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RECONNECTING YOUNG CHILDREN WITH NATURE FOR HEALTHY
GROWTH AND DEVELOPMENT

by

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A capstone submitted in partial fulfillment of the requirements for the degree of Master
of Arts in Education: Natural Science and Environmental Education

Hamline University

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“We are born with curiosity and wonder and our early years full of the adventure
they bring.”

—Sigurd Olson, *Listening Point*

“Reconnecting with nature... opens new doors to health, creativity, and wonder.”

—Richard Louv, *The Nature Principle*

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CHAPTER ONE

Introduction

I spent a great deal of my childhood outside. I participated in unstructured play in the yards and wooded areas in my suburban neighborhood from dawn to dusk. During summers, I spent many hours in discovery and exploration at my grandma's house on a lake in the woods. Frogs, fish and chipmunks were some of my closest friends. From feeling minnows nibbling on my toes to picking blackberries in the hot, mosquito-filled woods, to sneaking peas from my Grandma's garden, my favorite activities involved all of my senses. Over the years, I have noticed children spending less and less time outside in free play. Through my educational and professional experiences, I understand the importance of unstructured time with and in nature. In the summer of 2013, I was fortunate to be able to take part in a district sponsored workshop about teaching in a Nature Explore Classroom (<https://natureexplore.org/>.) This inspired me to take a couple of classes on Early Childhood Environmental Education and Inquiry in the Environment. The teachers at our suburban preschool who took these classes began to transform our newly formed outdoor classroom into nature-based outdoor learning spaces and we provided professional development training based on what we learned. Inspired by a colleague, I decided to go back to school to obtain a Master's Degree in the Natural Science and Environmental Education program at Hamline University.

As a direct result of my coursework in this field, I was recently asked to create the role of "nature education specialist" for the early childhood programs in my school

district. Part of this new role was to create a philosophy statement for our early childhood programs regarding environmental education and nature play. The new philosophy states that, in our early childhood programs we will provide daily experiences for cultivating the innate curiosity and wonder of young children through nature; forging a lifelong, meaningful relationship between children and the natural world. My colleagues and our administration support this philosophy. This led me to ask the question, “How do we, as early childhood educators, reconnect our young learners with nature for healthy growth and development?”

In this chapter I explain my personal, professional and graduate experiences that have led me to this study. I will also briefly explore the research that inspired me to develop this project. Finally, I will introduce the role I have been asked to take on in our school district that is the purpose for developing this project.

Personal Experiences with Nature

I grew up in a suburb of the Twin Cities in the 1970’s and early 1980’s. During that time it was not unusual for our parents to send us outside after breakfast and not expect to see us again until lunch or even dinner. We moved in a multi-aged pack throughout the neighborhood playing games of tag, riding bikes or building forts. We played outside in all kinds of weather. If it rained, we played in puddles and got wet. If it snowed, we put on our winter gear and headed out to sled or build snow forts. In the summer, the opportunities for outdoor play were limitless. We built things, we rode our bikes, we explored and we investigated, all with limited adult supervision. If I wanted a solitary activity, I would take a book and climb a large oak tree on a hill in the woods

behind our house. If we were not attending school, eating a meal with our families or sleeping in our beds, we were outside. When the sun went down or you heard your father whistle, you knew it was time to head home for dinner at the end of the day.

I was also fortunate to have the opportunity to spend summers and school vacations at my grandparents' home on North Long Lake in northern Minnesota. During this time I learned a great deal about animal life cycles, gardening, the change of seasons, water safety and water quality issues, and more. I enjoyed fishing, catching frogs, eating peas in the garden and generally creating my own plan for how I carried out my day—outside.

I tried to raise my own two children the same way. Unfortunately, there were few neighborhood children to interact with as there were not many at home during the day. My husband and I were fortunate to be able to shift our work schedules in such a way that one or the other of us could be at home most days of the week, and the other days, they would go to their grandma's home located in the same community. My children enjoyed exploring and investigating outdoors, but often by themselves and in our own yard or on planned excursions with my husband or myself. They enjoyed greater freedom and variety of experiences at my parents' cabin located on a lake in a small town about an hour northwest of our home. They learned many of the same lessons about animal life and habitats that I learned spending time at my grandparents home in northern Minnesota years ago.

Professional Experiences with Nature

My first classroom was located in the basement of a very old building and there was no place for outdoor play of any kind. In 1989, I began teaching half-day preschool classes with a local school district. We had a very small traditional playground that our classes had to take turns using because the space could only accommodate about 20 children. Through the years, the amount and size of the playground(s) changed, but the play spaces always consisted of man-made play systems installed on a bed of sand, pea rocks or wood chips. The play always centered on the equipment and the type of play was not particularly creative, nor did the available space offer much opportunity for exploration and investigation of natural materials. Lessons on nature were often conducted indoors before going outside. Very little real-life connections were made.

My interest in this field began to take shape in 2013, when I took a class offered through our school district in conjunction with Metropolitan State University. The class, “Children and Nature,” followed by another class, “Inquiry and the Environment,” sparked the creation of an outdoor classroom in our former traditional playground space. As our outdoor space changed, so did our methods for studying nature, both in our classrooms and outside.

Graduate Experiences with Nature

I had a great “head start” with some of my prior experiences with nature exploration and early learning. Throughout my graduate coursework in Natural Science and Environmental Education, I gained valuable information to deepen my understanding of Environmental Education and why it is important at all ages, from birth to pre-kindergarten, elementary, and well beyond. As for my perspective on environmental

issues, I have always believed in the importance of teaching young children about what is close to them first and then building on that knowledge. I also continue to believe that it is better to teach people *how to think* about issues and ideas rather than “hit them over the head” with a singular point of view. The highlights of my coursework in the field of Natural Science and Environmental Education began with hands-on experiences in the course Nature Drawing and Journaling. We learned many ways to use journaling across curricular areas. In the course, Reading the Landscapes, we used inquiry and exploration to find answers about the world around us. We learned how to look closely at parts of plants to aid us in identifying various flowering species in the course, Spring Flora. The course, Using the Outdoors as a Classroom, encouraged educators of children of all ages to get our students outdoors for any and all curricular areas. In Equity and Inclusion in Environmental Education we conducted research to aid in discovering answers as to why there is a lack of diversity in outdoor sports and activities. In my final class Art, Nature and the Young Child, we developed and shared activities and conducted research that will invariably help me as I continue my work in this field.

As a result of my readings and work in these courses, I have become even more passionate about environmental education and the importance of nature play for early learners and for people of all ages. I have learned to not allow barriers to environmental education get in the way of educational experiences but to use them as opportunities for further education for myself and for the families I serve. I have shifted my thinking from a nature-based focus to environmental education, the task of which is to “forge the bond between children and nature” (Guidelines for Excellence in Early Childhood

Environmental Education Programs, 2016, p. 4). I now “practice what I preach” in the classroom as well as outdoors incorporating investigation, exploring natural materials, providing opportunities for problem-solving, less teacher-planned activities and more student driven exploration. Early childhood education and environmental education are a natural and complementary fit.

