

Chapter 13

The Cultivation of a Relationship With the Natural World in Children and Adolescents: A Grounded Theory Multiple–Case Study

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ABSTRACT

The general objective of this grounded theory multiple-case study was to further apprehend how independent K-12 schools within America foster a connection between children and adolescent students and the natural world through examining the relationship between this connection and (a) the school community (“community connectedness”) and (b) personal sense/belief about spirituality. This study utilized a grounded theory multiple-case study approach to perform secondary data analysis on pre-existing data collected during the original parent study. From this parent study, two schools from the initial cohort of 20 were selected and their data were examined for this grounded theory multiple-case study. Data were primarily collected through school site visits that were one to two days in duration.

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INTRODUCTION

Healthy child and adolescent development provides the foundation for overall well-being in adulthood (National Academies of Sciences, Engineering and Medicine, 2019). From this perspective, healthy development is defined as cultivating the cognitive, emotional and interpersonal skills that are essential in order for someone to become a healthy adult and function as an active member of society (Casey, 2019). Sleep (Kopasz et al., 2010; Paruthi et al., 2016), nutrition (Bryan et al., 2004; Hollis et al., 2020), exercise (Hills et al., 2007; Rasmussen & Laumann, 2013), and play (Ginsburg, 2007) are some of the many factors that have been shown to encourage healthy development in youth. Within this framework, the role and impact of spirituality in healthy child and adolescent development has also been examined (Erikson, 1968; Miller, 2015; Roehlkepartain et al., 2006) and found to be supportive. Developmental research has indicated that spirituality may serve as a developmental asset for youth (Good & Willoughby, 2008; Crawford et al., 2006), helping to cultivate resilience through strengthened family relationships and through a community that fosters positive peer engagement, general social support and offers an alternative route to identity development for adolescents vulnerable to seeking identity through risky behaviors such as recreational drug use, alcohol consumption, gang involvement and early initiation of sexual activity (Crawford et al., 2006).

Accessible to all, spirituality is a biological characteristic of the human species, an innate capacity (Benson et al., 2003; Hay et al., 2006; Newberg & Newberg, 2008) that can, and should be, cultivated and supported throughout the lifespan (Fowler, 1981; Kendler et al., 1997; Koenig et al., 2008; Lerner et al., 2006). Spirituality, for the purposes of this study, is defined as an inner sense of a relationship to a higher power (God, nature, spirit, the universe, the creator) that is loving and guiding (Miller, 2015). This inborn spirituality has also been described as an experience of connectedness to the self, other people and to the environment (Skamp, 1991). Considering the role of spirituality in healthy development, it is imperative to identify how spirituality can be developed in youth, from early childhood through adolescence. Consequently, for several decades scholars have explored the various factors that impact the development of personal spirituality in children and adolescents (Benson et al., 2012; King et al., 2014). This research suggests that spiritual development in youth is influenced by a variety of factors, one of which is environmental context (Benson, 2006), or the community of the child or adolescent. More explicitly, a sense of connectedness to community (referred to herein as “community connectedness”) has been recognized as a significant factor in youth spiritual development (de Souza & Hyde, 2007).

One community where children and adolescents may feel community connectedness is the school (Rowling, 2008). Adapted from the definition by Dove and colleagues, and for the purposes of this study, community connectedness within the school is defined as how schools foster and support networks and students’ feelings of belonging within the school community (2018). An additional prominent factor in fostering spiritual development is exposure to and contact with nature (Kellert, 2006; Schein, 2014). Exposure to the natural environment can elicit wonder and awe (Hart, 2006; Shiota et al., 2007), which can serve as gateways to spiritual experiences for children and adolescents (Hart, 2006).

As might be expected, schools, which have traditionally been communities that promote the holistic development of the child, often provide numerous opportunities for student engagement with and immersion in nature, as nature is viewed as a significant piece of whole child education. In the K-12 setting, the development of this student-nature relationship occurs by means of environmental education (“EE”) (Smith & Knapp, 2011). EE involves education occurring in the natural environment or classroom setting, that educates students about the environment and its challenges, with the aim of instilling attitudes and

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actions promoting environmental sustainability (Barrable, 2019). Methods of environmental education differ in their delivery, from single-day programs, led by external facilitators, to multi-year programs that are embedded into the school's overall educational programming (Wheeler et al., 2007). After school programs, led by various nonprofit organizations, provide an additional method of delivery.

Many EE programs teach ecology, stewardship and community values through overcoming challenges while immersed in wilderness settings; yet, few programs educate students on how to cultivate a direct and personal relationship with nature, that is both reciprocal and interdependent. For example, albeit stewardship is a kind of relationship between humanity and nature, it is often viewed through an anthropocentric lens (Hoffman & Sandelands, 2005) by traditional EE programs, where interest in environmental preservation stems from self-serving motivations (Bourdeau, 2004). Alternatively, EE should aim to foster a human nature relationship that is more aligned with the indigenous perspective on ecology, called kincentric ecology:

The manner in which indigenous peoples view themselves as part of an extended ecological family that shares ancestry and origins. It is an awareness that life in any environment is viable only when humans view the life surrounding them as kin. The kin, or relatives, include all the natural elements of an ecosystem. Indigenous peoples are affected by and, in turn, affect the life around them. (Salmón, 2000, p. 1332)

The foundation of this belief system is the idea that humans “live interdependently with all forms of life” (Salmón, 2000, p. 1331). From this perspective, overall health (spiritual, physical, social and mental) is reliant on living in harmony with nature (Salmón, 2000). Thus, EE designed to cultivate feelings of interdependence and interconnectedness should simultaneously foster personal spirituality for youth and help develop community connectedness at the school.

Given the existing field of EE, there is space for growth and development to enhance programs to be more spiritually supportive. Several typical EE programs are ineffective in creating a personal relationship between students and nature because the developmental needs of children and adolescents are not met. These developmental needs include the process of individuation and identity formation, the development of personal spirituality, and connectedness to community. These developmental tasks should be addressed as foundational to any EE program. For youth, this entails learning about themselves as part of nature and through relationship with nature.

METHOD

The Initial Study

The current study was derived from the parent study which spanned 3 years. This grounded theory (Charmaz, 2014; Clarke, 2007; Corbin & Strauss, 2015) multiple-case study (Merriam, 2009; Stake, 1995; Yin, 2018) examined spirituality and school culture in 20 schools, including those that were privately and publicly funded and that identified both as religious and secular. The parent study was directed by Dr. Lisa J. Miller (the principal investigator), with active participation from the study coordinator (first author) at all levels of data collection and interpretation between 2018 and 2019. Masters level graduate students comprised the research team that supported the parent study.

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The Current Study

The current study will perform secondary data analysis on pre-existing data collected during the original parent study to develop an initial working theory of environmental education that is spiritually formative as a part of healthy child and adolescent development. From this parent study, 2 schools from the initial cohort of 20 were selected and their data were examined utilizing a grounded theory multiple-case study approach.

Data Collection

Data were primarily collected through school site visits that were one to two days in duration. The site visits were planned by the school “fellow,” a faculty member previously selected by the school’s head, and were curated to highlight the spiritual ethos of the school. Data collection methods included: 1) individual and group interviews (Brinkmann & Kale, 2015) with faculty, staff, teachers and parents; 2) extensive observations (Angrosino, 2007) of academic classes, faculty and student meetings and extra-curricular activities; 3) and review of organizational reports and public documents (Creswell, 2016), which included analysis of each school’s strategic report as well as their public media materials such as blogs, publications and articles. In addition to planning the school site visit, each fellow was asked to complete an institutional self-study examining the spiritual ethos of their school. This self-study was comprised of 22 qualitative multipart questions and was submitted as a report.

Data Analysis

Phase 1 Two cases from the parent study were selected for the present study through purposeful sampling methods (Emmel, 2013; Patton, 2002). Inclusion criteria included the following: 1) the principal investigator and study coordinator were part of the site visit team and/or had setup an alternative visit; 2) the school’s overall curriculum included environmental education programming, as identified by the study coordinator and principal investigator; 3) there was an adequate number of references, more than 14 combined, coded as either “nature” or “nature consciousness” from the original qualitative data. The codebook defined nature as “exposure to outdoors or other natural environments” and defined nature consciousness as “schools facilitating opportunities to form deep, lived relationships with nature and with all life.” With these criteria in mind, Cedar Highlands and Rocky Ridge were selected for the current study.

Phase 2 There were three primary stages of data analysis: (a) managing and organizing the data; (b) reading and memoing for emergent ideas; and (c) describing and classifying codes into themes (Creswell & Poth, 2018). A grounded theory approach (Charmaz, 2014; Corbin & Strauss, 2015) was utilized to analyze the data. A process of open (Strauss & Corbin, 1998; Glaser, 2012) and selective coding (Strauss & Corbin, 1998) was completed to identify emergent themes and concepts. Throughout the process of open and selective coding, weekly meetings were held to discuss coding, refining the codebook, and to identify emergent themes. Consensus on emergent themes was eventually accomplished by means of consistent dialogue regarding the meaning of the data (Saldaña, 2021; Sandelowski & Barroso, 2006).

Phase 3 Qualitative research (Denzin & Lincoln, 2005, 2011) methods were utilized, through a grounded theory (Charmaz, 2014; Corbin & Strauss, 2015) multiple-case study design (Yin, 2018), also referred to as a collective case study design (Stake, 1995), to investigate how K-12 independent

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schools in the United States cultivate a connection between children and adolescents (“students”) and the natural world (“environment”).

FINDINGS

Case 1: Cedar Highlands

School at a Glance

Cedar Highlands is an independent, co-educational, K-12, Episcopal day school located on the West Coast. Cedar Highlands serves 1,132 students, of which 40% are students of color and 26% receive financial aid. There are 156 faculty members, of which 65 hold advanced degrees. The average class size is 14.

Environmental Education at Cedar Highlands

Environmental education at Cedar Highlands is conceptualized through the lenses of service learning, community building, stewardship, and spirituality. Two notable programs are fundamental to the school’s environmental education programming: the experiential education program and the outdoor service learning program.

Students in Grades 4-12 participate in the school’s experiential education program, which includes a required, week-long, annual excursion that is intentionally planned to provide opportunities for students to form a lived relationship with the natural world, to foster community, and to reinforce concepts learned in the classroom. As described in the school’s strategic report:

The school’s programming includes participation in the experiential education program for students in Grades 4-12. With the wide variety of geography available, excursions are planned yearly to provide each class with an intimate encounter with mountain, island, seashore, desert, or river environments and to include opportunities for service, community building, and to connect the curriculum of the classroom to the world beyond our gates.

In addition to these annual excursions, provided through the experiential education program, students also have the opportunity to participate in the school’s Outdoor Service Learning Program, which offers trips to various locations and provides students with the opportunity to travel, volunteer, and, on some trips, immerse themselves in another language and culture. These two programs are further described herein.

Spiritual Connections in Nature

Through fostering a process of self-discovery and self-reflection, the experiential education programming at Cedar Highlands teaches students about the interdependence of humanity and nature as well as the benefits of immersion in the natural environment:

We recognize that in order to educate students both intellectually and emotionally, the school must explore those areas of learning that stimulate the processes of self-discovery. The program teaches students

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that: the earth is a living organism and each of us is an integral part of that organism; within a natural setting, the individual can better appreciate the coordination of sensory, intellectual, and aesthetic powers; self-examination combined with collective enterprise and positive risk-taking is often more fully realized in an unfamiliar setting; educational experiences will be greatly enriched and personalized in an experiential context.

The annual experiential education trip for the tenth grade class is Joshua Tree National Forest. As part of this experience, students are intentionally placed in challenging situations within a wilderness setting. These challenging situations also help to facilitate positive risk taking. The importance of trust and teamwork is reinforced through activities where success is only possible through a collaborative effort. One faculty member described the challenging task of navigating the talus cave system at Joshua Tree:

One of the activities that we do with kids in Joshua Tree is to take them through a talus cave system, and that doesn't seem so daunting at first, but there are several sections of the cave where one person can go at a time, and it's a pretty tight squeeze. You're pressed down on all sides by the rock, and certain people can't actually fit because they're too big, and you only know where to go because you're being told by the person in front of you what the correct way to go is, so you have to trust the person in front of you. And you all have to be on board with what you're doing, because otherwise someone can get hurt, and you don't want to get hurt in the middle of a talus cave where you have to squeeze people through holes. A lot of groups that I've taken through those caves really come together because of that shared challenge, but usually it has to get to a tough place first before that coming together occurs. With the Cedar Highlands kids, they were together from the moment they began. They were singing throughout the cave, and when I suggested a moment of silence in the first room that was completely dark, they were all into it. They were all like, "Yeah, yeah. Shh. Turn off your voice." And we sat there for a long time, and in reflecting upon the experience afterwards, they loved it. They loved that moment of silence, which to me is the best part of the cave, this like total quiet that you don't get very many places in the world at all, that we get to sit in as a group in this like shared sort of sacred experience for just a minute. And that being special to them was special to me.

Through this experience, students learned that successfully overcoming this challenge was only possible through collaboration and trust. Students were forced, due to the natural structure of the talus cave system, to relinquish individual control and rely on their peers in front of them for navigation guidance. This experience simultaneously fostered community through shared experiences, such as students singing and sharing silence together in the first room of the cave, in addition to the shared experience of overcoming a challenging situation through a collaborative effort. Furthermore, the experience of overcoming the challenge of navigating the talus cave system provided opportunities for the cultivation of individual spirituality through the experience of competence. Johnson (2002) noted that experiences of "competence" often result when challenges endured in the wilderness are successfully overcome and that this "competence" is a spiritual benefit of nature.

This connection, between students and the natural environment, is further cultivated through the school's Outdoor Service Learning Program. The goals of the outdoor service learning trips include student immersion in nature, the cultivation of stewardship, service learning, and opportunities for students to experience reverence and awe for the natural world. In describing the mission of the Outdoor Service Learning trips at Cedar Highlands, one faculty member said the following:

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I mean, the purpose of them, the stated purpose, is to help our students connect with the natural world, with wilderness in a personal, hopefully spiritual way. At the very least, in a way that encourages a self-inspired stewardship. Right? That's kind of the mission.

In many ways, the trips are designed to allow opportunities for students to experience the sacred through the natural environment. As described by one faculty member:

I have the honor of planning trips in conjunction with Cedar Highlands students and faculty with the goal of immersing ourselves in the natural world, away from the city, where it is easy to feel separate and disconnected from nature. I grew up in the woods of Vermont, spending most of my time after school running through undeveloped wilderness with my younger sister and two dogs. There was a feeling of true belonging there in the forest, a feeling that shaped my beliefs and pursuits all through my childhood, and to this day I seek it out wherever I can. This feeling comes back to me when I am still and sitting at the water's edge, or leaning into the wind on a rocky mountaintop, or perhaps lying back on the soft grass to stare up at the night sky, full of stars and mystery. This sacred feeling is what our Outdoor Service Learning program is all about, and it is this experience I seek to bring to your children. I hope to instill in them the reverence and awe I feel for our beautiful planet. I hope that, through this feeling, they will fall in love with the mountains and the rivers, the animals and plants, and through this love become stewards and guardians of the Earth.

The itinerary of each Outdoor Service Learning trip varies; however, an overview of the trip to Big Sur is discussed to provide context around some of the typical activities and flow of a trip. The duration of the Big Sur trip is 4 days. Mornings begin with an optional yoga and contemplative practice, and after breakfast, the service project begins. This particular service project involves the Big Sur River. One faculty member described this project:

In Big Sur we are tending to the Big Sur River. We will be planting natives [plants], removing invasives, and maintaining the health of the river bank so that the activity around the bank doesn't erode the river at an undue speed. The health of the river is really the health of the ecosystem around there. Basically, we're just caretakers of the river.

Afternoons and evenings are spent building community through games, meals, activities, and free time. One activity on the trip is the cosmology and wonder circle, a storytelling activity that is led by the group leader around the campfire. The group leader tells the story of evolution. In describing how this unfolds, this faculty member shared the following:

First, I frame it by telling them about the human relationship with mythology and how mythology is really just cultural storytelling. That almost every culture throughout history has a creation myth or the story of how things came to be, how you got to where you are, and it's the story that connects everything. Every culture has a different creation myth, and we give some examples. Then I tell them our modern creation myth, which is the scientific story of the unfolding of the universe. I describe from the Big Bang or the moment before the Big Bang, all the way up through present day, which is quite a story to communicate orally and around a campfire with no visual aids. But they seem to love it. It's a little different every time because I have the outline in my head, but it's not a script. There's a certain amount of poetic

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license that I take, but I try to go through all of these major thresholds of growth and evolution and the increasing complexity of the universe as it unfolds. That's informed by quite a few different sources.... But it's always getting more refined and better year after year, but basically, we tell the story of the universe and say, "This is where you fit in the story." Then they can place themselves in this currently unfolding tale, which is our shared story. They can see, "Okay, I see where I am in the big picture. I see where I am and why that matters." The whole trip, the goal is to get these kids to feel like they matter in the grand scheme of things and to have a basic understanding of where they fit in that story, the role that they play. What is their relationship with the rest of the cosmos?

In many ways, the choice to tell the story of evolution poetically, theatrically, and around a campfire helps to elicit awe and wonder from the students; furthermore, it provides an opportunity for students to see themselves as part of the evolution story. The choice to relay the story of evolution through this particular narrative allows the students to reflect on humanity and its place in the world. This type of narrative helps students to explore the interconnectedness and interdependence of all life as they begin to realize and acknowledge that humanity is "embedded in a web of ecological and communal relationships" (Chicago Wisdom Project, 2015, p. 9). This interconnectedness and interdependence continues to be explored through the next part of the activity, the wonder circle:

Then after we do the story of the universe, our little cosmology talk as I call it, we have a wonder circle. I mean, wonder circle is all about questions. We go from what is known, or what we think we know. Because I do tell them, "This is just what we think we know." We don't present any knowledge as fixed at all because that's unscientific. Then we go into the realm of mystery. We say, okay, so now that we have all this information that we feel like we think we know pretty well, we have a grasp of the basic shape of things, what are the things that you now wonder about? What are the things that you're curious about? What are the things that you feel like are missing in the story that you want to know the answers to? They'll ask questions like, "What is the universe expanding into?" or "If we don't know how life started, how did it really start? Is it rare? If we don't know if there's other life out there, is there intelligent life in the universe besides us? Where's the universe going? What's the end of the story? What happens after you die?" They ask these kinds of questions. The idea of a wonder circle is that you're just asking questions as they arise and nobody responds to the question. You just let the question sit in the silence, so that everybody can contemplate in their own way, in their own minds and hearts, how that question lands in their body, and then allow it to inspire further questions. The point of the wonder circle, it's just the questioning. Then if they do really well with it, they understand the heart of the game, and they've asked some really excellent questions, we typically will do a little follow-up where we discuss some of these questions and possible answers. Some of the questions they asked, frankly, there are pretty solid answers to. Instead of addressing them in the wonder circle, we address them in this follow-up activity of, okay, everyone's going to pick a favorite question or something that they really, really want to talk about. We talk about four or five really big questions, and we just discuss, "What do you guys think is the answer to this? What's a possible answer that you might have?" If there is some scientific partial answer or full answer to one of the questions, then we'll try to present that as well. But I do encourage them just to steer towards questions that really are a mystery to modern science.

This exercise further cultivates awe and wonder as students grapple with questions around evolution and the unfolding of the universe. For example, when asked to describe their favorite part of this trip,

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one student noted, “I also liked the question circle we did at the campfire because it really made me curious and wonder about things I never had before.” The cosmology and wonder circle was intentionally designed and facilitated to evoke curiosity and wonder, and this student’s reflections demonstrated that it was successful in eliciting these emotions. Wonder is considered to be an important component and a primary source of spirituality (Fuller, 2006) In this regard, aside from eliciting curiosity and wonder, this activity was also laying the foundation for the cultivation of individual spirituality for these adolescents.

The evening also includes a game of Werewolf, which is a full group game, as well as free/social time. Werewolf is a game where each individual takes on a role in a theoretical village and tries to uncover who the werewolves are. Both of these activities help build relationships that move students to feel connected to the community. In describing what occurs during free time, one faculty member said the following:

Yeah. But really everybody just stays around the campfire and gets to do what they want. They can chat with their friends, they can talk to the teacher chaperones, they can just sit around the fire and be silent, they can get some tea. We serve warm drinks like hot cocoa and tea and little desserts and stuff. That’s the free conversation portion. Frankly, any moment where we have free time, you see that we have free time every day...before dinner and after our nighttime programming, that is actually the most important part of every trip. The free time is not as meaningful if it’s all the time. If all of your time is free time, there’s not enough structure. It’s really hard for things to take shape. But if everything’s too rigid, then there’s none of this inner alchemy that takes place in the heart and the mind of the student or the teacher or whoever. All of the structured stuff is actually to support these moments of free time where essentially the students and teachers are in a state of play.

In further describing how this state of “play” is at the core of the trip’s model, this faculty member said the following:

Play is actually part of the program in my view. I gear everything around this attitude of play, and I try to encourage that attitude of play for literally everything we do so that service is play, our hiking is play, our environmental education is play. Everything, I try to gamify as much as possible, or make things fun. If we’re doing work, we might be singing and dancing while we’re doing it. The element of play is central to the philosophy of how we run our trips. The free time is that most concentrated play time. I was going to say kids, but just generally, I think when people have a space that is dedicated to play, then they feel invited to be wholly themselves, where they don’t have to bring one aspect or another to what they’re doing, where they can just naturally let it all flow. It’s where all of the moments of joy and discovery, and true mystery can come to the surface for them and really solidify in their consciousness. Before that, everything’s bubbling below in this unconscious subconscious space. Then when they have the freedom away from structure, these things naturally bubble up into how they see the world and how they interact with it. The freedom to play also allows them to maintain that positivity and attitude of gratitude throughout the rest of the trip. It makes them feel as though, “This is something I’m doing for me, not something I’m doing because I’m told or because somebody else wants me to do it. This is something that I have given as a gift to myself.” If we don’t have the free time, we don’t have the element of play, and nobody sees the trip that way.

It is through these moments of “play” that students experience awe, wonder, mystery, and connection to themselves, their peers, and the larger group. Students also experience a sense of internal freedom

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during these moments of “play,” where they feel welcome to be their full selves. This sense of internal freedom, and invitation to be authentic, is similar in some ways to how students experience nature, as an environment where they can be their full selves. One student reflected on the importance of free time on their trip:

My favorite part was the free time we had on the beach after the hike.... The free time was one of the only times I have ever had time to spend with those teachers outside of a school setting, which was really cool and fun.

Ultimately, the trips offer students many opportunities for connection with themselves, with their peers, and with the natural environment:

Our students take an active role in planning and executing an escape from crowds and smog to connect with each other, themselves, and the Earth. We marry curriculum with community and environmental service, leadership development, personal reflection, and team-building. The students who have taken part in these trips will tell you how in just a few days they learned more about themselves, how they have undergone an internal shift toward deep connection, and how they are now invigorated with new purpose.

These opportunities for deep connection, with nature, with themselves, and with their peers, can serve as gateways to spirituality for these students. In reflecting on this, one faculty member said the following:

Spirituality in my mind is the understanding of and the experience of felt connection, not just intellectually but in your body. The more deeply connected that an individual feels to their community, whether that's the human community or larger in scope, the entire eco-community, the more spiritually activated they might feel. When I have kids on my trips say, “I've had a spiritual moment,” universally these are moments of feeling connected to each other and to the natural environment. Usually it's to the entire Earth as a living system. That's when they really feel, “Whoa! I'm connected to the living system of the global ecosystem in the same way that a child is connected to its mother in the womb.” There is an invisible umbilical cord connecting us to this system, all of us. It's the conscious recognition of that connection in the body as a felt experience, that is when kids report spirituality.

Many students shared anecdotes about the connections they felt in nature during these Outdoor Service-Learning trips. One student noted that their favorite part of the trip was the following:

Being out in nature and remembering why I wake up in the morning. The inter-connectivity of nature reminds me that I'm just a speck in the universe and that I need to appreciate that I exist, and not waste time searching for a purpose, because it is all what I make it.

This student's reflections revealed the felt experience of interconnectedness between self and the natural landscape, while also demonstrating how the natural environment can influence adolescent identity formation by instilling a sense of purpose. Another student noted, “My favorite part of the trip was Whale Tail (a geological formation that looks like a whale's tail where students watch the sunset). It was a really spiritual moment for me and definitely the most beautiful sight I have ever seen in person.” Beauty that is experienced in nature can help foster a feeling of spiritual peace and comfort (Johnson,

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2002). The beauty that this student experienced at Whale Tail seems to have played a role in the “spiritual moment” described. Another student noted the tranquility felt when immersed in the natural landscape: “I loved going to the monastery, but I’m not entirely sure why. I think I really liked it because we were entirely surrounded by nature, which felt very tranquil and calm.” Johnson (2002) described the tranquility and calmness this student experienced as an “experience of peace” that is often invoked by nature. This experience of peace manifests as humans identify with those aspects of nature that are enduring and timeless and as ordinary worries and concerns are minimized in the presence of nature’s sublimity (Johnson, 2002). Similarly, another student shared that they “loved the monastery, it was something I have never seen and it evoked emotions and sensations I’ve never felt before, definitely a must-have moment.” Another student explicitly made the connection between the monastery and spirituality: “I really liked going to the monastery because it was really spiritual and the forest was super pretty. I also really liked the talks we had about life in groups.” This student also referenced moments of connection they were able to have with other members of the group. These moments simultaneously help to cultivate connectedness to the school community.

Connections to the School Community Through Nature

Faculty members and students felt a strong sense of connectedness to community at Cedar Highlands. When one faculty member was asked what appeals to them about the Cedar Highlands community, he said the following:

Several things. The first thing is that it actually feels like a community, that there is a through line with pretty much everybody that interacts here, whether it’s the teachers, or the administrators, or especially the students and the operations staff. There’s this sense that we’re all here not just for ourselves, but for each other. I have found in my seeking for community in a lot of different places in my life that that’s actually not terribly common, and so that was something that attracted me right away to Cedar Highlands even before I considered the idea of working here.

One factor that contributes to this strong sense of community are the relationships that form through experiential education and Outdoor Service Learning trips. These relationships are made possible through the many opportunities that students have to connect with their peers on these trips. These moments of connection simultaneously help to cultivate connectedness to the school community. For example, when asked to reflect around their favorite part of the Outdoor Service Learning trip they had recently attended, one student said the following:

It is very difficult to choose my favorite parts of the trip because I loved every aspect of the trip. From the beach/tide pooling to the long hikes with picnic lunches to the community service to the discussion/reflection time after each day, even the long bus rides! Every activity (and nonactivity like eating meals and washing dishes) was a bonding experience for me, and I feel that I have obtained a closer relationship with each person who was on the trip, beyond saying hi as I walk past them. Some of my favorite bonding times were eating dinner together, digging up bush roots, and lounging on the couches. These were some of the best moments because by the end of the trip, I felt like I’d known the others for years, despite getting to know many of them only four days ago.

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This student's reflections exemplified the connections they made with their peers on this trip. Other student voices revealed similar sentiments as they reflected on the same question. One student noted:

Cooking food together and playing games. It was an easy way to get to know each other on a deeper level. I had thoughtful conversations as well as laughed more than I have in a long time. Really, though, I loved it all.

Another student shared, "The times that all of us were listening to music and telling stories and laughing together like nothing mattered. Those are moments I will never forget." A third student shared, "Playing spike ball and watching the sun set on the beach. Also getting to know people while hiking." Another student discussed the relationships that resulted from the trip:

The memories and connections made. I made friends with some students I had never known before, got to know some teachers I did not know too much about, it felt like a big family in a way, and I will certainly never forget this trip.

Similarly, another student also discussed relationships and connection:

The people and the connections that we made because I know they will last longer than anything else that we got from the trip. I also loved the memories that I made because they may have lasted a few moments, but I know they will stay with me for the rest of my life.

Another student noted, "Meeting people in our community. Knowing that I have a connection with more people is comforting." Often, these moments of connection to peers and the community occurred through planned activities or during free time. Hiking is one activity where many students experienced connection. For example, one student noted, "I really liked the hike because of the great view, and the great conversations on the way up and down." Other moments of connection were made stronger simply by being in a more remote and natural setting. One student described this: "I really liked watching the sunset from Whale Tail because it felt very spiritual and grounded. It also made me feel closer to myself and my peers." This student's words revealed how partaking in a shared experience of connection on various levels—aesthetically, spiritually, and relationally—helped them to feel a stronger connection with self and with community.

Care for Creation: Service to the Natural World

Environmental stewardship and service are embedded into Cedar Highlands's environmental education model. Cedar Highlands partners with local parks to create environmental stewardship initiatives that can be returned to annually as part of the school's Outdoor Service Learning trip program. In describing one of these environmental stewardship initiatives, one faculty member said the following:

...we partner with local parks service to create some kind of environmental stewardship initiative that we can return to year after year. At first, when the program was in its infancy, it was one-off service projects connected to each other year to year, and we didn't like that. I mean, it was fine, but we thought there was something more substantial we could be doing. On Catalina, we have taken the stewardship role

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of the campground that we always stay at, and we've planted hundreds of oak trees there, and we have been tracking their growth since we planted them four years ago. We partner with the conservancy to not only do some education around that, but also to be doing the data tracking and doing any maintenance service, removal of invasive species, that kind of thing, in the area so that it's like the Cedar Highlands group is taking care of the little harbor, this campground. If you're a returner, you can go back year after year and see the progress that your work is making. If you are new, you get the story of, oh, how this project has evolved over time. It really reveals the relationship between people and place. It starts to get kids connected to this idea of "Oh, my relationship with the land, my stewardship with the land, it's a long-term, lifelong relationship." It's not something that you're just visiting once and then leaving. There's no actual leaving the land. We're all here, all the time.

In reflecting on one of their trips, one student discussed their thoughts regarding the service project of which they were a part:

I loved our service project because the location infused our work with a sense of the mystical or religious purpose. I felt everyone really wanted to do their best to help this elderly woman who was a central part to the larger religious community.

This student's reflections revealed how many times service work is infused with spiritual and communal undertones. It is through this work that students become open to connection, and many may begin to feel the interconnectedness and interdependence of all life, starting with those within their own school community and extending beyond their own community to those within the community they are serving.

Another student also discussed the service aspect of their most recent trip to Big Sur: "I also enjoyed the community service aspect of the trips as well. I was able to learn about the invasive species of plants and help out by removing them." Similarly, another student noted, "I also really loved the service projects we did. Bagging and labeling at the hermitage and planting the native species on the sand dunes was really fun. I learned a lot about myself and the Big Sur environment." These student voices demonstrated how the service projects on the Outdoor Service Learning trips are also designed to educate students about the natural environment through an experiential approach, which involves hands-on work outdoors.

Summary

Cedar Highlands fosters a connection between students and the natural environment through its programs and curricula, specifically the experiential education program and the Outdoor Service Learning program, as well as through community service, which is a fundamental component of the Outdoor Service Learning program. For Cedar Highlands, environmental education is a fundamental component of holistic education. Environmental education programming at Cedar Highlands provides numerous opportunities for students to experience the benefits of immersion in the natural environment. It is also used as a vehicle to cultivate stewardship, instill values of service, foster community, nurture spirituality, and reinforce academic concepts that are learned in the classroom. Ultimately, these trips provide opportunities for deep connection with self, the environment, and the community, which helps students feel more deeply connected to their school community and simultaneously nurture individual spirituality.

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Rocky Ridge

School at a Glance

Rocky Ridge is a private, independent, co-educational, PreK-8, Sufi day school located in the South. Rocky Ridge serves 217 students and employs 52 faculty members.

