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## **An Educator's Guide to Expanding Accessibility to Nature Connections in Traditional Early Childhood Education**

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An Educator's Guide to Expanding Accessibility to Nature Connections in Traditional

Early Childhood Education

by

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A capstone project submitted in partial fulfillment of the requirement for the degree of

Master of Arts in Education: Natural Science and Environmental Education.

Hamline University

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## DEDICATION

To all my Zoo School tree frogs. Your love and wonder for nature inspires me still.

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## CHAPTER ONE

### Introduction

The intention of this capstone project is to address nature-based educational gaps in children who attend traditional early childhood education through nature-based curriculum implementation. The goal of this project is to provide educators with a hands-on nature focused resource they can use in the classroom to promote connections with nature in traditional settings. This project focuses on answering the question: *How can traditional Early Childhood Education programs promote equitable nature connections amongst children in underrepresented communities?* Throughout this project, I explore the benefits of and barriers to nature-based education in addition to critical frameworks for developing a nature-based curriculum. In this chapter, I introduce personal background and significance for this topic as well as explain the background of nature-based education.

### Personal Background

Growing up in upstate New York, my childhood was filled with outdoor adventures and experiences. I recall vivid memories of my best friend and I spending countless hours roaming the woods next to my house, filling baskets with wonderful nature items to use in our ‘potions’ or ‘salads’. We lugged buckets of water to our fort where we would dump handfuls of our freshly collected treasures and began stirring up a wonderful nature soup. Playing outside, we learned the hard way that the three leafed plant is actually poison ivy and that if you flip over certain logs you might be lucky enough to find a salamander. This unstructured, unrestricted time outdoors carved out

early connections with the natural world; which turned out to be critical in shaping me into the person I am today.

My experiences in nature growing up translated well into my adulthood when I began teaching at a Nature-based preschool in San Antonio, Texas. The years I spent teaching there afforded me the opportunity to dive deeper into the world of Nature-based Early Childhood Education. Here I saw firsthand the benefits of nature in the lives of young children. Moving across the country allowed me to experience an entirely new ecosystem that I was able to see through the eyes of my students. Fallen Live Oak trees became pirate ships and fire trucks, Mountain Laurel seeds became gems and coins to trade for homemade mulch ice cream. This project holds a dear spot in my heart because it is my personal philosophy that every child deserves to explore nature safely and freely. It is, however, important for me to recognize and acknowledge the privileges I had while growing up playing outdoors in the safety of my neighborhood. I understand that not every child has the ability to safely play outside

### **Nature-based Education Background**

It is widely accepted in the world of Nature-based education, that exposure to nature from an early age builds strong relationships with the world around us. Nature focused activities involving contact, emotion, compassion, and beauty have all been found to be pathways to connecting with nature (Lumber et al., 2017). Additionally, many studies have indicated how nature exposure positively impacts children's development. Children who play outside tend to have more improved gross motor skills (Fjørtoft, 2001). Furthermore, children who are exposed to nature often show increased attentional capacity (Taylor et al., 2001). Consequently, many parents have opted to send



their children to Nature-based Early Childhood Educational (NbECE) programs to maximize these great benefits. Time spent outdoors not only improves attentional capacity, gross and fine motor abilities, and even peer resolution skills, but it also promotes greater physical activity in a world where sedentary lifestyles are on the rise (Vanderloo et al., 2013).

There are many program names that fall within the Nature-based Early Childhood Education scope: Nature-based preschool, forest preschool/kindergarten, and early childhood environmental education. While the practices for each program may vary, one thing remains: nature is the driving force behind the program's philosophy and curriculum. These programs vary from traditional early childhood education programs due to the presence of nature at the core. This is not to say that NbECE is better than traditional ECE, but that they simply differ. Nature-based programs tend to focus on stewardship-ways that children can foster a love for the outdoors so that as they grow, they begin to think critically about their impact on the environment. A study conducted in Australia found that emotional awareness towards the environment tended to be higher amongst children (5-6 years old) who attended a nature-centered kindergarten than those who attended a public kindergarten (Biber et al., 2022). Strengthening connections with nature at an early age can support pro-environmentally friendly behaviors later on in life which has put NbECE education at the forefront of environmental education.

While nature-based programming has been widely accepted and grown across the United States rapidly in the last two decades, it is clear that significant educational gaps still exist. Accessibility (including physical, monetary, and social) to these programs is often limited. Since the explosion of the nature-based movement, NbECE itself has

experienced educational gaps amongst many underrepresented communities. Furthermore, traditional Early Childhood Educational (ECE) programs and child development centers (CDCs), typically have less opportunity to reap the benefits of nature and thus children are at greater deficit. While there are many barriers preventing children from underrepresented communities to partake in NbeECE, the focus of this project is to break down those barriers by providing nature-based learning in programs where NbeECE is not amongst the program's educational philosophy. Ultimately, the purpose of this project is to present Early Childhood Education programs with a nature curriculum that brings nature to children so that they can foster a relationship with the environment.

### **Personal Significance**

The increase of childhood obesity, the state of our environment, and inequitable access to quality early childhood education, demonstrated the need for accessible Nature-based Early Childhood Education as more necessary than before. As the United States' approach to education has evolved over the last two centuries, understanding the shift in educational pedagogies allows for deeper reflection and understanding of where we are in today's educational climate. It wasn't until the late 1800's that the progressive movement changed the course of early childhood education in the United States. This newfound philosophy boasted a child-centered approach with an emphasis on the importance of recognizing the individual needs of children by being aware of a child's whole social, emotional, physical, and cognitive development (Gordon & Browne, 2016).

Such an approach is still prevalent in early childhood education today. As early childhood education has continued to expand and evolve, it is widely accepted that

experiences during formative years are critical in shaping the lives of children. Early childhood education holds the key to how we prepare children for a lifelong career in learning. Nature-based Early Childhood Education pairs the significance of childhood development with the significance of connections with the natural world to promote a well-balanced learning experience. The recent surge in Nature-based Early Childhood Education has highlighted a main attribute of environmental education: stewardship. Ultimately, if a child appreciates, respects, and cares for their natural environment by forming strong connections through play and exploration, as they grow, they tend to choose pro-environmental behaviors. This project aims to incorporate nature-based education in traditional classrooms through this lens of Early Childhood Education practice.

### **Conclusion**

Nature-based Early Childhood Education affords children the opportunity to grow and deepen skills essential to their development with an overall goal to promote environmental stewardship over time. Many preschools have chosen to adopt a nature-based model in order to usher in the next generations of environment loving individuals. While these programs have proven quite successful, oftentimes they are just out of reach for some families. Whether these barriers to Nature-based educational programs be monetary, physical, or even social, one thing remains—children benefit from nature but not all children have access to it.

The goal and outcome of this project is to bridge that gap—to create an implementable nature-based curriculum that can be replicated across many educational settings. The following chapter will consist of a literature review of research to support

this project in Chapter Two, a detailed description of the project and its implementation approach in Chapter Three, as well as a final conclusion and recommendations for future curriculum development in Chapter Four.

## CHAPTER TWO

### Literature Review

#### Introduction

The previous chapter outlined the foundation on which this project is held in order to begin answering the question, *How can traditional Early Childhood Education programs promote equitable nature connections amongst children in underrepresented communities?* While examining the benefits of Nature-based Early Childhood Education, it is important to understand the grounding pedagogical philosophy this branch of education has developed. Additionally, it is equally important to cross-examine traditional Early Childhood Education programs and their impact on children's exposure to nature curriculum. This next chapter provides a brief overview of what a Nature-based Early Childhood Education program could look like. Additionally, the positive effects of and barriers to Nature-based Early Childhood Education are presented. Finally, this section highlights the successes of nature-based programming in the public school setting.

It is important to recognize that this following chapter is not intended to promote negative impressions of traditional Early Childhood Education, rather how these programs can tap into the benefits of nature-based pedagogy. This next section aims to demonstrate the benefits and gaps of Nature-based Early Childhood Education with the end goal of providing an educator's guide that can be implemented within traditional Early Childhood Education programs to provide children who otherwise may not have access to Nature-based Educational programs, with nature-based activity experiences.

## **Defining Nature-based Early Childhood Education**

While curricula of the 19th century often included nature studies, it was not officially until 1967 that one of the earliest nature preschools opened its doors in the United States (Sobel, 2014). Since then, the definition of nature-based education has evolved but one thing remains concrete—it is an educational philosophy where nature remains at its core. In his 2008 book, *Last Child in the Woods*, Richard Louv coined the term Nature-deficit Disorder, a non-medical term for a childhood phenomenon in which children have been increasingly losing touch with nature and subsequently the respect and love for their natural world. While there may not be concrete evidence this particular book sparked a nationwide expansion of nature-based preschools, it may be safe to say that subsequently, nature-based education has inspired many all over the United States in recent years. According to North American Association for Environmental Education’s 2017 and 2020 review, nature-based programming has seen an increase from 275 to 585 programs across the country, with most programs carrying the name “Nature-based Preschool” (NAAEE, 2017, 2020).

This increase in nature-based programs begs the question: *What is nature-based preschool?* To start, Rachel Larimore (2019) defined nature-based preschool as being a part of a broader category that encompasses Nature-based Early Childhood Education (NbECE), the intersection where Environmental Education and Early Childhood education meet. For this project, NbECE constitutes as the guiding pedagogy for activity development. Natural Start Alliance defined NbECE as a program with an immersive approach, where nature is at the heart of the program—often NbECE programs strive to learn in nature, about nature, and for nature (as cited in Bailie et al., 2019, p. 9). For this

project, *Nature-based Early Childhood Education* (NbECE) is defined as an early childhood educational pedagogy whose aim is to encourage children to connect with, love, and respect nature so that as they grow, they become stewards of the natural world. This pedagogy is successful when children have access to natural spaces outdoors in addition to natural resources within their classroom environment.

### **Nature Based Early Childhood Education as Nature Based Preschools**

With Nature-based Early Childhood Education at its core, schools and programs have been able to adapt and develop this pedagogy into practice, serving as Nature Based Preschool's (NBP). While the number of NBP programs has risen in recent years, it is important to illustrate what NbECE looks like in practice. With nature at the center of its curriculum, NBP programs naturally look to spend at least 50% of their time outdoors in natural spaces. Furthermore, while indoors, NBP programs provide many natural materials and even animals to afford children with an atmosphere that connects them with the outdoors (Bailie, 2016, p. 55).

Additionally, a foundational aspect of NBP pedagogy is emergent curriculum, the practice in which teachers or educators extend learning by building on children's interest (Larimore, 2019, p. 11). For example, a teacher might provide children with buckets and shovels if they observe their children 'looking for fossils' in the soil outside. Ultimately, these components provide a groundwork for NBP, and are what sets them apart from traditional Early Childhood Educational programs. While most of the parameters of NBP may be achievable in traditional ECE settings, the main philosophy of NbECE, establishing connections with nature, is what is intended to be used in developing a nature-based guidebook for traditional ECE settings.

## **Nature's Effects On Developing Children**

Over the years, many studies have uncovered the positive effects nature and outdoor play have on developing children. A prominent study in Norway noted that play in the natural environment provided certain affordances, or barriers, in which children learned to overcome (Fjørtoft, 2001). Discrepancies in physical landscape and varying characteristics of the natural world provide endless learning experiences such as valuable gross-motor development. Outdoors, children learn to jump, crawl, run and balance across uneven terrain providing extensive exercise of important developing gross-motor muscles (Fjørtoft, 2001 & Fjørtoft & Sageie, 2000 ).

Additionally, children who experience ADHD show fewer symptoms and tend to display a greater attentional capacity when present in natural environments and playing outdoors (Taylor et al., 2001). Adams and Beauchamp (2019) noted that children who engage in making music outdoors tend to transcend their normal reality, thus making way to experience spiritual moments and deepen their connection with nature. Furthermore, it is understood that children who experience play in natural spaces have a tendency to express later interest in and preference for environmental activities which continues to drive support behind the “why?” for Environmental Education and Nature-based Early Childhood Education pedagogies (Bixler et al., 2002).

It is clear that time spent outdoors positively influences the way children develop, making it imperative to ensure all children have equal access to this way of learning. However, even with the growth this field of education has experienced, nature-based education has not been equally available to all children. Children of color, dual language learners, and children with disabilities are often underrepresented in the NBP community



(NAAEE, 2020). NAAEE's 2017 national survey of nature preschools and forest kindergartens noted that of the children enrolled in such programs, only 3% were Black or African American, 7% were Hispanic or Latino, and 83% were white (NAAEE, 2017). While barriers may prevent children from attending NBP's, this project aims to bring aspects of NbECE to traditional Early Childhood Education settings with a goal of aiding in bridging the gap between the two entities. It is believed that a child's experiences in their early years form the foundation for later physical, social, emotional and cognitive development therefore emphasis on Early Childhood Education is imperative (as cited in Gordon & Browne, 2016).

### **Barriers to Nature Accessibility**

As described earlier, nature plays a vital role in a child's growth and development, and programs that offer learning with the natural world may not be readily available to *all* children. The table below communicates many of these challenges.

<b>Economic Disparities</b>	Economic disparities and program cost can deter families from participating; nature-based preschool can be more expensive than traditional Early Childhood Education programs thus making it less accessible to low-income families.
<b>Location</b>	Location of programs may limit who has access; nature-based preschools are often located in rural areas making them less accessible to families living in urban areas.
<b>Physical Accessibility</b>	Physical accessibility can present a challenge; nature-based preschool programs often include outdoor spaces with natural features that may limit children with disabilities.
<b>Lack of Awareness</b>	Many families in urban communities may be unaware of the benefits of nature-based programs and how to find programs in their area.

<b>Safety Concerns</b>	Safety concerns may restrict families from reaching out; nature-based preschool programs often promote risky play in the outdoor setting which may cause some families to have concern about their children's safety.
<b>Social Barriers</b>	Social barriers can cause disruption in participation; families in underrepresented communities may not feel welcome, or even safe, in outdoor settings due to historic discrimination.

A study of youth perceptions of outdoor activities in a predominantly black neighborhood in Philadelphia shared insightful dialogue for young people's apprehension of engaging in outdoor activities such as riding bikes or visiting parks. One such participant that was interviewed described the fear of victimization he and his friends felt when riding their bikes. Teixeira and Zuberi, 2016, noted how this fear can have a variety of health implications beyond serious injury if they are victimized furthering the barrier to exercise outdoors safely.

Furthermore, communities of color are reported to perceive greater barriers when using parks or green spaces; these communities experience "not feeling welcome, cultural and language restrictions, program scheduling and pricing concerns, and/or facility maintenance and mismatch concerns" (Das et al., 2016). A study conducted in London, England, detailed the unpleasant and unsettling accounts of outdoor play families of children with disabilities experience. Although families noted that physical accessibility was not always limited, barriers to fun and comfort were predominantly accounted for. Worries over the presence of bullies, transportation challenges, perceptions and attitudes of others and even the presence of dogs were presented as the many reasons families were hesitant to visit these outdoor spaces (Horton, 2017; Jeanes & Magee, 2012).

According to Gress and Hall in their 2017 article, “Diversity in the Outdoors”, they noted that while outdoor recreation has continued to grow in popularity, racial and ethnic minority participation rates are disproportionately low—demonstrating that this issue extends beyond early childhood education and into outdoor programming. Stigmas surrounding outdoor recreational activities and nature-based education continue to support the discourse that nature is reserved for the white-middle class. This idea of students conforming to “white norms” in education is not new either. Authors in *Culturally Sustaining Pedagogies* outlined students of color struggling to be heard and seen as they are subjected to white gaze in our educational system (Paris et al., 2017).

The cost of NBP programs often presents a barrier for many families as well. A NBP located about 45 miles from the Washington D.C. area carries a monthly tuition of \$12450 a year, or \$1245 per month, for a five day a week program that runs from nine o'clock in the morning until two o'clock in the afternoon. On the other hand, the District of Columbia Public School system offers free, universal preschool to children living in the area. While the aforementioned NBP program includes a variety of half day or half week options that range in price, they do provide up to 40% tuition assistance from private donations. Though this reflects a mere snapshot of the affordability of NBP, it can be hard for families to compete.

Tiny Trees Nature Preschool, in Washington state, has developed an Equity and Racial Grievance policy to tackle this underrepresentation. According to Tiny Trees Nature Preschool’s website, these policies work to build a culture of belonging that supports people of color while addressing racism, discrimination, and microaggressions. While many communities are underrepresented in NBECE, this is not to say there is an

absence of programs around the country that are working towards promoting equitable experiences within nature-based preschools. While these programs continue to remediate this educational gap, this project aims to bridge the gap children enrolled in traditional Early Childhood Educational programs face.

### **Nature Benefits in Public Schools**

A study performed in Washington D.C. public schools, examined the academic scores of students who had access to a garden with those that did not have similar access. Ultimately, the results showed that students who attend schools with gardens are more likely to perform at proficient or advanced levels while taking standardized tests (Ray et al., 2016). Moreover, three public elementary and middle schools in St. Louis, Missouri with a majority of low-income black and Hispanic children, were subject to Nature Based Intervention. This program included weekly STEM-based environmental education lessons in addition to nature-based outdoor field trips for the duration of the 2018-2019 school year. Students' Health Related Quality of Life (physical and emotional health functioning in addition to school, social, and family functioning) was significantly improved after participating in these nature based interventions (Sprague et al., 2020). It is clear that nature-based interventions implemented within low-income and diverse communities have had success in providing access to critical developmental benefits.

### **Conclusion**

Since the beginning of the NBP movement, the intention of Nature-based Early Childhood Education has primarily been to encourage children to connect with the natural world around them with a goal that as they grow, they will become stewards of the environment. As Nature-based preschools expand across the country, the

understanding of the critical developmental benefits of nature has grown with it. Children have the freedom to connect with the natural world around them all the while deepening their social emotional and creative growth and gross motor development.

Though time spent in NBP boasts many benefits, it has not always been equitable for all and the need for greater accessibility of these programs is apparent. While NBP's continue to tackle accessibility barriers through racial grievance policies and tuition assistance, many communities still face underrepresentation in this field of education. Through implementing threads of NbECE in traditional Early Childhood Education programs, these benefits can be shared.

Chapter three provides a detailed guide for educators to expand their current activities to incorporate NbECE pedagogy. This guide takes the form of themed activities which will outline learning objectives and needed materials for connecting children with nature inside or outside. This guide is mindful of all previously discussed topics and will adapt many best practices of NBP to suit primarily indoor environments. The goal of this guide is to encourage nature connections amongst children in non-NBP Early Childhood Education programs with an aim of closing the educational gap.

## CHAPTER THREE

### Project Description

This chapter outlines the foundational framework used to create a comprehensive educator activity guide to answer the question: *How can traditional Early Childhood Education programs promote equitable nature connections amongst children in underrepresented communities?*

This section provides a rationale and overview of the chosen framework that supports this educational guide. Understanding the pedagogical framework behind this type of educational tool is important in determining the formatting of the guide. This chapter also provides a detailed description of the intended audience in addition to the intended setting and why they were chosen. Furthermore, this chapter provides an overview of the frameworks and theories used to complete the guide's activity format. Finally, a timeline of the project's duration and completion is supplied within the guide to give educators an opportunity to incorporate this tool into their existing curriculum. It is important to note that this lesson planning guide is not to replace an existing curriculum, rather to supplement, support, and extend current plans to infuse them with nature.

### Project Description

The final product of this project is a printable PDF educators guide made up of nature themed activities in which early childhood educators can use to incorporate nature into their classroom. Each activity page provides a section of needed materials, steps to complete, and open ended questions to ask children to promote deeper connection. In addition to themed nature-based activities, this guide provides a brief overview of the many benefits of nature-based education.

### ***Rationale and Supporting Evidence***

This project and guidebook was inspired by five specific nature-based and early childhood pedagogical frameworks: the North American Association for Environmental Education's book *Nature-Based Preschool Professional Practice Guidebook and Nature-Based Learning For Young Children* (Bailie et. al., 2019), the National Association for the Education of Young Children's *Developmentally Appropriate Practice* guidebook (Copple & Bredekamp, 2009), *Nature-Based Learning for Young Children: Anywhere, anytime, and on any budget* (Powers & Williams-Ridge, 2019), the Understanding by Design framework, as well as open-ended & play-based curriculum design.

The Nature-Based Preschool Professional Practice Guidebook (Bailie et. al., 2019) is a comprehensive guidebook that provides models of nature-based education that are specifically designed for program administration, educators, and practicing professionals. This tool, in particular, provides a comprehensive set of practices within nature-based curriculum goals which is used as a springboard for this educator's guide. Several guiding principles have been incorporated into this project including the notion that classroom activities should cross between indoor and outdoor boundaries (as cited in Bailie et al., 2019, p. 25). Most important to this project, however, is the expectation that educators encourage play and investigation with natural materials—this is a main foundational component that drives this project (Bailie et al., 2019, p. 25). I believe that a crucial aspect of fostering nature connections amongst children, especially in traditional learning environments, is by providing and supporting the opportunity to

explore natural materials in non-traditional ways. For example, replacing primary colored math counters with stones or acorns found around the school.

*Nature-based Learning for Young Children: Anytime, Anywhere, and On Any Budget* (Powers & Williams-Ridge, 2019), is a wonderfully rich resource for curriculum development that has provided this project with overall design template in addition to inspiration for nature-themed newsletters for families to encourage engagement and extend learning at home. This guidebook provides nature-based curriculum scaffolding embedded within each theme that allows for multi-level immersion within nature based on where individual programs are starting out (Powers & Williams-Ridge, 2019).

The National Association for the Education of Young Children's Developmentally Appropriate Practice guidebook (Copple & Bredekamp, 2009), provides educators with everyday practices that suit the appropriate needs of children at each stage of development. These needs primarily focus on physical, social/emotional, and cognitive development. In order to ensure that the nature-based activities within this project are suitable and appropriate for each age group, this resource is included to act as a guide.

Finally, I incorporated play-based learning and open-ended learning as another governing factor for the project's lesson plans. Play-based learning allows children to explore and learn through interactions with play. This is a pedagogy that taps into children's natural curiosity and creativity to encourage and support learning through an activity that they are interested in. Open-ended learning is another driving pedagogy for this project. Open-ended learning can take place within any subject area but retains the same meaning: children have the freedom to create and play how they choose without the constraints of adult expectations (Larimore 2019).



### ***Setting and Audience***

The primary setting for this guidebook was early childhood education programs, including Early Head Start and Head Start programs, that do not offer nature-based curriculum as a part of their core values. Preschools and child development centers with an age bracket of children aged six weeks to six years were included in the audience criteria. By participating in nature-based activities and promoting time spent outdoors and indoors with natural materials, an ultimate goal of this project is to support educators in providing children with opportunities to experience the benefits of nature.

This project was particularly aimed at serving educators and children within Ward 8 of the District of Columbia. This area was chosen because it presented access to an early childhood education Head Start program in which nature-based curriculum is not the leading pedagogy. Head Start programs provide access to early childhood education, from birth to 3 years or 3 to 5 years, at no cost to eligible families (<https://www.acf.hhs.gov/ohs/about/head-start>). This program in particular serves seventy three children, 97.3 percent of whom are African-American. By providing children and families in this community opportunities to connect and engage with nature, they will have access to unlocking the benefits of nature-based education.

### ***Timeline***

The timeline for this project's educators guide book began with outlining the desired contents and layout which took place within the fall semester of 2022. Once completed, the next step was to write up a summary of the definitions of Nature-based Early Childhood Education as outlined in chapter two. Afterwards, activities were collected over the course of the Fall 2022 and Spring 2023 semesters. Designing and

formatting each activity page in the booklet took about half an hour each when factoring in the write up of needed materials and steps in addition to searching for photographs that depict each lesson. The project was completed using Canva, a free design tool accessible through the internet. The activities within the guidebook are designed to follow child-led pedagogy and are to be used throughout the year therefore there is no need for a detailed timeline.

### ***Assessment***

To understand the potential impact this guidebook has on children's connections with nature, a survey of attitude towards nature will be included in the guide. This survey instrument will feature a pre and post set of questions educators will be asked to aid them in gaining an understanding of their children's thoughts and feelings towards their interactions with nature. The hope is that by using descriptive multiple choice answers, educators can gauge if the nature-based implementation is positive or negatively affecting their students' attitude towards nature. Additionally, teachers will be encouraged to document what their children are saying and seeing throughout their experiences inside and outside of the classroom through the use of a reflection form.

### **Conclusion**

This chapter has provided a detailed project description as well as a rationale for choosing each framework that has influenced the guide design. Furthermore, a timeline has been included to demonstrate processes and steps taken in completing the guidebook. An overview of the guide's design and functionality has been laid out in order to provide a deeper understanding of each section. With guidance from many resources, this project aims to serve as a strong nature-based educational resource for communities in

underrepresented areas. The following chapter summarizes the final project, provides insight on future implications, and notes reflections on the overall project completion process.

## CHAPTER FOUR

### Reflection

#### Introduction

The purpose of this project was to create a Nature-based curriculum guide that addresses the research question: *How can traditional Early Childhood Education programs promote equitable nature connections amongst children in underrepresented communities?* Chapter one presented an overview of my personal and professional context as it relates to this project. Chapter two consisted of a comprehensive literature review that details the history of Nature-based Education as well as the many benefits and barriers that accompany the fast growing pedagogy. Within this chapter, a section that highlights positive studies of nature and garden curriculum implemented into public schools is shared. Chapter three reflected on the project's implementation within an Early Head Start Early Childhood Education program located in Ward 8 of Washington, DC. Additionally, this chapter housed the foundational framework for this project's design, primarily using *Nature-based Learning for Young Children: Anytime, Anywhere, and On Any Budget* (Powers & Williams-Ridge, 2019) as an inspiration for the overall design. Finally, in chapter four, I reflect on the processes and learning throughout my Capstone project experience.

#### Reflection on the Capstone Project and Process

This project presents itself as an educators guide, complete with activities, to incorporate Nature-based curriculum into the everyday classroom with an end goal of providing children in underrepresented communities with opportunities to connect with nature. This project was imperative in sharing the multitude of benefits that Nature-based

Early Childhood Education offers with communities that face barriers which prohibit them from accessing and participating in these programs. Fostering a relationship with the natural world from an early age can promote children to, as they grow, become stewards of their natural environment. This project was designed to be an introductory universal tool for educators to increase nature interactions within the classroom and among families in the community.

Overall, my time in Nature-based Education and traditional Early Childhood Education settings has provided me with a dual perspective on teaching practices. I used this knowledge coupled with a deep dive into literature review to lay out the foundation for this project. Having the opportunity to work with an Early Head Start and Head Start program has broadened my perspective on Early Childhood Education in underserved communities. Our school has access to outdoor spaces, a garden, and well supplied classrooms which aided in the implementation of this project. It is recognized that this project can also be used in locations that do not have access to these amenities. Working closely with families in this community has opened my eyes to a world where food and housing insecurities are a major concern and factor in this world of Early Childhood Education. I believe that this work is vital in supporting the growth and development of young children in this community.

### **Project Limitations**

Upon reflecting, a few limitations to this project presented themselves as some of the barriers I listed in chapter two. One example of an area of growth I have identified is specific to the barriers of Lack of Awareness & Safety Concerns. When working together with teachers, and informally discussing our experiences with nature throughout their

own childhood, I heard many recounts of concerns regarding safety. Teachers detailed these concerns to be related to fears of the unknown; unknown insects and any other threat that could have the potential to harm. Additionally, they shared social and cultural concerns over getting messy which tended to prohibit their willingness to encourage children to pick up dirt and explore off of the paved walkways.

Understanding these realities and validations of their shared life experiences proved to be a critical perspective missed out on for this project. While it was accounted for in my literature review, its application into the guidebook itself felt lacking. Moving forward, I would like to include a formal interview style process on the experiences and understanding of the educators in the program I intend to present the project to. I feel this will provide a more comprehensive and successful way to share the world of Nature-based Early Childhood Education in a safer and inclusive space. I hope to adapt the project to account for these reflections in the coming months as the school year ends.