Research

I believe that early childhood education is a perfect pairing with environmental education because environmental education starts with what we know about the world around us and expands from there. It involves hands-on learning about the natural world, in the natural world. There has been a great deal of study around why environmental education and nature play are important. “Children need nature for the healthy development of their senses, and, therefore, for learning and creativity” (Louv, 2008, p. 55). In *Guidelines for Excellence: Early Childhood Environmental Education Programs*, the North American Association for Environmental Education supports the idea that:

Effective EE [environmental education] is learner-centered and provides participants with opportunities to construct their own understanding through hands-on investigations. Engaged in direct experiences, learners are challenged to use higher-order thinking skills as active, responsible problem solvers. EE provides real-world contexts and issues from which concepts and skills can be learned. (2016, p. 6)

As more and more children are exposed to more and more screens, it is important for us to remember the value of nature play and environmental education. Louv described

“the human cost of alienation from nature, among them: diminished use of the senses, attention difficulties, and higher rates of physical and emotional illnesses” (2008, p. 36).

It thus becomes imperative for us as early childhood educators to help build the connection between children and nature.

Nature Play Leadership Role

In the Spring of 2018, my supervisor offered me a newly created position as the nature education specialist for the early childhood programs in our school district. In this role, I will be expected to build curriculum that is user friendly for teachers at our preschool site as well as our elementary school-based classrooms. I have already begun to develop professional development around appropriate expectations for different ages and stages of child development. Additionally, I will need to observe and report on different programs and age groups within our organization. One of the most exciting challenges I face is structuring available outdoor spaces to set up potential learning experiences. Finally, as of June 1, 2018, I assumed responsibility for the outdoor classroom at our main preschool location. These varied but interrelated roles are directly reflected in my project.

Summary

I have had many experiences in nature and taken many courses about the importance of environmental education which have led me to consider the question, “How can we, as early childhood educators, reconnect our young learners with nature for healthy growth and development?” This question is integral to my success in the leadership role I have recently accepted within our school district. In Chapter Two I will

focus on a review of literature to aid me in answering these questions. In Chapter Three I will explain the project I completed and the theoretical framework. Finally, in Chapter Four I will reflect on the project as a whole and what I have learned through the capstone process.

CHAPTER TWO

Literature Review

As described in Chapter One, my personal and professional experiences in nature along with my recent coursework have all helped to open my eyes to the importance of environmental education, especially as it relates to young children. Providing activities that encourage young children to care about the Earth will get them on a path of wanting to take better care of it (Sobel, 2013a, p. 9). This project seeks to answer the question, how can early childhood educators, reconnect young learners with nature for healthy growth and development?

Chapter Two reviews the literature behind four main themes, including knowledge of child development, curriculum planning and assessment, nature play spaces, and environmental literacy of early childhood educators. The first theme explores how environmental education fits with what we know about child development. The second section reviews the literature on planning, implementing and assessing developmentally appropriate nature-based curriculum. The third theme focuses on the literature behind appropriate nature play spaces. Finally, we look at the importance of ongoing professional development opportunities to support the environmental literacy of early childhood educators.

Knowledge of Child Development

Birth to kindergarten is a critical age of child development (MDE, 2017, introduction). There are specific developmental expectations for children of this age

group. Quality child care centers and preschool programs provide a variety of activities to support skill development across the curricular areas. Nature play is an important piece of developmental learning and is appropriate for infants and toddlers, as well as preschoolers, aged 3-5 years (NAAEE, 2010, p. 2). In this section, we will look at child development as it relates to environmental education and nature play.

The state of Minnesota developed a guide for learning standards for children from birth to kindergarten called, *Early Childhood Indicators of Progress* or ECIPs. “Every moment for a young child is a learning moment” (MDE, 2017, introduction). The areas of learning covered in ECIPs include physical and movement development; language, literacy and communication; cognitive; mathematics; scientific thinking; social systems; approaches to learning; the arts; and social and emotional development. This shared set of expectations builds consistency among early education programs. ECIPs works in tandem with Creative Curriculum and Teaching Strategies GOLD, which in turn, drive curriculum planning and assessment. Creative Curriculum is a “comprehensive, research-based preschool curriculum that features exploration and discovery as a way of learning, enabling children to develop confidence, creativity, and lifelong critical thinking skills” (Teaching Strategies, 2016, p. 6). This curriculum stresses the importance of student-driven topics and scaffolding learning to help children reach their full potential. Teaching Strategies GOLD is an authentic, ongoing, observation-based system for assessing children from birth through kindergarten (Teaching Strategies, 2016, p. 6). These two collaborative systems of curriculum and assessment guide teachers in their cycle of curriculum planning, implementing appropriate activities, and skills assessment.

ECIPs states that “the most effective curricular approaches in early childhood are based on young children as active learners emphasizing play, exploration, and constructive learning experiences” (MDE, 2017, introduction). Outdoor and nature learning experiences may be devised to help reach the goals identified within each of the domains.

The ECIPs guide is divided into the domains or major areas of development previously mentioned. Within each domain are indicators or “expectations for observable outcomes for the child at specific ages” (MDE, 2017, introduction). Educators must keep in mind that children’s development is highly variable and that children will not always demonstrate skills that the ECIPs identify for the child’s chronological age. Teachers may find it necessary to scaffold learning experiences in nature to increase skill acquisition and concept development in the curricular areas. Zurek, Torquati and Acar (2014) defined academic scaffolding as:

...analogous to the way that scaffolding is built to just the needed level when constructing a building and then removed when the building is complete, educators engage in scaffolding by providing the necessary level and type of support that is well-timed to children’s needs. (2014, p. 28)

There has been a large amount of research on young children and brain development beginning most notably with Piaget and Vygotsky in the 1920’s. More recently, authors Johnson and Dinger (2012) stated that “brains are not an empty vessel waiting to be filled; they are active learning machines” (p. 30). The authors compiled a list of commonly held core principles of brain-based learning which are the basis for many child-centered, play-based educational environments that have brought about

significant studies and methods for programs such as Reggio Emilia, Waldorf and Montessori. These programs, and others like them, remind us of the importance of play in early childhood. “Real authentic experiences are the ones that stick with us and hardwire our brains” (Johnson & Dinger, 2012, p. 118). Quality, authentic nature experiences can be created that are appropriate for children of any age and developmental ability.

Infants and toddlers. Infants and toddlers explore the world around them using all their senses. According to ECIPs (2017), infants and toddlers initial play and movement experiences are building attachments to the adults in their lives. The infants who are not yet mobile observe and explore the adults who care for them. They also explore their own bodies, figuring out what they can do with their various body parts. Older infants, using the base of support from trusted adults, begin to interact more with the physical environment and explore their surroundings as they begin to crawl and walk (MDE, 2017, introduction). Toddlers “play and explore with a greater range of motion and physical capabilities” as they become more and more active (MDE, 2017, introduction). Effective educators consider safety while offering intriguing, age-appropriate natural objects and outdoor experiences for the age of the children in their care. Educators provide descriptions and vocabulary, engage in conversations and encourage curiosity and problem solving. They actively support appropriate sensory and movement exploration by “giving children words to help explain what they are experiencing” (NAAEE, 2010, p. 20). These very early years are important years for growth and development. As infants and toddlers use their well-developed senses to

explore the world around them, they become active participants in exploring and shaping their world (NAAEE, 2010, p. 3).

