental education (Ahmed, 2015; Vea, 2020; McMain & Strong, 2021). Their named feelings of tension, anger, frustration, and sadness indicate a change in the ways outdoor EE exists. They brought newly learned justice theories and practices into a space that was still operating under dated norms, which led to contradictions. According to McMain and Strong (2021), expression of emotions, particularly the expression of emotions we often think of as negative, is often connected to how a person is in relationship with people and their environment. As they adopted new sense-making tools (including engaging with emotions) throughout the graduate program (Gutierrez & Vossoughi, 2010) and honed their political clarity, they reconfigured how their identities, lived experiences, and understandings of justice fit within the context of environmental education.

It is important to note that in graduate education programs that center social justice, like CH, educators are offered sense-making tools that help them uncover the ways in which normative structural practices persist. For example, the graduate students used sense-making tools learned in their graduate program to highlight how outdoor EE often operates under the assumption that physical fitness and certain physical abilities are required when teaching in the field. Therefore, we must recognize how the graduate program has played a part in the graduate students' formation of political clarity and growing stances on equity and justice in environmental education. Several of the graduate students acknowledged how the graduate program faculty play an integral role in CH being an outdoor environmental justice education organization. This unique space is clearly pushing the field to critically examine and unlearn the many racist underpinnings of environmentalism. By also having the graduate program at a place like CH, they are really driving home the narrative that "[environmental] educators can also be academics".

Concluding Thoughts

Throughout this chapter, I traced how the environmental educators' feelings of belonging became an important sense-making tool and shaped their orientations and commitments to justice in outdoor EE. Walking in conversation, as an embodied learning practice, prompted stories and discussions of belonging in EE, which led to disentangling feelings of not fully belonging. Spending time with the tensions about how racism and ableism persisted in the physical, mental, and emotional expectations CH had for educators, and tensions about how the institution of policing was accepted in a space that holds justice-centered education and anti-racism as a valued practice, allowed for learning through contradiction. This process of learning through contradiction, whether it challenged educators to recognize their own alignments with what the

graduate program was doing well and encouraged them to rethink teaching practices within EE, or pushed them to think outside of the box of EE for healing and liberation with lands/waters elsewhere, led to different relationships with their feelings of belonging. If belonging in EE is what we are after in terms of transformation, practices and institutional commitments need to shift. We need more radical honesty and love, so that more intentional and clear expectations can be set about where EE organizations are at in their journeys of unlearning white supremacy and decolonization.

Narrative Interlude: Connecting to homelands as a grieving process

During this year of writing, I had an opportunity to go to the Philippines, which I could not pass up. It was an opportunity to spend time with close and distant family, celebrate the life of my grandfather, experience my family's homelands (on both my mom's and dad's side), and learn from the rich cultures and languages and histories of colonialism and immigration. While there, I often felt myself getting swept up in the materialism of being on this international trip, that quite frankly required a lot of privilege and that negatively impacted the climate in several ways—flying thousands of miles to a colonized, island nation with high rates of poverty during the middle of the academic quarter, participating in tourism and mega-consumer culture, and gathering souvenirs to bring home and prove that I'm Filipino enough and have been back to the motherland.

Multiple truths can exist at once and there are good reasons as to why I took this trip: sustaining cultural connections and being with family during an important time for celebration and grieving. And yet it doesn't erase the fact that me being there, with the place and community I had been longing for, negatively contributed to climate change. What does this say about myself, as an environmental and climate justice educator? At the same time, I felt so drawn in by the culture of collectivism, resistance, and resilience that I was seeing everywhere.

In the next chapter, I talk a lot about grief, how one comes to understand and practice grief, and the limited opportunities for collective grieving in western society. But before I wrote this chapter, I experienced some of the beauty, joy, and gratitude of collective grieving and rituals first hand. Going to the Philippines at this time of year was very intentional. My grandfather passed away due to cancer right before I started my PhD program, and as we were making a plan to bring him back to the Philippines, the covid-19 pandemic began delaying our plans. However, November was a perfect time to go because of All Souls' Day—a week-long holiday celebrated widely across the Philippines. During this time of year, families and friends gather to not only pay respects to their loved ones who have moved on, but to celebrate their lives and be with the people they love, honoring the time we still have together on earth. On three different days, we gathered at the Garden of Memories, the cemetery of my grandparents' neighborhood in Manila, to sit with our loved ones, light candles, share stories, and EAT. While walking amongst the crowds of people, I had this magical experience of just almost seeing my Tata—him catching glimpses of me through the crowd as I walked the same paths he once did. It was a beautiful scene to witness and to be a part of each day.

To me, the collective grieving existed beyond the grounds of the Garden of Memories. It was more than just All Souls' Day. It was the way in which my Ate picked us up from the airport at 1:00am, after picking up the rest of my family at midnight the day before. It was the way my uncle drove us around wherever we wanted to go and was always right on schedule. It was the way they always fed us for free from their family-run food stands, even though they knew we had the money to spare. It was the way they welcomed my partner Ryan in with open arms and big smiles. It was the way that they shared stories about my grandfather I had never heard before, and the way we all cry-laughed while sharing memories of Tata's many adventures and shenanigans. It was how the celebration never stopped. In this kind of collective grieving, I felt held in a way that I hadn't experienced before. I thought that mourning the loss of my

grandfather in his country, on his ancestral lands, would be hard, but it wasn't that at all. It was easy. It was full of gratitude. It was joyful. It was very Filipino.

In climate change work and climate education, there have been a lot of conversations recently about making space for emotions like grief. How are you emotionally handling the climate crisis and the grief you feel due to loss of place? How do we grieve collectively? What communities can we learn from to do so? What are practices of gratitude, joy, and celebration that make room for all kinds of eco/climate emotions? As we grieve mass devastation, whether it's due to climate injustice across the globe, continued oppression of Indigenous and Black lives here in the U.S., or the genocide of Palestinian people and the dispossession of their lands, how can I and my fellow environmental educators intentionally make space for grieving that makes others feel held? How do we make room for crying and laughter and sharing food and celebration? These are questions that I have personally been thinking about through my writing process and questions that I think are critical in the processes of climate justice and education.

Chapter 5: Pedagogical Climate Courage: A necessary practice while teaching amidst a climate crisis

Introduction

In this last chapter of analysis, I weave together stories shared by environmental educators about teaching climate change and climate justice and the realities of learning amidst a climate crisis, bringing a needed reconsideration to the role of environmental educator during a time of global disruption. What are disruptions, such as climate injustice, revealing about taken for granted and unrecognized knowledge within environmental education (Bang et al, 2018)? Across their stories, educators work from tensions to shift repertoires of practice (Gutiérrez & Rogoff, 2003) and politicize eco/climate emotions[15] to create new emotional meanings (Curnow & Vea, 2020) pushing forward the work of environmental justice education. Building from ideas of radical hope (Alexander, 2015; French, Neville, Lewis, Mosley, Adems, & Chavez-Dueñas, 2023) and climate courage (Heglar, 2020; 2021; Marvel, 2020), I name *pedagogical climate courage* as a practice that the environmental educators of this study co-created and began to utilize in their teaching.

Emotions are political—our sociopolitical contexts shape the norms of expressing emotions and feeling emotional (Ahmed, 2015; McMain & Strong; Vea, 2020). Through class discussions, interviews, and lesson designs, the educators pushed on normalized engagements with emotions. Allowing the educators to create new meaning from emotions like eco-grief, this process of politicization brought nuance to the important space of learning with and through emotion in environmental education (Curnow & Vea, 2020). Emotions are present expressions of

[15] In this chapter, I use the term ***eco/climate emotions*** to describe the range of emotions people experience in relation to the climate crisis and climate justice. This is in contrast to how the term is used in the previous chapter to describe both the emotions experienced in response to the climate crisis AND the emotions people experience in relation to environmental education.

histories (Ahmed, 2015). Taking the time to understand what they are telling us could be critical for designing sustainable and just futures. Because of how the eco/climate emotions of hope, courage, and grief shaped this study and frequently showed up throughout the educators' class conversations and interviews, I start by sharing my orientations to understanding these emotions and the process of emotional oscillation.

Radical Hope and Climate Courage

Hope can feel essential in times of crisis. For some, experiencing climate anxiety, despair, and grief can feel like you are reaching for something to hold onto for strength or to feel grounded or hopeful. Particularly for those in the Global North, not on the frontlines of climate injustice, climate activists, journalists, and educators advocate for hope not based in unrealistic optimism, wishful thinking, or a feeling of nothing more than putting the onus on someone else to figure it out, but rather "radical hope" (French, et al., 2023, p.328). Radical hope, built upon BIPOC histories of action, Global Majority and frontline community experiences, and educational scholars' notion of *critical hope*, is action-oriented and collective in nature (Alexander, 2015; French et al., 2023). Radical hope encourages and sustains connections to future possibilities that address root causes of inequity and injustice, by grounding in an understanding that collective flourishing is possible, and that examining and transforming social structures beyond "a way of life driven by consumer capitalism and built on systemic racism" is necessary to make this a possibility (Lauria, 2022).

It's this acceptance of the problem at hand (i.e. climate change caused by human extraction and oppression), belief that solutions are possible, and willingness and determination to implement solutions, that makes radical hope different from wishful thinking (Lauria, 2022). This kind of hope is active; it requires action and the *courage* to act. As Sarah Jacquette Ray

describes, “hope is the byproduct of action, not a prerequisite for it.” (as cited in Lauria, 2022). Acting on climate change in both big and small ways, including engaging with personal eco/climate emotions like anxiety, anger, grief, etc., finding communities to think with, getting involved with a local activist group, bringing climate justice into your classroom, talking with your family, creating art for change, learning to grow your own food, etc., shifts how societal structures exist, which fosters radical hope, and more action, “creating a virtuous cycle” (Lauria, 2022). I argue that entering this cycle requires courage, or *climate courage.*

In her All We Can Save chapter titled, Home is Always Worth It, Mary Annaïse Heglar poignantly asks, “What if we’ve been doing the equation backward? What if hope isn’t what leads to action? What if courage leads to action and hope is what comes next?” (2020, p.282). Recognizing that our grief and our anger are valid and normal emotions to have, she asks us to find courage to “process those emotions and pick ourselves up to put the blaze out as best we can”, to “learn the difference between hopefulness and helplessness”, and to “be messy, imperfect, contradictory, broken”, because we and the planet are worth it. For a while, the climate community insisted on messaging of “hope everlasting”, which has shown to be unrealistic and ineffective when attempting to engage the public (Heglar, 2020). Like climate nihilism or hopelessness, turning to climate hope before climate courage and action, ignores the realities of capitalism and colonialism and assumes that “this world has ever been perfect and that, therefore, and an imperfect version of it is not worth saving or fighting for. Both represent two sides of an overprivileged pendulum swung too far.” (p.282).

As Mary Annaïse Heglar and Kate Marvel describe, people assume that folks in the climate/climate justice movement have hope and demand that they perform it for their own reassurance that everything will be okay. “Perhaps it’s time to stop worrying about giving people

hope and to start letting people grieve." (Heglar, 2021). Many climate folks don't have hope, but have courage—courage to "do well without the assurance of a happy ending" (Marvel, 2018). Courage to confront the need for societal transformation (Alexander, 2015), courage to foster a way of life beyond survival, and courage to be part of the transformation in ways that utilize the skills and passions that we have. We need everyone. We need optimism and courage to get to a future where our goals "are bigger than doing less harm or emitting less carbon" (Meezan, 2020). With climate courage, there is a recognition that while the future is uncertain, there is still a willingness to keep going, to put in effort, and to create and build toward sustainability, thriving, and what makes all beings healthy (Marvel, 2020).

Eco-grief

Ecological grief, or what I refer to from here on out as *eco-grief*, is "the grief felt in relation to experienced or anticipated ecological losses, including the loss of species, ecosystems and meaningful landscapes due to acute or chronic environmental change." (Cunsolo & Ellis, 2018, p.275). Eco-grief is a natural response to ecological losses experienced by many Indigenous communities around the world for centuries, as well as other communities that sustain close relationships with the land, such as farmers. It is a growing concern and experience for more people, including young people (Climate Mental Health Network), as the climate crisis worsens. In general, grief is a complex feeling of uncertainty and ambiguity, is often challenging in nature, brings pause to life, and beautifully captures the complexity of what it means to experience climate change.

