Prospectus

EXAMINING MIDDLE SCHOOL STUDENTS' EMPATHY WITH THE ENVIRONMENT WITHIN A CRITICAL PLACE-BASED ART EDUCATION PROGRAM

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I. Introduction

The trademarks of modernity are isolation and alienation. We can now see these schisms in a myriad of spheres — in the worldwide ecological crisis as humans have become estranged from the Earth (Gablik, 1991), in the breakdown of established senses of community as the central role of place has dwindled (Orr, 1992), and in the high level of high school dropout rates as students have become disaffected with an educational system which bears little resemblance to their everyday lives (Smith, 2002b). Orr (1992) mourned, ". . . our immediate places are no longer sources of food, water, livelihood, energy, materials, friends, recreation, or sacred inspiration" (pp. 263-264). Place-based education seeks to remedy these disconnections by infusing place back into the curriculum and, in the process, making connections between students and the community, students and the environment, and students and schooling. It operates through an ecological paradigm, which emphasizes the interconnectedness of all living things. Empathy can facilitate these connections and, thus, is an integral component in the development of such a paradigm. Art, with its capacity to convey emotion and connect viewers in an embodied empathy, may be an ideal medium for helping students develop and expand that empathy into an increased consciousness for all living things. The purpose of this mixed methods case study is to examine how middle school students in a critical place-based art education program experience empathy with the environment.

This problem affects everyone as we are all in the midst of an ecological crisis. We hear of the global effects of it every day in the latest headlines warning of rising global temperatures, escalating extreme weather, declining populations of fish, increasing pollutants in the ground and water, and mounting miles of trash in the Pacific Ocean. But these warnings are not abstract; we can see this ecological crisis in our own communities, neighborhoods, and backyards. As the

local economy has dwindled and given way to an uncaring global one, we can feel the effects everywhere. The rise of industrialization, capitalism, and consumer culture has contributed to our current crisis. Berry (1993) described the dangers of "an absentee economy, once national and now increasingly international, that is without limit in its greed and without mercy in its exploitation of land and people" (p. 8). This global economy stretches to every community, and its destruction comes in many forms. Berry detailed the pressures that farmers encounter when they are forced to compete in a global market due to revisions in the General Agreement on Tariffs and Trade. This global competition can lead farmers to adopt abusive practices toward the land in order to survive in the global market. In 1949, Leopold (1966) described the destruction of the local flora surrounding his Wisconsin farm due to clean farming, woodlot grazing, and good roads. Even as far back as 1854, Thoreau (1854/2000) lamented the impact of the railroad and the hundred Irishmen who took the ice "skin" off of Walden pond in order to ship it to faraway locations (p. 237-238).

While the rise of the global economy may have led to these many destructions, our unbalanced philosophies and cultural myths are at the heart of the crisis. Bowers (2001) identified several "root metaphors" or "metaschemas" that underlie the rise of the Industrial Revolution, economic globalization, and our ecological crisis. The first root metaphor is that change is linear and always leads to progress. This Western notion can lead us to assume that the youngest members of a culture should determine cultural life and that traditions are oppressive. This view of progress can lead to the loss of proven traditions, practices, networks, and customs that may still be relevant to living sustainably in an area. The second root metaphor is the belief that humankind is superior to and separate from the natural world. This view goes back centuries and is founded in the "biblical mythopoetic narrative of creation" (Bowers, 2001,

p. 407). Humans as conquerors of the natural world relates to a patriarchal psyche, which has been overemphasized in Western culture (Gablik, 1991). Gablik described how our Eurocentric, patriarchal thinking has led to our current "hypermasculinized modern culture," which emphasizes detachment from, neutrality toward, and domination of the land (p. 4). The emphasis on humanity's separation from the natural world also relates to Cartesian dualism in its emphasis on a rational, separate individual. Dualism marks this ecological crisis and modernity through its emphasis on the dichotomy between self and nature, spirit and matter, self and community, and art and society. The third root metaphor is the belief that the individual is a basic social unit (Bowers, 2001). This view becomes dangerous because when we see individuals as separate from society, we imply that individuals have no sense of responsibility toward the community or standard of behavior (Berry, 1993). The implications of these root metaphors can be seen in every facet of Western life including our economy, our art, our communities, and our land.

As a culture, we need a change in our root metaphors or paradigms. We cannot add new ecological knowledge and attitudes to our existing schemas. Bowers (2001) positioned this new root metaphor as one based in ecology. Through a worldview rooted in ecology, we can see ourselves as participating interdependently with the natural world in a "complex web of interacting systems" (p. 410). Rather than change as linear and progressive, we need to see change as non-linear patterns (Bowers, 2001); rather than humans as separate from nature, we need to see ourselves as connected with and interdependent with nature (Gablik, 1991); rather than humans as dominators of the natural world, we should embrace a feminine consciousness and see ourselves as empathizing with, caring for, protecting, and healing it (Gablik, 1991); and rather than individuals as autonomous units, we should see ourselves as socially and ecologically responsible members of households and communities (Berry, 1993). Such a worldview

embraces cultural diversity, which we need in order to learn ecologically sustainable practices from cultures that were able to live on the same land sustainably for generations (Bowers, 2001).

The ecological paradigm calls for a recognition of the self as part of a larger, more complex whole, and, thus, requires an expanding of consciousness. Through a deeper awareness and understanding of the "other," we can move past the traditional distinctions and definitions that divide us. Evolutionary theory suggests that we each have an open window in our early years, before deep, long-lasting attachments and social identifications have formed, when we are universally drawn to all humans and even to living things (Schwartz, 2009). This open window provides a wonderful opportunity for education that could aim to encourage children's openness to continue despite acculturation, and thereby, maintain students' universal sympathy for all living things.

Education seeking to maintain this open window and expand students' consciousness must cultivate empathy. Empathy evolved from the German concept of *Einfuhlung*, which literally translates as "to feel within" or "to feel into" (Franklin, 1990), and was developed to describe an individual's embodied response to an image, object, or space (Koss, 2006). Empathy involves traversing the empty spaces that divide, finding a common intersecting point, and then constructing an understanding of the other. Aesthetic experience has the capacity to facilitate such understanding. Much like its predecessor, *Einfuhlung*, which was developed to explain an aesthetic experience, empathy is intimately tied to aesthetic experience. Because of the strong connection between aesthetic experience and empathy, art education is an ideal ground for developing empathy and, thus, an ecological paradigm. As art educators, our goal should be to help students develop an empathy that moves beyond the immediate, embodied empathy that occurs when a student engages with an artwork. This empathy becomes an expanded empathy,

an inclusive level of consciousness, which allows for caring feelings for people and other species, regardless of how diverse and distant (Herron, 2009). Herron explained how this expanded empathy can be accomplished by helping students refine their feeling from an aesthetic experience through reflection and then allowing that feeling to "nudge its way into the psyche as a whole displacing, replacing, and educating other functions" (p. 121).

Education that aims to help students develop this expanded consciousness must be experiential. Traditional environmental education, with its knowledge-based focus and traditional pedagogical structure, is not effective in changing students' environmental attitudes (Stevenson, 1987, as cited in Smith, 2007). Students must directly experience the environment. They must have the freedom to interact with it and respond to it. Leopold (1966) claimed, "We grieve only for what we know" (p. 48). Experience and interaction is critical in cultivating a relationship with the environment, as with any relationship. In order for this to occur, education must be rooted in the local environment. Place-based education fulfills this role. It offers students the opportunity to learn through an experiential, student-centered approach and situates education directly in the realm of the local—in content and context. This strong connection with the local environment makes education relevant by connecting it to students' real lives, providing real-world experiences, meeting the emotional and spiritual needs of students to connect with nature, and better preparing students to protect land and communities (Gruenewald, 2008).

The visual arts are a way to facilitate this process by cultivating the imagination. Greene (1995) professed that the arts enable empathetic understandings. Because of this power of art, artworks representing the natural world or addressing ecological issues can be valuable in cultivating an ecological imagination. Through informed aesthetic experiences with works of art, we become defamiliarized with our own way of viewing the world as we become open to

new perspectives (Greene, 1978). A multitude of ecological perspectives are available through art. In our current ecological crisis, where our current ways of relating to the world are harmful, education must respond. We need to release students' imaginations to create change. Art education and critical education have the potential to release the ecological imagination to affect change. My dissertation study aims to study the field of critical place-based art education which offers bright promises for impacting students' ecological attitudes but lacks research.

This study aims to understand how middle school students experience empathy with the environment as they participate in a critical place-based art education program. In the second section of this proposal, I will address the theoretical framework of the ecological imagination which is an adaptation of Greene's (1995) theory of the social imagination and is informed by theorists in various disciplines addressing ecological issues. In discussing the ecological imagination, I am referring explicitly to the imagination engaged in envisioning different ecological realities—different ways of being in relation to the natural world. Later in this section, I will review the theoretical and empirical literature related to place-based education and ecologically-responsive art education. In the third section, I will outline the mixed methods case study design I will employ as a teacher-researcher and how the pragmatic paradigm is particularly appropriate for this study. Through studying how students experience empathy for the environment within a critical place-based art program, I hope to gain insight into the process of cultivating empathy and ecological attitudes with the art classroom. Such data may broaden our understanding of the role and direction art education should play in helping students cultivate ecological attitudes.

II. Literature Review

Theoretical Framework

The imagination has the power to break through familiar definitions and distinctions that divide, to facilitate empathy, to expand our consciousness, to envision alternative realities, and to begin the process of working toward a better world. Greene's (1995) conception of the social imagination described these powers applied to the social world. Although the imagination is needed to bridge the social boundaries that isolate us and to work toward a better social order, we should not neglect its potential power within an ecological context, where arbitrary boundaries between humans and living things exist that need to be bridged and new ecological realities need to be constructed. An ecological imagination is needed. While the term *ecological imagination* may have first been used in literary criticism as a way to describe certain authors' writings of imaginative accounts of place (Worster, 1993), it has recently been used to respond to a call for an imaginative approach to ecological education. In discussing the ecological imagination, I recognize my conception of the ecological imagination overlaps in many important ways with the ecological imagination called for by ecological education theorists (Jardine, 1998; Judson, 2010; Karrow & Kentel, 2007; Payne, 2010). Nevertheless, for the purposes of this proposal, I will focus on a conception of the ecological imagination, which is largely an adaptation and expansion of Greene's idea of the social imagination, and is designed to respond to our need for a better ecological future.

In seeking to help students cultivate a relationship with the natural world, a curriculum founded on the ecological imagination is imperative. In this proposal, I will first discuss Greene's (1995) conception of the social imagination and how I have appropriated this concept in service of the ecological. Then I will discuss the role that the imagination plays in facilitating

empathy, in particular empathy with the environment. I will describe how this empathy for the environment can become an expansion of our consciousness to include all living things. Next, I will discuss how education can cultivate the ecological imagination. Last, I will conclude with how the ecological imagination specifically informs my development of a critical place-based art education curriculum intended to cultivate an appreciation for the natural world.

The Social Imagination

Greene's (1995) *Releasing the Imagination* introduced her visionary theory of the social imagination aimed at a recasting of our world. It is utopian in that it is a means to a more fulfilling social order. She defined the social imagination as "the capacity to invent visions of what should be and might be in our deficient society, on the streets, where we live, in our schools" (p. 5). Through the imagination, we envision better states of affairs: classrooms where students are fully engaged in learning, neighborhoods where community is present, places where the land is cared for ethically. These visions of better states of affairs function to awaken us to the current severity of our situations and to the possibility for change. For example, in envisioning classrooms of students enthusiastically engaged in learning, we notice the apathy that defines too many of our classroom and the inadequacy of non-experiential educational approaches. In envisioning communities that come together to support one other, we become aware of the isolation and divisions that exist in too many of our communities.

Through the imagination, which makes visible the deficiencies in our current situations, we are moved to repair them (Greene, 1995). Greene claimed, "Imagining things being otherwise may be the first step to acting on the belief that they can be changed" (p. 22). This connection between imagination and change rests on the imagination's ability to make things that are invisible visible, things once nebulous clear, things far away and abstract close and in

concrete form. Friere (1970) described the movement from the intangible to the tangible as changing from a "blind alley," a state of confusion and paralysis, to a workable challenge (as cited in Greene, 1995, p. 61). Situations and solutions need to appear concrete—only then can we act. Imagination makes this possible.

The Ecological Imagination

Greene (1995) thoroughly outlined the power of the imagination within the social world. While she does not explicitly limit it to the social realm, she also does not explore its role in other contexts. Because the imagination is so transformative, its power should not be confined to the social world. Thus, I would like to appropriate Greene's conception of the social imagination and apply it to the realm of the ecological. This appropriation also represents an expansion in that it is reaching beyond the human world to the world of humans and all living things. In discussing the ecological imagination, I am referring explicitly to the imagination engaged in envisioning different ecological realities—different ways of being in relation to the natural world.