Environmental Education at Rocky Ridge

Environmental education at Rocky Ridge is a lived expression of the school's mission statement, which, in part, aims to develop students to be leaders in building an environmentally sustainable world. The school adheres to a holistic learning model that aims to support child learning and development across seven domains: spiritual, mental, creative, emotional, social, natural, and physical. These seven domains serve as the foundation for all the school's curriculum and programming. Most relevant to environmental education, the "natural" domain is described as embodying "reverence for nature, nature engagement, stewardship & environmental action, and scientific knowledge." These characteristics serve as the four primary outcomes and learning goals of the natural domain. The "natural" domain is guided by a fundamental belief regarding the natural world and sustainability:

Through understanding nature, we understand ourselves, each other, and the greater community. Therefore, the learning environment extends into the natural world and into the greater community, and children spend as much time outside as possible. Children who have a relationship with nature will take care of it.

Child development and learning in the natural domain are primarily cultivated through the school's environmental education program, which is further discussed herein; however, the "natural" domain is also consistently interwoven into academic lessons daily, as are all other domains. The environment, and the natural domain, is a focal point of the academic curriculum at Rocky Ridge up until the middle of third grade:

So, at age nine is when we introduce the cradle of civilization. And so, from there through the end of eighth grade, our whole curriculum is humanities-based, roughly chronological. Whereas preschool through middle of third grade, they're studying the natural world, they've studied every phylum by the end of third grade except for fungi in fifth.

In addition to the natural domain being integrated into the academic curriculum, the school's environmental education program requires that each grade level work with the school's resident naturalist for at least six 1-hour learning blocks throughout the school year. The resident naturalist is a faculty member who is responsible for "fostering and supporting these child-nature relationships for all Rocky Ridge students." Structurally, each session begins with a nature-based centering practice or a story to set the context for the lesson and aims to emphasize one or more of the natural domain learning goals.

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Spiritual Connections in Nature

Rocky Ridge views nature as a “spiritual teacher,” and this philosophy is reflected through many of the school’s educational methods. Through these educational methods, the school aims to create a culture that honors the human-nature relationship while simultaneously fostering a more authentic connection between children and the natural environment. This intention is described in the school’s strategic report:

A culture that is permeated by a materialist philosophy sees the Earth as a commodity—a resource to be bought, sold, quantified and controlled. In this view, humans are separate from nature instead of interdependent. Many of the educational methods at Rocky Ridge aim to shift this paradigm by paying homage to the sacred bond between nature and humanity and connecting children to nature on heart and soul level.

This reverence for nature and the philosophy of interdependence between nature and humanity are further reinforced through the school’s curriculum and programming. As described in the strategic report:

Our lessons, programming, and explorations aim to revere Nature as sacred and approach her with wonder and awe and build in time to commune with her. We play with Nature by awakening our senses, taking risks, adventuring, engaging deeply in the sciences and meaningfully in stewardship and she is the backdrop for celebrations and rites of passage.

This reverence for nature and philosophy of interdependence are further exemplified through one of the six required kindergarten environmental education sessions. The focus of this particular session was on “using the art of questioning to explore nature artifacts” and involved using a “specimen basket,” which was a collection of nature artifacts that belonged to the school’s resident naturalist. The resident naturalist met with the kindergarteners under a large oak tree. The session began with a centering practice where the group was asked to sit in a circle and breath together as a candle was lit, holding the intention that “nature is our teacher.” The idea of nature as teacher was further illustrated in the following description of the activity in which the kindergarteners participated:

*Without saying a word, I removed one artifact from the basket, and with extreme intention and care, slowly removed the silk, uncovering small bits of it at a time. Once fully uncovered, a turtle shell was revealed. Small gasps and oohs emerged from the kids but no words, no questions, and no comments. Each student’s eyes were locked only on the turtle shell. I began investigating it; looking closely at every nook and cranny and feeling its texture, its bumps, and its cracks. I held it to my nose to smell it. I held it to my ear to listen to it. I held it to my heart as if I were feeling it deeply. The children were mesmerized, silent, and intent. I spoke up and said, “Nature has much to teach us if we are willing to listen.” I explained the basket is full of Nature’s stories and challenged them to try to discover them. I asked the children to close their eyes and hold out their hands in a cupped position. I explained that each would receive a special artifact from nature and with care and respect to carefully unwrap it and get to know it as well as they can. I distributed the artifacts and asked the kids to open their eyes and begin the discovery process.... We continued the activity by carefully passing the objects around the circle so that each child could explore each artifact. Thirty minutes passed with few words—these artifacts became the teacher. I followed this activity up by reading the book *All I See Is Part of Me*. We discussed how we are*

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so deeply connected to the Earth because everything we see in the Earth can also be seen within us. I requested the children pick up their original item and asked them to think of how they are like that item. "I am the pinecone because I am small." "I am the flower because I am colorful!" "I sparkle like the crystal." These types of activities engage the children in such a way that they are able to look at nature differently. If they can make the connection that what makes a pinecone a pinecone is also what makes them who they are, then a sense of appreciation and protection of that pinecone and thus the tree will then live inside of them.

Through this activity, children learn through modeling how to experience awe and wonder for nature's many artifacts. Curiosity is encouraged and cultivated through the detailed exploration and investigation of various artifacts as the children are asked to "get to know" their artifact. Nature is presented as a teacher, with whom children can engage and from whom they can learn. Interdependence is taught through an activity that assists children in making connections between characteristics of a pinecone and characteristics of themselves. The seeds of stewardship are planted as children begin to relate to nature, with the (school's) aim that one day they will work to protect the natural environment.

Similar to the activity with the pinecone, children are consistently encouraged to draw connections between nature and themselves. One faculty member described how she uses language to help cultivate this connection:

And when the students say something like that flower is beautiful, and I would respond, I see that flower's beauty in you. And it's just a matter of changing your language so that they see that connection, the flower's beauty and that connection with that flower. And especially, it's most impactful for the little ones because then they're just in awe because they recognize that the flower's beauty is them, and they are the flower. And it's really amazing just shifting the language just a teeny bit.

Through this language, children are taught to view themselves as similar to nature and as a part of nature.

The idea of nature as spiritual teacher, as well as how the various seven domains (including the natural domain) are integrated into the classroom environment, is further exemplified through the kindergarten unit on butterflies. The kindergarten class raises a butterfly in the classroom and observes the butterfly at each stage of its development; eventually, the butterfly is released into nature. The kindergarten teacher described this process:

And it is, going into all of the details of the butterfly, of course, in every domain, so academically its just easy to talk about the science of it, of course, what that looks like in social studies, what it looks like in everything. And then bring in every domain, so of course we dive deep into the spiritual of what happens during metamorphosis. What happens during that change.... It's one of the most exciting, of course they see the butterflies go through that process right there in front of them...and then we dive deep into, even, the social/emotional...is this butterfly going to make it to Mexico? And does it make friends along the way? So tapping into all of those heart-felt pieces along with, why doesn't my dog migrate? And why does my dog stay here? And I really love this butterfly and it's leaving us. Going through that separation.

Through this unit on butterflies, curiosity is encouraged, and awe and wonder are cultivated through the exploration of the life cycle of the butterfly and witnessing the butterfly develop through the process

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of metamorphosis. As we know, exposure to and contact with nature is another influential factor in the development of personal spirituality (Kellert, 2006; Schein, 2014). These experiences can foster feelings of wonder and awe (Hart, 2006; Shiota et al., 2007), which can serve as gateways to spiritual experience for children and adolescents (Hart, 2006). The butterfly unit can therefore provide a strong foundation for the cultivation of individual spirituality in these kindergarteners as they directly witness and engage with one of nature's life cycles.

This academic study of the natural world, through integrating the natural domain into the school's curriculum, is further supported through direct immersion in nature. Direct immersion in nature is a focal point of Rocky Ridge's environmental education program and often occurs during the six required 1-hour learning blocks with the resident naturalist. For example, one of the second grade's required classes with the resident naturalist focused on tree structure, function, and general characteristics. After a centering exercise outside, the students were asked to observe the trees on campus and look for signs of life. After some time, the students were then asked to feel the sand, rocks, and water in their hands and focus specifically on the feeling of each of these. The next prompt from the resident naturalist called for imaginative play, as students were asked to create words out of sticks on the ground that spread love and kindness to others. The class ended in a collaborative circle where students were asked to relate themselves to an assigned animal following the format, "I am like the turtle because I take my time."

As previously discussed, this direct immersion in nature can be spiritually formative for children and adolescents. By observing trees and specifically being prompted to look for signs of life, children are guided through a process of discovery where they come to learn and understand that trees are living, just like them. This second grade class also helped to exemplify how, in many ways, it is the faculty that help to cultivate this sacred relationship between students and the natural world through their intentional lesson plans and approach to environmental education. This is, in part, due to the training that teachers receive. In describing this training, one faculty member said the following:

A lot of our teachers are trained through a program that was created through Thomas Berry's work... and there's a place, like 240 acres, it's called the Center for Education and Imagination in the Natural World. And they have a beautiful program there that's called the Inner Life of a Child, that's a two-year program, that most of our veteran teachers took. And so they're very well acquainted with helping children to have a real deep, spiritual relationship with the natural world. You know, as well as stewarding it and understanding it scientifically.

Through academics and through direct immersion, students are able to form an authentic relationship with the natural world that can directly impact their spiritual development. A parent of a middle school student described the role of nature in her son's spiritual development:

My son is another middle school student who identifies as an atheist and was really adverse to anything spiritual at all and felt like he was kind of being forced into something. And I think, for him, what was developing appropriately was an openness again to see what in him was the good in him. So for him, it was his connection with the natural world. And he was really closed to discussing that as part of his spirituality, and I would say that now he has a little bit of a different take on it.

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This parent's reflection illustrated one way that nature can be spiritually formative for youth, in that for many children and adolescents, it is their relationship and felt connection with the natural world that serves as the foundation of their spirituality.

The natural domain is further integrated into classroom learning through the practice of centering. Centering is a key aspect of the Rocky Ridge curriculum that is consistent across grade levels:

Centering is a whole class activity that has an opening and closing secular ritual with an activity in between. Centering rituals vary from classroom to classroom, but the basic elements for the opening ritual involve the students gathering together in a circle and practicing mindfulness. As a centering begins, the classroom is filled with reverence—the space is set with intention and the lights are dimmed. A chime or bell invites silence; the invitation of fire through candlelight is summoned; and a pause is taken for audible breath work. Following the opening ritual is an activity. The activity extends into other aspects of spiritual learning beyond mindfulness, with experiences that can integrate with or enhance the academic curriculum, social/emotional learning, creativity, kinesthetic learning, and students' connection to the natural world.... After the activity, centering closes with a simple ritual that typically involves naming a word or concept for the day, taking three breaths together, and blowing out the candle. This begins the sacred work of the day.

Many centering practices focus on the natural domain. One faculty member described centering and provided examples of two centering practices that focus on the natural domain, completing a nature walk and observing leaves:

And a lot of people think of it as anchoring in one particular domain. Like that particular day they're going to do a silent nature walk or one of the exercises that we learned at the center for, at the inner life program, was where the kids are partners, and it's completely silent and if you're my partner, I will just completely silently, show you this leaf. And then you'll look at it too and then it will be your turn and then that could be a centering that just observing little things that you wouldn't notice otherwise, silently with a partner. Beholding.

Through this practice, when centering focuses on the natural domain, nature is used as a vehicle to assist students in grounding and connecting with themselves and their peers. Through this process, it can also simultaneously cultivate individual spirituality as well as community.

Connections to the Greater Community Through Nature

Rocky Ridge values community and takes intentional steps to foster community among its students, faculty, and parents. For faculty, the school often utilizes the natural environment as part of fostering this community. The school hosts an annual 2-day training at the start of the school year for faculty, which includes a 1-day retreat incorporating nature-based activities:

...and we do a retreat that is nature-based. That's a day. That's an overnight. And we always do a lot of outdoor stuff, we always have like a naturalist walk. It is so awesome, and then the school year starts.

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Similarly, nature is used to help foster community among the student body through nature-based trips. One faculty member described the various locations of these trips:

Fourth grade is at Treemont, which is in the Smokies. It's an outdoor education facility in the Smokies. It's been around for decades. I went when I was a little kid. Fifth grade went to Mt. Trail Outdoor School, which is in Hendersonville, North Carolina.... Sixth grade will go to a place called Green River Preserve, which is also a nature-based summer camp. Seventh and eighth grade just got back from Charleston...a science, beach ecology-based trip, with some social studies involved.

Nature, and learning about the natural environment through academics, is also used as a tool to help students connect with their local community and the greater community of life. As described by one faculty member:

But I think they've studied every major animal phylum in the third. They've studied every biome. And so they've studied their local community and communities, it's about getting along and understanding one another. And indigenous people. Lots and lots of studies of indigenous people up through third grade.

Through this lens, the academic study of the natural world becomes a way for students to understand and connect with their local community as well as learn about communities that are rooted in various cultural backgrounds.

Similarly, learning about the natural environment through academics is a way for students to connect with their peers and simultaneously with the school community. One way that the natural domain is woven into the first grade academic curriculum is through the Africa unit. One faculty member described the Africa unit in more detail:

Like within the Africa unit, they each choose what animal they want to be an expert on. And so each child is researching their animal and doing pretty extensive, independent research on their animal and all the other, it's like a jigsaw, and all the other kids learning about the animals and they're so interested in them because it's their friend who is the cheetah expert. All throughout that unit, which is like three months long, that cheetah expert will be called on from time to time if something comes up that has to do with the habitat of the cheetah. And then, we'll study the different biomes in Africa. There's so many in Africa that they learn. They learn so much from studying Africa that applies to everywhere in the world.

This unit takes a communal approach to the curriculum and helps students connect with one another, and with their classroom community, while simultaneously assisting students to connect to the academic content all through nature.

Building Relationships With Plants

Rocky Ridge helps to cultivate an authentic personal connection between children and the natural environment by giving each first grader their “own” tree on campus that will be theirs until they graduate the school in eighth grade. Many students in eighth grade still have a relationship with that tree in a deep and meaningful way. As described by one faculty member, “Trees are really special here. I mean, they're special everywhere, but our kids have their own little relationships with the trees, and they're

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very good at talking to trees and speaking their language.” The school invites the students to form real, lived, personal relationships with their tree over a period of 8 years, thus helping to foster authentic connection between students and the natural environment.

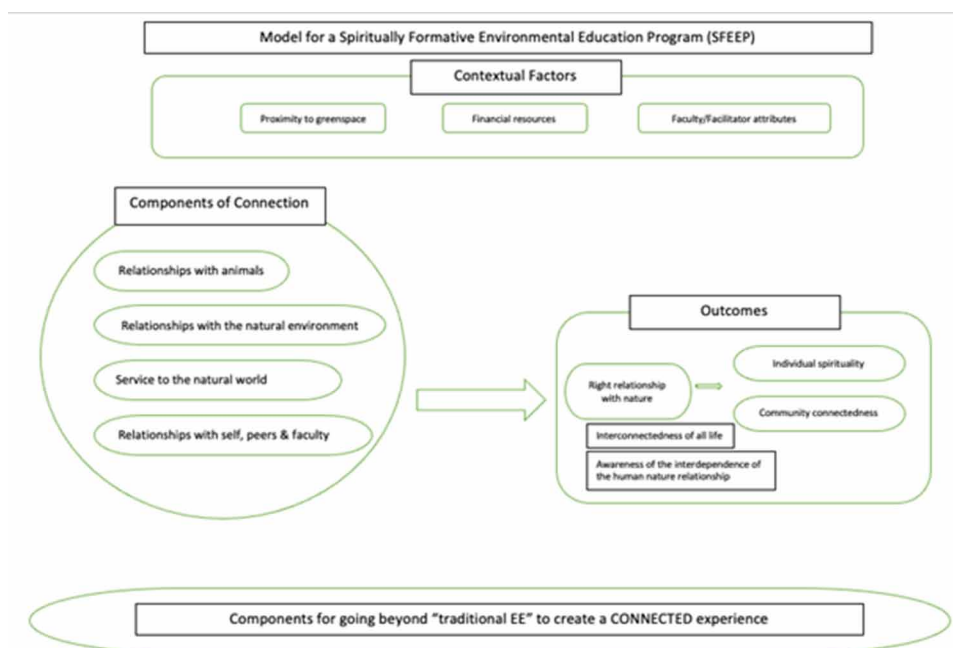
Summary

Rocky Ridge fosters a connection between students and the natural environment through two primary pathways: (a) the natural domain of their holistic learning model, and (b) the environmental education program. Through these two pathways that often overlap, students are provided with multiple opportunities for authentic connection with the natural environment. These opportunities include nature-based grade-level trips, direct immersion in nature through required classes with the school’s resident naturalist, opportunities to form personal relationships with trees, and learning about the natural environment through academic curricula. Nature is also used as a vehicle to help nurture individual spirituality, to foster school community, and to connect students with their local community and the greater community of life.

A FRAMEWORK FOR A SPIRITUALLY FORMATIVE ENVIRONMENTAL EDUCATION PROGRAM

This section presents a framework for the creation of an environmental education program that is spiritually formative as a component of overall healthy development. Through analysis of the two case

Figure 1. The spiritually formative environmental education program (SFEEP) grounded theory model for children and adolescents



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studies, four components of connection were identified as being particularly significant to the design of an environmental education program that aims to foster individual spirituality in its participants. It should be noted that for the purposes of this chapter only 2 cases were included; however, 2 additional cases were also reviewed in constructing this grounded theory model, both of which offered students animal caretaking opportunities.

Grounded Theory Findings

Through the analysis of the two case studies described herein, and the two additional case studies, the Spiritually Formative Environmental Education Program (SFEEP) model was developed to illustrate how schools can utilize their environmental education programs as platforms to nurture individual spirituality in children and adolescents. The model includes the basic paradigm features essential to grounded theory: strategies (referred to herein as components), outcomes, core category, and contextual conditions (Bowers & Creamer, 2020; Corbin & Strauss, 2015). Each feature of the model contains categories that emerged from the analysis of the data.

Overall Model

The overall SFEEP model indicates that environmental education cultivates individual spirituality and community connectedness by teaching students how to be in “right” relationship with nature; this includes an awareness of the interconnectedness of all life as well as an awareness of the interdependence of the human-nature relationship. For the children and adolescents attending one of the schools in this particular study, this is accomplished through the core category of connection, which includes connection to self, peers, the natural environment (including animals), the school community, and the greater community of life. Facilitating opportunities for deep and meaningful connection is best done through planned programming that incorporates the following components: (a) relationships with animals (through animal caretaking); (b) relationships with the natural environment (through immersion in nature and service to the natural world); (c) service to the natural world; and (d) relationships with self, peers, and faculty members. The overall model is impacted by certain contextual factors such as proximity to green space, financial resources, and faculty/facilitator attributes. The overall structure of the SFEEP model was inspired by Bowers and Creamer’s (2020) grounded theory model, the Implementation of Authentic Environmental Education Programs (IAEEP), which was used as a reference and guide when creating the SFEEP model.

Model Outcomes

Individual Spirituality

The cultivation of individual spirituality for children and adolescents is one of the primary outcomes of the SFEEP model. Spirituality is conceptualized as a “deep way of being where one feels connected to all life and has awe and reverence for the universe.” It may include an inner sense of relationship to a higher power (i.e., God, nature, spirit, the universe, the creator) that is loving and guiding (Miller, 2015). Analysis of the data revealed that many times when students described moments of spirituality, they were often characterized by experiences of deep and meaningful connection to self, peers, nature, the

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school community, and/or the greater community of life. This connection, to nature and to community, served as a gateway to spirituality for the students at the schools in this study.

Community Connectedness

Community connectedness, defined as how school systems cultivate and promote networks and students' feelings of belonging within the school community (Dove et al., 2018), is another primary outcome of the SFEEP model. The data revealed that feelings of connectedness to the school community often occurred when students formed or cultivated existing relationships with peers and faculty members when immersed in nature, while also engaging in their school's environmental education programming. Often, the felt notion of engaging in a collective experience led students to feel more connected to their peers and to their school community. This felt sense of engaging in a collective experience seemed to be heightened while immersed in nature. This could in part be due to nature's ability to evoke wonder and awe, increased presence, and peace (Johnson, 2002).

Right Relationship with Nature

Analysis of the data revealed that the environmental education programs included in this study helped to cultivate an understanding of the interconnectedness of all life and an awareness of the interdependence of the human-nature relationship. This was accomplished primarily by providing opportunities for students to be in relationship with animals and the natural environment. This awareness of the interconnectedness of all life and of the interdependence of the human-nature relationship is referred to collectively as "right" relationship with nature. It is through these experiences of being in "right" relationship with nature that students often experienced individual spirituality and community connectedness.

Model Components

In this model, the outcomes of individual spirituality and community connectedness are sustained by the various components of connection, including relationships with animals; relationships with the natural environment; service to the natural world; and relationships with self, peers, and faculty members. These four pillars emerged from the data as the primary ways in which the schools in this study tried to intentionally provide students with opportunities for deep and meaningful connection within the context of an environmental education program.

Core Category

In grounded theory, the core category of the model is the concept with the "greatest explanatory power and the ability to link the other categories to it and to each other" (Corbin & Strauss 2015, p. 189; see also Bowers & Creamer, 2020). Throughout the analysis process, it became evident that the core category of the SFEEP model is **connection**. This was described in various ways by students and faculty members and was referenced as "connection; community; bonding; we're all in this together; to look into the eye of a student you're working with and feel that you're really communicating," among other descriptions. The idea of connection—including connection to self, peers, faculty members, nature, the school community, and the greater community of life—was a prominent theme across all four cases and serves as the foundation for the SFEEP model.

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Model Context

The outcomes and components of connection defined by the SFEEP model are continuously influenced by various contextual factors, including proximity to green space, financial resources, and faculty/facilitator attributes. For example, it became apparent that the students at Cedar Highlands engaged less frequently with the natural environment, when compared to Rocky Ridge, due to their more urban location and less proximity to green space. Whereas students at Rocky Ridge were immersed in nature on a daily basis due to their campus location, students at Cedar Highlands were immersed in nature only while on the school's experiential education and Outdoor Service Learning trips. Financial resources also emerged as a contextual factor in the model. Various components of the environmental education programs in the two schools described herein require substantial financial resources, which may act as a barrier of implementation for other schools with fewer financial resources. Thus, the amount of funding that a school allocates towards environmental education directly impacts the opportunities that will be available for students. Faculty/facilitator attributes emerged as another contextual factor in the model. For example, Cedar Highlands allocated significant time and resources to select the right individual to lead their Outdoor Service Learning trip program. Rocky Ridge sends many of its teachers to a 2-year program dedicated to exploring the inner life of the child in nature. Thus, the individuals leading these programs and the attributes of the other faculty members matter.

DISCUSSION

Fostering Student Relationships With Nature

Teaching students how to be in relationship with nature is one of the primary objectives of the two environmental education programs in this study. For these programs, this relationship is cultivated by providing students with opportunities to form meaningful connections with animals on a consistent basis and by providing students with opportunities to engage intimately with nature through planned excursions in the wilderness or immersion in the natural landscape that is on or around the school's physical campus. These programs continue to foster this relationship through required and voluntary stewardship activities embedded within the EE program models. These stewardship opportunities help to further cultivate connectedness between students and the natural environment and can lead students to view themselves as interdependent parts of the greater community of life. Ultimately, these two EE programs approach the cultivation of this student nature relationship through fostering feelings of interconnectedness and interdependence; however, many other typical EE programs care more about cultivating environmental literacy and improving pro-environmental behavior.

For example, previous literature on environmental education programs has focused largely on goals that are designed to enhance the environmental literacy of the program participants (Stern et al., 2014). Environmental literacy refers to the "knowledge, attitudes, dispositions and competencies believed to equip people with what they need to effectively analyze and address important environmental problems" (p. 581). With environmental literacy as the ultimate goal, the field has created guidelines and "best practices" to assist EE programs in achieving this (Stern et al., 2014). Thus, much of the research around environmental education has explored the effectiveness of these best practices in cultivating environmental literacy, among other outcomes, in program participants. Other prominent outcomes that are well

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researched in the environmental education literature are environmental behavior and/or behavior-related outcomes (Leeming et al., 1993; Zelezny, 1999) and learning outcomes (Rickinson, 2001).

What is often missing from the EE research is evidence explaining how or why these EE best practices generate these outcomes. Prior research has explored the program elements (or best practices) that may influence particular program outcomes (Stern et al., 2014), but it has failed to explore what is occurring for these students as they engage in these “best practices.” This study addressed this gap in the research through the exploration of the psychological and spiritual processes that may be occurring for students as they engage in environmental education programming, and thus expands on the existing research in the field. Through the examination of these processes, this study provided the field with a new theory of environmental education that focuses on connection, as opposed to environmental literacy and pro-environmental behavior. It also provided the field with an EE model that addresses the developmental needs of children and adolescents, specifically the need for individuation and identity formation, spirituality, and connectedness to community. The model offers a pedagogical framework for environmental education where students have the opportunity to learn about themselves as part of nature and through relationship with nature through a process of spiritual development, community formation, and immersion in the outdoors.

The methods of connection found to be effective in the current study were also similar to those that emerged in prior research, including “interactions with animals and places, extensive group discussion and collaboration involving communities and real-world problems” (Stern et al., 2014, p. 601). Similarly, Frantz and Mayer (2014) suggested that fostering connectedness to nature should be a priority for any environmental education program. Prior research also suggested another effective EE practice to be engagement in real-world environmental problems (Ballantyne et al., 2001; Stern et al., 2014). Similarly, the data from the current study also supported this finding. One way this was illustrated is through the service projects that Cedar Highlands incorporates into their environmental education programming. It is through these immersive experiences, where students have the opportunity to address real-world environmental problems, that students find value and meaning and inherently feel more connected to themselves, others, and the environment. The results of the current study also indicated that immersion in the natural environment is a critical component of any environmental education program. Prior research also supported this finding, suggesting direct contact with nature to be influential on EE program success (Ballantyne et al., 2001; Stern et al., 2014).

Connected Experience: A Theoretical Understanding of Environmental Education

This research yielded a model of connected environmental education and provided a theoretical framework that had previously been missing from the environmental education literature. The model utilizes connection as the fundamental approach to teach students about the interconnectedness of all life and to cultivate within them an awareness of the interdependence of the human-nature relationship. It is through these experiences of profound and meaningful connection, and through this felt awareness of being in “right” relationship with nature, that students often experience individual spirituality and community connectedness.

Although a theoretical model of connected EE may be a novel approach, grounded theory has long been utilized as a method of examination to explore the field of environmental education (Roczen et al., 2014; Smith-Sebasto & Walker, 2005). For example, Smith-Sebasto and Walker (2005) offered a

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grounded theory model for effective residential environmental education. This model of grounded theory does address the psychology of adolescents in so much as it recognizes the importance of developing interpersonal skills (teamwork, friendship, cooperation, trust, respect, communication) and character attributes (self-confidence, courage, self-esteem, self-respect, perseverance, independence) as fundamental components of the “social” category of environmental education—one of the five central categories that emerged from the data (Smith-Sebasto & Walker, 2005). However, where this model falls short is in not fully addressing why the “social” category, including the development of strong interpersonal skills and character attributes, leads to a more effective environmental education program. It does not fully explore the psychological and spiritual processes that may be occurring for adolescents as they forge friendships, engage in team-building exercises, and partake in activities that improve their self-esteem, self-respect, and independence. The SFEEP model addresses this gap by examining the students’ internal experience as they partake in these activities. For example, the model illustrates how these activities can cultivate individual spirituality and community connectedness when the students’ internal experience reflects a felt sense of an awareness of the interconnectedness of all life and an awareness of the interdependence of the human-nature relationship. The model further illustrates that this awareness is primarily cultivated through experiences of profound and meaningful connection when partaking in EE programming.

Alternatively, Roczen et al. (2014) proposed a competence model for environmental education, with the aim being to promote a more ecologically friendly lifestyle. Similar to studies that measured environmental behavior (Tung et al., 2002; Zelezny, 1999), Roczen et al. explored the influence of one’s attitude toward nature on ecological behavioral engagement. Findings indicated that “attitude toward nature... was the crucial force behind the degree to which adolescents embraced ecological lifestyles” (p. 986); however, the model did not address how this attitude towards nature is developed and cultivated. The SFEEP model addresses how this attitude towards nature is fostered through the lens of examining how the student-nature relationship is cultivated. The SFEEP model offers various components of connection that should be included in an EE program to provide students with numerous opportunities for a connected experience. This provides the field with a framework that schools can utilize as a guide to assess where their EE programming meets the developmental needs of their students and where their EE programming can be strengthened or expanded upon to better address these developmental needs. As the model indicates, to fully meet the developmental needs of children and adolescents, EE programming should provide students with opportunities to form relationships with animals through animal caretaking; form relationships with the natural environment; engage in service activities oriented towards the natural world; and receive opportunities to form meaningful relationships with their peers, faculty members, and themselves. By including these opportunities for a more connected EE experience, students are simultaneously provided with opportunities to experience individuation and identity formation, spirituality, and connectedness to community.

Overall, the SFEEP model expands on the existing literature base because it provides a theoretical framework of connected environmental education that meets the developmental needs of children and adolescents, specifically the need for individuation and identity formation, spirituality, and connectedness to community. Whereas other models of environmental education often focus on increasing environmental literacy and pro-environmental behavior, the SFEEP model prioritizes the cultivation of the student-nature relationship. Although environmental literacy and pro-environmental behavior are important outcomes, they are not the primary objectives of the SFEEP model, which is oriented more towards providing an EE experience that supports healthy child and adolescent development.

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Limitations

One potential limitation of the current study was the duration of the on-site school site visits. Data were collected by conducting 1- to 2-day site visits at each school. Thus, the research team was not immersed in the school and culture for a number of years, but rather for 1-2 days for a curated visit. In this regard, some nuances regarding the school's environmental education programming may not have been observed; however, sufficient data were still collected through these curated visits and through the strategic reports submitted by the school fellows.

An additional limitation of this study was choosing two affluent schools as cases. These resourced schools were often well funded, enrolled students from higher-income families and offered increased proximity to green space compared with high-poverty and less resourced schools. Consequently, these results may need to be adapted when applied to schools with fewer resources and/or to those located in high-poverty areas, where youth encounter numerous structural barriers that encourage socioeconomic and racial disparities in green space access (Dai, 2011).

Another limitation of the current study pertained to systemic problems. It may be difficult to be open to experiences of connection and spirituality when other basic human needs are not being met due to systemic racism, poverty, experiences of trauma, and/or the loss of a parent or caregiver. The schools selected for the current study do not have to address these systemic problems in the same way that many under-resourced and high-poverty schools need to do so.

IMPLICATIONS FOR THE FIELD OF ENVIRONMENTAL EDUCATION AND FUTURE DIRECTIONS

Even with these limitations, these findings are promising and offer three major implications for the field: (a) an overall theory of environmental education that fosters and maintains connection; (b) an antidote to a child/adolescent culture of relating primarily through technology; and (c) the importance of systemic equity in access to green space.

The overall SFEEP model identifies the essential components needed to build a spiritually formative environmental education program that addresses the developmental needs of children and adolescents. These essential components include the cultivation of an individual relationship between students and nature; fostering environmental stewardship through service opportunities oriented towards the natural environment; creating school community through shared experiences in nature; and nurturing the spiritual development of students through deliberately creating opportunities for connection that includes self-connection as well as connection with others, nature and the larger community of life. The entire model is built on the foundation of connection, and each component is included to provide students with opportunities to experience deep and meaningful connection across multiple domains. The model suggests that access to green space is a developmental necessity and essential for healthy child and adolescent development.

Human Subjects Research

This research was approved by the Institutional Review Board (IRB) at Teachers College, Columbia University, study number 21-337.

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