In her book, Generation Dread: Finding Purpose in an Age of Climate Anxiety, Britt Wray (2022) poignantly says,

> Grief can be very tough to bear, and at times feel never-ending, but the process is invaluable because of its great transformative power…It marks our entanglement with the

> things that matter deeply to us…Grieving is about much more than recognizing one's own feelings; **it is about welcoming how those feelings can teach, change, and heal you.** It strengthens our connection with the most vital things that matter in life. Once we understand that grief is a natural consequence of love, and that we can't have one without the other, then we start to see the mutualistic power in these emotions and why we must integrate them both into our lives in order to move ahead." (Wray, 2022, p.136).

Grief reminds us of what we love, exposes hidden truths, and forces us to reflect on our priorities.

Experiencing climate change is a big grieving process, in which we are grieving the past, present, and future, sometimes simultaneously (Heglar, 2018). While this is huge and heavy, the pain and discomfort we experience through eco-grief is a reminder of our own humanity and relationalities (Heglar, 2018). Based on the sheer scale of climate change, no one is alone in these feelings of grief (Marvel, 2018). "Climate grief is not an illness to cure. It is a condition we will [all] have to live with. But then again, isn't all grief?" (Heglar, 2021). In the Global North, where we experience significantly less climate disaster impacts worldwide and contribute the most to global warming and environmental degraduateation, engaging with eco-grief is particularly necessary. With many privileges to lose, engaging with eco-grief necessitates a level of acceptance of the reality of loss due to climate change, and adjustment to our changing socio-ecological worlds by embracing new identities and skills necessary for life amidst a climate crisis and beyond.

Eco-grief is also a natural response that is often stifled by the everyday demands and experiences of colonialism and capitalism. As several educators in this study exemplify, making our emotions known and questioning our emotions is not something many people in individualist societies are encouraged to do, especially not in public or when in the company of others. In the last six years, as eco-grief and climate grief have become mainstream topics of discussion, more people have come to understand eco-grief as a specific kind of grief that needs tending to

(Heglar, 2021). However, within individualistic Eurowestern societies like the U.S., mental and emotional health are often not prioritized and treated as a luxury, resulting in nonexistent or unhealthy grieving processes. As Amy Westervelt describes, "We don't even have a mental-health-care system in this country. We're not good at grief." (as cited in Read, 2021). We need different, perhaps more collective ways of grieving to become the norm everywhere, so that we can meaningfully learn and grow from eco-grief.

Emotional Oscillation

An important part of engaging with one's eco/climate emotions is engaging with what anti-oppression writer, organizer, and psychotherapist Gabes Torres calls oscillation (Torres, 2022). She says,

> Because of how finite our human bodies are, it is not sustainable for us to be exposed to pain or stay in it for long periods of time or in high frequency. In oscillation, we stay present enough with the grief, to confront, reflect, and talk about it, but not to the point where we are too overwhelmed or overcome by it that it debilitates us or causes physiological ailments, inflammation, or extreme discomfort.

Understanding that oscillation exists is an important part of bodily self-regulation when experiencing trauma directly or indirectly. So recognizing that how we emotionally experience climate change or climate injustice will oscillate, can naturally help the body and mind to adjust to, survive, and dream beyond climate devastation.

Acknowledging this kind of emotional oscillation also helps in preventing "desensitization or disconnection from the collective trauma". Spending too much time on this side of the spectrum of emotions can easily lead to apathy, numbness, and an inability to take on the collective responsibility of disrupting systems of violence and caring for one another (Torres, 2022). "It can be humbling to confront our limitations as human beings, and yet there is so much potential for what we can do together once we are aware of our capacities and limitations." This

understanding helps in finding a healthy balance between the time we dedicate to processing emotions individually and collectively, and the time used to take collective action. Our bodies are "intelligently and intuitively aware" of oscillation and are resilient. We just have to know how to interpret the signals.

Torres references the "window of tolerance" or, "the optimal zone of arousal where we are able to manage and thrive in everyday life" as a helpful tool in understanding emotional oscillation (Siegel, 1999; as cited in Torres, 2021). Assessing your window of tolerance allows you to engage with how your body is responding to emotional stimuli (Torres, 2022). For example, as someone who identifies as a migrant, Torres described that she knows she can become activated when engaging with media or conversations on anti-immigration policies, but she doesn't completely disconnect. With practice, she has been able to keep a "a calculated degree of attention to and distance from anything related to the topic"—mindful proximity that allows her to remain both present with her emotional needs and the fight for immigration justice (Torres, 2022). This example highlights a critical lens that Torres utilized when thinking with the window of tolerance. The window of tolerance tool allows for the exploration of one's conscious capacity to stay grounded and make conscious decisions for the future amidst a hyper- or hypo-aroused state. However, it does not intentionally consider how "BIPOC (especially Black folks) and those who are at the intersection of more than one marginalized identities" are in constant survival mode, having to endure the daily realities of systemic racism.

Like with any tool or technique, it is important to consider the limitations of the "window of tolerance" and how it differs across cultures and identities, especially for those experiencing severe and/or perpetual trauma due to colonialism, racism, sexism, ableism, and/or homophobia. Similar to how Ahmed (2015) encourages staying with emotions long enough so that one can

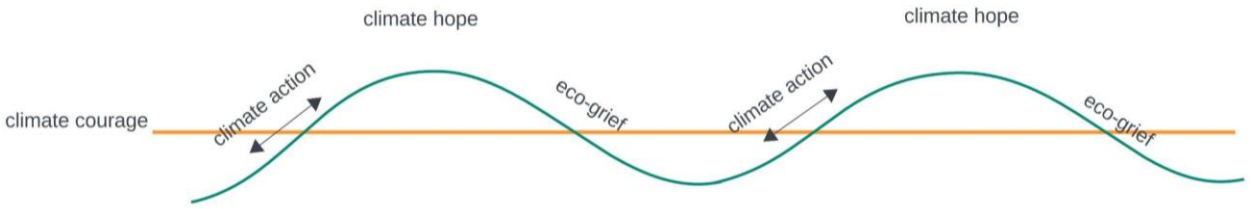
understand how these emotions might be rooted in injustice, instead of aiming to only feel "better", Torres (2022) points us toward a window of tolerance from a politicized lens. She says,

> When we politicize our lenses in engaging trauma and healing, we learn not only practice techniques that alleviate the pain but to also collectively organize and disrupt the systemic sources and structures that cause them.

A politicized window of tolerance asks us to intentionally consider how systemic oppression is part of the emotions we are experiencing. Rather than focusing solely on the self to engage with grief, engaging with a politicized window of tolerance or emotional oscillation could look like, "re-connecting and co-regulating with the Earth and ancestral, blood and chose kin", "a regular practice of processing and making room for ancestral trauma and medicine", and/or "building/participating in community safety and care" (Torres, 2021). These politicized practices allow for cultural diversity in how one engages with emotional oscillation and importantly, keeps justice at the center.

Engaging with emotional oscillation in these ways involves climate courage. For example, we need courage to break away from the constraints of colonialism and capitalism to engage with emotional oscillation via reconnection and co-regulation with the Earth and ancestral practices and medicine, making space for ancestral and generational trauma, and building and participating in community care. In Figure 5, I bring climate courage together with the process of emotional oscillation to demonstrate how having climate courage can facilitate climate action, and subsequently climate hope, and that eco/climate emotions like eco-grief will periodically reemerge and need to be reengaged with. Engaging with this process of emotional oscillation is itself climate courageous too.

Figure 5: Eco/climate emotions oscillation diagram



Overview of Findings

To address the following research question I trace the tensions that arise for environmental educators as they engaged with their eco/climate emotions: *How can critically engaging with emotions shift environmental educators' understandings, participation, and teaching towards environmental and climate justice?* By tracing the tensions they experience with their students' and their own eco/climate emotions, the educators reveal how repertoires of practice within environmental education need to shift to more fully attend to and hold eco/climate emotions (Gutiérrez & Rogoff, 2003)—having and expressing emotions is intimately part of learning, not simply a set of behaviors to control before learning can happen (Herrenkohl, 2010; Hoffman, 2009; Vea, 2020).

The first finding highlights how environmental educators engaging with their own eco/climate emotions and their students' eco/climate emotions, across different learning environments, revealed tensions in the relationship between their practices and their identity development as climate justice educators. Some recognized how their emotions seem to pendulum from extreme worry to extreme hope and how that was mirrored in their teaching practices. Others grappled with how teaching to the immense nature of climate change is overwhelming, even though they had been working from practices like gardening that they know

well to teach about climate justice. Throughout these stories they emphasize how they are taking risks by pushing on the norms of what an environmental educator can be, establishing integral roles as climate educators working with eco/climate emotions, and working from their unique expressions and skills as climate justice educators. Within the tensions they surfaced, they are already shifting the repertoires of practice we rely on within environmental education, to perhaps deepen the role of environmental educator.

The second finding focuses on educators' shifting repertoires of practice, in particular their use of what I am calling: *pedagogical climate courage*. I give examples of how educators utilized pedagogical courage in their lesson plans and their reflections on practices to engage with their own emotional oscillation and to facilitate their students. One important way they demonstrated use of pedagogical climate courage was by disentangling and politicizing eco-grief. They also draw attention to how *slowing down* and focusing on creativity are needed shifts in repertories of practice for environmental education during this time.

Stories in this chapter were shared within a few different contexts: during walking conversations outside of class, in class discussions, and during a professional development learning session. Before diving into the stories, I will provide more context around these two new settings.

Research Contexts for this Chapter

Graduate Course: Teaching Climate Justice, Climate Change and Emotionality

Teaching Climate Justice, Climate Change and Emotionality, is a graduate-level, seminar-style course offered to Cedar Harbor (CH) students. It is an elective course, offered for the first time during the Spring of 2022, "about teaching and learning in a time of climate crisis, with the goal of realizing education for justice and action", and "challenge ourselves to find ways

to foster resilience, efficacy and justified hopefulness for our students and ourselves." (Teaching Climate Justice, Climate Change and Emotionality Spring 2023 course syllabus). There were nine students enrolled in the Spring of 2023 when the study was conducted.

Each week the class met for four hours every Friday, for ten weeks. Each week focused on a specific theme, some of which included: emotionality, learning, and the self; intergenerational justice; connection to place and emotions; and art and climate justice. Students dove into these topics through a scaffolded and exploratory framework for learning. Instead of having 2-3 assigned readings each week, students were given an offering of short-form readings, art pieces, and other forms of media to choose from to get them thinking about the the main theme of the week, in addition to one longer-form, jigsaw reading[16] to read and engage with before class.

The first half of each class was dedicated to discussing these resources and engaging in related activities. During the second half of the class, students were given "taster" readings or excerpts from upcoming readings as we transitioned to thinking about the next week and made connections across themes. Students also participated in several activities to engage with new practices and build upon theories such as, conducting empathy interviews with middle and high school students, developing and integrating a place-based climate change lesson, and creating a climate justice and emotionality resource for teachers, students, outdoor educators, and/or families.

[16] Jigsaw reading refers to an organization technique, used in teaching, that breaks up longer texts into smaller chunks of text (one-two paragraphs) that students work together in groups to become experts on. Each student then moves into a new group, in which every member has an expert on a different part of the text.