Like the social imagination, the ecological imagination is able to imaginatively bring forth a better state of affairs. These better states might include communities which mobilize to create gardens, local parks, and recycling centers; lands which boast clean rivers, protected forests, and cared for soil; local businesses which value and promote sustainability and conservation. Through bringing forth these better states, we become more aware of the dangers in our current ecological predicament. For example, in envisioning a close personal relationship with the land, we become aware of our current lack of access to nature in many communities. In envisioning communities growing in harmony with the land, we become aware of the overabundance of concrete, asphalt, plastic, and metal, which too often define us. In envisioning

businesses promoting sustainability, we become aware of the damage so many have done. Like the social imagination, the ecological imagination has an awakening function, often serving to awaken us to detect the divisions that separate us from connecting with the natural world, to acknowledge the degraded state of the earth, and to uncover abuses to the land.

Imagining better ecological possibilities and recognizing the problems inherent in our current ecological situations are critical steps to becoming more ecologically aware citizens. However, to fully respond to this ecological crisis, a propensity to act is required. Imagination has the capability to move ecological awareness into action. As Greene (1995) discussed with the social imagination, the imagination is able to make possibilities appear concrete. We are moved from a state of despondency, cynicism, or paralysis when we can vividly see another way. Because of the tangibility of these visions, they become achievable. They can be seen, felt, and heard. They become a part of us. They become possible. All that is required is a simple breaking forth, a departure from the typical, a leap of faith, a movement to create in tangible form what is already so corporeally felt—a creative act.

The ecological imagination can be assisted in this process when it is employed within the context of the local. The local context serves as a location to draw from in imaginatively constructing better ecological realities, a location to survey with a new-found awareness of the possibilities, and a physical location for action to occur. Berry (1993) asserted the importance of a local focus: "You can't act locally by thinking globally" (p. 23). Though a global awareness is important, an emphasis on abstract, global issues and distant lands does not provide concrete locations for achievable change to occur. The emphasis should begin with smaller, more local issues such as the invasive plant species, kudzu, across the street that is choking the native plant

life or the litter in the nearby river. Global visions may temporarily inspire, but local ones are the ones to create sustained change.

The Ecological Imagination and Empathy

In addition to allowing us to envision better alternatives, awakening us to the harshness of conditions, and inspiring us to act for change, the imagination has the capacity to cross boundaries and facilitate understanding and relationships. Greene (1995) claimed the social imagination allows us "to break with familiar distinctions and definitions" (p. 3). She depicted how our society is often fraught with distinctions as historically, groups of people who varied from the dominant group in terms such as gender, age, ethnicity, religion, culture, education, health, and geographic location have been regulated to the category of the "other" (p. 3). Now, we live in an age where we have begun to recognize our shared human condition and the dangers of marginalizing groups of people. To truly break with dividing definitions, we need the ability to understand those whose lives and ways of being vary significantly from our own. This understanding should also extend to the natural world. In light of our ecological crisis, we now see how the dangers of distinctions extend to those between humans and the environment, where living things are often seen and treated as the "other." This false dichotomy positions humans as conquerors of the land instead of components of an interconnected set of systems. In our age of such separation, empathy is necessary to bring understanding and connection.

Greene (1995) declared, ". . . imagination is what, above all, makes empathy possible" because it allows us to "give credence to alternative realities" (p. 3). Greene expressed how the social imagination can allow one to grasp another person's reality. She illustrated how it can be a means of extending our own experiences so that we can take hold of the world of another as a "human possibility" (p. 3). It involves a recognition of the "integrity and coherence" of

another's world without necessarily approving or appreciating it (p. 4). It is a crossing over the empty spaces, a pushing of boundaries, a merging of horizons. But this crossing, pushing, and merging should not be seen as a simple transference of one's world to another or a grasping of an external, objective reality. Rather, it involves an active construction of the reality of another, which is affected by situation and life experience (Immordino-Yang, 2008). Such constructed understandings are vital to opening new perspectives and pushing past traditional divisions that inhibit and harm.

In order to push past the destructive boundaries that separate humans from nature, empathy with the natural world is necessary and possible. Although Greene (1995) focused principally on empathy between persons and social groups, empathy is not restricted to the social domain. The very derivation of the term attests to this. Late nineteenth century German aesthetician Robert Vischer developed the concept of *Einfuhlung*, which literally translates as "to feel within" or "to feel into" (Franklin, 1990). Vischer developed this concept in order to describe an individual's embodied response to an image, object, or space (Koss, 2006). Vischer wrote of the experience, "I transport myself into the inner being of an object and explore its formal character from within" (as cited in Jeffers, 2010, p. 32). The concept of empathy evolved from this rich tradition of an embodied experience. In 1909, E. B. Titchener translated *Einfuhlung* into "empathy," and soon after, American scholars adopted the word (Lanzoni, 2009, p. 333). Its origination in an aesthetic experience to describe the dialogic understanding that occurs between a viewer and a work of art (White, 2009) demonstrates that empathy can occur between a human and a non-human entity. Buber's (1937/1947) writings described how this can occur between humans and nature. In describing the *I-Thou* relationship—an engrossing, fully empathetic relationship—he outlined three "spheres in which the world of relation arises" (p. 6)

including the sphere between humans and nature. He gave the example of being bound in an *I-Thou* relation with a tree. This experience is empathetic in that it involves a loss of sense of self and a holistic embrace of the *Thou*. Through this sort of empathetic, all-encompassing embrace of the natural world, divisions dissolve and relationships form.

The Ecological Imagination and Art

The visual arts are a way to facilitate this process by cultivating the imagination. Greene (1995) claimed the arts enable empathetic understandings. Our ability to construct understandings often relies on our ability to use our imaginations poetically, "to enter into the 'as if' worlds" created by artists "and to be in some manner a participant in artists' worlds reaching far back and ahead in time" (p. 4). For instance, when we experience Romare Bearden's (1974) *Out of Chorus*, we feel the vibrant energy of the jazz club. We can imagine sitting in a crowded Harlem nightclub in the 1920s listening to the drums beating and the saxophones and trumpets playing. We extend our own experiences of listening to jazz music to imagine the pulsating experience of listening to this jazz band. Likewise, we experience the world of Kathe Kollwitz's (1919) widows and orphans in her charcoal drawing *Widows and Orphans*. The bleak, hollow-eyed faces of the women and children stare out at us. We extend our own experiences of pain and loss to imagine their world—a world full of devastation, fear, hunger, and despair. We can imagine the shock of witnessing the brutalities of war and the despair that accompanies the loss. While one may not have lived during the 1920s, visited a jazz club, or experienced the horrors of war, the arts provide an avenue with which to imagine and empathize with such experiences.

Because of this power of art, artworks representing the natural world can be valuable in cultivating an ecological imagination. These artworks provide an opportunity for viewers to empathize with others' experiences of nature and possibly even with nature itself. For example,

when we experience Albert Bierstadt's (1868) *Among the Sierra Nevada Mountains, California*, we can imagine Bierstadt's sense of awe at the dramatic landscape. The viewer can imagine his feelings as he walked through a grove of trees and stepped out into a clearing that suddenly revealed towering cliffs and majestic waterfalls. Similarly, when we experience William Kentridge's (1998) stop motion animation film *Weighing. . . and Wanting*, we enter into his protagonist's world. We can imagine the character's sense of loss as he gazes out at the devastated Johannesburg landscape, stripped of vegetation and punctuated with metal structures. We may also enter into the tortured world of the land itself. In seeing the depleted gold mines mutilated by twisted metal, we may imagine the pain of the earth. By entering into these artists' imaginative worlds, we are awakened to ecological realities and possibilities.

Through informed aesthetic experiences with works of art, we are roused from our present states and modes of seeing the world to become receptive to new perspectives (Greene, 1978). These new perspectives may involve regarding the land with a sense of awe and wonder, as with Bierstadt's work, or mourning the devastation of the earth, as with Kentridge's work. A multitude of ecological perspectives are available through art. When we experience a work of art that is outside the fringes of our own experiences, we must reach beyond our own limited world to connect with it. In so doing, we begin a process of "reconceiving and revisualizing" the world (pp. 4-5). In viewing Bierstadt's painting, we may now recast our world as more majestic than previously considered. In viewing Kentridge's film, we may recast our world as precious and worthy of protection and care. This reframing of the world involves a "de-centering" of the self and an expanding of consciousness (p. 31). In this act, we move beyond the "given"—beyond our everyday acts of "non-being"—to moments of awareness (p. 23). We are moved to moments of expanded consciousness where we are inspired to break from the habitual to ask a crucial

question: "why?" (p. 6). Through this wakefulness and subsequent recasting of the world, we revise the scope and terms of our own lives in relation to the earth.

The Ecological Imagination and Education

Greene (1995) positioned the release of the imagination as a way to cultivate empathy, expand consciousness, conceive of better possibilities, and engage in critical dialogue for change. In our current ecological crisis, where our current ways of relating to the world are harmful, education must respond. We need to release students' imaginations to create change. Art education, critical education, and place-based education offer great promises for releasing the ecological imagination.

Art education. Because of this power of art and its role in cultivating the imagination, Greene (1978) advocated for pedagogy that fuses art education and aesthetic education. Her aim is not merely to increase students' experiences with the arts but also to prepare them for informed experiences with the arts. Greene (1995) agreed with Berger (1984) that given our current culture, which separates art from the masses in a number of ways, young people are unlikely to openly and spontaneously engage in aesthetic experiences with works of art without education. In aesthetic education, the teacher must work against the culture of the "passive reception" of knowledge in most classrooms and instead encourage a culture of active participation with art through aesthetic experience (p. 123). Active participation with art through aesthetic experience allows student to imaginatively enter into the artists' worlds. This entering is not a simple transference of reified meaning but an active construction. Self-reflection and dialogue provide for further construction and reconstruction of meaning. Art making is also a method for constructing and communicating meaning. It is an imaginative and transformative act. Sartre (1949) declared, the act of art making is aimed at the "total renewal of the world" (as

cited in Greene, 1995, p. 21). A combination of aesthetic education, a pedagogy that inspires students to be present, and art education, a pedagogy that inspires students to create, is capable of releasing students' imaginations and empowering them to act.

Because students are imaginatively entering into artists' worlds, the artworks that form the curriculum are critical. Gablik's (1991) *The Re-Enchantment of Art* provided insight into the types of artworks that may be capable of cultivating the ecological imagination. In this seminal work, Gablik critiqued contemporary art and called for art responsive to our social and ecological crisis. This art rejects isolating and harmful modernist myths and immobilizing deconstructionist tendencies. Rather, it falls within a reconstructionist approach with a focus on ecological attunement, interconnectedness, responsibility, recovery, and healing. She cited the works of contemporary artists Andy Goldsworthy, Lynne Hull, David T. Hanson, Rachel Rosenthal, Fern Shaffer, and Richard Rosenblum among others as examples of this new responsive art. While Gablik's focus is on Western contemporary art, we should not discount the artworks from other cultures and times, which may also emphasize ecological interdependence and wholeness. Through a curriculum including such artworks, education can cultivate the ecological imagination and critical dialogue.

Critical education. Greene (1995) advocated for education to create social change. Her emphasis on the need for critical dialogue and the release of the imagination to create change moves her curricular theory into the social reconstructionist realm. Typically, humanist curricular theory brings an emphasis on developing self-actualization, emotional attachment, and empathy; and, social reconstructionist curricular theory brings an emphasis on improving the real world. Although her advocacy for a curriculum that cultivates empathy through the imagination aligns with humanist curricular theory, her advocacy for a curriculum that critically works for

change aligns with social reconstructionist curricular theory. Both theories are necessary to inform a curriculum that is capable of cultivating self-actualized, empathetic students who are capable of addressing real-world problems.

Through this blend of humanist and social reconstructionist curricular theory, Greene (2001) described how education can provide an opportunity for reshaping dialogues to occur, where students are inspired to pose critical questions about their worlds. Greene drew upon Gadamer's (1975/2006) hermeneutical concept of horizons to describe each person's range of vision based upon their own lived experience. She is also influenced by Freire's (1970) notion of conscientization where learners are liberated to break through established mythologies to achieve an expanded awareness through dialogue in order to initiate change. In Greene's (1995) critical pedagogy, the imagination is deeply intertwined in this transformative process. The relationship between imagination and dialogue is a curricular one: the imagination provokes dialogue and dialogue further releases the imagination. The first step toward dialogue is freeing students to tell their own stories, and affirming the validity of those stories even when their interpretations differ from our own. By telling their own stories and naming their own horizons, students are better able to construct multiple realities and engage more fully in dialogue. This dialogue can occur among youth from different cultures and ethnicities and people who gather to solve relevant problems or protest injustices. In classrooms, such dialogue is likely to move students beyond the passivity and indifference too often permeating our schools and to spur students to engagement. This critical dialogue moves students to question "the given"—the oppressions that are often taken for granted and perceived as natural (p. 52). Through imagining a better state of affairs and engaging in critical dialogues, students can move toward freedom. Regarding the ecological imagination, this freedom includes the freedom to voice ecological

concerns, to challenge prevailing environmental assumptions, to thwart environmental abuses, and to live in the world in a more harmonious way.