Preschoolers. Play and exploration are considered the “work” of preschoolers. These are “the most meaningful ways for children to acquire skills and knowledge” (MDE, 2017, introduction). High quality play experiences support the curiosity of preschoolers as they experiment, hypothesize and practice a variety of skills. Effective preschool educators plan play experiences based on the indicators in the ECIPs, individualizing activities based on student needs and scaffolding learning when necessary. It may seem obvious that the indicators listed under the Scientific Thinking domain of the ECIPs guide may all be achieved in an outdoor learning experience. What may be less obvious is that quality nature play experiences can be provided for every indicator in all eight domains.

“There is no magic formula for developmentally appropriate practice. Educators make decisions day by day, minute by minute, based on knowledge of how children develop and learn, the individual children and families in question and the environmental, social and cultural context” (Oltman, 2002, p. 2).

“Play is child-led, active learning” (Johnson & Dinger, 2012, p. 13). Effective educators of children from birth to kindergarten embrace this play-focused philosophy and consider the abilities of their students, as they plan developmentally appropriate, cross-curricular experiences. “Nature [is] a place to use all the senses—and to learn by doing” (Louv, 2005, p. 85). We have seen evidence to support the importance of

connecting children and nature in child development. Next, incorporating nature in curriculum planning, implementing and assessment will be explored.

Curriculum Planning, Implementing and Assessment in Early Childhood

Teachers practice a cycle of planning curriculum, implementing activities and assessing student progress, which in turn, drives curriculum planning. The process begins with planning student-driven, age-appropriate activities. Ideally, these activities are interdisciplinary and investigative in nature. Materials and resources are collected and the activity is carried out. Assessment occurs during and/or immediately upon conclusion of the activity. At this point, teachers may determine that more practice is necessary for skill development, or that mastery of the desired skill has occurred. This process is the same for topics in environmental education and nature play, with the role of the teacher as a guide in inquiry-based activities, as opposed to the source of knowledge.

Interdisciplinary and investigative learning opportunities. Effective early childhood educators provide a variety of planned activities that incorporate nature into all the curricular areas, while remaining flexible enough to take advantage of the “teachable moments” that occur when the curiosity of children take the learning in an unplanned direction. “The developmentally appropriate program is planned with the whole child in mind,” incorporating investigation, exploring natural materials, providing opportunities for problem-solving, less teacher-planned activities and more student driven exploration (NAAEE, 2010, p. 21). In addition, to assist their students in reaching their learning goals, “teachers can also initiate scaffolding through strategies such as eliciting or

drawing attention to relevant features of the environment” (Zurek, Torquati & Acar, 2014, p. 29). The ECIPs standards state that:

Effective teachers and providers of infants and toddlers use the ECIPs to plan appropriate play experiences. They observe children at play and during routines, and refer back to the standards to identify what skills and knowledge the child is demonstrating and what he or she is ready to do next. (MDE, 2017, introduction)

Keeping in mind the developmental abilities of children from birth to age 5, we realize, as Sobel (2013a) stated, that young children benefit from focusing learning experiences on local nature as opposed to larger concepts. In his book, *Beyond Ecophobia*, Sobel (2013a) told about teachers who have students learn about the rainforest and saving endangered species. He asked the question, “Wouldn’t it be easier, and healthier, to think and act locally at this age?” (Sobel, 2013a, p. 7). He went on to say, “Let us first cultivate an understanding of the habits and life cycles of chipmunks and milkweed—organisms children can study close at hand” (Sobel, 2013a, p. 6). This is especially true for young learners as preschoolers tend to focus their inquiry on their immediate experiences (Zurek, Torquati, & Acar, 2014, p. 51). “Instead of settling for textbook accounts of distant places,” Sobel (2013b) stated, “it [is] important to connect up the classroom world with the nearby outside world” (p. 11).

Everyone who has worked with young children knows that children move at a faster pace than adults. Regardless of whether children in their care are moving quick or slow, teachers need to adjust their program to fit children’s needs. According to Johnson and Dinger (2012), caregivers must “be patient, operate on kid time, let children exhaust

opportunities and try to stay in the moment” (p. 88). “Caregivers need to plan for curiosity, challenge, and spontaneity—and then relax and see where these things take you” (Johnson & Dinger, 2012, p. 145). Johnson and Dinger (2012) went on to state that the role of the educator in a play-based classroom is to:

...maintain a strong emotional environment, provide a rich and varied physical environment, support the interests of the children in her care, and give them as much autonomy as they can manage. She does her best to step back and let the children guide their own learning. (p. 2)

In similar fashion, Project Learning Tree, a leader in national environmental education, provides these guidelines for facilitating experiences with early childhood learners, ages 3 to 6 years old:

- Focus activities on things they can see and touch.
- Facilitate their active learning.
- Focus on the experience not the information.
- Know your audience.
- Adapt to individual children.
- Be attentive to their immediate physical needs.
- Accommodate their big egos.
- Give them choices.
- Share experiences.
- Limit your instructions to two or three things.
- Provide a safe, unbreakable environment. (2010, p. 4)

In this way, children are able to seek answers to questions related to their own life experiences, with the thoughtful support of caring adults.

Materials and resources. In a play-based classroom, the educator's job is "to have plenty of ingredients on hand and a wide variety of utensils available" (Johnson & Dinger, 2012, p. 145). Loose parts are the perfect "ingredients" for open-ended play. The term "loose parts" was developed by Simon Nicholson in 1971. It is used to describe a variety of found materials with no set way to use them (Nicholson, 1971, p. 30). Some examples of nature-based loose parts might be sticks, rocks, leaves, seeds, cinnamon sticks, tree cookies and feathers. Through the use of loose parts, children practice problem-solving, creativity, math, storytelling and more. Loose parts promote active learning, promote divergent and creative thinking, deepen critical thinking, and support developmental domains (Daly & Beloglovsky, 2015, p. 8). Loose parts are developmentally inclusive, economically feasible, support any area of the classroom curriculum, and promote a wide range of play. Loose parts may be used indoors and out and they may or may not include natural materials. The possibilities are endless. Effective educators will rotate materials often, talk about change and sometimes throw in a few surprises (Johnson & Dinger, 2012, p. 91). When incorporating loose parts, learning is focused on the interactions with the materials, not on the materials themselves.

It is also important to remember that real work is good for children. They feel responsible, they practice problem-solving and self-regulation, they learn real life skills and develop motor control. Even toddlers helping with a very basic chore can begin to understand the value of a job well-done. "*Real*, authentic experiences that we feel with

our whole selves are the ones that stick with us and hardwire our brains” (Johnson & Dinger, 2012, p. 118). Young children benefit from doing chores such as gardening, raking leaves, building, trimming bushes, and shoveling snow (Hanscom, 2016, p. 203).

Connecting children with nature through real chores helps them to see themselves as a part of nature.