Learning Session: Supporting Youth Learning and Wellbeing with Collective, Socio-ecological Grieving Practices

As part of our research collaboration and partnership, CH invited me to lead a learning session with the graduate students. Throughout the academic year, they invite different educators to lead occasional learning sessions that span a variety of topics and practices as a kind of "professional development" for the graduate students. My session was co-developed with a colleague to think with cultural, collective grieving practices as a way to engage with the complicated emotions we experience due to climate change. Grounded in some of our ancestral practices, such as alter making, gathering in cemeteries with loved ones, food and celebration, and different festivals for giving thanks, we discussed the importance of grief, applied collective grieving practices to engaging with our own eco/climate emotions, and started to imagine and design grieving practices for the land to engage with ourselves and/or our students. A question of focus throughout the session was, *How do we respectfully, ethically, and reciprocally engage with cultural, collective grieving practices towards climate justice?*

Within these learning spaces I served as a "co-designer", co-facilitator, and observer. In the class about *Teaching Climate Justice, Climate Change and Emotionality*, I worked with the lead CH instructor to co-design and plan for the second iteration of the course. In the few months before the class started, we met on Zoom weekly/bi-weekly to reflect on how the class went last year, shift how we wanted to facilitate discussion around and work with different concepts of climate justice and emotionality, and design new activities. Co-designing and co-facilitating in this class was part of engaging in a reciprocal research partnership. Being in the room to think through big ideas, get advice on projects, and generally being of support in this class was one way that I could be in good relationship with this community that welcomed me in and shared

their life experiences and stories with me. Being able to co-lead a professional development session with these educators was a bonus opportunity to be in right relationship and learn with the community through research.

Working from Tensions to Shift Repertoires of Practice

Tensions in the context of learning environments are openings for change and growth and can materialize in emotional responses. Within teacher education, tensions are "generative and necessary" as those learning to teach "grapple with the relationship between their own values and pedagogies." (Daniels & Varghese, 2019, p.58; Price & Valli, 2005). Wrestling with these kinds of tensions is a natural part of the process (Gutiérrez & Vossoughi, 2010), and essential to teacher education (Teng, 2017; Varghese et al., 2019). This process is part of developing a teacher identity (Teng, 2017). Importantly, one's teacher identity develops and refines from the power-laden, complex, embodied, and social engagements between teachers and students. In other words, teachers and educators build who they are in this profession based on their experiences with students and teaching environments, including both the informal and formal learning moments, the moments in which their values are challenged, and the moments in which they push on the norms of what and who a teacher is. How one understands themself as a teacher is constantly being negotiated (i.e. tension between existing identities and positionalities of race, gender, sexuality, ability, class, and religion and the identity of a teacher) throughout the process of teaching and learning to teach (Varghese et al., 2019).

Nasir and Hand's (2008) description of *practice-linked identities* help make these important connections between identity, teaching, and learning. Practice-linked identities are characterized by the ability to acquire skills and knowledge, to build "a deep sense of connection with participants", and to understand "who one is and who one is in the process of becoming

through participation." (p.176). In other words, there is a connection between the self and the practice that allows for people to "take on, construct, and embrace" identities through participating in social/cultural practices, like teaching (p.147). According to Nasir and Hand (2008; Nasir, 2012), practice-linked identity development happens when the processes of learning are in congruence with processes of identity.

How the practice (e.g. the act of teaching) organizes "access to the domain, opportunities for taking up integral roles, and opportunities for self-expression and unique contribution" determines how learners' engagement and identity development are supported (Nasir & Hand, 2008, p.174). For example, across the out-of-school settings Nasir (2012) studied, students' practices of dominoes, track, and basketball were all "organized in ways that made competence available" (p.40). By intentionally shaping the organization of the practice to be about becoming competent in specific roles and including consistent feedback, students' learning and identity were supported. Also, the students had space to "personally contribute to the practice" (Nasir, 2012, p.40). Being able to add something of themselves to the experience of learning, and see it valued, supported their identities in the practice and furthered their connection to and engagement with the practice. As students learned and participated, they began to see themselves as unique contributing members of the practice and were able to build "a sense of accountability and commitment to the community" (Nasir & Hand, 2008, p.175).

This is both applicable and important for those learning to teach and those expanding their teaching profession in graduate school. In her work with science teachers and teacher candidates, Luehmann (2016) describes that there is a kind of "becoming" that happens over time when "learning to be a certain kind of science teacher" (p.21). It involves "the whole person who embodies her histories", in addition to taking up new knowledge, taking risks, and problem

solving. Using an identity lens, like practice-linked identities (Nasir & Hand, 2008), highlights the need for learners' to have rich opportunities for both participation and to see themselves as the teachers or change agents they want to be (Luehmann, 2016). Teachers need "access to identity resources", so that they can merge their existing identities and lived experiences with a teacher identity and "expert" practices, and create new ones. The framing of practice-linked identities allows us to see how communities of practice and learning environments scaffold the development of socially and culturally grounded identities, and how individuals might come across tensions in this process of becoming.

Pre-service teachers and educators in graduate school commonly experience tensions with how teaching is theorized and practiced, as they develop and refine their identities as teachers and educators (Hebard, 2016; Varghese, Daniels & Park, 2019). Through these becoming processes, like learning to teach, we are constantly learning what is considered to be "normal" (Esmonde & Booker, 2017; Vea, 2020). We must either fall in line with the prescribed identity of a teacher or risk being seen as defiant or intolerant by those with institutional power, impacting the development of one's teacher identity (Teng, 2017). Because of how emotions are politicized (Ahmed, 2015; Vea, 2020)—how when, where, and why we express emotions, and who is allowed to emote—the risk and emotional labor of pushing on the normalized practices typically falls onto teachers of Color (Varghese, et al., 2019), as well as those with disabilities and marginalized gender identities.

According to Gutiérrez and Rogoff (2003), the tensions that educators are experiencing and taking note of, indicate shifting repertoires of practice or, "the ways of engaging in activities stemming from observing and otherwise participating in cultural practices" (p.22). Rather than viewing tensions as only "obstacles to appropriation" of knowledge and practices, tensions "can

function as catalysts for learning" (Herbard, 2016, p.30) and opportunities to "honor the complexity of teaching and knowledge from a range of professionals who engage in this work" (p.35). By acknowledging these tensions (i.e. expressions of emotion), educators are bringing attention to underlying issues in the field and new ways of being educators.

Allowing for emotional responses and tensions to surface can be uncomfortable, but working from the discomfort can lead to individual and institutional change (Herbard, 2016; Price & Valli, 2005). This is only possible when teacher education programs are open to being "challenged and disrupted, especially by their own teacher candidates." (Varghese, et al., 2019 p.28). Supporting this kind of risk-taking, disruption, and discomfort is fundamentally a part of creating and supporting a social justice-oriented teacher education program. Ultimately, taking into consideration the centrality of emotions and tensions in developing and refining teacher identities can allow repertoires of practice to shift toward being more deeply grounded in social justice (Daniels & Varghese, 2019; Gutiérrez and Rogoff, 2003; Teng, 2017).

In this section, I apply these frameworks of identity, tension, and emotion to the environmental educators' stories of experiencing climate change and becoming climate justice educators to uncover repertories of practice for justice-centered climate education. They have identified tensions related to their own eco/climate emotions, how students are experiencing eco/climate emotions, and how they see themselves as capable of teaching climate change and climate justice.

Tensions with our own eco/climate emotions

Across contexts, educators identified tensions related to their own eco/climate emotions and how students are experiencing eco/climate emotions. It is important to identify the different ways in which educators and students are experiencing eco/climate emotions and how they share

some of the same emotions, so that we can begin to see everyone as implicated in the emotionality of the climate crisis. Understanding the connections and tensions related to both teachers' and students' eco/climate emotions is also important when considering that developing a teacher identity is partly determined by the engagements teachers have with students and the lessons students teach us. Developing a teacher identity, strongly rooted in climate justice requires both of these considerations.

One important way that educators talked about their eco/climate emotions is seen in how Eli, who identifies as a white man, described his eco/climate emotions as feeling like a "pendulum". From one minute to the next, he moves from feelings like, "Oh my god the world is over. We suck. To like, I have so much hope and power and I can do anything.", which he expressed as a tension. This emotional pendulum is similar to emotional *oscillation*, or as described above, the process of staying present with emotions like grief, anger, or anxiety long enough to confront the emotion and reflect on it, without becoming too overwhelmed. (Torres, 2022). In Eli's case, he recognized his eco/climate emotions oscillating (perhaps to more of an extreme degree) and was beginning to name that. He also used this metaphor of a pendulum of emotions when talking about teaching climate change and climate justice. He described that when he has conversations with students about climate change, he moves between feeling like students don't care at all and "being like they're amazing!". As Torres (2022) discusses, this is a natural and healthy response and tension to work from, that Eli is beginning to recognize in order to get to a steadier state of emotional oscillation.

When I talked to Chloe, who is mixed-race, about experiencing climate change emotionally, she expressed feeling sad and somewhat pessimistic. She described having a few breakdowns, like when realizing that intergenerational relationships to place are changing. Chloe

was remembering that she used to read children's books about grandparents and grandchildren spending time together outside, sharing stories while under the same tree the grandparent sat under when they were a child or standing in the same field of flowers that their grandparents would go to with their grandparents. This sense of intergenerational connection with one shared place, "is not something that is guaranteed anymore", making it hard to be optimistic. Adding to the feelings of overwhelm and a lack of optimism, Chloe described that, "it's hard to think about all the things that are happening, that are going to happen, as one person and trying to address it all". For her, the tension lies within the oscillation of feeling overwhelmed and pessimistic and feeling responsible to teach climate change "fully and deeply". The tensions that both Eli and Chloe brought attention to highlight how in grappling with their own eco/climate emotions they are refining their teacher identities. The values they hold as teachers and people who care about the sustainability of Earth's lands and waters are somewhat conflicting with the tools they have to teach about and amidst climate injustice.

Similarly, when asked about a time she has felt strong emotions about the climate crisis, Ash shared that she feels emotional when thinking about how her hometown has changed due to wildfires. She said,

> It brings up a lot of emotions for me personally, as it is a place I grew up in, so I see how it's changed over twenty years, but also for students of mine who don't really know what it was like before. They don't remember having summers where they never had to worry about the smoke or like summers where the fire season was like a week long.

This was a tension for Ash as she recognized her connection to this place is changing, while her students' connections to this place have always included smokey summers and longer fire seasons; they don't know anything different. Increased wildfires due to climate change is the norm for her students, which is a tension to work from for educators.

Marjorie, a white educator, expressed tensions with her connection to place and her positionality while teaching in a community experiencing climate injustice. She shared a story about living in a rural area heavily impacted by extreme wildfires and a community that did not have easy access to fire suppression resources. In 2019, she was working at a high school where many of her students, who come from low-income backgrounds, worked jobs that required them to be outside. Marjorie shared,

> It was not uncommon that myself, my friends, my coworkers would leave during the insanely smoky time periods…You couldn't see outside your window and getting filters was impossible and a lot of the students I served were freaking still working on job sites! That was the very first time I ever felt I saw climate injustice and like the first time I felt angry, maybe.

While she was able to witness and feel from real experiences of climate injustice, being someone who isn't necessarily tied to this place in a long-term relational way, she was able to escape the realities of what it is like to live there amidst the climate crisis. Ash and Marjorie similarly experienced tensions with their own eco/climate emotions that impacted their teaching and teacher identities.

Marjorie also made connections to the place and community she is connected to back home (the home of her childhood). She described that the place she grew up in is "not experiencing wildfires, we're not watching the sea level rise in our town. We're not seeing fish die. We're not noticing species endangerment", so she is not yet physically or emotionally experiencing what it's like to lose a place that is nostalgic and important to her due to climate change. However, having left her home, she is grieving the home as she knew it in so many ways—the ways she was in relationship with the place and the people that shared that place with her, in particular the woods that she knew so intimately. With Marjorie's story, there is tension in seeing her students experience climate injustice firsthand, while being privileged enough to

escape the impacts of that climate injustice. This tension reflects her values as someone refining a climate justice teacher identity, and reflects a needed shift in practice as we continue to teach with ongoing climate injustice. Although her experiences with changing relationships with place may have less dire consequences, drawing connections between her own experiences and her students' allows for value-based and practice-linked identities to form.