Education must cultivate this freedom because it will not naturally occur on its own. Greene (1995) contradicted the idea that the young will be able to create better worlds because of the creativity and freshness of their youth. She argued that this view ignores the challenges and oppressions of our time. She claimed, "We must acknowledge the fixities and corruptions of our consumer-based and technicized culture. We must take into account the languages of technology and violence, even as we do the miseducation in much that is done in schools" (p. 56). Schools are often devoted to maintaining the status quo and are largely resistant or at least not conducive to critical dialogues. However, openings can be made and change achieved.

Greene's (1995) call for dialogue instead of an encompassing narrative rests on her view of the world as in a constant state of flux. She stated, "All we can do is cultivate multiple ways of seeing and multiple dialogues in a world where nothing stays the same" (p. 13). This idea of ever-present change is similar to Heraclitus' concept of the ever-flowing river: "You could not step into the same river; for other waters are ever flowing on to you" (Knierim, 2011, para. 9). In a world always flowing and changing, dialogue becomes a communal and ongoing quest of incomplete persons to search for wholeness through an expanding of consciousness. Persons are incomplete in the sense that everyone has a limited perspective based upon their own situated experiences. Thus the search involves a fusing of horizons to come closer to a more comprehensive understanding of the phenomenon.

Place-based art education. This search for wholeness is fundamentally linked to the realm of lived experience. Education must be linked to this realm if it hopes to engage the ecological imagination. Since students' day-to-day experiences occur locally, education should

be rooted in the local—in context and content. Place-based education situates educational experiences in the local environment, including the local social, cultural, political, natural, and economic arenas (Smith, 2002a). It makes education relevant by connecting it to students' real lives, enhances learning by providing real-world experiences, meets the emotional needs of students to connect with nature, and better prepares students to protect land and communities.

Place-based education evolved approximately 15 years ago from environmental education as a more experiential alternative grounded in the local community and land (Knapp, 2005). It seeks to avoid the four main deficiencies of environmental education that Stevenson (1987) has noted: standardized knowledge, teachers as sole knowledge providers, dependence on unauthentic assessments, and focus on control of students by providing authentic, experiential education rooted in the local environment (as cited in Smith, 2007). Other educational traditions and pedagogies also aim to foster a connection between learners and the outside world and often overlap or are interchangeable with place-based education, including these pedagogies: experiential learning, environment as an integrating concept, environment-based education, conservation education, sustainable-development education, cultural journalism, real-world problem solving, context-based learning, problem-posing education, outdoor education, environmental and ecological education, bioregional education, natural history, critical pedagogy, service learning, community-based education, and Native-American education (Gruenewald, 2003, p. 620; Knapp, 2008, p. 6; Conaway, 2006, p. 12). For the purposes of this study, I will use the term "place-based" to refer to any environmental education program emphasizing the local environment.

Place-based education is very compatible with art education. Inwood (2008) described how place-based education and art education have much to offer each other: place-based

education offers art education a way to connect art to the real world and art education offers a creative voice and a "sensory, subjective orientation" to place-based education that may shift ecological attitudes and behaviors (p. 70). Place-based education is particularly relevant to art education as art educators aim to move art education beyond the modern era. Bowers (1987) described how art educators over the past 30 years have identified the deficiencies in a modernist approach to art education, which emphasizes creative individualism and leads to isolation (as cited in Milbrandt, 1996). Gablik (1991) and others (Apter, 2002; Bourriaud, 1998/2002) have begun to call for an art that reaches beyond the isolation of modernism to an engagement with the outside world.

Place-based education theorist Gruenewald (2003), who along with others initially advocated for place-based education, later began calling for a critical pedagogy of place—a pedagogy combining place-based education with a transformative critical pedagogy in order to produce social change. Ball and Lai (2006) considered the implications of this pedagogy for the arts and humanities, and Graham (2007) later appropriated it specifically for art education. He claimed a critical pedagogy of place emphasizes the "activist, restorative possibilities of artmaking" and supports the need for learning to involve experiences outside of school (p. 379).

This critical place-based art pedagogy responds to the call of the ecological imagination for a new mode of education: education that embraces the arts as a way to conceive of new ecological perspectives, other ways of being in relation to the earth, better ecological alternatives, and new dialogues about our role in the world. Through this approach, education becomes a means of awakening the ecological imagination—opening the world to new possibilities, new critiques, and, most importantly, new acts. Since the literature on the impact of the ecological imagination is limited, this study is intended to examine a curriculum informed by

the ecological imagination and to examine students' empathy with the environment. I will now conduct a thorough examination of the theoretical and empirical literature related to this topic beginning with an ecologically-responsive art education and then moving to empathy.

An Ecologically-Responsive Art Education

Since the late 1960s and early 1970s, artists and writers have begun to address ecological concerns. Closely following this environmental movement was a growing push for environmental education. Over the past two decades, art educators have begun to respond to this movement by calling for art education to respond to ecological issues. To answer this call, ecologically-responsive art pedagogies have emerged in the forms of the Ecological Vision (Graff, 1990), ecological stewardship in art education (Lankford, 1997), eco-art education (Inwood, 2008), a community-based environmental design education (Neperud, 1995), an art education of place (Blandy & Hoffman, 1993), ecological design for transformative education (Gradle, 2007), and art education informed by a critical place-based pedagogy (Graham, 2007). I intend to adopt and slightly modify Graham's (2007) critical place-based art pedagogy for my research with middle school students.

To explore how the environment has been treated within the field of art education and how these writings have informed my curriculum, I will first examine how art education has addressed the environment historically. Next, I will outline the various pedagogies which have emerged to address environmental issues in relation to art education and will focus in particular on an art education informed by a critical place-based pedagogy. Then, I will review the empirical research on place-based education and place-based art education to ascertain the current state of the field and to demonstrate the need for research with middle school students.

The History of the Environment and Ecology in Art Education

The environment and ecology in art. In discussing the history of the treatment of the environment and ecology in art education, one must first examine the historical treatment of the environment in art. Art has a long-standing tradition of exploring the natural world through drawing and painting, most notably through natural history illustrations and landscape paintings (Graham, 2007). These two art forms have been dominant genres in Western art for centuries. While the issues surrounding representations of nature and land are complex, we cannot escape considering themes of exploration, conquest, control, colonization, and property ownership. We should consider the ecological narratives these works convey and the ramifications of these narratives for an art education curriculum.

Art education theorists have weighed in on the benefits and risks of these two artistic traditions. Graham (2007) called for art educators to revisit natural history illustrations because of their capabilities for promoting a care for and relationship with the land. In contrast, Garoian (1998) took issue with traditional landscape paintings. He identified underlying metaphors in Western representations of the land, which he labeled as uncaring, uncompassionate, and in opposition to community. He included pictorial space, linear perspective, the sublime landscape, mapping, and the machine as examples of such potentially ecologically harmful metaphors. Through these metaphors we see the environment as a place of conquest as the painting itself represents a space for containment, hegemony, and control; the environment as the exotic other as it is either praised for its serenity or derided for its power; and the environment as a surrogate and a consumer object within a domineering capitalistic society. Garoian claimed these metaphors could affect exploitive attitudes and behaviors toward the environment. While he demonstrated the dangers of these conventions, he did not explicitly call for art educators to abandon them but rather to explore them through critical dialogue as part of the art education

curriculum. Students should engage with these concepts through dialogue and become aware of ecological incongruities. In addition, these artistic conventions can be appropriated for ecologically-responsive works as in the art of William Kentridge and Alexis Rockman.

An examination of the environment within art demonstrates that while the environment has an established presence within the history of art, its presence does not necessarily imply the existence of ecological attitudes. The underlying dualistic metaphors in traditional representations of nature are unfortunate given that artmaking itself is inherently an ecological process. Graff (1990) declared that artmaking is a process that resolves divisions between body and mind and self and nature. He cited Merleau-Ponty's (1972) and Shadbolt's (1981) comparison of the development of a work of art to the development of an organism. While he emphasized the ecological nature of all art, he also declared that certain artworks are more ecological than others. Certain works have evolved from an awareness of our position within a complex set of interrelated, interdependent systems within the natural world. Perhaps no works have done this more than those of ecological and environmental artists.

The rise of an ecologically-responsive art education. Environmental concerns began to take shape in society beginning in the late 1960s. During this time, artists began to create art directly addressing ecological issues. This art came to be known as environmental art, which Lynne Hull defined as art that "helps improve our relationship with the natural world" (as cited in Inwood, 2008, p. 60). Since the late 1960s and early 1970s, this movement has expanded to include the art of artists such as Agnes Denes, Dominique Mazeaud, Andy Goldsworthy, Mel Chin, Ana Mendieta, Newton Harrison and Helen Mayer Harrison, Lynne Hull, and Mierle Laderman-Ukeles (Inwood, 2008). Smith (1970) argued that aesthetic experience can be responsive to the maintenance of a healthy environment. In the midst of the early environmental

art movement many art educators assumed art had the power to solve ecological problems and believed art education should work to create a society of individuals concerned for the community and the environment (Graff, 1990). However, this emphasis on the environment in art education was short-lived. Overall, art educators were slow to respond to this new movement in art as evidenced by the general lack of research in this field (Graff, 1990; Inwood, 2008).

Around 1990, a second wave of environmental consciousness emerged influencing a variety of sectors of society. In education, environmental education found adherents in multiple disciplines. jagodzinski (1987) was one of the first to consider the ramifications of environmental education on art education. He also called for a new aesthetic—a green aesthetic, which rejected traditional dualisms and embraced ecofeminism. In a similar rejection of dualisms, Gablik's (1991) book *The Re-enchantment with Art* called for art education to move beyond modernism's nonrelational aesthetic to an art engaged in the realities of our world through a more postmodern approach. She described how art can be used as an agent for social change and can respond to environmental concerns. Soon art education theorists began to call for art education to consider these issues and define a position. Several theorists (Adams, 1991; Graff, 1990; Gurevitz, 2000; Lindholt, 1999; Orr, 1992) advocated for an arts-based approach to environmental education (as cited in Inwood, 2008). For example, Orr (1992) argued that environmental education needed to be integrated with a wide range of subject areas, including the arts, in order to instill ecological literacy in students. The environmental art movement provided the inspiration for an ecologically-responsive art education and other theorists provided the theoretical frameworks (Inwood, 2008).

The Current State of an Ecologically-Responsive Art Education

Since these two waves in environmental concern within the art education community, art education theorists have proposed several modes of art education responsive to the environment. While these proposed pedagogies have a variety of titles, they have much in common. They share similar theoretical frameworks as they often cite each other along with the ecological theories of Leopold (1949) and Berry (1987, 2005); the tenets of ecofeminism (Gaard, 1993; Griffin, 1989; King, 1989); the environmental education movement including its various forms such as place-based education (Smith, 2002a, 2002b, 2007), eco-justice education (Bowers, 2001), and community-based art education (McFee, 1970); the aesthetic writings of jagodzinski (1987) and Gablik (1991); and the works of eco-artists. Through relying on these theorists' contributions, they all describe the severity of our current ecological crisis, the problems inherent in dualisms that separate humans from nature and contribute to the ecological crisis, the importance of working for a better ecological future, and the need for art education to respond to this crisis. In this review, I will focus on Blandy and Hoffman's (1993) art education of place and on Graham's art education informed by a critical place-based pedagogy since they most inform my development of a critical place-based art curriculum.

An art education of place. Blandy and Hoffman (1993) examined eco-theory, which has implications across disciplines, and derived their own "eco-theoretical orientation" from eco-artists' and eco-activists' conceptions of the environment. They proposed for this theory to intersect with the discipline of art education to fuse art, community, and environment to create an art education of place. They described the body of scholarship on community-based art education and commended its emphasis on a sociocultural approach to art education but claimed it is often anthropocentric. Therefore, they called for a bioregionalist perspective to green community-based education, which would be implemented within the discipline of art education.

This bioregionalist perspective reveals the connections between the health of the natural systems and the health of humans, and effectively connects community to environment.

Through this art education of place, students can learn about the interdependence of all life on earth. This learning requires openness on the part of students to investigate their own lives and the lives of others around them to consider alternative ways of living and to identify current harmful relationships between humans and nature. Blandy and Hoffman (1993), as well as Gradle (2007), argued that a critical component is necessary to inspire students to question institutionalized philosophies and practices which may be harmful to the environment. In addition, they claimed the artworks which form the curriculum are critical. They agreed with Graff (1990) that certain artworks are more ecological than others and that well-chosen works can be influential. They cited the criticism of Gablik and the artworks she described as examples of artworks which may be capable of changing conceptions of place. Art educators can also further this aim by asking students to examine images and metaphors of place within popular culture and the media. Through examining these visual representations of place, students are able to uncover critical issues surrounding our culture's beliefs and values surrounding our communities and our environment.