### **Project Successes**

Overall, one of the most delightful successes of this project was to watch our school's teachers work hard to incorporate natural items into their classrooms. I saw projects presented in the activity guidebook expanded upon and turned into more detailed studies. One of the toddler teachers completely transformed her classroom into an immersive rainforest setting complete with vines laced across the ceiling. She even included an interactive waterfall with her light table and a rainforest themed sensory bin with shredded paper and various animals. The children in her class learned about carnivores and herbivores by sorting photos of leaves and meat into their respective

animal cut outs. I find her application and extension of the habitat theme from the guidebook to be a wonderful success.

### **Conclusion**

Ultimately, providing educators with a ready to use guidebook allowed them to engage in nature-based activities without the overwhelm of having to completely rewrite their own classroom philosophies and practices. Teachers were encouraged to use the guide as much or as little as they were comfortable with which helped with its integration. I hope to incorporate Teacher reflection and experiences into the design of this process will help overcome the limitations faced. Overall this project served as a great first step into introducing Nature-based Early Childhood Education to an underrepresented community in an effort to continue to bridge the gap in education.

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## **Appendix A**

### **Pre & Post Teacher Survey Questionnaire**

Questions to be asked before and after curriculum implementation.

1. Do your children like to go outside?
2. While outside, do your children gravitate towards natural objects (leaves, sticks, rocks, animals, insects, etc.)?
3. Do your children engage or play with natural materials inside the classroom?
4. Do your children like to take care of nature (watering plants, helping animals, cleaning up the outdoors)?

## **Appendix B**

### **Teacher-Student Reflection Form**

Educators, use this space below to document student reflections and remarks on activities from the guidebook:

1.) Quotes from children as they interact with nature:

2.) Drawings from children as they reflect on their interaction with nature:

**GED 8400 Rubric - Capstone Project**

<b>Criterion</b>		<b>Met</b>
<b>Introduction</b> Purpose Problem Research Question Assumptions Point of view	Explicit description of a narrowed topic of professional importance for the writer	✓ yes! strength
	Explicit statement of purpose, problem, assumptions and point of view	✓
	Clear, concise and well-focused capstone question	✓
	Explicit rationale for the importance about said topic for the writer	✓
	Explicit statement of the significance of the topic to the profession	✓ focused
	Explicit outline of the rest of the paper	✓
<b>Literature Review</b> Concepts and theories	Explicit explanation of how the literature review sections are related to the topic	✓
	Literature cited includes voices and research from marginalized communities and a diversity of publications with strong depth and breadth of representation. Student demonstrates thorough understanding of the importance of more than one perspective	(I will defer to your content expert here)
	Discusses relevant literature by synthesizing resources, concepts, and theories in multiple sections	(I will defer to your content expert here)
	The gaps in current knowledge were clearly identified, and significant directions and approaches that fill these gaps were identified	(I will defer to your content expert here)
	Attributes all sources accurately and honestly	✓
	Majority of literature review is based on primary research	✓
<b>Project Description</b> Description, rationale, framework and timeline	The project is explicitly described	✓ yes - coming along!
	The project and rationale are explicitly aligned to the capstone question or identified need	✓
		✓

	<p>There are specific and focused examples of critical reflection from the writer's personal experiences and professional practice</p> <p>Planning for assessment of project's effectiveness is explicitly described.</p> <p>There is clear timeline for the project, with measurable, identifiable steps to completion.</p>	<p>✓ good initial ideas</p> <p>✓</p>
<b>Organization</b>	<p>Content is well organized within the sections</p> <p>There are well-constructed sentences and paragraphs</p> <p>Section headings are consistently present</p> <p>There are clear and logical transitions from point to point, as well as in the sub-points</p>	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>
<b>Conventions</b>	<p>Sentence formation, usage (verb agreement, tense), mechanics (spelling, capitalization, punctuation, grammar) is error-free</p>	<p>✓</p>
<b>Format</b>	<p>Format requirements are met in accordance with the Capstone Formatting Guide</p>	<p>✓</p>
<b>References</b>	<p>Every APA citations in the body of the capstone is included in the reference list.</p> <p>All items on the reference list are in accurate APA format</p>	<p>(I did not check this but please make sure all items in the paper are referenced; and all items on ref list are cited in your paper)</p> <p>✓</p>