Tensions with students' eco/climate emotions

For several of the educators, their eco/climate emotions are tied to their identities and responsibilities as teachers. Different eco/climate emotions exist for students, and there is a tension that educators experience in hearing just how direct many young people of this generation can be in expressing their emotions when given the chance. For example, during the third and fourth weeks of the graduate course, educators engaged in empathy interviews[17] with middle and high school students currently engaging in work to fight climate change and climate injustice. In interviews, several students clearly and directly expressed their eco/climate emotions, some without having yet been asked about their emotions. Engagement in these empathy interviews was meant to ground educators' thinking and practice in the real experiences, insights, needs, and hopes of today's youth and to learn from their expertise. In this practice, the educators each designed a set of questions about students' connections to nature and their feelings about and experiences with climate change. As they reflected on their empathy interview experiences, educators recalled that many of the students were upfront and explicit about their complex emotions related to climate change.

[17] Empathy interviews are typically "one-on-one conversations that use open-ended questions to elicit stories about specific experiences that help uncover unacknowledged needs". (Nelsestuen & Smith, 2020, p. 59).

During one of Willow's interviews, students shared that some of their biggest wishes when thinking about the future and climate resilience are to "not die" and "make it past college".They want to live long enough to enjoy some of the simple joys of human life (arguably some of the necessities of human life) into their adulthood, like existing amongst trees and breathing clean air. Similarly, while interviewing two high school students, S found that because of the climate science knowledge they hold and their deep awareness of how climate change is tied to the actions of older generations, they were very uncertain about their futures. S said that for the students, "it seemed impossible and overwhelming to imagine what kind of connection to nature would still be possible.". As Willow described, hearing young people talk about their futures in such a way is hard hitting and at the same time familiar, because we as adults are experiencing similar eco/climate emotions. While this can be daunting at times, several educators emphasized that these strong emotions provide an opportunity to both resonate with students, share similar feelings, and engage with our collective, intergenerational power.

Tensions with climate educator identity

Many educators expressed feeling like they aren't doing enough for environmental and climate justice. However, when participants were provided space to reflect on their eco/climate emotions, they shared stories about making connections in the garden with their students, sharing similar fears with them, and feeling overwhelmed as they contemplate the responsibility of emanating hope for them. These stories uncovered tensions they have with their identities as climate change and climate justice educators.

Ash, for example, talked about her experiences teaching in gardens with clear connections to the climate crisis and climate justice. When I asked her about how she thinks about climate change in her work as an environmental educator, she shared that she talks a lot

with her students about how climate change is impacting growing seasons and really takes the time to emphasize cultural connections to this phenomenon. For example, in North, South and Central America, Indigenous communities plant and grow different varieties of corn that have adapted to the climate of each region. Ash explained,

> There's corn varieties that grow by the Great Lakes that are accustomed to the shorter growing season and how cold it is. There's corn that can be grown in the desert, that doesn't need as much water and that can tolerate the more sandy soils. But they are so specific to that region that when the climate in those regions are changing, that corn can't be grown there anymore. So there's groups of people who are losing their traditional and cultural varieties of corn because it just can't be grown.

With this story she exemplifies specific ways in which she is teaching climate change in a contextual, local, and actionable way. Ash, an educator of Color, has been able to take up an integral role within climate justice education using her unique expressions and contributions (Nasir & Hand, 2008).

However, when specifically prompted to talk about her emotions related to teaching about climate change, Ash almost discredits the work that she is so beautifully able to do with young people in gardens. In describing how she is discouraged by the expansiveness of climate change, she said,

> When thinking about the expansiveness of climate change and a lot of what I learned in undergraduate about how waters are changing, and the soil, and the atmosphere, and the wind currents and things like that [are changing], it's like I can barely grasp that as a student myself let alone having to teach someone else about something that may or may not actually impact them in their lifetime is really daunting.

Ash is highlighting a tension in her experiences as a climate educator: she knows how to teach about climate change in the garden context, and she still feels overwhelmed by the idea of having to teach all that climate change consists of. She is recognizing how complex the phenomenon of climate change is to understand and to her, teaching it is another challenge. Although this tension of not feeling fully prepared or capable is natural, it suggests how repertoires of practice for

environmental education could shift to normalize teaching climate change with the skills and experiences you already have.

Seth, a white educator, described a tension in knowing how to respond to students' eco/climate emotions. He said that when teaching about any type of justice, including climate justice, he finds it is important to end with something hopeful because of how daunting something like climate change can be for young kids. However, hope can feel like a "finite resource" when teaching climate change, considering that educators are likely experiencing similar eco/climate emotions to their students. This leads to tensions in how to respond to students' emotions and teach with these emotions. Seth described that after emanating hope to his students he feels exhausted and wonders if he is lying to them by focusing on hope.

He shared a story in which he was checking in with one of his students during a period of the Covid-19 pandemic when school was totally remote and wildfire season was particularly bad on the west coast of the U.S. He said:

> It was the first week of school, I was starting school on Zoom, and it was when those crazy fires were happening in [California], and the sky was orange, like fully you would wake up and it was dark outside and the sky was bright orange. And we were like WHAT IS GOING ON? And I remember we were doing little check-ins with our students, and we hadn't met them in person yet, and I was talking to one of my students, [Jade]. And I was like [Jade], how's it going? And he was like, NOT GOOD! And I was like, why? He's like, I'm stuck inside, I can't go outside, it's dark outside, we're on Zoom, I can't be in school. And I was kind of just like, yeah buddy, same.

Seth described wanting to support Jade and instill some hope, but he was feeling the same frustrations that Jade was. Where were they supposed to go when it was unbearably hot and smoky outside, a deadly virus was spreading among human populations, and the area in which they lived is not infrastructured to support air conditioning in all buildings? Seth and his student Jade were commiserating about the climate impacts they were experiencing, which is an important and legitimate space of learning. Sharing emotions with and feeling alongside your

students should be normalized. Educators can be beacons of hope AND make it known to their students that they also feel eco/climate emotions. Seth did just this, by asking Jade how he was doing during this time of local and global crisis, by allowing him to feel comfortable enough to be honest, and by being open about his own feelings. Here, Seth has taken up an integral role with climate justice education by supporting emotional sharing and normalizing of emotions amongst teachers and students—starting to build a practice-linked identity of climate justice educator in new ways (Nasri & Hand, 2008).

Eli named his teaching as not feeling directly about climate change or climate justice, but more about working with students to understand their different connections to the environment. He described this tension in relation to CH—institutions like it exist in such beautiful forested places that are "isolated and private". How is learning done there connected to climate justice? He contemplated the value and importance of bringing students to CH knowing that being and learning at this kind of institution is not the only way to connect with nature and experience environmental education. To Eli, this is of particular concern considering that the realities of global climate change and social justice issues feel almost disconnected from the place of CH and time spent there, students come to learn on a privately owned piece of land that not every student gets the chance to bring their families back to.

Similarly, after engaging in a walking conversation about eco/climate emotions, Sage wrestled with the impact of the kind of education CH does with the school program. They problematized the narratives that this kind of environmental education promotes by situating nature away from many students' communities. They said,

> While it's great that students have the opportunity to come to CH and experience that, I don't know how much good it's doing in the long run if they're coming from far away, like an hour plus outside of their own community to experience nature and the outdoors. What message is that sending, like this is the only way to engage with nature and be in

> nature is in this really pristine nature preserve, when there are areas like this [the park we were sitting in surrounded by urban neighborhoods] that could be in their own communities?

The ways in which environmental education perpetuates the narrative of nature existing elsewhere and away from many communities impacts how young people and families are able to cope and engage with their eco/climate emotions. If we understand connections to the natural world as necessary for regulating eco/climate emotions and sustaining our bodies, minds, and spirits to keep advocating for healthy lands and waters, then reorienting to a narrative of nature existing everywhere is essential. Importantly, Sage reminds us that the harsh reality students of Color and working-class families face, being disproportionately impacted by rapid urbanization, redlining, and intentional exposure to industrial parks and hazardous waste facilities, interrupts how we shift the narrative of accessible and safe nature. “Ultimately, I'm wondering what are the pitfalls of sending students to these outdoor education facilities that are so far removed from their own communities.", and explicitly set apart from places and communities experiencing climate injustice. Again, the tensions educators like Eli and Sage encountered are important to their identity development as climate justice educators (Daniels & Varghese, 2019; Price & Valli, 2005; Gutiérrez and Rogoff, 2003). They are grappling with the relationships between their values and the pedagogies available to them, pushing toward practices that are more inline with intersectional environmentalism and climate teaching (Thomas, 2022).

Marjorie shared a story that also makes one question how the location of environmental learning can impact young people’s connections to nature. She described that when her students were given a survey about where they see nature at home versus at CH, the majority of them said that they don’t see nature at home and see nature everywhere at CH. This got Marjorie thinking about how she wants to work with her students to better see, feel, and understand their

relationships with nature, while also recognizing that, "our emotions are huge and big and accessing that is so hard and scary". How do we teach with and mentor students through grief and loss? Marjorie is very interested in this, but wonders if she is prepared to do so.

As she mentioned, many educators are healing in their own ways, from bad experiences they have had as students themselves—learning to be "in right relationship with your younger self". Marjorie expressed that she personally feels this need to be in right relationship with her younger self and those relationships, and that in doing this work of supporting her own experiences of grief and loss related to home, loved ones, schooling, etc., she is likely doing it for her students too. Normalizing these processes of healing for young people, and people of all ages, is essential, but the question stands as to whether or not outdoor environmental education spaces being so far removed from students homes and communities is the right move.

These stories of tension and not feeling like they know or do enough for climate justice, as environmental educators highlight an important nuance in how we conceptualize an environmental educator and the role that we play. Climate change and climate justice are important topics that are and should be a priority for environmental educators. The insecurity, ambiguity, and overwhelm these educators are experiencing indicate a need to shift what we consider to be part of teaching climate change, to lift up other practices like more intentionally creating space for engaging with the emotional side of living amidst a climate crisis, in addition to teaching the science.

We are experiencing challenging and new emotions such as eco-grief, including teachers. So how can we, amongst uncertainty and big emotions, continue to take risks and challenge normative practice? In the next section I demonstrate how the educators of this study started to build practice-linked identities of climate justice educators, working from many tensions like

those described above, to shift the repertoires of practice of an environmental educator in these times of climate crisis.

Shifting Repertoires of Practice to Engage with Climate Courage and Emotional Oscillation

Repertoires of practice are the ways in which people culturally participate in activities of a group or community, learned through observation and apprenticeship. Importantly, "examining the nature and forms of cultural artifacts and tools used; the social relations, rules, and division of labor; and the historical development of individuals and communities." can lead to insights about individual and community learning (Gutiérrez & Rogoff, 2003, p. 22). The framing of repertoires of practice also brings attention to the conflict and tension members experience with particular community goals and practices, necessary for ongoing change in both an individual's and a community's practices (Gutiérrez & Rogoff, 2003).

As individuals and communities adapt to conflict and tension over time, practices change. Tracing the tensions educators in the study have been grappling with, as they engaged with their own eco/climate emotions and contemplated their responsibilities as environmental educators to climate change and climate justice, we begin to see how repertoires of practice in environmental education can shift toward emotions. In the following section, I highlight different practices the educators reflected on and designed to facilitate their students' engagement with eco/climate emotions. An overarching practice that surfaced across class discussions, reflective assignments, and walking conversations was engaging *emotional oscillation*.

Several of the educators described emotional oscillation in relation to climate change as something both they themselves are experiencing as well as their students. While at times this oscillation can be more extreme (i.e. high highs and low lows), engaging with emotional

oscillation in a way that is beneficial, is to recognize one's ability to move between being present enough with an emotion to being able to reflect on the emotion and talk about it without becoming too overwhelmed that it becomes debilitating, being willing to engage with the oscillation, and then taking action. As described before, this takes climate courage. Through the development of lesson plans focused on climate justice and emotionality, and reflecting on their pedagogical commitments, educators have highlighted two necessary practices that engage emotional oscillation in beneficial ways: slowing down and engaging in creativity and art making. As Torres (2022) describes, taking the time to confront the limitations of our human bodies, emotionally and consequently physically, is humbling and also helps us in recognizing the need for community and collective action. In line with this idea, the educators have designed relational and creative ways to both validate and normalize the spectrum of eco/climate emotions, as well as provide space for collective dreaming.