Art education informed by a critical place-based pedagogy. Even though Blandy and Hoffman's (1993) art education of place has many similarities with place-based education, it was not informed by place-based education, which developed several years later. However, place-based education does form the foundation for Graham's (2007) critical place-based pedagogy. Three components are essential to an art education curriculum informed by a critical pedagogy of place: natural history, cultural journalism, and transformative education. As part of the natural history component, Graham (2007) identified drawing plants and mapping communities as ways

to bond with the natural world. Such activities may help students form a closer connection with nature, but as Garoian (1998) reminded us, these activities may also contribute to harmful ecological philosophies. Therefore, teachers should lead students in critically exploring the underlying metaphors of the activities themselves. In regard to the cultural journalism component, Graham claimed it can connect students to local cultural productions, and transformative education can stimulate critical dialogues surrounding our place in the world. In this pedagogy, transformative education is linked with studies of visual culture. Through critically studying visual culture, students have the opportunity to reflexively consider their cultural assumptions and the surrounding issues of representation, power, and justice. I will be adopting this pedagogy for my own research because of its foundation in place-based education, its emphasis on first helping students to form a relationship with nature, and its inclusion of a critical component.

My Critical Place-Based Art Education Curriculum

My critical place-based art education curriculum responds to the call of the ecological imagination. This pedagogy has much in common with Graham's (2007) art education informed by a critical place-based pedagogy. Like Graham's pedagogy, it represents a critical pedagogy of place within the discipline of art education and includes the same components of natural history, cultural journalism, and transformative education. While they share essentials, my pedagogy differs in its reliance on the ecological imagination as a theoretical framework and in its approach to critical education. In discussing art education informed by a critical place-based pedagogy, Graham (2007) cited many of the same theorists who form my conception of the ecological imagination including Thoreau (1854/2000), Berry (1993), Gablik (1991), Greene (1995), and Bowers (2001). However, he did not use the term *ecological imagination* to describe

the theoretical framework or emphasize the role of the imagination. This distinction is important because the ecological imagination plays such a key role in my conception of this pedagogy, in particular within the critical component where the imagination is released to affect change.

In addition to varying in relation to the ecological imagination, the critical component of my pedagogy is informed by Bowers' (2008) writings. Bowers critiqued Gruenewald's (2008) critical pedagogy of place, which synthesizes place-based education's focus on the local community and environment with critical pedagogy's focus on challenging the widely believed, oppressive assumptions and practices of the dominant culture. By combining the agendas of the two pedagogies, critical place-based theorists believe that students can learn reinhabitation, learning to live well in a place in their local environment and community, and decolonization, learning to recognize destructive practices and challenge them (Gruenewald, 2008). However, Bowers argued that a critical pedagogy is incompatible with a place-based pedagogy in its root metaphors, which perpetuate the current ecological crisis rather than challenge it. In particular, he critiqued Gruenewald's emphasis on reinhabitation, which assumes that ways of living harmoniously in the world do not already exist in some form within the community or within the worldwide cultural commons. Bowers claimed the root metaphors surrounding reinhabitation reveal an ethnocentrism, a view of language as non-contextualized, an assumption that change is linear and progressive, and a belief that a rational individual's critical thinking leads to overcoming oppression.

Instead, Bowers (2008) advocated for an eco-justice pedagogy that does not assume that all cultural practices are harmful and that everything needs to be transformed. In Bowers' proposed pedagogy, students engage in thick description about the differences between their "local cultural commons" and consumer and industrial culture. The teacher serves as a facilitator

and mediator helping students "give voice" to their experiences in both arenas but does so without assuming the experience will necessarily be transformative. Through this process, students can gain the language necessary to determine which attitudes, assumptions, and practices are harmful and need to be challenged and which are positive and sustaining and need to be preserved or renewed. While I am not adopting Bowers' eco-justice pedagogy in its entirety, I am using it to amend Gruenewald's (2008) critical pedagogy of place for a less assuming approach that actively seeks and embraces the sustainable practices of other cultures.

Research on Ecologically-Responsive Art Education

The empirical literature demonstrates the need for research on a critical place-based art education curriculum as well as the need for such research with a middle school population. Although many theorists have proposed for art education to respond to ecological concerns, the empirical literature on the topic is scant. Most accounts of ecologically-responsive art programs are anecdotal (Anderson, 2000; Birt, Krug, & Sheridan, 1997; Holmes, 2002; Keifer-Boyd, 2001). Systematic investigations in this field are needed to examine the curriculum, implementation, and effectiveness of these programs.

Since little empirical research has been conducted in this field, I used fairly broad search criteria. I searched for all place-based education programs, even those solely in academic subject areas. I did so with the belief that what works with place-based education in general education might have a strong transferability to art education. I did not include programs labeled "place-based" that were exclusively community-based education without an environmental component and did include programs even if they were not labeled "place-based" if they involved environmental education through the local environment. In particular, I searched for place-based art education literature. I did not restrict the search by date in case there were any pioneering

studies earlier than I expected, but all of the studies I found occurred within the last 12 years since the environmental education movement is relatively new and place-based education and place-based art education still newer. In order to learn as much as possible about the impact of these programs, I did not restrict the search by age of the participants, including studies conducted with preschool students, K-12 students, higher education students, teachers, and artists.

Therefore, I conducted a search of literature examining place-based programs and any intersection of environmental education and art education to gain an understanding of the various effects of the programs on students.[1] Ultimately, the search revealed that researchers and

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[1] First, I searched online databases, such as ERIC, Education Research Complete, JSTOR, Environment Complete, and Art and Architecture Complete for scholarly journal articles and ProQuest Dissertations and Theses to identify relevant dissertations and theses. combination of relevant subject search terms including: eco*, education, eco-art, ecological, environment, environmental, pedagogy, place, place-based, art, art education, pedagogy, community, study, research, effects of environmental education, outdoor education, and education. Next, I searched for specific authors once I had identified particular theorists who focused on place-based education hoping that this search might yield additional articles. Then, I reviewed the reference lists from the articles I identified for additional sources. I ultimately identified 15 relevant peer-reviewed articles, theses, and dissertations. I read through each source, wrote a summary, categorized it, and then analyzed and critiqued it according to a framework for analyzing research developed from the American Education Research Association's Proposal Peer Review Guide.

administrators have begun to implement place-based and place-based art education programs. These programs seem to be especially popular in communities with a high percentage of indigenous peoples. However, little research has been conducted on the efficacy of place-based education and even less with place-based art education programs. This lack of literature is not surprising considering place-based education programs are not yet widespread (Smith, 2007). The research that has been conducted examines the impact of these programs on students' environmental knowledge and awareness, sense of place, academic achievement, achievement motivation, critical thinking, empathy, behavior, and confidence.

Place-based education. I will first investigate studies and evaluations on place-based education programs in general, which include school-wide initiatives and subject-specific programs, excluding those within the discipline of art, which I will address within the next section. The studies and one evaluation that I found on place-based education in general explored the effects of place-based education on K-12 participants (Athman & Monroe, 2004; Buxton, 2010; Conaway, 2006; Cooke, 2009, Ernst & Monroe, 2006; Lieberman, Hoody, & State Education and Environmental Roundtable, 1998; Powers, 2004; Takano, Higgins, & McLaughlin, 2009); the effects of place-based professional development with teachers, pre-service teachers, and related professionals (Meichtry & Smith, 2007; Semken & Freeman, 2008; Tarr, 2008; Triggs, 2009; Upitis, 2009); and teacher attitudes related to place-based education (Inwood, 2005). The majority of these studies and evaluations used mixed methods to examine the effects of place-based education (Athman & Monroe, 2004; Buxton, 2010; Cook, 2009; Conaway, 2006; Ernst & Monroe, 2006; Lieberman et al., 1998; Powers, 2004; Takano et al., 2009; Upitis, 2009), which is a complex and multi-faceted phenomenon.

The entire body of literature on place-based education demonstrates that place-based programs can positively impact students' environmental knowledge, awareness, and appreciation; sense of place; academic achievement; achievement motivation; and critical thinking. According to the research, place-based education programs are effective in a variety of geographic locations and with a range of populations, regardless of race, achievement, or age. Research also suggests that certain populations, such as special needs students and indigenous populations, may especially benefit from a place-based approach (Powers, 2004; Takano et al., 2009). Studies examining the more affective outcomes of place-based education on K-12 participants are especially relevant to this study. These studies include those examining environmental awareness (Buxton, 2010; Conaway, 2006), sense of place (Cook, 2009), and connection to the land (Takano et al., 2009).

Buxton's (2010) study focused on middle school students' environmental knowledge and awareness during a summer science place-based program. Buxton used Gruenewald's theory of a critical pedagogy of place, which emphasizes decolonization and reinhabitation, as his conceptual framework. Decolonization involves recognizing aspects of the dominant culture that cause harm, and reinhabitation involves relearning to live in harmony with the local environment (hooks, 1992; McGinnis, 1999; as cited in Buxton, 2010). Within this program, Buxton emphasized social problem solving with the idea that adolescents benefit from critically questioning the world, globally and locally, and then taking action. The qualitative component of this transformative, mixed methods study examined students' abilities to "take action to decolonize and reinhabit their lived environment" (para. 14). Through a parallel form, conversion design approach, Buxton analyzed pre-and post-interviews qualitatively through open-coding and quantitatively through a scored rubric. This design gave him the ability to

determine the change in student responses holistically through examining the results from the rubrics and examining the depth and breadth of their responses through the qualitative analysis. Qualitative results suggested a change in environmental awareness. Buxton claimed the responses indicate the students were using broadened thinking and were beginning to exhibit decolonized thinking with an emphasis on reinhabitation. However, since students were responding in the interview to topics that were taught during the one-week program, they may have been merely reciting information they heard from the instructor on these topics. Perhaps interview questions could also include topics not taught in the workshop to determine if students were able to exhibit decolonized thinking and the desire for reinhabitation independently. Also, additional research is needed to examine the application of this thinking to other situations and the long-term impact on students' decolonized thinking.

Like Buxton (2010), Conaway (2006) found a positive impact on middle school students' environmental knowledge and awareness. Her mixed method, quasi-experimental study examined the effects of an interdisciplinary place-based curriculum on Montessori students. Conaway found a significant improvement between pre-test and post-test scores for the experimental group and no improvement for the comparison group. These results indicate that participation in the place-based program contributed significantly to students' environmental knowledge and personal beliefs about the environment. A qualitative analysis of student reflective papers supported the quantitative findings and revealed a connection between environmental knowledge and a "stewardship ethic" (p. 50) with students using the words "care," "protect," and "respect" frequently (p. 50-51).

The results of Cook's (2009) study do not converge with the rest of the literature; however, it does not necessarily indicate that place-based education is ineffective. Cook's mixed

method, action research study examined sense of place with students at a small, private, place-based high school. After identifying methods non-formal educators use to help students develop a sense of place in the first part of her study, she then examined whether these methods would be effective in a formal educational setting. She used quantitative pre and post surveys to measure place identity and place dependence and qualitative pre and post focus groups. Both measures indicated that students' did not develop a stronger connection to place during the thirteen weeks that Cook student-taught them. Cook cited various possible explanations for the lack of change: perhaps the thirteen week period was too short to significantly impact students' sense of place or perhaps students had reached a ceiling on their sense of place since their school was already place-based. Additionally, Cook's status as a student teacher could have affected her ability to administer these methods as effectively as a traditional classroom teacher.

Takano, Higgins, and McLaughlin's (2009) study examined secondary students' connection to the land, among other factors, as part of a mixed methods, longitudinal study. Participants from 6th to 12th grade attended a place-based school situated in a small town in northwestern Alaska with a high percentage of indigenous people. Takano et al.'s initial 2002 study found that the place-based program had impacted students' views of the land. Some described nature as "home," and others said they found "peace" through the land (p. 362). In the follow-up study, all of the 2007 interview respondents reported a greater connection with the land. This longitudinal study is significant in that it indicates a long-term impact of a place-based program.

Overall, the literature on affective outcomes of place-based education on K-12 participants demonstrates that place-based education can impact ecological attitudes, specifically environmental awareness and connection with the land. This capacity of place-based education

to produce positive affective outcomes suggests empathy with the environment could also be a possible outcome of these programs. In addition, the effectiveness of place-based education in a variety of settings and with a range of participants implies that a critical place-based art education program could be effective in a variety of contexts.

Place-based art education. The literature related to place-based art education is less robust; however, it does suggest that this pedagogy can benefit participants. Two phenomenological studies (Gradle, 2007; Triggs, 2009) examined pre-service teachers' and teachers' experiences of place within eco-art education programs. Their research suggests that performance art (Gradle, 2007) and an online communication and relationship studio, called Earthshapes Studio (Triggs, 2009), can be effective tools in exploring a sense of place and in opening and extending dialogue about being in a place (Gradle, 2007). The one study to examine a place-based art education program with K-12 students was a participatory action research study (Creel, 2005). As an elementary art teacher, Creel worked with 3rd -5th grade students with "at-risk tendencies" in an environmental art education program that met the criteria of place-based art education. Operating in the transformative paradigm, Creel described the challenges the students faced with low socio-economic statuses and other risk factors (p. 29). As a significant portion of the program, students cooperated with each other, students at other schools, and professionals in the community to build an environmental sculpture garden (p. 5). Through a variety of qualitative data collection methods, including observation and three open-ended questionnaires, Creel found that students' participation in the environmental art education program helped them develop empathy, "empathetic understandings" and behaviors, pro-social skills, self-esteem, and confidence (p. 177). The strength of her study lies in her variety of methods and extensive engagement with these students.

More research is needed to examine the impact of ecologically-responsive art education pedagogy on K-12 students. Though Creel's (2005) study demonstrates positive changes in ecological attitudes and empathy, her participants were solely upper elementary, at-risk students. Research is needed to explore the effectiveness of such a program with other populations. These populations could include participants who vary from Creel's population by age, race, income-level, region, and achievement level. Studies with middle school students in particular are needed since no research I am aware of has been conducted with this population on this topic.

In addition, this population may be particularly important to study since, according to Piaget's (1971) cognitive theory of development, adolescents are capable of formal operational thought (as cited in Santrock, 2001). This capacity for abstract thought would be important since it is often accompanied by idealism and awareness of possibilities (Santrock, 2001). In addition, Selman's (1980) developmental theory of perspective taking claims that adolescents are capable of mutual perspective taking and of social and conventional system perspective taking. This capacity may allow middle school students to better engage in critical dialogue and reflection than younger students. Yet, middle school students are still young enough that their identities are continuing to undergo formation (Santrock, 2001), and they may more readily develop ecological attitudes than older students. Sobel (1997) described this period between 11 and 12 years old as a critical period for bonding to occur between students and the Earth.

Empathy

Since place-based education programs have demonstrated positive affective outcomes related to the environment and empathy is closely connected to art, empathy with the natural world is worth examining as a possible outcome of a critical place-based art education program. Therefore, in this review I will first investigate the theoretical and empirical literature related to

empathy and the environment to establish the existence of an empathy with the natural world and empathy's connection to ecological attitudes. Next, I will review the literature related to the connection between empathy and aesthetic experience. Last, I will conclude with the implications of this literature for art education.

Empathy with the Natural World

As discussed in the theoretical framework, empathy is not limited to empathy between humans. Empathy with the natural world is possible. Sobel (1997) asserted that one important goal of environmental education should be to help students develop empathy with the natural world. This goal is important given the connection between empathy with the natural world and pro-environmental reasoning. Berenquer's (2010) study supports this connection. Berenquer, informed by Batson's (1991) Model of Altruism, hypothesized that moral reasoning about the environment, defined as the number of moral reasons given for pro-environmental behaviors, would increase by manipulating empathy. Thus, he examined the relationship between empathy level (high or low), empathy object (man or vulture), and moral reasoning about ecological dilemmas through a 2 x 2 factorial experiment. Researchers first gave participants instructions designed to help them develop high or low empathy for a human or a vulture, and then asked participants to self-rate their empathy level. Next, they presented participants with four environmental dilemmas and asked participants to determine a course of action. Participant responses were rated as ecocentric, anthropocentric, or nonenvironmental. Researchers found that when the empathy object was a vulture, participants' arguments were more ecocentric, when the empathy object was a man, participants' arguments were more anthropocentric. This result was especially significant when the empathy level was high. This study establishes the strong link between empathy and pro-environmental reasoning.

Empathy and Aesthetic Experience

In addition to its connection to pro-environmental attitudes and moral reasoning, empathy is closely tied to aesthetic experience much like its predecessor, *Einfuhlung*, which was developed to explain an aesthetic experience. Vernon Lee wrote in 1912 of how "bodily resonances" could sharpen and focus an aesthetic experience because the body and mind are engaged (as cited in Lanzoni, 2009). Since its inception in the early twentieth century, empathy's role in an aesthetic experience has crested with the writings of Heinrich Wolfflin, Aby Warburg, Bernard Berenson, Theodor Lipps, Vernon Lee, and Wilhelm Worringer (as cited in Freedberg & Gallese, 2007; Koss, 2006; Lanzoni, 2009), waned with the rise of an emphasis on intellectual concerns dealing with abstraction (Koss, 2006), and waxed strong again in the 1980s with the support of simulation theorists in the midst of an interdisciplinary debate about the role of folk psychology (Stueber, 2008). Today, many scholars consider empathy to be an essential component of an aesthetic attitude and experience (Franklin, 1990). Worringer (1916) equated empathy during an aesthetic experience to losing oneself and dissolving into another (as cited in Koss, 2006). However, Koss's (2006) definition of empathy as "a process of emotional and psychological projection" (p. 1) may better describe the constructive nature of the process. In the process of internalizing another's emotions and feelings, the self is actively involved since one cannot simply absorb the objective state of another. Rather, one constructs a representation of another's state based upon one's own subjective experiences, memories, culture, emotions, and neurological predispositions (Immordino-Yang, 2008).

In an aesthetic experience, the viewer's construction of a representation could best be described as a dialogue occurring between the viewer and artwork. White (2009) equated this relationship to Buber's "I-Thou" interaction where the "I" and the "Thou" are "equal partners in

meaning making—a sharing rather than an imposition of views" (p. 126). Thus, this dialogue becomes a relationship between viewer and art object. As part of this relationship, both have a responsibility to the other and must bring something meaningful to the aesthetic experience (as cited in White, 2009). Oremland (1984) defined art appreciation as "the dialectic of art's evocative power and the viewer's empathetic intricacies, enhanced by the historical knowledge about the piece and the artist" (p. 239-240). Empathy is an essential component for this dialogue to occur.

The empirical literature demonstrates the close connection between empathy and aesthetic experience. For instance, Hoge (2003) found that museum visitors report empathetic experiences while viewing artworks. Writing on this topic now extends to recent neurological and psychological research which can now better explain the mechanics of how this empathetic reaction occurs. Moreover, the latest discovery of mirror neuron systems suggests the critical role that physical and emotional imitation plays in developing empathy during an aesthetic encounter (Freedberg & Gallese, 2007). Freedberg and Gallese (2007) attributed the viewer's physical reaction to an artwork to mirror neurons within the human ventral premotor and posterior parietal cortex. When a viewer views a work of art, the body responds through an automatic mimicry. This mimicry can occur in response to the subject matter and form of an artwork. For example, when a viewer observes an artwork, particularly one where the gestural qualities are evident, the viewer's brain attempts to reconstruct an imitation of the action that the artist undertook to create that gesture. Freedberg and Gallese (2007) refer to the gestural, "drip" paintings of Jackson Pollock and the slashed canvases of Lucio Fontana as dramatic examples of works that may induce such motor responses. Also, observing others' facial expressions or images of those expressions activates viewer's facial muscles and the corresponding emotions

(Bush, Barr, McHugo, & Lanzetta, 1989; Sonnby-Borgstrom, 2002; Vaughan & Lanzetta, 1981). In addition, research on somatosensory systems (Keysers, Wicker, Gazzola, Anton, Fogassi, & Gallese, 2004) suggests that artworks representing humans touching an object or objects touching each other can create an embodied empathy.

Empathy and Art Education

The literature on empathy and aesthetic experience suggests that empathy could be closely tied to art education. In addition, Creel's (2005) study, described earlier, explicitly demonstrated the presence of empathetic behaviors within a place-based art classroom. However, more research is needed specifically within art education programs, especially since empathy is an integral component of an aesthetic experience. Though the embodied empathy during an aesthetic experience may be a quick, initial response to a work of art, it may become a springboard for further expansion and development. Art education may be an ideal location for cultivating this response into an extended empathy. In particular, a place-based approach may be ideal since its primary aim is to foster connections. Critical place-based art education offers bright promises for cultivating empathy in middle school students but more research is needed to explore this potential. The dissertation study I am proposing seeks to address this need.

III. Methodology

Paradigm and Assumptions

The pragmatic paradigm is an alternative paradigm to the metaphysical paradigm, which rests on the premise that metaphysical assumptions such as epistemology and ontology are interlocked with methods, and, therefore, assumes that paradigms are incommensurable (Morgan, 2007). Instead, pragmatism functions as an alternative paradigm, which reconciles this traditional incommensurability. It avoids the dualisms between the quantitative and qualitative approaches—the divide between induction and deduction, subjectivity and objectivity, context and generalizability.

Pragmatism also avoids the dualism between mind and matter (Morgan, 2007) and in so doing aligns itself with an ecological paradigm. Dewey, an influential pragmatist theorist, described a *transactional realism*, which emphasizes the intimate connection between the living creature and its environment (as cited in Biesta & Burbules, 2003). Through this interaction or *transaction*, reality reveals itself. These transactions relate to pragmatist theorist, Johnson's (2007) concept of horizontal transcendence, an embodied spirituality, where one connects, not vertically to a higher being, but horizontally to the world around them. It involves recognizing one's participation as part of a broader human and non-human world. Because of pragmatism's inherent emphasis on relationships, it is a particularly appropriate paradigm for researching concepts defined by connections—specifically place-based education and empathy. While the influence of critical theory on my curriculum may suggest a transformative paradigm would be appropriate, the emphasis on social oppression characteristic of the transformative paradigm is not relevant for this study. Pragmatism's emphasis on relationships best aligns with an ecological paradigm and is most appropriate for this study.

Research Questions

In keeping with the pragmatic paradigm, the research questions determined the methodological approach for this study. The research questions are:

1. How do middle school students experience empathy with the environment throughout their participation in a place-based art education program? (qualitative)

2. How does participation in a place-based art education program affect students' pro-environmental orientations (ecological paradigm)? (quantitative)

3. Which aspects of a place-based art education program, if any, contribute to students' empathy with the environment? Why? (qualitative)

Pilot Study

In August 2011, I initiated a pilot study at the middle school where I am employed as an art teacher. I conducted the pilot study with six of my introduction to art classes, which range from 6^{th} to 8^{th} grades. This pilot study is designed to span the entire fall semester and will conclude in December 2011. It utilizes similar data collection methods as those proposed below including pre and post drawing exercises, interviews, focus groups, observations, reviews of visual/verbal journals and artworks, and pre and post surveys. The overall design as a mixed methods case study is also similar, but it diverges in that I will collect data with six classes rather than one and will include fewer interviews than in the final dissertation study. For the pilot study I chose to collect data with six classes in order to have more experience with administering the data collection measures. However, for the final study, I intend to focus on one class for a more in-depth approach. To begin the pilot study in August, I first obtained consent from students' parents and assent from students. Then, I administered a survey to participating students, the Revised NEP Scale for Children (Manoli, Johnson, & Dunlap, 2007), and administered a

drawing prompt. Throughout the semester, I implemented a critical place-based art curriculum. So far, I have recorded my observations and reviewed students' visual/verbal journals and students' artworks. In December, I intend to administer the NEP Scale for Children and the same drawing prompt. I also intend to interview four students and conduct a focus group with select students from one class. Through conducting this pilot study, I aim to discover the strengths and weaknesses of the curriculum and instruments so that I can make adjustments for the corresponding semester. So far, I have not encountered any problems with the survey and drawing exercise. Based upon student feedback, they appear to be developmentally appropriate. Also, based upon my observations and reviews of student visual/verbal journals and artworks, I have determined that the curriculum and instruction may need to be adjusted to more explicitly address ecological issues earlier in curriculum. I anticipate that analysis of post measures will inform further changes. In addition, the data from the pilot study may provide additional insight into the final study results.

Methodology and Research Design

Mixed Methods Purpose

This study is designed as a mixed methods case study. My purpose for mixing methods is expansion (Greene, 2007). In a mixed methods study with an expansion purpose, mixed methods are used to expand the range of the study by expanding the research questions to examine different phenomena. In this study, the primary phenomenon, students' experiences of empathy with the environment, is expanded to include a secondary phenomenon, students' pro-environmental orientations (or ecological paradigm). I will use qualitative methods to examine students' empathy with the environment and quantitative methods to measure students' pro-environmental orientations. I am expanding the design to also examine students' pro-

environmental orientations since an ecological paradigm, a paradigm defined by the recognition of relationships and interconnection, is closely tied to empathy, the ability to connect with and understand another. I expect that the development of empathy with the environment will also increase students' development of an ecological paradigm. By examining both of these phenomena through a mixed methods approach, I hope to gain additional understanding of participants' relationships with the environment while participating in a place-based art education program.

Tashakkori and Teddlie (2006) argued for researchers to define the mixed methods design typologies they are using so that the typologies can guide the research practice, determine a common language for the field, legitimize the field, and serve as pedagogical tools. Creswell, Plano Clark, Gutmann, and Hanson (2003) described four factors that help researchers to determine the mixed methods typology: 1) the data collection implementation, 2) the priority of qualitative or quantitative research, 3) the integration stage, and 4) the possible use of a transformational value-oriented or action-oriented perspective (p. 215). Using these factors, they have identified six major designs: sequential explanatory, sequential exploratory, sequential transformative, concurrent triangulation, concurrent nested, and concurrent transformative. The design of this study does not fit neatly into one of these mixed methods typologies because of its variance in its implementation of data collection (Factor 1).

Table 1

Implementation of Data Collection Measures

Type	January	February-April	May
Pre and Post	Drawing exercise		Drawing exercise
	Survey		Survey
Periodic	Student visual/verbal journals		
	Student artworks		
	Observations		
Post			Focus groups
			Individual Interviews

=qualitative data collection measure

=quantitative data collection measure

Factor 1: Implementation of data collection. Implementation for this study is both simultaneous and sequential. At the beginning and end of the study, the implementation of qualitative and quantitative methods will be simultaneous. The drawing exercise (qualitative) and the survey (quantitative) will be administered pre and post. In addition, focus groups and interviews (qualitative) will be administered post. However, throughout the data collection period, I will also employ qualitative methods: observations and reviews of student visual/verbal journals and student artworks. Thus, these qualitative methods are sequential to the quantitative and qualitative ones that occur before and after. Table 1 above demonstrates the order of implementation.

Factor 2: Priority of qualitative or quantitative research. Greene, Benjamin, and Goodyear (2001) claimed that the researcher should determine the most important research question and then prioritize the qualitative and quantitative methods accordingly (p. 306). Since the most important question in this study is Research Question 1, related to how students experience empathy with the environment, this study will be qualitative dominant. In addition, I

will be employing more qualitative research questions. Two of the three research questions are more qualitative. I expect that they will lend more data related to my primary goal: to understand how students experience empathy with the environment in a place-based art education program. However, I am aware that the dominance of a qualitative or quantitative approach is also contingent on which method provides more insight into the inferences and conclusions. Since I have not conducted the research yet, I can only assume that the study will be qualitative dominant. Table 2 in the data collection methods section demonstrates the dominant data collection methods.

Factor 3: Integration stage. To address where the mixed methods will be integrated, I will first address where the mixing will occur. Mixing will occur in the research questions, data collection methods, and inferences/conclusions stages. The research questions are mixed with two qualitative questions and one quantitative question. The sampling strategy will not be mixed. Data collection methods will be mixed with a variety of qualitative methods (drawing exercises, interviews, focus groups, observation, student visual/verbal journals, and student artwork) and one quantitative method (a survey). Data analysis will occur for both qualitative and quantitative data separately. I will draw inferences by comparing the results of both the qualitative and quantitative data analyses.

Though mixing will occur in a variety of stages in the study, integration will only occur in the inferences and conclusions stage. Therefore, I will be using a component design with a parallel-track analysis. Greene and Caracelli (1997) described component designs, ". . . the methods are implemented as discrete aspects of the overall inquiry and remain distinct throughout the inquiry. The combining of different method components occurs at the level of interpretation and conclusions rather than at prior stages of data collection or analysis" (as cited

in Greene, 2007, p. 121). Greene, Benjamin, and Goodyear (2001) claimed this design fits well with the pragmatic approach; whereas, the integrated design fits well with the dialectic stance, with its strong emphasis on dialogue.

Rationale

A Mixed Methods Case Study Approach. I chose a case study design (Stake, 1995) in order to understand student experiences of empathy within the real-world context of a classroom. I believe that a case study design will provide a more rich, in-depth understanding. Stake (1995) claimed, "Case study is the study of the particularity and complexity of a single case, coming to understand its activity within important circumstances" (xi). For this study, the single case or "bounded system" will be one of my middle school introduction to art classes. Therefore, my role within this case study will be that of teacher and researcher (Stake, 1995).

The case study is instrumental: the issue will determine the case selection (Stake, 1995). Therefore, I expect that studying my middle school introduction to art class will be instrumental in understanding student experiences of empathy with the environment. My goal is to select a "typical" case, a case that in many aspects may be transferable to other contexts. A "typical" case is important since little research has been conducted in this field. More unusual cases may be necessary later as this field expands. However, I understand that the true focus of the case study will be the "particularization" and "uniqueness" of the case (Stake, 1995, p. 7) and that no case can be truly "typical."

In catching the complexity of a single case (Stake, 1995), mixed methods will be a great ally. As demonstrated in the review of place-based education, mixed methods have commonly been used to study the various effects of place-based education. I would like to examine experiences with the environment and effects of the program through a mixed methods approach.

This mixed methods approach will allow me to expand the scope of the design to better understand the various phenomena. Through this mixed methods case study approach, I will be operating as a teacher researcher.

Teacher Research. Teacher research is a form of practitioner research defined as "systematic and intentional inquiry carried out by teachers" (Cochran-Smith & Lytle, 1993, p. 7), which often occurs in collaboration with university faculty (Cochran-Smith & Lytle, 2009). Though traditionally research into teaching involves teachers receiving knowledge about teaching from outside researchers, teacher research takes the reverse approach, an "inside/outside" approach, which shifts the role of teachers from receivers of knowledge to constructors of knowledge (Cochran-Smith & Lytle, 1993). Boundaries between inquiry and practice dissolve as teachers perform the dual roles of teacher and researcher (Cochran-Smith & Lytle, 2009). Teachers are uniquely suited for the role of researcher because they observe students over long periods of time and in a variety of situations and because they bring a wealth of knowledge about the classroom, school, and community (Cochran-Smith & Lytle, 1993). Thus, the emphasis for this type of research is often on developing local knowledge (Cochran-Smith & Lytle, 2009). Because teacher research focuses on local knowledge and the community, it is well-suited for a case study approach and to investigate place-based education, a topic rooted in the local community. Through a teacher research approach using a case study, I believe I will be able to produce knowledge useful in my classroom as well as knowledge that will be applicable for the larger community of educators.

Case selection. Since I will be operating as a teacher-researcher, I will select one of my introduction to art classes to be the case. I believe that using one of my own classes will provide me with greater accessibility than researching in someone else's classroom. I am hoping that my

closeness to the subject will provide additional insight. In addition, I expect that the class that I select will represent a typical case in many aspects that may be transferable to other contexts. Although I will teach three introduction to art classes in the spring, I am selecting one particular class over the other two because its larger size of 18 students will be more representative of a typical art class than the other two smaller classes of 12-15 students. The sampling for qualitative and quantitative methods will be identical, with the same members participating in both the drawing exercises and surveys (Collins, Onwuegbuzie, & Sutton, 2006). However, the sample for the other qualitative methods such as the interviews, visual/verbal journal reviews, student artworks, and focus groups are an exception. The sample for these qualitative methods is nested within the larger sample of the entire class (Collins, Onwuegbuzie, & Sutton, 2006). For the focus groups, I will use criterion-based selection to select those students who most indicated a change in empathy during the semester. For the other methods, I will select students who represent a range of perspectives and the possibility for rich data.

Characteristics of the case. I teach at a traditional public middle school within a mid-size city in the southeastern United States. The class I selected is composed entirely of 7th grade students—14 girls and 4 boys. The class includes 12 Caucasian students and 6 African American students, and 7 of the students receive free or reduced lunch. Students vary significantly in achievement levels, but the class has a significant percentage of high achievers. On the latest administration of the English/Language Arts portion of the Measures of Academic Progress (MAP), 11 students scored high, 5 scored average, and only 1 scored low. On the math portion of the MAP test, 12 students scored high, 5 scored average, and only 2 scored low. In addition, 10 students in the class are classified as gifted and talented. In the overrepresentation of girls, of high achieving students, and of gifted and talented students, this class is somewhat

atypical. However, it is typical in that it represents students from a range of socio-economic levels and racial backgrounds within a traditional public school.

Data Collection Methods

As a mixed methods study, this study incorporates both qualitative and quantitative data collection methods. In qualitative designs, the researcher is the data collection instrument (Mertens, 2010). I will engage in a high level of participation since I am functioning as a teacher-researcher. As the data collection instrument, I will conduct drawing exercises, interviews, focus groups, observations, and student visual/verbal journal and artwork reviews to address the following topics related to Research Questions 1 and 3: 1) student experiences of empathy with the environment during the semester, and 2) the aspects of the program that contributed to student empathy with the environment and how they contributed (if so). Research Question 2 is a more quantitative question. The quantitative variables which relate to this question are students' pro-environmental orientations and their participation in a place-based art education program. This question will be addressed through a survey, the New Ecological Paradigm (NEP) Scale for Children (Manoli, Johnson, & Dunlap, 2007) that will be implemented pre and post (see Appendix E). Table 2 below outlines the qualitative and quantitative data methods that will be used to collect data for each research question and their priority.

Table 2

Research Questions & Data Collection Methods

Research Question	Interviews	Drawing Exercise	Focus Group	Observations	Visual/Verbal Journals	Artwork	Surveys
1. How do middle school students experience empathy with the environment, before and after participating in a place-based art education program?	X	X		x	X	X	
2. How might participation in a place-based art education program affect students' development of an ecological paradigm?							X
3. Which aspects of a place-based art education program, if any, contribute to students' sense of empathy? Why?	x		X	X	x	x	

☐ =qualitative method X= primary data collection method

☐ =quantitative method x= secondary data collection method

Drawing exercises and individual interviews. Participant drawing is an image-based research method which provides a valuable research approach, particularly when working with young people. Its strength includes its participant-focused approach, its alternative form of communication, and its elicitation of young people's unique perspectives. It is particularly complementary with verbal modes of interpretation, in this case a written list of adjectives and individual interviews.

Participant drawing is particularly appropriate for young people in its familiarity and popularity as an activity, its non-verbal mode of communication, and its propensity to tap into latent perspectives. First, students are already very familiar with the process of drawing and the necessary tools and materials (Einarsdottir, Dockett, & Perry, 2009). As a non-verbal mode of

communication, drawing provides an alternate way for students with low literacy skills to articulate their experiences (Barker & Weller, 2003), which may be the case with some of my students. Additionally, drawing united with participant interpretation combines the non-verbal and verbal, which represents a more comprehensive form of communication that many young people may prefer (Einarsdottir et al., 2009). Through these modes of communication, students are able to convey their own unique perspectives, stories, and narratives (Georgakis & Light, 2009). As they creatively reveal their imaginative and lived worlds, emotions and feelings emerge, which may have been latent or inarticulate (Leicht, 2008; Freeman & Mathison, 2009). This process reveals these valuable perspectives in an intrinsically motivating way and in way that may be less threatening than other methods (Leicht, 2008). Moreover, these perspectives are often revealed in their fullness and complexity (Freeman & Mathison, 2009).

During this process, participants are actively engaged in constructing meaning. Thus, this research method is very participant-focused (Georgakis & Light, 2009). Although I will provide the prompt for the drawing, participants have a good deal of control of the process (Barker & Weller, 2003). They are able to choose the specific subjects they will draw from the general topic and have the freedom to represent it visually in a variety of ways. Such freedom empowers participants, responds to their developmental needs, and provides a range of data. In addition, when students are asked to interpret their drawings, the discussion often becomes student-led (Georgakis & Light, 2009). These discussions further engage the participants in the research process and alter the traditional power dynamic between participants and researchers.

As a participant-focused approach, the analysis of young people's drawings relies on discovering the participants' intentions (Einarsdottir et al., 2009). Bosacki (2008) described how drawing and the artist's intentions are intimately related. The researcher takes a stance of not

knowing and positions the participant as the expert. In this case, I will ask participants for their interpretations of their drawings in an interview. This method will allow me to gain a better understanding of participants' intentions. I will use participants' interpretations in conjunction with the visual data so that the drawing itself is not the only data source. This de-emphasis on the actual drawings occurs because the meaning of images resides more in the participant's intention than in the images themselves (Einarsdottir et al., 2009). Thus, the drawing itself serves more as an elicitation device where it is a means to rich verbal data. This verbal data will be generated through participants' written lists of adjectives on the back of the drawing describing the experience and individual post-interviews.

Participant drawing is appropriate for this study and context. Though older participants are more likely to be resistant to drawing methods (Barker & Weller, 2003), Einarsdottir, Dockett, and Perry (2009) claimed that classroom contexts that emphasize creativity and the artistic process over the final product are more likely to influence participants to embrace drawing. Thus, I do not expect my art students to be resistant to drawing as an activity. Second, participant drawing is best suited to answer research questions that seek participants' perspectives, narratives, stories, emotions, or feelings—in this case, students' experiences of empathy with the natural world. The method's power resides in its ability to evoke complexities that may have been otherwise inexpressible (Freeman & Mathison, 2009). Leicht expressed this power of drawings: ". . . drawings, sensitively used *with* children in research, have potential for helping them to narrate aspects of their consciously lived experience as well as uncovering the unrecognized, unacknowledged or 'unsayable' stories that they hold" (p. 37).

Because a drawing exercise is appropriate for this study's context and research topic, I will use pre and post drawing exercises with all students to address Research Question 1 (see

Appendix A). Like the other pre and post measures, the pre-drawing will occur within the first two weeks of the program (January), and the post-drawing will occur within the last two weeks of the program (May). In both cases, I will provide the entire class with a drawing prompt, which asks students to draw a time they felt connected to the natural world and to list adjectives that describe the experience on the back of the prompt. Select students will have the opportunity to describe their pre and post drawings in individual, semi-structured interviews toward the end of the program (see Appendix B). The interviews will last approximately 30 minutes with each student. In these semi-structured interviews (Roulston, 2010), I will ask each student the same open-ended questions included on the protocol but will ask additional questions as needed. I will audiotape these interviews with participants' permission and then transcribe them by replacing identifiers with pseudonyms. The interviews are primarily intended to address Research Question 1 but may provide additional data for Research Question 3.

In the tradition of phenomenological interviewing, I will approach the interviewee as an interested learner, eager to learn about the participants' life experiences without influencing their responses. Therefore, I will take a neutral but interested stance. I will aim to provide a "supportive, non-therapeutic environment in which the participant feels comfortable to provide in-depth descriptions of the life experiences of interest to the researcher" (Roulston, 2010, p. 17-18). I will listen carefully without interrupting and follow up participants' descriptions with questions relating to specific details stated previously by the participants. I will aim to minimize my own conversation and refrain from evaluating participants' responses.

Focus groups. Focus groups bring groups of people together to discuss a topic provided by a facilitator (Roulston, 2010). These topics often surround an experience participants have in common (Freeman & Mathison, 2009)—in this case, participants' experiences as part of a

critical place-based art program. Group interaction is encouraged as a way of generating data (Kitzinger & Barbour, 1999) and can generate a wide range of ideas and viewpoints in a short period of time (Roulston, 2010). Therefore, focus groups are particularly appropriate to address Research Question 3, which seeks to understand which aspects of the program were most effective since participants have all had the common experience of participating in a critical place-based art program. I expect that the group interaction may stimulate memories, insights, and understandings that would not be possible through other methods. In addition, the group setting may be particularly appropriate for research with this age group since it may lessen the power imbalance and possible discomfort that can result in research between teacher researchers and students. Freeman and Mathison (2009) claimed that focus groups can reduce adult power, alleviate pressure to answer questions, and offer group support to individuals.

Because of these benefits of focus groups and its appropriateness to address Research Question 3, I will conduct two post-focus groups, lasting approximately 45 minutes with approximately 5-7 participants each, to understand which aspects of the program were most effective in facilitating empathy with the environment (see Appendix C). I will audiotape these focus groups and then transcribe them by replacing individual identifiers with pseudonyms. In conducting the focus groups, I will follow a similar approach as with the individual interviews in that I will seek to provide a supportive, non-therapeutic, non-judgmental environment. However, I will also seek to foster and facilitate group interactions. I will remain mindful that one or two vocal participants may seem to dictate the shared consensus of the group (Hurworth, Clark, Martin, & Thomsen, as cited in Freeman & Mathison, 2009) and will provide opportunities for dissenting voices. My role will be to initiate the topic through opening questions; to ask probing

questions as necessary for clarification and additional meaning; to engage those who do not readily join in the discussion; and to ensure that the conversation stays on topic.

Observations. Wolcott (2008) described how participant observation is founded on "firsthand experience in naturally occurring events" (p. 49). The researcher's participation can vary on a continuum from complete participation to nonparticipation. As a teacher-researcher, I will take the active role of a complete participant observer as I fully participate in the classroom activities as well as gather evidence related to students' experiences of empathy with the environment and the aspects of the program that are most effective. Observations will provide support for the qualitative research questions and will occur throughout the data collection period—one 18-week semester. As a teacher-researcher, I will record observations periodically in order to document examples of empathetic behaviors and understandings or to document possible influences on these behaviors. I anticipate these observations will be recorded at least once a week. Due to my active status as observer, I will not have time to take field notes during class. However, I will record my observations before the end of the day.

Student visual/verbal journals and artworks. The use of image-based research has increased over the past few decades and has been increasingly accepted within the social science research community as a valid form of data (Freeman & Mathison, 2009). Image-based research can include found, researcher-generated, or participant-produced images. For this study, I will be using participant-produced images as a way to provide students with an alternative form of representation of their experiences, to tap into latent emotional perspectives, and to provide data triangulation. These methods include students' visual/verbal journals and artworks that they will create as part of the course requirements.

Visual/verbal journals are a form of journal or sketchbook in which students are encouraged to create images and write interchangeably. Both writing and drawing as research methods give students control of the data and have the potential to provide them with a sense of ownership (Freeman & Mathison, 2009). As part of this process, students will respond to teacher-created prompts and freely reflect periodically as well, approximately twice a week (see Appendix D for a list of possible journal prompts). In addition, students will create approximately seven art projects throughout the semester that will address a variety of topics and represent a range of art techniques and media. Like the observations, reviews of student visual/verbal journals and artworks will occur throughout the semester and provide data for Research Questions 1 and 3 on students' experiences of empathy with the environment and which aspects of the program have most impacted these experiences.

In reviewing these documents, I will be examining them to understand students' experiences of empathy. However, Prior (2003) reminded us that a document is a product. In reviewing these images, I will consider the reader of the document—in this case, the teacher, the students, the school, and the community. Prior (2003) argued, " . . . those who use and consume documents are not merely passive actors in the communication process, but also active in the production process itself" (p. 16). As the teacher, who will assign projects, instruct students in how to complete them, grade them, and select works to display within the school and community, I am the primary and initial consumer of the products. I assume students will be very much aware of my expectations for this project. Also, students in the class will be consumers of each other's art because of our regularly scheduled class critiques. Thus, the content and ways of representing the content in these artworks may be critically shaped by their awareness of their audience—their desire to please me, receive a good grade, impress their

family and friends, and perhaps win a prize in a juried show. Therefore, I will also analyze these documents in accordance with Prior's (2003) call for moving beyond mere content analysis and the view of documents as stable and static to engage with issues of "field, frame, and networks of action" (p. 2). Through this approach, I will consider how documents involve creators, users, and settings and, in the process, may gain better insight into students' empathy with the environment.

Surveys. I will be administering the New Ecological Paradigm (NEP) Scale for Children (Manoli et al., 2007) with students both pre and post. This survey is a modification of the revised New Ecological Paradigm (NEP) Scale (Dunlap, Van Liere, Mertig, & Jones, 2000), which is a revision of the New Environmental Paradigm (NEP) Scale (Dunlap & Van Liere, 1978). While the revised NEP Scale (Dunlap et al., 2000) has a reliability of .83 and has been widely used in a variety of countries, this modification of the revised NEP Scale occurred so that the scale, originally intended for adults, would be appropriate for use with upper elementary children, ages 10-12. The language was modified in order to be more developmentally appropriate, and the number of scale items was reduced. Like the original, the scale contains a 5-point Likert type scoring system, which ranges from 1 (strongly disagree) to 5 (strongly agree). When scored, four items are inversely scored. The total scale score ranges from 15, indicating an endorsement of the dominant social paradigm (DSP), and 75 indicating an endorsement of the new ecological paradigm (NEP). A score of 45 indicates a neutral stance between the two opposing paradigms. This scale was revised and validated through a three year study with 672 participants (Manoli et al., 2007). They found the scale is appropriate for use with children aged 10-12, and that it measures three interrelated aspects of students' pro-environmental orientations: the rights of nature, the eco-crisis, and human exemptionalism—the idea that humans are exempt from following the rules of nature. In addition, they found that it is capable of providing an

overall score to indicate a students' position on a continuum between an anthropocentric and ecocentric orientation.

Through administering the NEP Scale for Children to students, I aim to discover how the critical place-based art curriculum might have impacted students' pro-environmental orientations. The survey will provide an overall score of students' environmental orientations, on a continuum between a DSP and NEP, and will also provide information on their views on the rights of nature, the eco-crisis, and human exemptionalism (see Appendix D). By administering the survey pre and post, I will learn how their views have changed which may suggest the impact of the curriculum.

Quality of Data

Greene (2008) declared that the methodological traditions should determine the methodological criteria of quality one should adopt. Therefore, I will judge the quality of quantitative data by the validity criteria of postpositivism. In selecting the survey instrument, I have selected an instrument that has been well tested for validity and reliability (Manoli et al., 2007). In administering surveys, I will assure students that their responses will remain anonymous and will not affect their grades. In analyzing data, I will try to remain as neutral and objective as possible. Likewise, I will judge the quality of the qualitative data by the trustworthiness criteria from constructivism. I will use prolonged engagement, thick description, member checking, and peer debriefing to contribute to the trustworthiness of the findings (Guba & Lincoln, 1989).

Functioning as a teacher-researcher presents strengths and weaknesses. For example, my role as teacher-researcher could cause students to feel pressure to indicate high levels of empathy in the interviews and focus group. Visual/verbal journals may also carry the risk since they will

not be anonymous. One way that I will seek to minimize this threat is through the protocols. For example, before the interviews, focus groups, and visual/verbal journal prompts, I will assure students that I want their honest responses and that their responses will not factor into their grade in any way. Hopefully, through my prolonged engagement with the students, students will feel comfortable being open and honest. The other, more anonymous methods, such as the surveys, will not contain this bias and will contribute to weakness minimization, a type of legitimization where the strength in one approach compensates for the weakness of another approach (Onwuegbuzie & Johnson, 2006, p. 57).

Data Analysis

Li, Marquart, and Zercher (2000) described a parallel track analysis as both qualitative and quantitative components proceeding separately through data reduction and transformation until the data comparison and integration stage. In this component design, I will use a parallel track analysis. By keeping each set of data separate during data reduction and transformation, I will be able to uphold the procedures of both qualitative and quantitative methodological traditions (Greene, 2007), and thereby, add validity to the results (Cook & Reichardt, 1979). In addition, Greene (2007) claimed this approach presents less challenges than an integrated design.

To analyze the qualitative data, including the drawing exercise, interviews, focus groups, observations, visual/verbal journals, and artworks, I will use the constant comparative method from the grounded theory tradition (Glaser & Strauss, 1967). First, I will use open coding to reduce the data to a small set of emerging themes. I will do this by taking extensive notes in the margins of each interview transcript, observation form, and journal entry copy. Next, I will use axial coding to compare themes across each set of qualitative data. Through this process, I expect to formulate criteria for comparison and identify relationships between categories. To address

Question 1, I will also create a theme matrix using the themes identified in the earlier coding (Li et al., 2000) for students who were selected to participate in the interviews. These matrices will include data from multiple qualitative data sources including the drawing exercises, the interviews, observations, and reviews of visual/verbal journals and artworks. Analyzing the data on an individual basis will provide a better understanding of the individual's development of empathy with the environment throughout the program.

To analyze the surveys, I will consult with the University of Georgia's statistics department to tabulate and translate the data into descriptive statistics. Together, we will determine the frequency distribution (counts and percentages), the central tendency (the mean and mode), and the dispersion (the standard deviation and range) for each item. We will present these figures in tables and graphs. In addition, I am considering using a Pearson correlation with the overall score and cross-tabulations for each item and dimension to determine the correlation between pre and post results. After analyzing both the quantitative and qualitative findings separately, I will then compare and integrate both types of findings to build the case study.

Limitations and Advantages

Limitations to this study are closely tied to its strengths, including its use of a case study format and teacher as researcher. The case study design limits the generalizability of the study, but provides an in-depth study of one particular case. It is not designed with a large sample size so that the results could apply to a broad range of contexts. Rather, the study is tightly situated in a certain time and place. The thick description of the case in the written report will allow readers to gain insight into the context of the study and then make comparisons between this study and the context with which they would like to transfer the results.

The teacher's role as sole researcher adds credibility to the study, particularly in the inferences and conclusions stages because of the researchers' prolonged engagement and proximity to the phenomenon. To contribute to inside-outside legitimation and to ensure that my prolonged engagement and proximity have not affected my ability to make credible assertions (Onwuegbuzie & Johnson, 2006, p. 57), I will use member checking and peer debriefing.