Assess learner progress. Using ECIPs and Teaching Strategies GOLD as a guide, assessment is an ongoing process of observation, documentation, and reflection. “Based on their observations and reflections related to the ECIPs, [teachers] offer more play experiences and observe again” (MDE, 2017, introduction). In order to assess children’s experiences in nature, teachers may collect documentation in a variety of ways, keeping in mind that the method of documentation should fit the developmental age of the children. Teachers may use “anecdotal notes, photographs, art projects, recordings and journals” (NAAEE, 2010, p. 23).

“When... teachers observe and interact with children who are actively engaged in exploring and investigating natural phenomena, they become more aware of the affordances for learning in natural environments and can practice facilitating both structured and unstructured learning experiences in natural environments” (Torquati et al., 2017, p. 224).

Through an environmental learning framework, children not only develop knowledge and skills, they gain environmental literacy which will hopefully last into adulthood. “What’s important is that children have an opportunity to bond with the natural world, to learn to love it and feel comfortable in it” (Sobel, 2013a, p. 13).

“Contact with nature is supportive of healthy child development in several domains” (Taylor & Kwo, 2006, p. 136). In addition, active free play in nature “allows children to develop creativity, independent thinking skills, confidence, emotion regulation skills, strength, and healthy sensory and immune systems” (Hanscom, 2016, p. 87). This section included a sampling of resource material available to support curriculum development, implementation and assessment related to nature play experiences. Next, we will consider the literature behind nature spaces both indoors and out as a way of connecting children to nature.

Natural Play Spaces

Environmental education can take place indoors as well as outside. Outdoor spaces should be nature-based or at least offer natural components (NAAEE, 2010, p. 47). It is important to consider the issues of student health, safety and risk when creating nature play spaces. For classroom locations that lack available or appropriate nature play spaces, the questions become, where and how can we study nature and the environment in order to begin to build connections between children and nature?

Natural components and environmental sustainability. Most of us are familiar with the colorful, man-made structures on a typical playground. Research shows us that, “Nature playgrounds tend to inspire creative play in children because there are endless play opportunities” (Hanscom, 2016, p. 143). “The presence of natural elements and processes affords a multitude of opportunities for spontaneous activities involving insects, water, plants, birds, and elements such as snow and soil” (Torquati et al., 2017, p. 220). Some components of a nature play space might include: a wooded area, field of

grass or other major natural area for exploring; an area for water play; logs and tree stumps to balance on; gardens; trees to climb; piles of dirt and/or sand; climbing nets; small and large rocks; natural loose materials; and hills to climb up and roll down (Hanscom, 2016, p. 143).

In its “Guidelines for Places and Spaces,” the NAAEE stated that, “The physical environment [should be] varied and include a spectrum of possibilities—ample shade, sunny spaces, windbreaks, open areas, small hiding places or refuges, gathering areas, areas for building and areas for art and music and movement” (2010, p. 45). The NAAEE also suggested that outdoor spaces include, “Natural components on which to climb, balance, crawl through, jump on and off, lift, and move in other special ways” (NAAEE, 2010, p. 45). Cooper (2015) proposed minimum standards to promote quality natural outdoor learning environments. Some of them include:

- At least two outdoor gross motor features
- Diverse selection of plants and habitats representative of local flora and fauna
- Natural features and a variety of ground surfaces
- Garden plants and vegetables for consumption
- An outdoor water source
- Bird feeders, bird baths, and bird houses
- A looping pathway for wheeled toys
- 75 sq. ft. per child (p. 86)

Nature play spaces are also important for our youngest learners. “Natural settings inspire, revive and restore” (Hanscom, 2016, p. 147). Uneven terrain outdoors challenges babies and toddlers as they learn to crawl and walk. “The varying tactile and temperature sensations increase the baby’s tolerance to these experiences as well” (Hanscom, 2016, p. 187). For preschoolers, it is important to offer opportunities for heavy work which helps children “develop better body awareness and a sense of the right amount of force to apply when interacting with their environment” (Hanscom, 2016, p. 81). NAAEE Guidelines stated that children should be provided with “Developmentally appropriate tools to observe, manipulate, collect, and construct” (2010, p. 45). This would include natural parts. Loose parts in an outdoor play space include movable items such as branches, rocks, sticks, leaves, tree slices, pinecones and more. These materials may be used indoors as well.

Indoor play spaces should include natural materials, such as wood or metal, while avoiding bright, colorful plastic. The NAAEE also suggested incorporating plants in the indoor environment (NAAEE, 2010, p. 45). “The integration of natural components throughout places and spaces is essential if learning opportunities and development are to be maximized” (NAAEE, 2010, p. 47). Natural components to be used indoors might include:

- Stones
- Sand
- Shells
- Rocks and minerals

- Stumps
- Flowers and live plants
- Sticks, twigs, bamboo
- Wood chunks or slices
- Herbs
- Seeds
- Water (NAAEE, 2010, p. 47)

The NAAEE succinctly states that “the integration of natural components throughout places and spaces is essential if learning opportunities and development are to be maximized” (NAAEE, 2010, p. 47).

Availability and accessibility of nature spaces. For teachers who think they do not have any accessible nature spaces, Zwinger (1999) suggested that perhaps they need to look more closely. “There are things to see and stories for the telling everywhere: a weed in a sidewalk crack, moss on a wall, a busy trail of ants going from hither to yon” (Leslie et al., 1999, p. vi). Virtually everything taught indoors, may be taught outdoors. “The classroom could be picnic tables to sit at, a large patch of grass, or a large tree to sit under. Even using the blacktop can suffice” (Hanscom, 2016, p. 166). Consider outdoor learning space as compared to makerspaces and tinkering which allow children opportunities for open exploration and creativity.

The amount of time young children spend exploring in nature is equally as important as the types of materials offered. “Infants benefit from having opportunities throughout the day to be active and outdoors. Physical activity encourages organization

for the sensory-system and important motor development” (Hansom, 2016, p. 85).

Toddlers and preschoolers “could benefit from at least five to eight hours worth of active play a day, preferably outdoors” (Hansom, 2016, p. 85). Cooper (2015) recommended setting a standard for minimum time young children spend outdoors, weather permitting, “such as 30 minutes per 3 hours” of preschool (p. 94).

Health, safety and risk. As stated in the previous section on curriculum development, “Contact with nature is supportive of healthy child development in several domains” (Taylor & Kwo, 2006, p. 136). It is important for educators to consider safety tips when children are playing in natural settings. (Hanscom, 2016, p. 129). “In order to ensure the safety and health of the children, adequate planning, inspection, and vigilance are essential” (NAAEE, 2010, p. 49). Teachers planning experiences for successful exploration in nature must also plan for the unexpected. In addition, educators need to keep in mind that, “Children need opportunities to fail and make mistakes in order to become more confident and capable when facing future life challenges” (Hansom, 2016, p. 132). There are advantages in risk-taking behaviors. As young children become adept at evaluating their environment, assessing risks and accepting challenges, they become more confident (Hanscom, 2016, p. 95). “Falling from time to time and experiencing reasonable risks... actually benefit healthy physical development” (Hanscom, 2016, p. 120). Hanscom (2016) also stated that, “Children learn to manage, control, and even overcome their fears by taking risks” (p. 125). In addition, “Having adequate body awareness is essential for the safe navigation of interaction with the world around us” (Hanscom, 2016, p. 127).