Before we dive in, I want to emphasize that the practices educators describe here are not new. Storytelling, storylistening, connecting emotional wellbeing to the land and others, and thinking with the past, present, and future are all Indigenous practices from around the world (Archibald, 2008; Elliott-Groves, 2020; Cajete, 2005; Marin & Bang, 2015). Grounded in BIPOC histories and knowledge systems of the environment and social justice, the CH graduate program has provided these educators with many tools to utilize as they shape their own teaching commitments and guiding principles. Throughout the study, they have importantly and consistently recognized these ways of knowing and doing as non-Western and Indigenous knowledge.

The shifts in repertoires of practice that the educators describe offer needed attention to (1) the current moment of climate change, (2) more recent recognitions of the importance of

emotions and affect, (3) and a long overdue acknowledgement of the vital environmental knowledge BIPOC communities hold. As they have stated, "The skills any given generation believes most important for youth to learn are relative to place and time. Educational priorities are always a reflection of the [dominant] society they're embedded in". Some of the skills necessary to live justly during the climate crisis include, being able to "experience and process emotionality as a path toward sense-making, layering understanding, and grappling with complexity" and "identify dreams, hopes, or goals that can motivate one to think about the future." In this section, I work with the environmental educators' stories, reflections, and lesson plans to demonstrate how they use the repertoire of practice of *pedagogical climate courage* to beneficially engage emotional oscillation in themselves and to foster it for their students.

Pedagogical Climate Courage

For many educators, there is a strong desire and need to instill a sense of hope for the future in our students. This is especially true when experiencing, learning about, and taking action on socio-ecological injustices, like climate change. As described above, climate activists and educators have pushed back on how we engage and teach with climate hope (Heglar, 2020; 2021; Lauria, 2022; Marvel, 2018). When engaging with young people around issues of climate change, immediately reaching for hope without first allowing them to engage with their various eco/climate emotions (like grief or anger), disregards their agency and power to handle tough or complex situations. Jumping right into hope or optimism can stifle other eco/climate emotions that young people are experiencing and can sometimes feel like an empty promise, further dividing generations. Instead, being *climate courageous* in this context can lead to engagement with different eco/climate emotions and allow educators to work from their unique strengths to be advocates of climate justice alongside our students.

The environmental educators' stories of teaching about climate change while outdoors highlighted a practice that I term *pedagogical climate courage.* Pedagogical climate courage stems from the recognition that amongst all of the uncertainties, there is an ongoing willingness to keep going and to keep building the sustainable futures that we want and that we know are possible. Educators in the study demonstrated this kind of courage in the ways that they talked about ceding power in their students to take climate action based on their different eco/climate emotions, how they used their own eco/climate emotions to shape their pedagogical tools, and how they used the knowledge and power they have as educators to put in effort towards change even though they expressed hesitancies about being "prepared" enough to teach climate change and climate justice. *Pedagogical climate courage* encouraged an acceptance of the messiness that is this work of climate justice education, resulting in small actions towards emotional oscillation and a sense of radical hope.

Rio, for example, relied on pedagogical climate courage when they allowed the power of students' emotions to shape their future teaching. They shared a story in which one of their CH student groups picked up a chant that had really stuck with them. When they walked around the CH campus together, the students repeatedly proclaimed in unison, "Adults know nothing, kids know everything!". This kind of proclamation from elementary-middle-school aged kids is not too surprising and could easily be dismissed as purely humorous or kids just being kids, but it's a powerful and often truthful stance nonetheless. Rio described that they found themself coming back to this chant as a stark reminder of how young people aren't always taken seriously when it comes to understanding the world. Their interpretation of the chant was that, "there's not like this respect that they [young people] know enough to make sound decisions".

In our class discussion, Rio likened this to how youth climate activists around the world have been making the same demands of the largest carbon emitting corporations for years at conferences like COP 28, with little to no change in return. While changing policies is arguably a complex issue and while youth activists have carved out more space for their voices to be heard in the last decade, their power is not being fully respected. Rio shared that now they often think of their student's chant when working with young people, so that they can share power and develop consistent mutual respect with them, as they are frequently denied agency in their daily lives. This is thinking with pedagogical climate courage and is a bridge to intergenerational solidarity. Rio had the courage to engage with the expression of their students' anger and/or disappointment towards adults, rather than ignoring it, brushing it off, or legitimizing it.

Chloe demonstrated pedagogical climate courage in the ways she allowed her eco/climate emotions to shape her commitments to education. During our walking interview in the beginning of Spring quarter, she had described feeling pessimistic about our abilities to stay connected with places that are intergenerationally important to families as the climate crisis continues. While reflecting on her pedagogical commitments, she shared a similar pessimism and that she "had [previously] committed to not having children out of a feeling of fear that it would be criminal to bring another 'polluter' and 'destroyer' into the world that would be detrimental to the earth…or that it would be unkind to bring a child into a world with a potentially bleak future." Shifting away from this, she then committed to "having hope in youth" and creating space for emotions and creativity in her climate change teaching. This shift took climate courage, and being climate courageous allowed for beneficial emotional oscillation or more of a sense of stability in her eco/climate emotions.

By the end of that quarter, she had designed a guide for intergenerational storytelling that encourages families to talk about climate change and their emotions, demonstrating her shift from feeling pessimistic about remaining connected to the land as the climate crisis continues to imagining and creating spaces for climate storytelling and engagement with eco/climate emotions. Chloe's pedagogical climate courage allowed her to reach a state of emotional oscillation that benefited her—she worked from her initial feelings of fear to build a learning tool that benefits intergenerational learning and connections to place in the future.

Lastly, pedagogical climate courage is accepting that climate justice requires many different approaches to teaching climate change, not solely teaching climate science. Similar to recent messages in climate activism, "We need every solution and every solver…What this moment calls for is a mosaic of voices—the full spectrum of ideas and insights for how we can turn things around." (Johnson & Wilkinson, 2020, p. xxi). Each person has unique skills and abilities to contribute to our collective climate justice efforts. When we acknowledge that this is our collective responsibility in our teaching too, emotional oscillation occurs. Rather than being overtaken by feelings of fear, insecurity, ambiguity, and overwhelm, we can teach from our strengths, what we know, and what we are willing to know, which is enough.

One of the educator's, Ash, used her pedagogical climate courage to rely on her existing strengths and knowledge and leaned into teaching climate change through gardening as a legitimate path for teaching and learning. Much of Ash's experiences teaching have been in gardens. During our interview, she had spoken confidently about teaching climate change in the garden by focusing on how crops can and cannot adapt to changing climate and what this means for communities that rely on food they can grow locally. While she was confident about her

abilities in the garden, she also expressed feelings of overwhelm and insecurity when thinking about teaching the entirety of climate change.

Later in the climate course, Ash showed pedagogical climate courage by creating a zine that introduces youth to gardening. She used her deep knowledge of and history with gardening to provide a guide for others who want to grow their connection to the land in similar ways. In this guide she drew connections to climate change and how connecting to the land through gardening can help youth develop essential skills during times of crisis, can help regulate eco/climate emotions, and can encourage rest. Using her pedagogical climate courage, Ash extended the knowledge and experiences she already had to facilitate new learning with climate change, reengaging with emotional oscillation.

Students and educators alike, need courage to dig into our different and sometimes more negative eco/climate emotions to understand what these emotions are telling us. Throughout their different learning experiences, the educators have demonstrated different kinds of pedagogical climate courage, in how their own explorations of eco/climate emotions shaped their lesson designs and in the ways they embraced new orientations to teaching climate justice. The shift toward pedagogical climate courage as an repertoire of practice within environmental education demonstrated how emotional oscillation can be engaged with in ways that are beneficial for teaching and learning amidst a climate crisis.

"We're not in the practice of making space for the loss."

One eco/climate emotion that educators engaged with was eco-grief—they disentangled what it means for them and politicized it toward action. This took pedagogical climate courage. By diving into discussions of eco-grief, they engaged with emotional oscillation to stay present with, reflect on, and confront the grief they themselves are experiencing and to work towards

engaging with emotions as part of their teaching practices (Torres, 2022). With new life experiences and circumstances amidst climate change, educators need courage to emotionally sustain ourselves, each other, and our students. In this section, I highlight how the educators harnessed their pedagogical climate courage by choosing to better understand what is happening when we say we are experiencing eco-grief and what is at stake across communities, and then used what they learned to shape their practices.

During our class discussions, the educators brought up that for those with deep connections to and relationships with the land, like many Indigenous communities and farmers, eco-grief is multidimensional. As described by Cunsolo and Ellis (2018), eco-grief is based on three dimensions of loss: physical ecological loss, loss of environmental knowledge, and anticipated future loss. The course instructor, R, built from this framework saying, "These [experiences of loss] are all functions of identity and purpose. And when we are grieving those things, when we're losing those things, we're losing not just what we do, we're losing who we are, and we're fearing loss of our purpose in life." She added that eco-grief also has intergenerational impacts. When a central part of someone's life, part of their identity and sense of purpose is threatened, because their crops can no longer grow amidst warmer temperatures, harsher winters, and harsher storm events or they can't fish in their cultural ways due to smaller salmon populations and subsequent regulations imposed upon them, their young people are witnesses to this loss and experience this loss too. Eco-grief has collective impacts for families and entire livelihoods, especially for those closely connected to the land.

Continuing to think about loss of place and purpose, the educators made connections to different kinds of grief. Rio talked about emotional dysregulation due to displacement and forced migration. They emphasized how feeling emotionally disoriented from this kind of loss and

change is a very natural response, and something many immigrants and refugees know well. Rio shared that in thinking about eco-grief, they are reminded of their family and community's experiences with displacement and forced migration and how they are again faced with similar feelings of dysregulation and mourning as their family currently experiences climate change impacts in the Northeast U.S.. They said,

> the changes we've seen [in the northeast] has brought a lot of emotional dysregulation and I didn't really think about it until I was thinking about my own mourning…Checking in with family and friends, they remind me of all the things that have changed, like winter and summers feeling different and just how much more that impacts them and their relationships with place.

In sharing this personal connection to grief experienced from displacement and forced migration, Rio is highlighting just how layered the emotional impacts of climate change can be on marginalized communities. These disproportionate impacts can be retraumatizing.

In an Atmos interview, Gabes Torres describes this form of emotional dysregulation that marginalized and frontline communities experience as a "familiar anxiety pricking years later" (Bauk, 2023). Growing up in the Philippines, "the most storm-exposed country on Earth", she has strong memories of typhoons and cyclones, seeing neighbors' roofs fly away, and fearing not having enough food during these times of crisis. These memories follow her during mild storms or noticeable changes in weather. The memory, the grief, and the anxiety live within your body. She says, "even though I was reasoning with myself, Gabes, you're in a different time and place, it made me realize that my body kept a record of what happened years ago in 2006." (Bauk, 2023). While these experiences of eco-grief are grounded and real, having space and time away from these specific realities, like Rio described having while in graduate school, can start to make the grief feel more abstract or ambiguous—emotional oscillation due to time and physical distance.

S, another educator, related eco/climate grief to ambiguous grief or loss—a kind of grief that many people with chronic illness and disabilities experience, in which the grief is ongoing and isn't necessarily centralized around one thing or being. S described this kind of grief as being messy and untidy. She said,

> grief can be regarded as an illness or broken bone, and I actually have a problem with that framing because it seems like a broken bone that has healed is such a tidy ending…I think the thing that we need to be preparing people for isn't that tidy ending, but more like an ongoing, shifting, ambiguous grief, rather than the tidy metaphor of a broken bone that's healed, because things aren't going to suddenly go back to some idealized state of how things were before.

Similar to how ambiguous grief is experienced with disability and chronic illness, S talks about eco-grief as a feeling that can be at the same time all-encompassing and hard to place, and something that can't necessarily be healed, especially as the climate crisis continues. This grief is untidy, especially when we consider how loss of different privileges and luxuries due to climate change will happen.