The short time frame of the study, one 18-week semester, is a limitation without a corresponding strength. Since art classes at this school are only semester-long, this limitation cannot be easily avoided. The empirical literature is mixed regarding the length necessary to observe changes due to a place-based program. Ernst and Monroe's (2006) study examining the effect of a place-based education program on high school students' critical thinking dispositions suggests that one semester may not be long enough to observe significant effects in student dispositions. They found that 12th grade students who had been involved in the place-based education program for four years reported significant levels of critical thinking dispositions whereas 9th grade students did not. They assumed that critical thinking dispositions may take years to develop and prolonged exposure to a place-based education program may have been the difference. However, Creel's (2005) study suggested that prolonged exposure may not be necessary to observe the effects of a place-based education program. Although her study only encompassed a nine-week period, she found demonstrations of empathetic behaviors and positive changes in empathetic understandings. Her findings may have more bearing on this study since she too specifically studied empathy within an art education classroom.

Protection of Human Subjects (IRB)

Participants stand to benefit from participation in this study. They have the opportunity to engage in an innovative art education program that will involve direct experiences with nature,

which may assist them in further developing a connection with nature. Risks for participants are minimal since they will be engaged in voluntary activities, most of which they would already be participating in as a normal part of the school day. The results of participation in this research will be confidential, and will not be released in any individually identifiable form, unless otherwise required by law. Pseudonyms will be used to ensure participants cannot be identified in any way. Identifiable information on images of artworks will be removed before publication. The interviews and observations will be audiotaped and access to these tapes will be restricted to the researcher and her doctoral committee. The digital files of the audio will be stored on a computer and password protected. These files will be destroyed two years after the completion of the study. The researcher will photograph student artworks and journals so that the originals may be returned to students at the conclusion of the data collection period.

Subjectivities Statement

While research studies are informed by gaps in the literature, one cannot deny the influence of personal factors in the topic and execution of a study. My decision to study an ecologically responsive pedagogy was influenced by my love of nature and desire to protect the Earth. I believe this desire has grown since childhood as a result of frequently engaging with the land, participating in ecologically responsive educational programs, and absorbing the ecological attitudes of teachers and family members. My decision to study empathy for the environment was influenced by my experiences as an avid reader, writer, art appreciator, art teacher, volunteer, and nature lover. Through all of these roles, I had the opportunity to experience empathy—empathy with the characters in novels, others' art, my students, and nature. In addition, my experiences as a woman and attending a women's college for my undergraduate education may have stimulated my interest in empathy.

Because of my background, interests, and role as teacher, I am aware that I have a strong desire to see students develop empathy for the environment. By acknowledging this desire as a researcher, I hope to minimize its impact on the data collection and data analysis phases. I realize that I will be negotiating my role as teacher and researcher throughout the semester, and that these roles may occasionally conflict (Cochran-Smith & Lytle, 2009). As the teacher, my goal is for students to develop empathy for the environment and pro-environmental orientations as well as a thorough understanding of art concepts. This integration of ecological concerns within the discipline of art education will present challenges and has already presented challenges in the pilot study as I struggle to balance teaching art content while incorporating ecological and environmental content. In implementing the curriculum, I acknowledge that as the teacher, I represent an important component of it. During the semester I will aim to produce a culture of empathy and pro-environmental concern within the classroom by exhibiting empathy and concern for others, both human and non-human.

While fulfilling my roles as researcher, my own personal characteristics may play a role in the data collection and analysis. I will have some characteristics in common with participants in that I live in the same community and am enmeshed in the culture of the school. However, I will differ from participants in my position as teacher, age, and education level. In addition, in many cases, I will differ from participants in my female gender, white race, and middle-class socioeconomic level. I will be mindful of these differences as I collect and analyze data, specifically in conducting observations and interviews.

Implications for Conducting and Generalizing the Study

This study will have practical implications for policymakers, administrators, and teachers who are interested in implementing ecologically responsive education programs. In addition,

teachers who are currently implementing ecologically responsive art education programs may gain insight into the process of cultivating empathy within their classrooms and which aspects of the program are most influential.

Timeline

January 2012	Obtain parental consent and participant assent
	Administer NEP Scale for Children and conduct pre-drawing exercise
January-May 2012	Implement a critical place-based art curriculum
	Conduct observations and review student visual/verbal journals and artwork
May 2012	Conduct post data collection measures including the drawing exercise, interviews, a focus group, and the NEP Scale for Children
	Analyze survey data through consultation with the UGA statistics lab
June-July 2012	Conduct data analysis and integration and form inferences
Aug.-Oct. 2012	Write-up the research results and complete dissertation

IV. Appendices

Appendix A

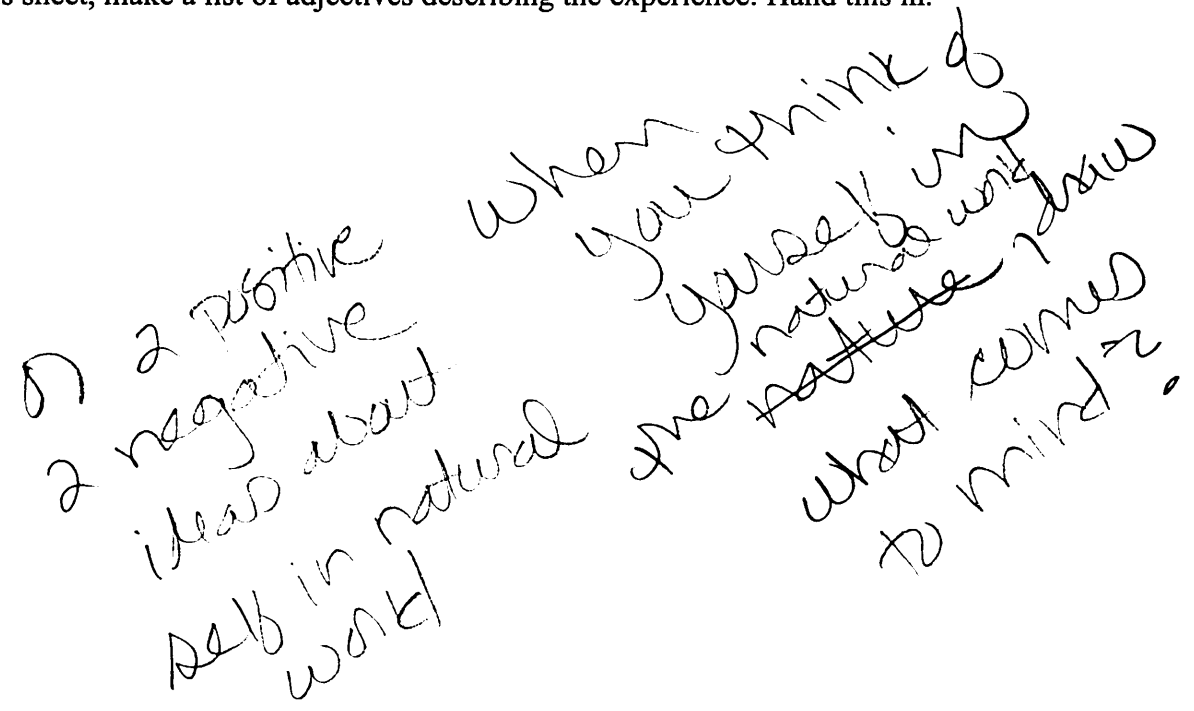
Drawing Prompt

Name_____

Period_____

Date _____

In the space below, create a drawing of a time when you felt connected to the natural world. On the back of this sheet, make a list of adjectives describing the experience. Hand this in.



- Revisit NAEP article - memory, narrative assessment

Appendix B

Interview Guide

You have been invited to participate in a research project through the University of Georgia. The reason for the research is to investigate how middle school students within a place-based art education program experience a relationship with the environment.

The results of this participation will be confidential, and will not be released in any individually identifiable form without the prior consent of you and your parent/guardian, unless otherwise required by law. For example, I cannot keep information confidential if it indicates child abuse/neglect or plans to harm oneself or others. The interviews will be audiotaped. The tapes will be transcribed, and your words may be quoted. If so, a different name will be used to ensure that you cannot be identified in any way.

For this project, you will participate in an interview on your experiences with the environment, which will last approximately half an hour.

For this project, I will interview you on your experiences with the environment for approximately half an hour.

You are free to stop the interview and withdraw your participation at any time should you become uncomfortable with it. I hope you will enjoy this opportunity to share your experiences and viewpoints with us.

Do you have any questions?

Do you agree to participate in this study? ____

Okay. May I begin recording? ____

Building Rapport:

I appreciate your help with this interview. I know that we have gotten to know each other during this semester, and we may have talked about some of these things before. But during this interview feel free to tell me things that you might have mentioned before. Also, feel free to talk in as much detail as you can.

Primary Questions

1. For the drawing exercise, you were instructed to draw a time you felt connected to the environment. This is your drawing (show the student the drawing). Tell me about this

drawing in as much detail as you can.

2. If someone were going to write a story about this drawing, how would it go?

Recommended Format for Probing Questions

1. You mentioned _____. Tell me more about that.
2. You mentioned _____. What was that like for you?
3. You mentioned that you _____. Walk me through what that was like for you.

Appendix C

Focus Group Guide

You have been invited to participate in a research project through the University of Georgia. The reason for the research is to investigate how middle school students within a place-based art education program experience a relationship with the environment.

The results of this participation will be confidential, and will not be released in any individually identifiable form without the prior consent of you and your parent/guardian, unless otherwise required by law. For example, I cannot keep information confidential if it indicates child abuse/neglect or plans to harm oneself or others. The interviews will be audiotaped. The tapes will be transcribed, and your words may be quoted. If so, a different name will be used to ensure that you cannot be identified in any way.

For this project, you will participate in a group discussion, called a focus group, on your experiences with the environment, which will last approximately an hour. For this project, I will facilitate as you discuss your experiences with the environment for approximately an hour. You are free to stop discussing and withdraw your participation at any time should you become uncomfortable with it. I hope you will enjoy this opportunity to share your experiences and viewpoints with us.

Do you have any questions?

Do you agree to participate in this group discussion? ____

Okay. May I begin recording? ____

Building Rapport

I appreciate your help with this interview. Because this discussion will be audiotaped, I would appreciate it if we could try to talk one at a time. That will make things easier for me later when I listen to the tape.

Before we start, I would just like to say that I know that we have really gotten to know each other during this semester, and we may have talked about some of these topics before. But during this discussion feel free to tell me things that you might have mentioned before. Just remember that because this is a group setting, I cannot promise that someone else will not repeat the details of what you share in this discussion. Therefore, I recommend that you only share things that you would feel comfortable telling an acquaintance.

Introductions

1. Now I know that we all know each other, but just to break the ice, can everyone go around and tell us your name and one fun thing you did last weekend?

Primary Questions

3. Think of a time when you felt connected to the environment during this class. Tell me about that in as much detail as possible.
4. What helped you develop that connection with the environment?
5. If you had to choose one project that really helped you connect with the environment, which one would you choose? Why?

Clarifying Questions and Transition Statements

4. When you say _____, do you mean?
5. You talked about _____. Does anyone have an example of that?
6. Does anyone have any other stories about _____ that you would like to share?
7. We've heard _____, what are other views on that?

Summarizing Statements and Closing Questions

1. Now just to sum up what you've said. What I've heard is _____. Is there anything you'd like to add to that?
2. Are there any questions that I haven't asked that we should have talked about?

Appendix D

Visual/Verbal Journal Prompts

What is your first memory of nature? How did you feel?

What is harmony? What things can be in harmony with each other?

What do you want to communicate about nature in your drawings? Why?

Describe your relationship with the plant you are growing.

How does your artwork exhibit harmony?

How has your thinking about plants changed?

What is place?

What was your first memory of place? How did you feel?

Where is your favorite place to go to when you want to be alone? How do you feel when you are there?

Describe your chosen place. How do you feel about it?

How has your chosen place been treated? How do you see the future of your place? Why?

How do you envision a better future for your place? How could you represent that through art?

How has your thinking about place changed?

What is one local issue you are concerned about? Why? How can art respond to this issue?

How can art transform? How will you use art to transform? How can you use untraditional materials to help you with this?

After installing your artwork in the community, how do you think people will respond to it? How do you respond to it?

How has your thinking about the role of art changed?

Appendix E

Name_____

Period_____

Date _____

10-Item New Ecological Paradigm Scale for Children

Listed below are statements about the relationship between humans and the environment. For each one, please indicate whether you STRONGLY AGREE, MILDLY AGREE, are UNSURE, MILDLY DISAGREE, or STRONGLY DISAGREE with it.

DO YOU AGREE OR DISAGREE THAT:	SA	MA	UN	MD	SD
1. Plants and animals have as much right as people to live.					
2. There are too many (or almost too many) people on earth.					
3. People are clever enough to keep from ruining the earth.					
4. People must still obey the laws of nature.					
5. When people mess with nature it has bad results.					
6. Nature is strong enough to handle the bad effects of our modern lifestyle.					
7. People are supposed to rule over the rest of nature.					
8. People are treating nature badly.					
9. People will someday know enough about how nature works to be able to control it.					
10. If things don't change, we will have a big disaster in the environment soon.					

SA=Strongly Agree, MA=Mildly Agree, U=Unsure, MD=Mildly Disagree, and SD=Strongly Disagree

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