Quality outdoor play spaces create endless opportunities for growth and development in infants, toddlers and young children. They may include “built structures as well as naturalized spaces, [such as] a prairie area, pine forest, vegetable garden, sand and water, and many mature trees” (Torquati et al., 2017, p. 219). Caregivers keep safety and risk in mind when planning activities in natural areas, remembering also that, “Children build confidence when overcoming obstacles” (Hanscom, 2016, p. 95). Next we will look at the research supporting environmental literacy of early childhood teachers as they strive to reconnect young children with nature.

Environmental Literacy of Early Childhood Educators

Educators are responsible to maintain a certain level of understanding and skill in relation to environmental issues, especially those topics that are important for young children. This involves ongoing education about environmental issues, developing an attitude in relation to environmental issues and practicing personal and civic responsibility. It is also important to address the barriers educators face in convincing parents and administrators of the importance of free play in natural settings and helping to reconnect young children with nature.

Benefits of nature play. There are a plethora of health benefits when spending time in nature including, improved vision, increased proprioception, enhanced intelligence, more developed senses, stimulated ability to pay attention, ability to think clearly and be more creative, and improved psychological and physical health (Louv, 2012, pp. 17-27). Children need opportunities to connect with nature because it is important for their healthy growth and development. “When truly present in nature, we

do use all our senses at the same time, which is the optimum state of learning. (Louv, 2012, p. 25). Outdoor play is also a place for negotiation, problem-solving, fulfilling the need to belong to a group, experiencing friendly competition and developing a sense of community (Reed & Brown, 2002, p. 113). The many benefits of nature play outweigh the risks of injury (Hanscom, 2016, p. 120).

Professional development to increase skills and understandings. According to the NAAEE, “In early childhood, it is important to concentrate on building a foundation that will allow for positive examination of issues and appropriate action later in life” (2010, p. 4). It is not developmentally appropriate to teach young children concepts and ideas that are beyond the scope of their everyday lives and experiences. Young children simply cannot grasp the concepts of global warming or the ideas of invasive species or species extinction (Ernst & Tornabene, 2012, p. 646). Therefore, “the task of environmental education for young children is to forge the bond between children and nature” (NAAEE, 2010, p. 4). As Selly (2012) stated, “the goal of early childhood environmental education is *not* to study explicitly about environmental problems; rather, it is to create opportunities for the experience of wonder, comfort, and love in the natural world” (p. 2). Children connect with nature when they see themselves as a part of nature, in the care and impact they have on it.

“Teachers need to understand why these [outdoor] settings are appropriate, why they are important learning environments” (Simmons, 1998, p. 31). Therefore, it is important for educators to keep in mind the benefits of nature play and outdoor learning. According to Cooper (2015), the benefits include:

- Improves self-regulation
- Advances physical fitness and gross motor development
- Improves eyesight
- Promotes cognitive development
- Improves academic performance
- Lessens the symptoms of ADHD and improves concentration
- Promotes self-confidence
- Builds understanding and appreciation of ecosystems, food systems, and environmental processes. (p. 86)

In the classroom and in outdoor nature spaces, early childhood educators need to “combine their understanding of child development and developmentally appropriate practice with a basic understanding of the goals, theory, practice, and history of the field of environmental education” (NAAEE, 2010, p. 53). Educators “help children to look more closely, listen more carefully, and understand the natural world in rich and varied ways by providing opportunities for children to marvel in the beauty of nature” (NAAEE, 2010, p. 54). In this way, educators become the guides to learning about the natural world.

Teachers generally believe that nature experiences are an important part of the curriculum for young children, that young children would enjoy these experiences and that nature experiences are educationally worthwhile (Simmons, 1998, p. 31). However, teachers express “concern over their own lack of preparation” for teaching in natural settings (Simmons, 1998, p. 31). In order to ease this concern, “Frequent inservice

training should be used to build an awareness of the role that early childhood education should play in sustainable development and aid educators in translating the values and principles associated with sustainability into activities and learning experiences for young children” (Ernst & Tornabene, 2012, p. 647). In addition, it is important for educators to continue their own learning. “The best way to evaluate your programs for developmental appropriateness is by being an active learner yourself— experiment, explore, seek questions and answers, test theories and invent new ways of approaching learning” (Oltman, 2002, p. v). Teachers may think of themselves as co-learners, learning alongside their students.

Many young educators belong to the generations described by Richard Louv’s *Last Child in the Woods* (2005). They were raised with little exposure to the outdoors. “Contemporary young adults have spent much less time outdoors in natural environments than did previous generations” (Torquati et al., p. 212). These young adults may feel disconnected with nature and the outdoors. “Growing up with little direct contact with nature, people lack a sense of being part of the larger web of life” (Crain, 2001, p. 24). In addition, few states include preservice environmental education training as a criteria for teacher certification (Archie, 2001, p. 5). Cooper proposed minimum standards for promoting quality natural outdoor learning environments including, “professional development for enhancing and utilizing the outdoor play and learning environment” (2015, p. 86). Professional development for educators should include completion of :

...a ‘nature immersion’ assignment in which they are required to spend 45 minutes alone in a natural space without any electronic devices to look at nature ‘through

the eyes, ear, nose, and touch' of a child and to write a reflection on the experience. This helps [educators] to become more comfortable in natural environments, to enhance their sensory awareness in nature, and to become aware of the opportunities for young children to experience nature. (Torquati et al., 2017, p. 221)

Zwinger concluded that, "Once a teacher makes the connection between the classroom world and the world outside, enormous possibilities open like a morning glory bud untwisting at dawn" (Leslie, et al., 1999, p. vi). How can we expect teachers to help young children build connections with nature if they have not been allowed to build that connection for themselves? Once we connect our teachers with nature, they will be better able to help young children achieve that bond as well.

A publication put out by the Nature Explore program suggested that, "children benefit most in programs that have educators who are knowledgeable about how to use these spaces as an integral part of daily learning, and families who understand and support the need for children to connect with the natural world" (Cuppens et al., 2007, p. 2). Effective early childhood educators collaborate with families and community organizations and resources for the benefit of young children. "This systems approach makes early childhood educators 'natural' proponents of the EE [environmental education] approach; they already recognize the interdependence of systems within a child's life and can translate this to include natural systems" (Torquati et al., 2017, p. 209). Working together with children and their families helps build community within the school and connection to the neighboring area.

Personal and civic responsibility. Effective educators model personal and civic responsibility as it relates to the environment. The NAAEE guidelines stipulate that, “Educators should: identify ways in which environmental education can enhance the development of a young learner; behave responsibly, respectfully and reasonably during instruction; and respect the process of inquiry and the application of environmental investigations in instruction” (NAAEE, 2010, p. 53). By doing so, educators become practiced in environmental ethics and values inhabited by the community in which they teach. In this way, “Teachers model partnerships with community members... for young children” (Torquati, et al., 2017, p. 227).

Educators also need to be active learners in their profession. They should “identify and practice ways of continually updating information about the environment and early childhood pedagogy; reflect on and learn from professional experience, individually and with colleagues; [and] seek opportunities to learn content and skills within the communities in which they live and teach” (NAAEE, 2010, p. 53). Zwinger emphasized that, for effective environmental education, “All that’s required of a teacher is a knowledge of some basic principles of ecology, respect and affection for the place in which you teach, and a willingness to enter a world of... fascinating animals, vegetables, minerals and fungi” (Leslie et al., 1999, p. v). In other words, educators must be prepared to be guides and be willing to learn alongside their students. “Early childhood educators need to develop a personal awareness of and appreciation for their place in the natural environment and an enthusiasm for sharing the beauty and mystery of the natural environment with young children” (Ernst & Tornabene, 2012, p. 647). A key factor in

civic responsibility is considering where things come from. Addressing this topic with young children helps build connection to the community and the world around them.

Addressing barriers. There are many real and perceived barriers to environmental education including: “concern environmental issues are too depressing and scary for young children and that environmental sustainability is too abstract for young children” (Ernst & Tornabene, 2012, p. 646). These barriers, along with lack of educator training, lack of comfort or perceived competence and logistical barriers of lack of planning time, administrative support, transportation, and funding, may also deter early childhood educators, particularly in light of the challenges unique to bringing very young children outdoors (Ernst & Tornabene, 2012, p. 646). Along those same lines, Simmons added appropriateness of teaching setting; teacher confidence; worries about safety; need for training; hazards related to conditions, poisonous plants, threat of animals; and, difficulty of teaching EE (Simmons, 1998, p. 26). Educators desire planning experiences for success and must also consider the possibilities of what could go wrong.

First and foremost, parents are partners in learning for young children. “Parents are children’s first and most important teachers. Partnerships with parents are important for children’s development and success in school” (Torquati et. al., 2017, p. 225). Teachers build connections with parents so that when issues of weather as a barrier to nature play are encountered, educators may advise parents so that they “understand that children will be outdoors every day if the wind chill is above 0°F, and they provide appropriate clothing” (Torquati, 2017, p. 220). Through communication and education, parents will deduce that “children... who play outside every day, regardless of weather,

have better motor coordination and more ability to concentrate” (Louv, 2005, p. 105). In addition, when we take children outside in different kinds of weather, “They learn to be adaptable” (Hanscom, 2016, p. 95). Helping parents understand the many benefits of outdoor play is critical to gaining their support for a nature play program.

To aid in the success of implementing a nature play curriculum, “The principal and teachers commit to incorporating an environmental education focus into the curriculum and to allocating funds and teaching planning time to support [schools in an environmental education and accountability program]” (Sobel, 2013b, p. 115). Other barriers need to be addressed with the support of the entire program, the parents of the students, and the local community.

By educating teachers, parents and administrators, we create a community of people who care about the place in which they live, and hopefully someday, the world at large. “Environmental education proponents believe that students, schools, and the community all win when the engaging and effective approaches of environment-based learning are brought into the education mainstream” (Archie, 2001, p. 7). Keeping this in mind, how can we, as early childhood educators, reconnect our young learners to nature for healthy growth and development?

Summary

This chapter reviewed the literature regarding four major themes in relation to connecting young children with nature, including knowledge of child development, curriculum planning and assessment, nature play spaces, and environmental literacy of early childhood educators. Children need opportunities to connect with nature because it

is important for their healthy growth and development. Additionally, adequate space must be provided and time allowed for free play and discovery in natural areas. More work needs to be done to provide teachers with knowledge about why nature experiences are important for child development and what experiences are developmentally appropriate; to build comfort with nature play and appropriate topics in environmental education; and to connect with the community in which their school is located. Chapter Three identifies ways to meet these needs in the form of a series of professional development opportunities which will assist early childhood educators in helping reconnect their young learners with nature.

Chapter Three explains the project by describing the various features, including a series of visual presentations and presenter guides, a resource library, monthly phenology notes, field guide activity kits, a loose parts lending library and more. It also identifies the setting and participants that are the focus of this project, as well as the research theories the project utilizes. Finally, a summary of this literature review and connections between the project and the latest research in the area of children and nature is provided.

CHAPTER THREE

Project Description

Introduction

Children need opportunities to connect with nature because it is important for their healthy growth and development (Louv, 2012, pp. 17-27). According to research presented in chapter two, more work needs to be done to provide teachers with knowledge about why nature experiences are important for child development; what experiences are developmentally appropriate to build comfort with nature play; appropriate topics in environmental education; and how to connect with the community in which their school is located. This chapter identifies ways to meet these needs in the form of a series of professional development opportunities which will assist early childhood educators in helping reconnect their young learners with nature. The four major themes in relation to connecting young children with nature included in this project are: knowledge of child development, curriculum planning and assessment, nature play spaces, and environmental literacy of early childhood educators. Each of these professional development experiences strive to answer the question, “How can we, as early childhood educators, reconnect our young learners with nature for healthy growth and development?”

Framework for Adult Learning

There has been a great deal of research building on theories of adult learning. The basic principles of adult learning identify learners as active participants in a process of

inquiry, and that the process should start with and build on the background, interests and concerns of the participants (Knowles, 1992, p. 11). Knowles (1992) stated that “the educative quality of a large meeting is directly a function of the quantity and quality of interaction in the meeting” (p. 11). The professional development opportunities created for this project aim to include ample time for interaction and collaboration. It is also important to keep in mind that, even for adults, learning is more than simply a cognitive process. “Learning can be through pathways other than those dominated by our brain. Our body, our emotions, and our spirit, are also important avenues for learning or knowledge construction” (Merriam, 2017, p. 29). Therefore, whenever possible, professional development experiences offer [opportunities for] hands-on, “in-the-field” exploration. Through active participation, collaboration, self-direction and reflection, I hope to provide participants with the experiences they need to help build knowledge, comfort and connection with nature.

Setting and Participants

The setting for this project is a wide range of early childhood programs in a suburban school district community education. The children enrolled in these programs include parent and child classes, birth to age 8; full day childcare, birth-age 5; half-day school-based, pre-k, ages 4-5; half-day ECSE, ages 2-5; and half-day mixed-age pre-k, ages 3-5. Total enrollment is over 600 students. According to the school district website, 55% of students enrolled in K-12 report minority status. Nearly 16% of students receive English learner services, with families speaking 84 different languages at home. Forty-nine percent of students qualify for free and reduced priced meals. The participants

of this project are early childhood educators, which include licensed staff, support staff and program administrators. There are over 125 staff-members, who are predominantly white and female.

Project Description

This capstone project will include a series of professional development presentations and presenter's guide. The four major themes in relation to connecting young children with nature included in this project are:

- Knowledge of child development (ECIP's, NAAEE-Guidelines for Excellence, Creative Curriculum/TSG)
- Curriculum planning and assessment (interdisciplinary and investigative learning opportunities, scaffolding, learning about what is close at-hand, importance of real work, including loose parts)
- Nature play spaces (indoor and outdoor)
- Environmental literacy of early childhood educators (benefits of outdoor play, personal and civic responsibility, addressing barriers, community connection)

Each presentation includes a reference to the support materials that exist for use in classrooms. In accordance with principles of adult learning, professional development experiences include, slideshow presentations, collaboration, hands-on experiences, reflection and goal setting, question and answer, and conclude with an evaluation of the experience (Knowles, 1992, pp. 11-14).

Support material to aid educators in their efforts to reconnect their young students with nature takes various forms. As part of this project, monthly phenology notes are distributed via Google Docs giving educators ideas about what can be seen outdoors each month of the year. Phenology is the study of biological phenomena related to climate conditions or, more simply put, the changes throughout the seasons. The monthly newsletter topics are taken from the children's book, *Nature All Year Long* by Clare Walker Leslie (1991), and the book *Minnesota Phenology* by Larry Weber (2013), with added links embedded into the newsletter to provide background information and local references.

One presentation includes support for the use of loose parts in the classroom. Loose parts are an important learning tool that helps connect children with nature whether they are used inside or outside. It is often difficult and cost-prohibitive for educators to build their own collection of resources. Therefore, a loose parts lending library has been established at a central location for teachers to check out materials as needed.

Educators often request activity ideas for further outdoor investigations with students. Field guide activity kits provide tools for in-depth study of specific topics in nature while supporting the idea of educators as co-learners. Each kit devised for this project includes a set of field guides for students to share and a classroom set of tools for specific types of investigation.

Evaluation

After each presentation, participants will be asked to complete a brief Google Form evaluation. The evaluation will assess the content, delivery, and usefulness of information presented at each session. Educators will also be asked to complete evaluations to assess the usefulness of the support materials provided. The information gathered from the evaluations will be used to inform improvements to the course and materials.

Timeline

This project was developed from September 2018 to May 2019. Portions of the project were used during professional development opportunities in our school district that arose during the time of project development. The presentations created during the earlier part of the school-year were necessitated by my current position of environmental education/nature play coordinator. The final project is intended to be a year-long series of professional development along with support materials.

Summary

This chapter described the various features of this project with the goal of connecting young children to nature. The research that supports adult learning theory was discussed in relation to the professional development portion of the project. The setting and audience for this project was presented as well as the expected timeline for completion. Chapter Four presents my conclusions and my plan for the use of this project.

CHAPTER FOUR

Project Conclusion

Introduction

Children today spend much less time outdoors than previous generations for a variety of reasons. There are time constraints, increased reliance on technology, even the fear of the outdoors. As early childhood educators, I believe it is important, perhaps now more than ever before, that we reconnect our young learners with nature for their own healthy growth and development. This capstone project aimed to provide solutions and support for educators, administrators and support staff.

This final chapter is a reflection of the capstone process and the discoveries that I made while completing the project. Chapter Four will examine the conclusions that stemmed from the capstone process, evaluate connections between the project and the literature review, and discuss implications, limitations, and recommendations. Finally, I'll consider how the project benefits the early childhood education profession.

Reflection on Learning

This project began with a presentation I created for a back-to-school workshop entitled "Inspiring Environments." I hoped to encourage staff members to see their classrooms as "blank slates" ready for the addition of carefully chosen items and to consider incorporating natural elements whenever possible. I received a lot of positive feedback and staff seemed to be truly inspired. Questions arose in regards to locating desired materials for their classrooms. This led me to formulate ideas for the support

materials for my project. I began writing the monthly nature notes, collected loose parts, purchased resources for our school library and started to think about activities teachers could do with their students using field guides. I then gave a second presentation on the topic of nature play and early learning in which I focused on the reasons for taking our young students outside, what the common set of expectations are across programs, and also how to deal with the inevitable barriers we all encounter in relation to young children and nature play. I wrote the capstone concurrently with the development of the project. Although the writing process was not nearly as enjoyable as taking all the courses that led up to the development of the capstone, creating this project allowed me to revisit some of the topics I enjoyed the most.

Revisiting the Literature

My capstone writing process began with the creation of a mind map to visually organize my thoughts and learnings around the idea of: educator preparation for environmental learning in early childhood. I used the mind map and the subsequent literature review to develop the outlines and provide support materials for each of three professional development presentations. I chose to combine the materials and resources section of the mind map with the child development section. Our educators are all licensed teachers and, while it is obviously important to understand child development as it relates to nature play, I didn't want to create a slideshow exclusive to this topic. It seemed more relevant to pair development with curriculum planning, implementation and assessment.

The project began when my supervisor asked me to give a presentation about appropriate play spaces in early childhood for staff, including: early childhood teachers, paraprofessionals, early childhood special education teachers and birth to pre-k childcare staff. This presentation evolved into the presentation included in this project entitled, *Inspiring environments for young children: natural play spaces indoors and outdoors*. The information presented was based on facts I collected for the Natural Play Spaces section of my literature review. Educators were very excited but expressed a concern over the lack of resources. That is when I began to collect and create the support materials to go along with the presentations.

The second presentation entitled, *Nature play and early learning: environmental literacy of educators*, defined key concepts of nature play and inquiry. I provided suggested rules for play and expectations for educators at their various sites, with the various age groups of their students taken into account. It was initially difficult to decide where to include the topic of barriers to nature play because it seemed to fit under several categories. Ultimately I chose to place this concept under the topic of environmental literacy of educators because educators need tools to overcome barriers to nature play whenever and wherever they occur. The monthly phenology notes created for this project also serve as a resource in developing the environmental literacy of educators.

The third presentation, *Connecting young children with nature: curriculum development and planning*, was necessary to provide educators with the tools needed for including nature play and inquiry-style learning in their classroom curriculum. It also provided ideas for linking assessment to nature play opportunities. I researched the use of

loose parts in the classroom for the curriculum planning and assessment section of this capstone. Collecting loose parts for teachers to check out and use in their own classroom seemed like a simple and logical strategy. Teachers also asked for supplies to use for outdoor exploration and I hope to have the field guide kits completed soon.

Project Implications

This capstone was completed in March 2019 and was implemented throughout the 2018-2019 school year. Feedback from a supervisor regarding two of the presentations given in August and September state that she has “seen some great results,” another supervisor praised the quality and “reasonable challenges” of the presentation. I also received comments in regards to the phenology notes distributed monthly via Google docs. Several teachers and even office support staff have expressed appreciation for the material included. I look forward to more formal feedback from colleagues via the Google forms on the usefulness of the support materials. These results will be used to modify and refine the materials and presentations for future use.

My project, in conjunction with the projects of two of my coworkers, may serve to redefine nature play and environmental education in our entire school district. The presentations I created for professional development serve as a base on which to build further work in early childhood environmental education. A co-worker created a professional development presentation and guidebook linking nature activities with Teaching Strategies GOLD assessment for nature play in urban pre-k settings. These pre-k classrooms are located in elementary schools within our district and will directly affect how elementary educators and administrators view nature play and environmental

education. Another co-worker developed lesson plans for pre-k with a nature focus. These resources and presentations, along with the support materials I created for this project will serve to boost the ability of educators in their attempts to connect their students with nature.

Project Limitations

The limitations I faced regarding the implementation of this project stem from the willingness of staff to believe in the importance and support the idea of getting their students outdoors. It is difficult to convince colleagues whose childhoods were very different from my own to see outdoor play and connections to nature as a necessary relationship. I have heard staff ask, “Why do we allow [the children] to play with sticks?” I believe the presentations I created are only one small part in educating others about why connections with nature are important, and why it’s okay to allow children to play (appropriately, and with supervision) with sticks.

Locating funding to support nature play experiences can also be challenging. I work for a very supportive administration that has encouraged those of us pursuing course-work in the field of natural science and environmental education. While funding for special materials can be an issue, our administrators have supported us with a small budget and with money received from grants especially for the purpose of supporting nature play and environmental education. A working budget would be helpful in creating the support materials, although, many items are readily available in nature.

Lack of appropriate nature discovery space is an issue several of our staff members face at our elementary school sites. This barrier has been addressed in several

ways. Educators teach their students about expected behaviors outdoors, just as they teach how to use indoor spaces. Educators at school sites may also be required to educate their peers at the elementary schools as well as the administrators. This project may be used to help educate people outside of the field of early childhood education as well.

Recommendations

This project would be very useful in a variety of preschool settings. The presentations are appropriate for early childhood educators, their administrators and their assistants. The support materials are simple to gather because they are locally sourced, and are often available for free or may be purchased inexpensively. The project may be presented at the beginning of the school year in a series of workshops, or spread out over the course of a school year.

Additional skill development and research in two areas would provide support for this project. First, knowledge of grant writing to obtain materials and redesign outdoor spaces would be extremely helpful. Second, more research is needed to discover why there is a gap between increased focus on environmental education in early childhood and teacher preparation for early childhood environmental education.

Benefits to Profession

I continue to aim to inspire my coworkers to take their young students outside to help them build connections with nature, and consequently to begin to love and care for the earth around them. The benefits of nature play for young children were addressed in Chapter Two, but there are also benefits for educating the educators, administrators, and support staff. These benefits include building comfort with staff when including nature in

curriculum planning; connecting staff, students and families, with the local community; and setting the next generation of educators up for success in their efforts at connecting young children with nature.

In Conclusion

This capstone project sought to answer the question, “How can we, as early childhood educators, reconnect our young learners with nature for healthy growth and development?” I looked at research to support nature play in relation to knowledge of child development. I reviewed curriculum planning, implementing and assessment in nature play activities. I presented support for natural play spaces for young children. Finally, the literature review provided specific details to encourage environmental literacy of environmental educators.

My hope is that this capstone project inspires early childhood educators to reconnect our young learners with nature for their healthy growth and development. As previously stated, this question is integral to my success in the leadership role I have recently accepted within our school district. Ultimately, the success of this initiative lies in the hands of the early childhood educators in the various programs within our district, and beyond.

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Appendix A: Natural Play Spaces Presentation

Appendix B: Environmental Literacy Presentation

Appendix C: Child Development and Curriculum Planning Presentation

Appendix D: Presentation Evaluation

Google Forms

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I've invited you to fill out a form:
Reconnecting Young Children with Nature Presentation Evaluation
Please submit feedback regarding the presentation you have just attended.

Presentation Title/Topic: *
[Text Input Field]

Presenter: *
[Text Input Field]

Date:
Month [Dropdown] Day [Dropdown] 2019 [Dropdown]

The Presenter:

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The presenter delivered the material in a clear and structured manner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The presenter was knowledgeable about the topic.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The presenter sought audience participation and answered questions effectively.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The presenter was enthusiastic about the topic.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The presenter was well organized and prepared.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The Presentation:

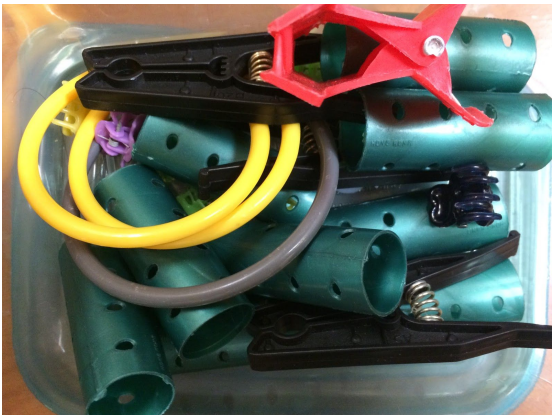
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The presentation was concise and informative.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The presentation contained practical examples and useful techniques that applied to current work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The visual aids were effective in conveying the program's message.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The overall quality of the program met your expectations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The program provided a positive learning experience for the audience.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What aspects of this presentation were most useful or valuable?
[Text Input Field]

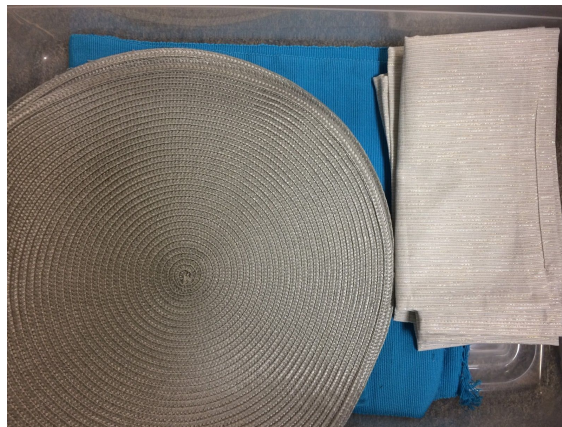
How would you improve this presentation?
[Text Input Field]

Appendix E: Monthly Phenology Nature Notes

Appendix F: Loose Parts Lending Library Photos









Appendix G: Field Guide Activity Kit List

Field Guide Activity Kits

1. Tree Field Guides (4) with small clipboards, paper and crayons for rubbings
2. Insect Field Guides (2) with petri dishes and magnifiers
3. Bird Field Guides (6) with binoculars and bird songs CD
4. Wildflower Field Guides (2) with magnifiers and color swatches/paint chips
5. Weather Field Guides (2) with blankets and “weather windows” [frames on a stick]
6. Rocks and Minerals Field Guides (1) with stiff brushes and magnifiers

Additional Field Guides:

Reptile and Amphibian Field Guides (1) with frog and toad sounds CD [and amphibian life cycle poster]

Animal Track Guides (1) and Mammal Identification Guides (1)

Appendix H: Materials Evaluation

Google Forms

Having trouble viewing or submitting this form?
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I've invited you to fill out a form:
Materials Evaluation

After using this resource, please answer the following questions:

Name (optional):
[Text Input Field]

Program Name: *
[Text Input Field]

Type of Resource Used: *

- Nature Notes
- Loose Parts
- Field Guide Kit
- Library Resource

Was this resource useful to you? How?
[Text Area]

Were the materials in good condition? Does anything need to be repaired or replaced?
[Text Area]

What additional materials or support do you need to make this resource more useful?
[Text Area]

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