Collective, Community Practices of Grieving

Throughout these discussions, educators looked to different communities and how they experience grief to better understand eco-grief as a community of educators. Indigenous communities and other communities with strong connections to the land, displaced and refugee communities, and disability communities were each identified as groups of people who have existing knowledge and experiences with grief that can be learned from. This is pedagogical climate courage. Rather than accepting eco-grief as just feelings of sadness we experience as the natural world changes significantly and then moving on, the educators welcomed how these feelings could teach and change them by looking to some of the most marginalized communities for teachings—uplifting and centering the knowledge of marginalized communities is a practice

of environmental justice. This process of politicization shifted how the educators were thinking with the emotion of eco-grief in their practices, shown in their discussions of collective grieving practices below.

The concept of collective grieving practices came up across discussions with the educators, but was highlighted during a professional development session that I lead about supporting youth learning and wellbeing with collective, socio-ecological grieving practices. As mentioned previously, this session focused on thinking with cultural, collective grieving practices as a way to engage with the complicated emotions we experience due to climate change. Collective mourning is one form of emotional practice that brings visibility to injustices, allows us to stay present with our changing emotions, and promotes solidarity (Atkinson, 2021; Wray, 2022). We learned from traditional Filipino and Chinese grieving practices and began to co-create ways to engage with young people in making sense of our eco-emotions and adjusting to our changing socio-ecological world.

Upon connecting to their own cultural grieving practices and learning from others, the educators emphasized how in many cultures, community is prioritized when grieving. They reflected on how being in community while grieving sometimes feels like giving yourself the permission to grieve and opens you up to new possibilities. This is in contrast to grief framed as solely an individual act or something to be experienced in private and held within oneself. The educators also talked about how some cultures and communities think about and practice grieving as an act of giving thanks.

Seth and Eli shared about the Mourners' Kaddish as an example of giving thanks through loss, and how they could use this form of collective prayer to grieve the changing lands and bring attention to the gifts the land provides. Similarly, Valerie shared a practice she engaged in with

students in one of her previous outdoor teaching experiences, where they would lay lost animals to rest in a special orchard and would continuously celebrate the lives of these animals as they watched new trees grow and produce fruit. She and the other educators passed on the knowledge of giving back to the land and regeneration with their students.

Before the educators began thinking about, dreaming, and designing collective grieving practices for their own eco-emotions and/or their students, I shared my cultural example of collective grieving. In the Philippines, there is a holiday known as All Souls' Day, Undas, Araw ng luluwa, or Pangangaluluwa, in which families, friends, and neighbors come together at the gravesites of those they have lost. It consists of preparing and eating a lot of food (especially the favorites of our loved ones), cleaning and decorating graves, and lighting candles. During this celebration of love and family, we remember those we have lost, but we also celebrate and give thanks for the time we have with those who are living, and look forward to our futures together. This emphasis on celebrating and giving thanks for the present and future is something we need more of when considering eco-grief. It helps ground the work that we do, so that we have the strength and courage to keep fighting the fight, which is something marginalized communities around the world know quite well.

Some educators emphasized that the lack of collective grieving practices in our individualist society can inhibit collective action. Comparing climate change to the Covid-19 pandemic, S was recognizing similarities in how we have not made room for grieving the collective loss brought on by the pandemic. She said,

> As a society, we have not allowed for any expression of collective grief, or even acknowledgement at this point. And that has stymied action, even though the pandemic is ongoing, because you have to be able to acknowledge grief in order to take action. If you don't even let yourself acknowledge the problem, you're preventing that grief, but then you're also preventing action.

S is expressing a need for the acknowledgement and engagement with grief brought by mass experiences and phenomena such as a pandemic and climate change before action can take place. Collective grieving is not the norm in our society and is needed for climate justice action. Moreover, we need openness and courage to grieve and to grieve collectively.

Similarly, Sage emphasized that "our capitalist, white supremacist society" is not structured to make space for processing our emotions. "We don't have time…to feel very strong feelings and recognize the importance of them in order to move forward as a society." Rio added that "we're not in the practice of making space for the loss", which is a hindrance to sustained, collective action. Asking people to just trust and jump on the train for climate action will only get you so far without holding space for these complex emotions.

The educators also utilized pedagogical climate courage to dream and design collective grieving practices for the Earth to engage their students in. These new eco-grieving practices included: creating art together, making a meal together and collectively giving thanks to the plants and animals that you eat (e.g. a thanksgiving address), and creating and acknowledging memories. The educators built new forms of eco-grieving and new collective meanings through this process, creating an environmental education that better supports collective, sustainable, and thriving socioecological futures for more people and the planet.

Slowing down, "It's like a way to gauge, and motivate, and ground your efforts…while also giving you that therapeutic feeling.

Throughout the Teaching Climate Justice, Climate Change and Emotionality course, the educators named and designed with two practices that utilize pedagogical climate courage. The first practice is *slowing down.* Slowing down, physically, mentally, and emotionally, is part of

emotional oscillation when it comes to experiencing climate change and is something social justice activists don't ignore (brown, 2017). Importantly, slowing down is "space and time away from the unforgiving landscape of productivity", while not neglecting "our responsibility to the world we live in". (Odell, 2019). As I discuss in the next pages, slowing down, whether that be through changing one's physical environment or engaging in a creative project, reminds us of the reasons why we engage in the work of climate justice and allows for the rest and recalibration necessary for collective action. Leaning into the narrative of moving fast to solve the climate crisis operates from a scarcity mindset, and can easily lead to perpetuating some of the same problems that got us here (i.e. capitalism). Slowing down is necessarily a part of climate efforts that are justice-centered and sustainable long-term (Ray, 2020), so that we don't replicate climate injustices or continue using band aid solutions that don't address the root of the issues.

One example of how the educators modeled slowing down as a practice of engaging with emotional oscillation was seen during an outdoor engagement with the climate class. About midway through the course, I led a learning engagement that I developed around place, emotionality, and movement. To change up the environment and connect to a natural space away from academic walls, we took a short field trip to a nearby park in which we moved together in conversation about eco/climate emotions. The park we traveled to is a half-mile wooded ravine, surrounded by urban neighborhoods, with small creeks, trails, picnic areas, a ball field, tennis courts, play area, public restrooms, and many local plants. After reading a few excerpts together, I invited the educators to think about the following questions and share stories while moving through the park with their colleagues: (1) What can place afford us in navigating our emotions around climate change and climate justice? (2) How can moving together outside help us in understanding complex emotions about the climate crisis? (3) Considering your intersectional

identities and your connections to climate change, how does it feel to be and move outside?

During this learning engagement, *movement and motion* were purposefully used in our language and intentions because of what I have been learning from the educators about disability justice and creating liberatory and sustaining experiences outdoors for people with all abilities. Therefore, with this activity, our goal was for each person to move in ways that made sense for them and felt good. One of the main ideas of the activity was being outside and engaging with the environment as educators had conversations with their colleagues. According to Marin and Bang (2018), "walking, reading, and storying land cultivates learning about the natural world and coming to know one's place in the world." (p.89). Rooted in Indigenous ways of knowing, they emphasize that interaction between land, the more-than-human world, and people, through talk, gesture, *movement*, environmental features. etc., provides opportunities for the transformation of action and learning. In line with this, we utilized what Ware (2022) calls "cripped walking practices". As a queer, disabled artist, activist, and scholar, they are advocating for "a walking methodology that is not tied to the act of using one's legs for locomotion—rather a methodology tied to our experiences of moving through space, in a variety of embodied ways." (p.237). With this in mind, we engaged in movement in place and with the land, sat with and discussed some of these big questions, and shared stories.

During our group debrief, we talked about how natural spaces can make us feel emotionally, mentally, and physically, how they can remind us of what's at stake, how they hold memories and imagined futures, and how racism and ableism underlie the ways in which natural spaces are accessible. Several of the educators agreed that being out in this park for class felt good and sustaining, and was a nice change from sitting inside a windowless classroom. While discussing, one of the educators Gabe, mentioned *pace*—an idea we thought with in chapter two.

He reflected on how the pace of one's environment, in this case a forested city park with a small burbling creek, affects the pace of your own movement and mind. He said,

> As far as navigating emotions, I was thinking and talking a lot about pace and the pace of all of the things in the park and in the environment around us, and how that affects the pace of our movement and inevitably our minds and our thoughts, and how that might help us navigate them [our emotions] in a more authentic, relational, contextual even, way.

Here he is identifying place or being in and with a natural environment as having the ability to slow our movement and mind to engage with eco/climate emotions in more intentional ways.

Similarly, Benny described that the act of being in place, specifically a natural place, can remind you of "what's at stake", how adaptable and resilient the land is, and what work still needs to be done. He said,

> It's like a way to gauge, and motivate, and ground your efforts, hopefully, while also giving you that therapeutic feeling, to kind of keep your mind focused on why this [environmental and climate justice education] is important, why it's worth getting up everyday and doing something about it.

As some of the educators described, when we think about how easily accessible and viral news and information about the climate crisis is, connecting with the natural world is critical to combat the almost "dulling" or "numbing" feeling one can experience when having so much information at your fingertips. Taking a moment to ground oneself in the reasons we do this work and the people and places we do it for by connecting to the land, can help with engaging emotional oscillation and preventing burnout.

Like the educators have described in class discussions, slowing down via being in place and with the land is necessary for emotional oscillation. The slowing down allows for necessary reflecting, processing, rest, and recalibration. Benny witnessed this in sharing stories during his empathy interview. He recalled a story one of his interviewees shared about experiencing quicksand for the first time—this student had once found themself in quicksand and instead of

panicking for a solution to this predicament, noticed a lizard and the way the lizard moved slowly across the sand without sinking. In all of its complexity, this story was shared as an example of a formative experience in nature for this student. Benny related to this student's story and made a profound connection between how this student both turned to nature for answers in a time of crisis and held this memory as a touchstone for remaining connected to the natural world. For Benny, this story served as an intuitive way to move toward climate action. He said, "Come to think of it, I can hardly imagine a better metaphor for climate change. The longer we ignore the situation and carry on moving forward, the sooner we sink. *The only way out is to slow down and take a long hard look at our surroundings.*" For Benny and this student, sharing stories was a lesson in building emotional and climate resilience by slowing down the ways we approach climate action physically, mentally, and emotionally.

Slowing down in practice

As I am coming to understand it, emotional oscillation can help in recognizing that our eco/climate emotions are both normal and valid. Being able to move between feelings of sadness, joy, grief, wonder, and hope is human and possible when we make space to slow down. One example of working with students to normalize complex eco/climate emotions that Valerie and Marjorie shared is acknowledging how emotions like grief show up in our lives in little ways. During a group discussion Valerie said, "I mean change is constant…and I think that we are always sort of grieving little changes." She discussed how these changes that seem insignificant to adults may feel very big and important to our students, so trusting them and pausing to give attention to or grieve those "little" changes normalizes what it looks and feels like to experience complex emotions.

Marjorie added that being with nature also validates and normalizes emotions, because of how we can experience different emotions when we're outside. Slowing down and "drawing attention to [moments] when you hear or you see this thing or this phenomena that fills you with an emotion, naming that as a celebration and revisiting it…not only are we celebrating and being present with those moments," we are recognizing how we existed with that specific place and those specific people. She said, "How can creating and calling out those little moments help students process and remember their relationship with a place?" For Marjorie, this could look like inviting students to write down or draw on a little piece of paper the emotions they are experiencing and/or who (human or more than) filled them with an emotion during a sit-spot activity, to later string these little pieces of paper together and hang for everyone to view, reflect on, and talk about. This kind of slowing down can ground you in place and help in the processing of 'why' and the reasons we care and do the work of environmental/climate justice.

In a similar way, Willow identified a way to engage with their eco/climate emotions that has been helpful for themself and hopefully their future students. In one of their course reflections, they shared their practice of observational drawing. For Willow, listening to and watching birds alone with the more-than-human world or in the company of loved ones, paired with observational drawing, is a natural way for them to "engage in conversations that [feel] weighted and overwhelming.", like talking about climate change and injustice. This practice allows them to more deeply listen, to engage their emotional capacity to discuss death and disaster, and to appreciate the life on Earth we are fighting for. Willow recalled moments with her students in which they "looked towards the stories that were being told and acted in the branches above." and how this slowing down and paying attention to the natural world helped build "relational gratitudes" for each other and the land. Creating and engaging in art making

only adds to this reflective practice. Observing, listening to, and drawing birds has also been a practice of joy, wonder, peacefulness, and excitement for Willow, which they describe as necessary emotions for climate resiliency. They said, "All of these emotions, to me, are essential to humanity's survival and ability to thrive in our changing world. To change with our world, we must be willing to listen, to take the time to see and feel what our bodies feel, to be present in what the present is calling for."

Throughout these examples we see how slowing down as a repertoire of practice can facilitate emotional oscillation in relation to climate change. By connecting with the land and more-than-human others to more deeply engage with their eco/climate emotions, engaging with nature to evoke and name eco/climate emotions, and looking to the natural world for inspiration and creativity, educators have demonstrated how slowing down is part of this process. They have also shown how slowing down to facilitate emotional oscillation can reground one's work in abundance, rather than panic and scarcity. In slowing down, especially slowing down in community with others, we can more easily recognize that we are not alone in our feelings and that there is still a lot to be protecting and fighting for. Slowing down is a practice of pedagogical climate courage. It requires a release of urgency that many people existing within capitalism are not necessarily used to. As I will describe in the next section, being creative similarly allows us to work from a space of abundance.

Engaging in creativity and art making

The second practice educators designed with that utilizes pedagogical climate courage is creativity and art making. Creating and making art is abundant with possibilities, including engaging with emotional oscillation—a practice of slowing down that requires courage. This is

evident in the educators' reflections of their experiences with collective art-making in class. During one class the educators were led in an art-making activity by a guest instructor, in which they used different mediums to freely create around different climate change, climate justice, emotionality, and education themes that they identified themselves. The educators described the process as being similar to collaging. In the end, they created a large collaborative art piece and each took home a piece of the collective artwork. In their reflections of this experience, they talked about this practice unblocking their creativity and opening them up to new art possibilities in their teaching. Others talked about it positively impacting their energy levels due to the shared social experience and exchange of laughter, and others talked about it being visually stimulating because of the use of many colors and mediums.

The educators found this art-making experience to be a joyful and generative experience—needed for emotional oscillation. It was also a launching-off point for creative climate solutions. In their reflections they discussed how engaging in art-making takes away certain expectations. For example, when they were creating with their friends in this class session they felt like they were creating art and climate solutions simultaneously, which feels different than how climate education can sometimes be rigidly or scientifically solutions-oriented. To the educators, climate education that is participatory and that centers creativity and art-making allows learners to focus on the "what if" rather than the "what is". Engaging with the "what if", or the possibilities of creative climate justice solutions, requires pedagogical climate courage.

This focus on the "what if" and imagining the futures through art-making was seen in some of the lesson plans educators designed around climate change and emotionality. In S's lesson, for example, students are asked to identify current environmental issues in their lives and identify how they are feeling in regards to these issues, to then create the future they want and

need through collective art. She said "In order to know what a future may look like (or what students dream of it looking like), we first have to get in touch with what it looks like and feels like now [in the present]." When S used this lesson at CH, students named "summer cooling down", "species coming to life and being supported", and "giving houses to unhoused people", as their dreams for the future. From this list of dreams, they were each asked to create something. Once they each created something, they would then bring all of their creations together to see their collective dream for the future of our climate.

S really emphasized collective dreaming through creation and art making as a way to get people thinking about climate change in personal and emotional ways without getting bogged down in the negative feelings, and her students' artwork demonstrated that—emotional oscillation. One student in particular showed an ability to engage with emotional oscillation in a way that benefited his learning. At the start of the lesson, this student was apathetic and hesitant to be engaging in art, but when he allowed himself to use the open-ended opportunity to create, his emotions shifted. He created a two-sided piece in which one side of the paper represented "pollution", consisting of abstract shapes and entangled lines giving off an air of frustration, and the other side was an image of a group of smiling people amongst trees, water, and the sun which he described as the future he wants with his family. While perhaps not revolutionary, with the opportunity to create he designed a climate future that evoked a positive emotional learning experience in the end. Other students depicted cities full of trees, regular rainfall and seasons, and harmonious living amongst humans and all living beings in their collective climate future.

Similarly, the series of three art activities Sage designed asks students to make connections between their relationships with the natural world, current climate change impacts, and building a collective image of the future. While Sage did not have the opportunity to engage

their students in the dreaming stage of this art practice, their design captures how emotional oscillation is facilitated across the three art activities. When Sage's students engaged in the first activity, students drew images of clear skies with sunlight, mountain scenes with birds flying over, a campfire, trees growing with humans, a backyard, and underwater scenes with lively fish, when asked to represent their connections to nature. These images evoke feelings of joy, curiosity, care, and love—natural emotions that help ground the work of climate justice in sustaining these worlds for humans and all beings.

Ash's lesson also prioritized this necessary step of building and strengthening students' connections to the natural world for emotional oscillation through art-making. With her lesson, students are asked to create artistic representations of "how they feel when in nature" or "what being in nature looks like to them", using what can be found around them in the natural world. For example, Ash's students at CH created natural sculptures out of sticks, rocks, moss, and wood chips to represent their relationships to storytelling around a campfire, their connection to local salmon, and the time they spend in nature with their dog. One student recreated the feeling of sharing stories at a campfire by having everyone sit around the structure of a campfire they created while sharing a story with the group. In her reflection of this lesson, Ash emphasized that this creative learning space could be further built upon to have students make connections to how creating in nature makes them feel and how they feel when thinking about how climate change will impact this particular place.

In Sage's lesson, students were also asked to depict what the world would look like in twenty years if we didn't make any individual or collective changes in response to climate change. After engaging with the images they created of pollution killing sea life, a person reveling in the fact that they are rich off oil production and air pollution, and a literal melting

house, students discussed how these images made them feel "guilty" and "depressed". This kind of emotional engagement is helpful in that it both grounds future actions in the climate realities and injustices that many people are facing, and allows for safe exploration of complex emotions—reminding them of what's at stake and what's possible. Having started with representing their connections to the natural world, students have formative and/or positive emotions that they can come back to when they do the important work of dreaming and creating the climate futures they want, without falling into the trap of paralysis and defeatism.

With enough scaffolding and time to unpack different eco/climate emotions, the combination of these art activities would allow students to engage with emotional oscillation. As previously discussed, emotional oscillation is a natural process our human bodies are capable of doing. Slowing down and engaging in creativity, as we've seen in the examples from educators, are practices that enable us to recognize this natural process of emotions.

Emotional oscillation can also be facilitated by removing certain expectations about climate solutions and being open to more expansive ideas through art making. Lastly, pedagogical climate courage, or the willingness to keep going, to put in the work with the skills and strengths that we have, and to create and build toward sustainability, thriving, and what makes all beings healthy, facilitates emotional oscillation for educators and students. While seemingly simple, these three practices are a reminder of the role environmental education can play. Environmental education is a learning space that prioritizes being with the natural world to develop understanding and foster relationships, so that all interdependent beings on Earth can live sustainably, and naturally has the space for this kind of emotional climate work with young people. The educators in this study have shown how pedagogical climate courage, as a repertoire of practice, can facilitate emotional oscillation that benefits climate change and climate justice

learning. Learning experiences that are climate courageous encourage *slowing down* and *engaging in creativity,* ultimately allowing one to be more grounded in how they act upon their eco/climate emotions and towards action.

Concluding Thoughts

Throughout this chapter, I focused on how environmental educators shifted repertoires of practice (Gutiérrez & Rogoff, 2003) by critically engaging with eco/climate emotions and working from tensions. In some ways, doing this work has led to shifts in identity. Using a practice-linked identity (Nasir & Hand, 2008) lens, we can see how in "becoming" climate justice educators, somewhat of a weight has been lifted off the shoulders of these educators through new engagements with emotions. They recognize that embodying a climate justice educator identity and contributing to the movement can look like engaging with emotional oscillation themselves and working to facilitate that for their students—a key part of collective action and being climate courageous.

They utilized pedagogical climate courage to both problematize norms within environmental education and narratives around climate change, and to reorient to ways of knowing and doing that have been neglected or ignored within their practices—centering emotion as a necessary learning resource (Curnow & Vea, 2020). Practices like slowing down and engaging with art and creativity, while somewhat simple, take courage because of how they require engagement with one's emotions and intentional reflection on the past, present, and future. Amidst many of our current harsh realities, students need this kind of sustained courage exemplified to them by educators, in our actions and in how we trust them in the ongoing collective work of climate justice.

Narrative Interlude: Musings about courage

Listening to the ways that the environmental educators talked about uncertainty while they exuded confidence and stood firmly in their dedication to supporting culturally sustaining ways of being in relationship with lands and waters was inspiring. I feel hopeful. Although I don't always feel hopeful, it's encouraging to know that they are leading the field of EE into more just and thriving futures and working with young people and communities to sustain cultural connections to the land, not just for the sake of education but for the betterment of society and all life on earth.

In this work of environmental education, I have been angry, frustrated, anxious, sad, curious, grateful, and full of joy. I have also celebrated, cried, raged, been self-conscious, and been challenged, among other emotional experiences. Accepting that all of these emotions and experiences can exist alongside one another is courageous. To deny these critical ways of understanding the world is in part denying our own humanity. Although capitalism would like us to believe we exist to be workers and profit makers above all else, we simply are not. And emotional experiences, like teaching during a worldwide pandemic and deadly wildfires, quarantined inside while smoke consumes neighborhoods and cities, feeling like you have to assure your students that we'll be okay, educators are telling us that life outside of capitalism, environmental destruction, and climate disaster is necessary and it is possible.

As I have grown in my identity as an educator and been shaped by those I share space with and look up to, I have learned that this work takes courage—courage to make mistakes, courage to learn from mistakes, courage to unlearn, courage to show up, to keep showing up, and to be in community, courage to do things differently, courage to listen, and courage to dream. Seeking justice and collective liberation through education requires this kind of courage.

Chapter 6: Offerings & Invitations

Offerings

With this concluding chapter, I offer a synthesis of the broad ideas and practices that emerged from this study and invite environmental educators and learning scientists to consider the expansiveness of learning with and from emotions as a critical practice for climate justice. Across the three analysis chapters, I demonstrate how environmental educators, part of the CedarHarbor (CH) graduate program, co-created theories and practices of environmental and climate justice education through engagement with emotion. By highlighting how *walking in conversation* encouraged storytelling and created space for processing emotions, how emotions allowed for *critical perspective taking* and *learning through contradiction*, and how educators utilized *pedagogical climate courage*, I worked to address the following research questions:

1. How does moving outside in conversation surface nature-culture relations and commitments to environmental and climate justice?
2. How do environmental educators' identities, histories, and emotions impact their understandings, participation, and teaching toward environmental and climate justice? and
3. How can critically engaging with educators' eco/climate emotions shift their understanding, participation, and teaching toward climate justice?

Aiming to address the first research question in Chapter 3, I highlighted how engaging in walking interviews, rather than standard face-to-face interviews, allowed educators to be in conversation with the lands/waters and more-than-humans while we discussed connections to place, nature-culture relations, eco/climate emotions, and climate justice education. This research practice encouraged natural pauses, interactions with nature, and unique opportunities for

connection. As Marin (2020) discusses, shared embodied practices, like walking, recenter lands/waters and more-than-humans as contexts for theory building around cognition, learning, and human development. Throughout the walking interviews, educators' stories built from and shifted with the natural surroundings, leading to short instances of relationship building and deepening. Whether I responded to the educators' interactions with place by structuring their attention and encouraging more of these pauses along the way, or they recalled a memory sparked by the place we were in, our attention was brought to our connections—connections to place, connections to each other, connections to beings. Walking in conversation with environmental educators was an intentional practice for being present, an embodied practice necessary for building knowledge with lands/waters and more-than-humans, and a generative practice for re-grounding oneself in the reasons we do the work of environmental education.

Walking in conversation also served as a pathway to engaging with eco/climate emotions and a springboard for action. Through the use of an emotions wheel and embodied emotions mapping tool, the educators showed how walking can facilitate connection with one's emotions. At a time when teaching and being a graduate student was stressful, having the intentional space and time of the walking interview allowed them to talk through big ideas, feelings, and things they care about. For some educators the process was even therapeutic, and a space for dreaming that reaffirmed the environmental and climate justice work they want to be doing.

In Chapter 4, I discussed how the educators oriented to environmental and climate justice education in new ways by sharing their stories, histories, and emotions during the walking interviews. These walking conversations centered emotional conversations and supported their engagement with *learning through contradiction.* Importantly, the action of walking and being in conversation provided an additional space and time, outside of classes, for the grad students to

process and speak openly about their emotions. Learning through contradiction happened as they engaged with the tensions and emotions that arose when they began to question and work on shifting the established norms of EE (Engeström, 2001). For the environmental educators, learning through contradiction was a practice of being in new relationships with their challenging emotions (see conceptual framework in Figure 1), so that they could sustain the necessary cycles of transformation within the broader activity system of EE.

Additionally, tensions with belonging in EE led to deeper understandings of the contradictions within the critical work they were doing with CH faculty in their graduate learning, the teaching they were doing in the EE practicum space, and the values that CH held as a broader EE organization. Misalignments of identity, teaching practices, and how the graduate students were coming to know themselves as justice-oriented educators through the graduate program allowed them to shift repertoires of practice in generative ways (Gutiérrez & Rogoff, 2003; Herbard, 2016). Although this process was at times frustrating and uncomfortable, working from this tension provided opportunities for individual and institutional change (Herbard, 2016; Price & Valli, 2005). Because the CH graduate program is open to being challenged by their own graduate students, change at the program level is possible (Varghese, et al., 2019)—evidenced in how the graduate program has evolved over the years with student pushback. More openness to learning through discomfort and contradiction and disruption of normative practices is necessary for change at the organizational level (i.e. the larger organization of CH and EE organizations like it) and the institutional level (i.e. the field of environmental education). As Seth so clearly stated, "I want CH to exist because I think it is doing so much amazing work. I just want it to be better and be a leader in institutions like it."

Considering institutional limitations within mainstream EE, and the pushback educators experienced as they aimed to create more spaces of belonging for People of Color and people with disabilities in EE, learning through contradiction allowed them to reconfigure how their identities, lived experiences, and understandings of justice fit within the current context of environmental education—for some, that meant reimaging and creating new possibilities outside of EE. Nonetheless, by following these tensions and moments of learning through contradiction, I argue that emotion is an important sense-making tool within EE. Intentional engagement with emotions throughout an intensive graduate school experience exposed how the educators' emotional, tense, and sometimes contradictory experiences existed in complex relation with the histories, power, and norms of EE (Ahmed, 2015; Vea, 2020; McMain & Strong, 2021).

In Chapter 5, I highlighted how repertoires of practice within EE can shift to more intentionally incorporate emotion as a sense-making tool by tracing how the environmental educators experienced tensions with their students' and their own eco/climate emotions. Exploring these tensions was part of critically engaging with eco/climate emotions. The educators stayed with these emotions and participated in embodied activities, like walking in conversation, practicing art, and slowing down, to work towards new relationships with emotions and healing emotions. For some, this looked like working with the understanding that eco/climate emotions oscillate in their own personal processing of the climate crisis and/or in their justice-oriented teaching practices. For others, this looked like recognizing that being a climate justice educator is complex and can take on many different forms—working with others to engage with eco/climate emotions as an integral role in the broader movement and working from one's unique expressions and skills.

During graduate course discussions and walking conversations, they explored the tensions between their EE practices and their identities as climate justice educators. From a practice-linked identity perspective (Nasir & Hand, 2008), the ways in which the educators shifted practices to make engaging with eco/climate emotions more central to EE took some of the pressure off the educators in their processes of "becoming" climate justice educators. A key part of collective climate action and embodying a climate justice educator identity that they encountered is engaging with emotional oscillation, and that being able to recognize and practice this requires courage.

The environmental educators were shifting repertoires of practice throughout the study. One important shift was utilizing and embracing *pedagogical climate courage.* They engaged with pedagogical climate courage by disentangling and politicizing eco-grief, problematizing norms around engaging with emotion and narratives around climate change, and emphasizing a need to physically slow down and to engage with creative practices like artmaking amidst current changing socioecological realities. In the designs of their lesson plans and their reflections on their practices, they modeled pedagogical climate courage in the ways they ceded power to their students to take climate action from engaging with eco/climate emotions and how they demonstrated a willingness to keep working toward climate justice despite some uncertainties of what being a climate justice educator requires. Ultimately, the educators showed that pedagogical climate courage is in part an acceptance of climate justice education as a process of learning that can sometimes feel contradictory yet dynamic, and that being climate courageous can result in action, beneficial emotional oscillation, and a sense of radical hope.

Invitations

As Odell (2019) describes, when something is "felt" it is hard to go back to what that experience is like in the abstract sense (p.134). Engaging with eco/climate emotions as a learning process of tracing what is felt and hoping to learn from what our emotions are telling us promotes the transformation of norms and systems in ways that have yet to be considered or need to be recentered. Making space and time to actually feel the frustration, the anger, and the grief experienced due to the climate crisis or the ways in which EE practices are aligned with social justice could change how efforts of climate justice are approached. Given the unprecedented nature of the climate crisis and the messiness that climate justice education often carries, I invite environmental educators to think, teach, and design with pedagogical climate courage as it facilitates action and learning with and from emotion. As the educators in the study demonstrated, having pedagogical climate courage looks different based on unique skills and past experiences. Being courageous and taking action can start with slowing down to engage with one's own eco/climate emotions, to then shape pedagogical approaches that affirm students' emotions and encourage collective climate action with and through these emotions. Whether you utilize courage to slow down during this time of socioecological uncertainty and urgency, through walking together in conversation or engaging in collective creative practices, taking some time to slow down is needed and courageous.

Although I can not definitively conclude that walking in conversation enables the development of new/different relationships with challenging eco/climate emotions, this analysis adds to the learning sciences and EE literature by bringing together learning through movement and embodied learning with emotion as a sense-making tool. Walking in conversation with environmental educators lent itself to shifts in both research and teaching practices. The walking

interview methodology I used uniquely encouraged storytelling with and about nature-culture relations and created space for processing emotions while with and surrounded by lands and waters. It proved to be a valuable qualitative research tool within EE research. Similar to what learning science and other social science researchers have found previously (Kinney, 2017; Marin, 2020; Marin & Bang, 2018; Riley & Holton, 2016; Taylor, 2018; Ware, 2020), the ways in which walking in conversation naturally allowed for shifts in interactional practices, topics of discussion, and emotion, also highlights the practice as beneficial for building and deepening nature-culture relationships in EE. To fully understand the impact of walking in conversation as a pathway for learning with and from eco/climate emotions, further research could be done on how meaningful places shape engagement with emotions, the impacts of walking in conversation with larger groups of people, as well as longitudinal studies that trace the impacts of a series of walking conversations over time. Learning with and from emotions, felt experiences, movement, and embodiment have much more to offer the fields of environmental education and learning science as we continue working towards justice and collective liberation.

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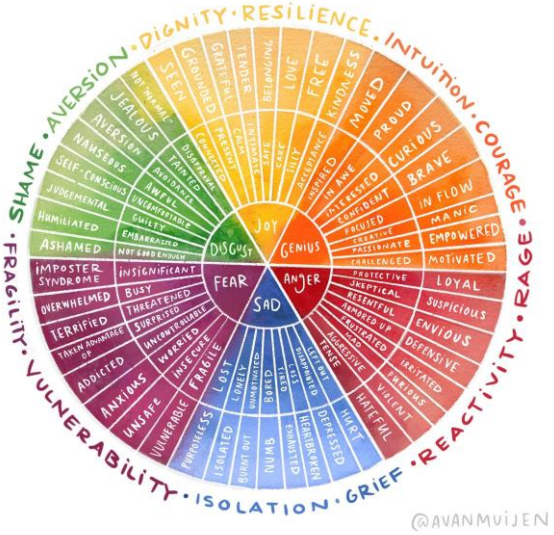
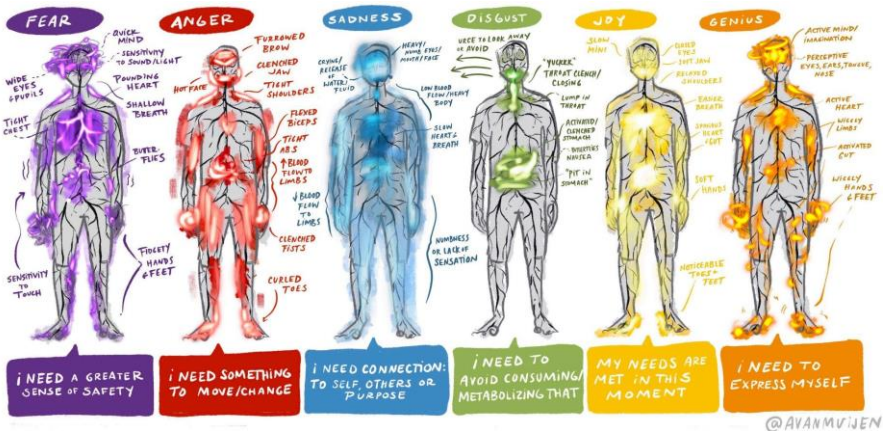
Appendix A: Walking Interview Protocol

Engagement with emotions wheel	Upon arrival at the participant's selected location for walking, ask the participant to engage with the emotions wheel below as a grounding in exercise. Potential guiding prompt: How are you feeling at this moment? How are you feeling being outside? Please circle the emotions named on the wheel that best represent how you are feeling. Feel free to add/write in emotions that may not be listed. 
Interview questions	While walking, use the following questions to guide the conversation. Be open to how moving/walking together and engaging with the natural environment around you shifts and shapes what you talk about. Encourage your participants to engage with what they see, feel, and hear. Feel free to share your own interactions as well, to make the interview more conversational. ● How did you experience nature as a young person? How has this shifted over time? ● Can you tell me a story about how you got into environmental education? ● How does it feel to talk about this? Can you name any specific emotions? ● Can you remember a time in which you experienced strong eco/climate emotions? ● How do you think about your identities (racial, ethnic, gender, ability, religious, etc.) in relation to environmental education? ● How do you think about environmental justice? ● How do you see yourself being part of environmental and/or climate justice movements?

Engagement with embodied emotions mapping tool	Now that you have walked in conversation, invite the participant to engage with another emotion mapping tool. This tool allows one to map their emotions to physical, bodily feelings and then think about what they need in working with these embodied emotions. 
Optional take-home journal prompt	To extend this experience beyond the interview, you can invite your participants to engage with one of the following prompts to continue this reflection on emotions: ***Write a "love letter" to your current or future self*** Making personal sense of our emotions & entering into different relationships with these emotions, is challenging and critical work. Show some love to yourself! Before starting your letter, take three deep breaths. Feel the Earth below your feet. Get grounded. Use these guiding questions as inspiration: ● How can you show gratitude and have grace for yourself in the work that you are doing? ● What does your future self need in relation to education and the climate crisis? ● Be honest, yet gentle with yourself. Be open and let the words flow! ***Write a found poem*** Another way to engage with the natural world as we make personal sense of our emotions and climate futurities through creative expression 1. Take a moment to go outside, look out a window, or simply sit. 2. Free write what you see, feel, and/or hear for 5 minutes. 3. From your free write, select singular words and/or 2-3 word phrases to piece together a poem.

	Create a piece of art thinking about your present emotions & the futures you are working towards. Art examples from Abby Van Muijen below: