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Implementing Nature-Based Play In Academically Focused Early Childhood Settings

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IMPLEMENTING NATURE-BASED PLAY IN ACADEMICALLY FOCUSED EARLY
CHILDHOOD SETTINGS

by

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A capstone project submitted in partial fulfillment of the requirements for the degree of
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“If we can reimagine the world as a child sees it, while continuing to model attitudes of concern and respect for nature, our young companions will come to see the connections between loving the Earth and caring for its well-being. En route, we might just learn something long forgotten since our own age of innocence.”

- David Sobel, *Beyond Ecophobia*

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CHAPTER ONE

Introduction

Introduction

Cool, dark mud squishes between toes. Warm wind whispers musings of wonder, inspiring a great battle between sticks; or perhaps, the wind is magic: rolling in storm clouds with pregnant bellies. Laughter erupts as rain pours down noses and onto tongues. Ears buzzing with the timbre of thunder, a connection is occurring. A line between Earth, body, and mind forms, then erupts: the instinct to play.

This rainy afternoon outside has inspired wonder that a story book and coloring pages alone could not have. In order for children to develop and nurture their play instincts, they have to connect to their source, the Earth, and experience authentic, multi-sensory experiences in a safe environment. Children are active learners (Hirsch-Parsek, 2010) “who acquire knowledge by examining and exploring their environment” through “playful activities” (pp. 8, 59). For learning to happen effectively, children need opportunities to move and play without an external agenda.

In traditional United States’ classrooms, child’s play is boxed into thirty minute segments to allow for more time on academics and testing. This led me to my research question, *how can early childhood educators incorporate nature-based play into school settings that are heavily focused on academic assessment?* The goal of this capstone project is to create professional development courses that will give teachers in birth to grade three settings the tools to emphasize nature-based play practices in their classrooms.

In this chapter, I delve into the definitions used in nature-based play, my personal history with the topic, and my professional rationale for nature-based learning. First, I will provide definitions for terms used throughout the project. Next, I will share my background on nature-based play to show personal significance. Finally, I will highlight the professional context of this topic, introducing literature that will be expanded on in Chapter Two.

Definitions

At the core of child development is play. Dr. Peter Gray, research professor of psychology at Boston College known for his work on the relationship between education and play (Gray, 2013), writes: “Play is activity that is (1) self-chosen and self-directed; (2) intrinsically motivated; (3) guided by mental rules; (4) imaginative; and (5) conducted in an active, alert, but relatively non-stressed frame of mind” (para. 6). For the purpose of my paper, *play* will encapsulate these five factors and borrow from the American Academy of Pediatrics’ idea (AAP, 2018) that play “results in joyful discovery...[and] is fun and often spontaneous” (para. 1.2). Therefore, nature-based play is play that uses nature as its focal point and inspiration.

In nature-based play, outside is the setting for play. These outdoor play spaces are referred to as ‘green space.’ In this paper, green space will be defined as a walkable area with natural vegetation in the outdoors. These areas can include parks, cemeteries, playgrounds, and vacant lots.

Finally, since the land being played on has its own background, land trauma needs to be addressed. Land trauma will be defined as the collective history of what has

occurred on or near a green space. Examples of this include the genocide of Native Americans, crimes against BIPOC individuals, war, famine, etc.

Personal Background

Rachel Carson (Carson et al., 2017), marine biologist and conservationist, writes in her book, *The Sense of Wonder*,

A child's world is fresh and new and beautiful, full of wonder and excitement.

[...]If facts are the seeds that later produce knowledge and wisdom, then the emotions and the impressions of the senses are the fertile soil in which the seeds must grow. The years of early childhood are the time to prepare the soil. (pp. 44, 49)

As an early childhood educator, Carson's words anchor many of my core beliefs surrounding my current teaching theories. Children's imaginations know no bounds, and I believe that children are catalysts for curiosity, invention, and reconciliation. Honoring and partnering with Mother Nature to teach my students new ideas is at the heart of what I do. My desire to use nature as a catalyst for wonder began when I was a child.

Growing up, I spent hours outdoors with my maternal grandfather walking through the woods, canoeing with my dad, and playing puppets at the nature center with my paternal grandmother. The adults in my life gave me space to climb, dig, touch, and roam during these times outside. On one exploratory hike through wet woodlands, I remember sticking my hand out toward a little yellow flower I thought would be perfect for my mom's window sill. As my tiny fingers caressed the bulbous yellow petals, my grandfather gently put his hand on my shoulder and said "Oh no, Abbie. That is a lady slipper; we protect those. They have to stay in the woods, in their home." I gasped and

sadly pulled my hand away, feeling bad I had almost taken a flower away from its home. From that time on, lady slippers became a metaphor for respect and beauty to me. I was fascinated with things I could look at but not touch that were living outside.

Time passed from the wet spring hikes, and the annual summer canoe trip with my dad came along. On a hot July afternoon, we rowed into an alcove of water lilies. My uncle, who was also in the canoe with us, whispered to duck down as the rusty red canoe glid under a low hanging bridge, mere inches from the top of my dad's head. Water rippled as my eyes adjusted to the locale around me: the alcove was like a sparkling emerald cave, showcasing pink petals amongst shades of green. The water was deep, calm, and quiet. It was enchanting to sit amongst the lilies. Fascinated and wishing to commemorate the moment, I moved my body over the side of the canoe, extending a curious hand. My dad stopped me. Like lady slippers, I learned the lilies were protected too.

Months later, I would share my adolescent learnings with my grandma during an autumn visit to the nature center we frequented. Using a plush toy owl puppet, I told her about things we have to leave alone in nature. In response, she used an eagle puppet to tell me that eagles were something we protect too. I hugged the eagle puppet to my chest, saying "I'll keep you safe. I promise."

Storytelling about nature became a new hobby for a six-year-old me. After nature outings, I would take pamphlets I had collected from visitor stands and put on 'shows' for my parents, employing my younger brother as my assistant. Assembling an outfit using my dad's hunting camo, I spewed off information about protecting animals and plants, while including tips for spotting scat and tracks. The wonder that filled me when I played

outside fueled my imagination, informing my dramatic play scenarios that involved me presenting ‘nature shows’ for my parents. Though I was playing, my brain was processing information, and I was gaining insight into the world around me.

Professional Rationale

In my years of teaching, I have seen first-hand how nature-based play positively influences children’s learning, imagination, and development. The child that was once scared of rabbits becomes fascinated with looking for “bunny hops” in the dirt, while the child that has never experienced winter giggles with joy as she jumps into a fluffy mound of snow. Seeing my students interact with nature allows me to reflect on my own childhood outdoor play experiences.

My experience as a cis, straight-passing, able-bodied-passing white woman has afforded me privilege in American society. The privilege of being able to pass as a societal preference gave me, and continues to give me, a number of opportunities. One of these opportunities was the ability to access green spaces as a child. The small farming community I was raised in provided a sense of safety that allowed me the freedom to explore outdoors. I grew up in a small, midwestern town where 75% of the people around me were white and spoke English. The other 25% of the town was made up of families that had immigrated from Mexico; many of my classmates from Mexico were bilingual. Diversity was not celebrated in my hometown, which is one of the reasons I chose to move to the Twin Cities when I graduated high school. I grew up lower-middle class and was born a U.S. citizen. Compared to some of my peers, those two aspects alone put me in a place of privilege when it came to academics, job prospects, and educational opportunities. From examining myself and reflecting on my privilege to explore the

outdoors in safe green spaces, I am passionate about providing the same opportunity for my students. Since many of my students do not have access to safe green spaces like I did as a child, school playgrounds become havens of exploration. The fresh air, fauna, and wildlife provide the perfect companions to play.

The importance of the relationship between play and green spaces is emphasized by the American Academy of Pediatrics (AAP, 2018),

Outdoor play provides the opportunity to improve sensory integration skills.

These activities involve the child as an active participant and address motor, cognitive, social, and linguistic domains. Viewed in this light, school recess becomes an essential part of a child's day. (Outdoor Play section)

In the United States' public education system, nature-play is not emphasized. Rather, emphasis is placed on test scores, using children as a comparison to other countries' measures of academic success. Consequently, outdoor play time is cut short in efforts to accommodate more indoor academic instruction. This is not beneficial to child development.

Equipping teachers with tools to implement nature-based play in their classrooms is important for recentering play in childhood learning. My professional development course aims to give birth-through-age-eight teachers the "why" and "how" of nature-based learning while prioritizing child-led play.

Summary

Nature-based play inspires wonder, and allows children to form emotional connections with nature. These emotional connections form the bedrock that children's

fascination and reverence for nature will be built upon. As teachers, it is in our best interest, and our students, to partner with nature and provide opportunities for play.

In this chapter, I presented my research question: *how can early childhood educators incorporate nature-based play into school settings that are heavily focused on academic assessment?* Additionally, important terms were defined, and I gave an account of my personal connection to nature-based play to show why this topic is important to me. Concluding with professional rationale, I highlighted why this topic is important to my profession as an educator.

Moving forward, Chapter Two will provide scholarly research surrounding the history of outdoor education, benefits of nature on the human body, findings on standardized testing, and why play is vital to child-development. Chapter Three will encompass my professional development series created for early childhood educators and ways that nature-based play can be incorporated into traditional classrooms. Finally, Chapter Four will reflect on my findings, the professional development series' impact, and how I can move forward in this area of study.

CHAPTER TWO

Literature Review

Introduction

This chapter will examine literature surrounding concepts important to the implementation of nature-play in traditional classrooms and provide context for the professional development course I plan to develop as part of my capstone project. For American educators aiming to incorporate nature-based play in their practices responsibly, culturally responsive pedagogy has to be implemented. The United States has a complicated history involving genocide, racism, sexism, and ableism. These societal factors seep into outdoor education as well as traditional education. Knowing how history affects present practices is critical. Presented will be a combination of case studies, scientific research, educator observations, and narratives written by BIPOC (Black, Indigenous, People of Color) individuals.

Specifically, this chapter explores the history of outdoor education in America, the effects of nature on the human body, standardized testing in the United States, and the role of play in childhood development. The chapter highlights the ways these topics are interconnected to provide educators with context for effective nature-based play practices. Understanding the context of each of these topics will provide information necessary to answer the question: *how can early childhood educators incorporate nature-based play into school settings that are heavily focused on academic assessment?*

Outdoor Education in America

Outdoor education has come to mean different things throughout history and contexts (Freeman & Seaman, 2020; Knapp, 2018). Because it can be found across

multiple disciplines throughout history, defining ‘outdoor education’ is necessary. For the purpose of this research, ‘outdoor education’ will encompass environmentally-centered teaching and experiential learning taking place within nature. The term will be interchangeable with ‘environmental education.’ The natural spaces within which this learning and exploration takes place are referred to as ‘green spaces,’ a term that was defined in chapter one.

Knowing the history of outdoor education is critical for ethical play-based outdoor learning, because educators and students need to acknowledge and understand the history of the land they occupy to steward it well. This section explores the origins of America’s national parks, the forest school movement, and early environmental stewardship programs on American soil. The mindset of the aforementioned movements affect current outdoor education practices.

Origins

Preserving natural areas, the precursor to modern environmental efforts, gained popularity during the late 1800s during the westward expansion era. As pioneers moved westward, the land they discovered was unlike what they’d seen on the eastern side of the country. The awe of the westward landscape, noted as a ‘favored wild garden’ by John Muir (Treuer, 2021), inspired those in power to ‘preserve’ the pristine American wilderness. In truth, these lands had been cultivated and sustained by native tribes for thousands of years. The preservation of American land happened only after the killing and displacing of indigenous tribes. When pioneers discovered resources that they wanted for themselves on these lands, violence ensued. Yosemite National Park is a prime example of this. During the height of the gold rush in 1851, a California militia group

known as the Mariposa Battalion set eyes on Yosemite Valley (Treuer, 2021). Eager to extract the minerals lying below the surface of the valley, the Mariposa Battalion slaughtered members of the Miwok tribe, burned their wigwams, and destroyed their food supply. At the end of their raid, the remaining members of the Miwok tribe were forced onto reservations (Treuer, 2021). In 1890, just thirty-nine years later, Yosemite became a national park.

Yosemite is not the only park with a sordid history. Likewise, Yellowstone National Park was made from the displacement of indigenous people. Becoming the first national park in 1872, Yellowstone became gated to the very people who had cultivated the land for millennia. Madison Grant, prominent environmental conservationist of the time and a figure in the national parks movement, implemented a law in the early 1900s that made it illegal for native inhabitants of Yellowstone to access the land (Purdy, 2015). Though Grant was a prominent conservationist who aided in efforts to protect plant and animal species, his belief in eugenics tainted his contributions to the National Park Service (Wagner et al., 2022). Madison Grant's declaration made trespassers of the indigenous groups who called the land their home for centuries (Treuer, 2021).

In fact, all national parks inhabit stolen land (Garza, 2021; Machado, 2021; Treuer, 2021). In the name of preservation, people were slaughtered, displaced, and stripped of their cultures to protect the American ideal of pristine wilderness (Roberts, 2018; Treuer, 2021). David Treuer, an Ojibwe author and historian, writes

[...] Many of the parks owe their existence to heists like these. Apostle Islands National Lakeshore, in Wisconsin, was created out of Ojibwe homelands; the Havasupai lost much of their land when Grand Canyon National Park was

established; the creation of Olympic National Park, in Washington, prevented Quinault tribal members from exercising their treaty rights within its boundaries; and Everglades National Park was created on Seminole land that the tribe depended on for food. (Treuer 2021, section 3.5)

Theodore Roosevelt, 26th president of the United States, was a strong supporter of the preservation of national parks. Often, he is associated with the National Parks Service and played a hand in setting the narrative for who belonged on these “newfound” lands. Roosevelt and his supporters claimed to love and preserve nature, turning native homelands into wild game sanctuaries for white, elite businessmen. These men participated in sports that mimicked the survival tactics of the people they had displaced, claiming it was a reprieve from the duties of the industrial workforce (Cronnon, 1996; Garza 2021; Machado, 2021; Purdy, 2015; Treuer, 2021). Being in the wilderness became a privilege only for society’s elite. Purdy writes that they “went to the woods to escape aspects of humanity. They created and preserved versions of the wild that promised to exclude the human qualities they despised” (2015, para. 9). This notion incorporated eugenic beliefs and the idea that a great Nordic race was the only one who should have access to such land (Blei, 2020, Purdy, 2015). Eugenic beliefs impacted the ways that environmental education came into practice.

Outdoor Learning & Exclusion

The beginning of the 20th century was marked by outbreaks of tuberculosis across the globe (Blei, 2020). Aiming to accommodate student learning during the tuberculosis pandemic, the first open-air school was opened in Germany. The German school model inspired other countries to do the same, and by 1908, the first open-air school on

American soil was founded in Rhode Island (Blei, 2020). These schools were mainly in urban areas, as it was believed that cities were petri dishes of disease. Between 1908 - 1930, hundreds of open-air schools were in operation to combat tuberculosis outbreaks, but many closed before the turn of the decade (Fesler, 2000). Like the preservation of national parks, the open-air school model grabbed the attention of eugenicists, further segregating the outdoors (Blei, 2020). Eugenicists favored the idea that exposure to nature strengthened human systems and thought the benefits of fresh air could be harnessed to reinforce their favored race.

As the 20th century progressed, the open-air school model born during the tuberculosis pandemic was modified into forest-school models across Europe. Coupled with the draw to pristine wilderness ideologies stemming from a settler-colonial world-view, outdoor education's origins in America were soon underway. The field of ecology began developing during the 1920s (McCrea, 2006). Ecological inspiration in American education led to the first school forest, on American soil, which was founded in Laona, Wisconsin in 1927 (Foundation, 2020). The school forest in Laona, WI was "an outdoor classroom built specifically for learning" ; the first forest school in the U.S. was not founded until the mid 1990s (Foundation, 2020). Conservation education aligned with President Franklin Delano Roosevelt's Civilian Conservation Corps (CCC), which employed men ages 18 to 25 to work on the improvement of American lands (NPS, 2018). The CCC's legislation included language that forbade discriminatory practices based on 'race, color, or creed' (McNeil, n.d.; U.S., 2018). Though well intentioned, the CCC furthered the idea that white, able-bodied men were the face of environmental efforts:

Throughout the years of the program, more than 200,000 African Americans and 80,000 Native Americans served in the program. However, their experience was, in many cases, markedly different from that of their white peers. Under the argument that “segregation is not discrimination,” the CCC failed at its promise of inclusivity (McNeil, n.d., para. 4).

As the 20th century progressed, exclusion remained a hallmark of outdoor education.

History Affects Access

The 20th century marked the birth of many steps forward in modern environmental awareness and education (Machado, 2021; Meerts-Brandsma et al., 2020; Paris & Alim, 2017; Roberts, 2018;). As mentioned in the previous sections, these steps toward environmental awareness, while well intentioned, were rooted in settler-colonial ideologies that discounted any narrative beyond the white, eurocentric norms (Roberts, 2018; Riley 2020). Consequently, these ideologies seeped into the culture and curriculum of the American outdoors (Cronon, 1996).

Today, accessibility and representation in American outdoor spaces still reflect the values of their origin. In as recent as 2018, the Oregon Association for the Education of Young Children observed that nature schools in America still reflect the white, upper class population (Blei, 2020). White people are still the faces presented in nature education. BIPOC individuals are still not being represented in the outdoors (Buhay, 2016; Ezeilo, 2020). Because of America’s sordid history surrounding recreational lands and lack of inclusive advertisement from outdoor gear companies, a narrative has been created to exclude those who are not white, able-bodied, or of upper social standing (Buhay, 2016; Ezeilo, 2020; Meldon, 2017; Mills, 2016; Whitfield, 2020). In addition to

race and socio-economic status, ableism and heteronormativity are hurdles individuals face in the American outdoors (Buhay, 2016; Meldon, 2017; Panisch, 2015; Welcome, 2023). If nature-play, a product of environmental education, is to be incorporated into modern classrooms, educators have to understand and address the issues of the past: “[...] the exclusion of the poor and people of color in parks and other outdoor spaces was a hallmark of the U.S. system as these spaces were founded upon middle- and upper-class sensibilities and eugenicist ideologies about pristine wilderness” (Warren et al., 2014, p. 91). History affects the present.

Conclusion

This section explored the origins of America's national parks, the forest school movement, and early environmental stewardship programs on American soil to illustrate the importance of understanding the history of land to provide an ethical approach to outdoor education. This understanding helps educators expose students to nature that has a complicated history while also exploring its benefits. The next section builds upon this understanding by detailing the relationship between nature and the human body. In the following section, the effects of nature on the human body will be explored.

Relationship Between Nature & the Human Body

Anthropologist Gregory Bateson refers to an “ecology of mind” to explain the human relationship to other living systems as a “living, communicating, and generative whole, all set within a limited Earthly context” (Martusewicz et al., 2021). Many indigenous cultures hold the belief that humans and nature exist in a symbiotic relationship (LaDuke, 1994; Riley, 2020; Tucker et al., 2014). This symbiotic relationship was clouded by settler colonialism, consumerism, and industrialism. Cultural shifts drove

a wedge between humans and nature. This separation can perhaps be best examined through the ways that children have interacted with the outdoors in the past and present times of American history. Specifically, for the purposes of this paper, I explore this via nature as a play setting, access to green spaces, nature's effect on the body, and outdoor access at school.

Nature as a Play Setting

Play outdoors is not a newfound concept, but an inherently indigenous practice (Garza, 2021). Historically, children have learned from the land, exploring the world around them through their five senses, but play's hallmark location has shifted in the last seventy-five years. Children's play used to be associated with play in the outdoors, but Howard Chudacoff, historian, notes this change coincided with the introduction of academic tech toys in the 1950s (Hirsch-Pasek, 2010). He writes, "Commercial toys have almost completely colonized children's free time, [while] for most of history, play primarily meant roaming around the countryside or improvising with objects found or made at home" (p. 12). Being outside has been supplemented with toys that mimic nature instead of nature itself. Increased screen-time due to technological advances is another factor that impacts outdoor time (Darcy et al., 2022; de Figueiredo et al., 2021). According to author and journalist Richard Louv, today's children are lacking "Vitamin N" aka: nature (Louv, 2005). This "nature deficit disorder," as coined by Louv, is widening the gap between children and nature. As the gap between children and nature has grown, children have missed out on the benefits of nature on the human body. What are these benefits and how have they been made available to the American public?

Access to Green Space

Though the outdoors have been shown to aid human health on a multitude of levels (Barrable et al., 2021), having access to nature is a hurdle many people face (Alim & Paris, 2017). This disproportionately affects BIPOC individuals, people with disabilities, as well as people in urban areas (Alim & Paris, 2017). Having access to safe green space is needed in order for people to reap the benefits of spending time outdoors (Kemple et al., 2016; Mozur, 2016; Sikorska et al., 2020). If people do not feel safe outdoors, they won't go outside. Additionally, the cost of outdoor gear, lack of reliable transportation, and lack of walkability to green spaces pose problems for some families (Cohen, 2023; Nedovic & Morrissey, 2013). In this light, school playgrounds can be a safe green space for children living in areas with limited nature accessibility (Nedovic & Morrissey, 2013).

Nature's Benefits on the Body

Nature affects the body in a multitude of ways. Looking at how nature affects human mental health and physical health informs why green space is a valuable resource.

Mental Health. Mental health is one of the factors examined when observing the effects of nature on the human body. When children go outside, a number of positive things happen within their bodies. Research shows that spending time in nature decreases stress, improves the function of bodily systems, and serves as a support for social and emotional health (Mozur, 2016). In a time following global upheaval due to Covid-19, people are turning to the outdoors as a way to decompress. In children, research has shown that quarantine and isolation have contributed to an influx in stress, anxiety, and depression (de Figueiredo et al., 2021). These impacts on children's psyches continue to

affect them as they grow into adulthood. However, exposure to sunlight has been shown to decrease the effects of these neurological conditions due to the sun's aid in the bioavailability of vitamin D (de Figueiredo et al., 2021). It is therefore surmised that allowing children to spend time outdoors will positively affect their health due to sun exposure (de Figueiredo et al., 2021).

Further research supports outdoor access as a way to cope with the anxiety and stress that accompanies a post-pandemic world (Capaldi et al., 2014; Darcy et al., 2022). During early childhood, a child's brain is going through many changes. In fact, most of their brain development occurs between the ages of birth to five. In this light, the pandemic's isolation more than likely impacted children's social-emotional development and brain plasticity (de Figueiredo et al., 2021). Engaging in social interactions within natural environments post-pandemic will help children process the changes that have taken place in society following Covid-19, understand relationships and gain empathy toward their peers, and their sense of wonder and imagination (Barrable et al., 2021; Cohen, 2023; Darcy et al., 2021; Nedovic & Morrissey, 2013). To add to the effectiveness of social interaction within the outdoors, mindfulness is something that researchers have concluded to be influential (Barrable et al., 2021; Barrera-Hernández et al., 2020; Capaldi, 2014; Darcy et al., 2022). Mindfulness is the practice of grounding the body by incorporating sensory inputs from the five senses to glean information about the environment a person finds themselves in.

Physical Health. Physical health factors in children are also impacted by spending time outdoors. Two notable benefits of nature on the physical well-being of the human body are improved sleep quality and physicality (Darcy et al., 2022; Mozur,

2016). Being outside provides sensory stimuli that help to improve focus and fight fatigue (Cohen, 2014; Darcy et al., 2022; de Figueiredo et al., 2021). This is because children are using all five of their senses to experience the natural world. Additionally, children's physically active play outdoors "[...] increases lung function; contributes to muscle, bone, and joint health; and strengthens the heart. It also increases the flow of oxygen-rich blood to the brain, benefiting brain function" (Kemple et al., 2016, p. 4). When engaging in play outdoors, children are often given more chances for "risky-play" that enhances their cognitive functions, large and fine motor skills, as well as their agility (Cohen, 2014; Harvard, 2015; Kemple et al., 2016; Louv, 2008; Toole, n.d.; Yogman et al., 2018). With childhood obesity on the rise, engaging in play outside can also help children maintain healthy weight ranges (Kemple et al., 2016). Childhood obesity affects BIPOC children more than their white peers (Mozur, 2016), which can be linked back to the limited accessibility of safe green space within urban areas (Mozur, 2016; Sikorska et al., 2020; Zwierzchowska & Lupa, 2021).

Outdoor Access at School

Given the issue of limited accessible, safe green space in urban areas, school playgrounds provide important access to nature. However, in recent years, children's access to outdoor spaces during the school day has decreased significantly (Finn et al., 2018; Louv, 2008). The decrease of outdoor recess is directly related to the increased emphasis on testing scores. Coupled with the aftermath of Covid-19 pandemic, society is being confronted with the pressure to "make up for lost time." This mindset has transcended into American schooling.

Recess and outdoor recreation during the school day is being cut down to allow for more structured academic time (Longhine, 2022). Limited outdoor access during school hours poses a problem because it removes the opportunity for children to incorporate play and learning. Marie Montessori, founder of the Montessori pedagogy, believed that the mind and body could not be educated separately. Montessori viewed learning as an integration of thinking and moving (Brooks, 2018). When viewed as a kinetic element to learning, moving during the school day takes on an important role. Viewed through this lens, recess during the school day becomes a vital resource (Yogman et al., 2018).

Conclusion

The mental and physical benefits of outdoor play as it relates to child development have been reflected upon by examining research surrounding nature as a play setting, access to green spaces, nature's effect on the body, and outdoor access at school. Accessibility, safety, and the limitations of a post-pandemic society pose the greatest challenges to students, especially BIPOC children and children who live in urban areas.

In the next section, the ways in which the implementation of standardized testing has shaped current educational practices in America will be examined. As observed in the history of outdoor education and the benefits of nature on the body, BIPOC individuals are often at a disadvantage compared to their white peers. The inequity in comparison to their white peers is also evident in how standardized testing affects BIPOC students. Knowing these factors will give insight for educators wanting to incorporate nature-based play into their classrooms by responding with a culturally-responsive approach.

Standardized Testing in the United States

As observed in the history of outdoor education, standardized testing also disproportionately affects students of color and students who are not able-bodied or have additional learning needs. Knowing the history of standardized testing in the United States is important for educators looking to incorporate nature-based play practices into their classrooms because it provides context as to how present educational practices came to be. Modifications of early educational laws passed by the federal government are still in practice. Over the last fifty years, educational practices have trended toward more structured academic time for children instead of open-ended, outdoor play. The consequences of not prioritizing this type of play in childhood is being observed in American schools:

More and more teachers and parents everywhere are reporting that children are starting to fall out of their seats in school, are becoming more aggressive and easily frustrated, are having trouble paying attention, are showing more anxiety, and are spending less time in imaginary play than ever before. These symptoms are due in part to underdeveloped motor and sensory skills, which leave children underprepared for academics and overwhelmed by daily life and social situations...Scientific and anecdotal research suggests that most of these behaviors are the result of not spending enough time in active free play outdoors (Hanscom, 2016, pp 2-3).

Sacrificing play time for instructional learning time has put children at a disadvantage because they are lacking the sensory, motor, and social emotional skills needed to process academic information. Lilian G. Katz, Professor at the University of Illinois, states

While early formal instruction may appear to show good test results at first, in the long term, in follow-up studies, such children have had no advantage. On the contrary, especially in the case of boys, subjection to early formal instruction increases their tendency to distance themselves from the goals of schools, and to drop out of it, either mentally or physically (Almon & Miller, 2011).

Rushing children toward academic knowledge in the interest of better testing scores does not honor child development. This section will explore the history of educational policies in the United States, current educational policies and their impact on students, and how the United States education system differs from others around the globe.

Tracking Origins & Social Reinforcements

Tracking, which separates students based on levels of difficulty, reflects class systems within schools (Martuesewicz, 2011). A student's track is often determined by a mix of test scores, teacher recommendations, and feedback from guidance counselors (Martuesewicz, 2011). The practice of tracking developed at the turn of the 20th century, stemming from the industrial revolution's job demands (Katz, 2022). Businessmen looking to recruit high school students for factory positions "didn't believe that working class students could do the academic curriculum, and they certainly didn't want to raise the expectations of working class students [so] that they could aspire to professional jobs" (Martuesewicz, 2011, p. 144). Tracking involves placing students in different classes separated by levels of difficulty (Martuesewicz, 2011). These levels of difficulty are often given labels like "honors," "standard," or "basic" (p. 144)

When World War II began, the system of separating students into tracks only increased. College-bound students in honors tracks were often from middle and

upper-class families, meaning that those who were low-income, and often minority, defaulted to military service (Martuesewicz, 2011). The Cold War against the Soviet Union put additional pressure on the American government because officials worried that the United States was falling behind scientifically. This pressure incited fear that

[...] was not just about national defense in the narrow sense of weapon building, but in the larger sense of economic power. Other countries, especially some in Asia, seemed to be gaining on us, and officials feared we might lose our economic as well as military dominance. Other countries were gaining, the story went, because their schooling system was more demanding than ours, so they were producing better scientists and technologists and more people willing to commit themselves to hard work. (Gray, 2022, section 6)

Following the launch of Sputnik in 1957, The National Defense Act was passed. The act was focused on pushing high-achieving students into the STEM (Science, Technology, Engineering & Math) field (Martuesewicz, 2011).

Standardized Testing & Title I

During the 1950s, education in America began making changes to compete with the Soviet Union. The United States government's passing of the The Elementary and Secondary Education Act of 1965 (ESEA) was based on attempts to surpass Russia as a world superpower (Clyburn, 2021). The ESEA used standardized testing to get feedback on school districts. Standardized testing was, in part, inspired by tracking practices. The ESEA focused on closing achievement gaps, founded educational statistics on standardized tests, and penalized schools by withholding Title I funding if they failed to meet national standards (Clyburn, 2021). Title I is a federal education program that

supports low income students in the American school system (Washington, 2022). If school districts did not meet certain criteria based on standardized testing scores, the districts would lose federal funding. President Lyndon B. Johnson signed the act in hopes of bridging the education gap for low-income children (Zelizer, 2015). Head Start and the Higher Education Act were signed soon after the ESEA. Changes implemented by these acts still affect education today.

However, the dream of closing the education gap did not come to fruition the way those in favor of them hoped: “Despite the hundreds of millions of federal dollars spent, the widespread challenges faced by children from low-income families in America remain extraordinarily difficult to tackle as they continue to struggle with vastly inadequate educational opportunities” (Zelizer, 2015, para. 3). During the Reagan era, conservative politicians dubbing Johnson’s ideals as “reckless welfare spending,” effectively drew back support from ESEA efforts, (Zelizer, 2015, para. 15). Unfortunately, the negative social narrative surrounding government aid continued to push low-income students farther away from their wealthier peers.

No Child Left Behind & Every Student Succeeds Act

In 2002, President George W. Bush signed into law the No Child Left Behind Act (NCLB). Inspired by the notion that the United States was falling behind academically , the NCLB Act was the 2000s renewal of Johnson’s ESEA (Klein, 2015). However, instead of allocating resources to low-income students and their families within school districts, the NCLB introduced extensive standardized testing in attempts to close achievement gaps (Klein, 2015; Zelizer, 2015). Standardized tests introduced by the NCLB focused on grades 3rd - 8th, and “[...] put a special focus on ensuring that states

and schools boost the performance of certain groups of students, such as English-language learners, students in special education, and poor and minority children, whose achievement, on average, trails their peers” (Klein, 2015, section 3). Testing focused mainly on mathematics, science, and English-Language Arts (NCEE, 2009). If schools failed to meet the NCLB testing benchmarks, their Title I funding would be taken away. Title I funding is directly affected by a school's testing scores. To prevent funding loss, teachers found themselves diverting resources from other scholarly endeavors for more test prep (Zelizer, 2015). The loss of learning time in order to meet standardized testing benchmarks and the increase of the federal government’s hand in state education were two of the major stumbling blocks of the initiative (Klein, 2015).

In 2015, the Obama administration reformed the NCLB and replaced it with the Every Student Succeeds Act (ESSA) that currently informs the teaching and learning of American students (Zelizer, 2015; Conversation, 2015). In an effort to hold states accountable, the ESSA focuses on four main categories (Lee, 2022, At a glance section, para. 3):

- Students in poverty
- Students of color
- Students receiving special education services
- Students who speak and understand limited or no English

In addition to these four categories, schools are able to choose a fifth category for inspection. These options for category five are (Lee, 2022, School accountability section, para. 6):

- Kindergarten readiness
- Access to and completion of advanced coursework
- College readiness
- Discipline rates
- Chronic absenteeism

Under the ESSA, parents and caregivers have the ability to give feedback on their state's education plans (Lee, 2022). Additionally, educational standards have passed from federal to state regulations (Conversation, 2015). In spite of efforts to make America's education laws more equitable, the ESSA still focuses on K-12 standardized testing like its predecessor NCLB. Because school funding is still based on test scores under the ESSA, critics of the bill worry that disadvantaged students will still be left behind (Conversation, 2015). In contrast to the ESEA of 1965's focus on addressing poverty, social equity, and early learning opportunities, today's bills are focused on testing (Conversation, 2015; Zelizer, 2015).

The United States is Falling Behind

Currently, thirty countries surpass the United States in math at the high school level (Amadeo, 2023; PISA, 2018; Tucker, 2021). The United States is also outranked in science by many countries (Amadeo, 2023; Tucker, 2021). These statistics are based on results from tests from the Program for International Student Assessment (PISA), which is administered by the Organization for Economic Cooperation and Development (OECD) (Amadeo, 2023). The PISA test compares scores of 15-year olds across multiple nations (Amadeo, 2023). There is worry that if American children continue to fall behind other nations, the United States workforce will suffer economic consequences. Advances

in technology only increase this concern (Amadeo, 2023). Marc Tucker writes, “We now have the worst-educated workforce in the industrialized world. Because our workers are among the most highly paid in the world, that makes a lot of Americans uncompetitive in the global economy” (2021, para. 2). The emphasis on STEM with the rise of standardized testing furthers the education gap and excludes marginalized groups. This is because minority groups, such as women, BIPOC individuals, and students of lower socioeconomic status tend to leave STEM positions at a higher rate than their upper-class, white, male peers. Additionally those from low-income backgrounds tend to perform worse on standardized tests (Clyburn, 2021).

As discussed in previous sections, BIPOC students, students with additional needs, and students with lower socioeconomic backgrounds have historically been marginalized when it comes to academics, resource availability, and accessibility. This marginalization has been woven into educational systems in the United States, creating learning gaps between students. When looking at the research question, *how can early childhood educators incorporate nature-based play into school settings that are heavily focused on academic assessment*, social equity and structural equality have to be taken into consideration to make outdoor programming accessible for all children, regardless of their needs or backgrounds.

Social equity and structural equality are both staggering problems in the United States (Amadeo, 2023). Because of this, worry surrounds America’s place in the global workforce. Historically, workplace success has been tied to educational attainment, which is directly correlated with socioeconomic status. It is a cycle: resources seem to lack and

fall short in America, putting children in poverty on a futile path as adults (Kwon, 2015).

What are other countries doing that makes them successful?

Other Countries Strategies

Compared to other developed countries, the United States is investing less in its people when it comes to education (Amadeo, 2023). Marc Tucker writes that

[...] The most important thing that distinguishes education in our states from education in these other countries is that all of them have systems of education that hang together, systems that are coherent, in which each policy supports the other policies at every level of the system, from the classroom to the top of the ministry of education. (2021, para. 6)

The United States does not have anything remotely similar to this structure in place currently (Tucker, 2021). Tucker goes on to write that if such systems were to be implemented, a shift in the culture of education would need to occur, and research shows that these kinds of massive changes take “ten to twenty years to fully integrate” (2021, para. 8). Many Americans are under the impression that the United States is outranking other countries, but that is not the case (Amadeo, 2023).

As other countries' scores are rising, American test scores, particularly in math, have remained unchanged for the past forty years (Amadeo, 2023; Tucker, 2021). Notably, countries whose scores have improved include Japan, Poland, and Ireland. All three countries place a high value on early childhood education (ECE). Interestingly, the ECE programs in these countries prioritize play, child-led discovery, and connection with nature (May, 2017; Mountain, 2019;

Nakatsubo et al., 2021; Néill, 2020; Zwierzchowska & Lupa, 2021). Significant developmental leaps occur in the first five years of life that affect children for the rest of their lives (Conversation, 2015; Kwon, 2015; Lubens et al., 2012; Yogman et al., 2018). Investing in whole child practices within the realm of ECE should pique American interest.

Conclusion

Knowing the history of standardized testing in the United States is important for educators looking to incorporate nature-based play practices into their classrooms because it provides context as to how present educational practices came to be. This section explored the history of educational policies in the United States, current educational policies and their impact on students, and how the United States education system differs from others around the globe.

In comparison to other countries, the United States is falling behind educationally, which has future economic implications. Research shows that investing in early childhood education programs may be of vital importance to improving the overall quality of American education. Other countries, such as Japan, Poland, and Ireland have placed emphasis on early childhood education programs, and their PISA test scores have risen while America's have remained stagnant. Looking into the practices of Japan, Poland, and Ireland, it was discovered that all three countries place importance on play, child-led discovery, and connection with nature. Can American education follow suit and implement play, discovery, and nature in their ECE programs in hopes of improving the narrative of education in America? Moving forward with this idea, what role does play

fill in childhood development? In the following section, research surrounding the role of play in childhood development will be discussed.

Play & Its Role in Development

As defined in Chapter One, play is an “[...] activity that is (1) self-chosen and self-directed; (2) intrinsically motivated; (3) guided by mental rules; (4) imaginative; and (5) conducted in an active, alert, but relatively non-stressed frame of mind” (Gray, 2013, para. 6). In conjunction with these five factors, play also “results in joyful discovery...[and] is fun and often spontaneous” (AAP, 2018, para. 1.2). Play is at the core of childhood development. It is through play that children learn and grow, discovering the world around them (Hirsh-Pasek et al., 2010).

Play has been studied as an evolutionary trait in both animals and humans (Bekoff, Allen 1997). *Animal Play: Evolutionary, Comparative, and Ecological Perspectives* presents a compilation of research surrounding the functions of play in multiple species. As observed in animal behavior, play is how juveniles explore the world around them (Harris, 2017; Hirsh-Pasek et al., 2010). Being animals themselves, children are born with an inherited drive to play – to explore, take risks, and move. It is the foundation of how children learn to operate their bodies, explore the physical realm, and collect information on the social and cultural messages pulsing around them (Wisconsin, 2019; Yogman et al., 2018). Childhood psychologists and pediatric specialists find the act of playing critical to childhood development:

Play is fundamentally important for learning 21st century skills, such as problem solving, collaboration, and creativity, which require the executive functioning skills that are critical for adult success. The United Nations Convention on the

Rights of the Child has enshrined the right to engage in play that is appropriate to the age of the child in Article 21. (Yogman et al., 2018, introduction)

There are different types of play. Some of these categories are play with objects, outdoor play, physical play, and sociodramatic play (Bodrova & Leong, 2003; Yogman et al., 2018). Within these categories, guided and unguided play are recognized, as are different levels of play (Bodrova & Leong, 2003; Sussman, 2012). In the following paragraphs, these different types of play and their roles in child development will be discussed.

Categories of Play & Their Benefits

Sociodramatic play allows children to build skills in communication, negotiation, creative-thinking, multi-tasking, and problem-solving (Bodrova & Leong, 2003; Waterford, 2021; Wisconsin, 2019; Yogman et al. 2018). When children engage in sociodramatic play (ie: imaginative pretend play or dramatic play), they are acting out situations they've observed in the world around them. In doing this, children are able to process situations and work alongside their peers, regulating the pretend situations with real-life skills (Berkowicz & Myers, 2014).

Play with objects is playing with props (Bodrova & Leong, 2003; Sussman, 2012; Yogman et al. 2018). When children play with objects, it allows them to use their imaginations to make one item into another. One kind of object play is block play. In block play, children are given wooden shapes as their play catalyst. The blocks can be used to build structures, which works spatial-awareness skills, hand-eye coordination, fine motor skills, and teamwork. Additionally, blocks can be used as different items in prop play (Bodrova & Leong, 2003). An example of this would be a child using a rectangular block as a cellphone or a circular block as a cookie.

In physical play, children use their bodies to take risks in a safe environment, much like baby animals do (Yogman et al., 2018). Examples of physical play include children climbing, running, and/or jumping. These activities are all based on working their gross motor skills, which help children learn spatial skills, bodily awareness, balance, and reflexes (Bodrova et al., 2013; Lubans et al., 2012; Shafer, 2018; Yogman et al., 2018). One study observed that play can also simulate the brain's "fight or flight" functions without the stress release response. This allows children to practice handling dangerous situations without the risk of harm (Shafer, 2018). An example of physical play could be children crawling up a steep hill to get away from their peers while playing "monster tag." The steep hill would invite problem solving skills and balance; the running portion would allow for cardiovascular strengthening as well as gross motor coordination; and the imaginary situation of being caught by their peer playing the "tag monster" would heighten their senses, mimicking danger while allowing their brains to problem solve in a safe, controlled environment.

Outdoor play uses natural areas as the setting for play. Being outdoors allows children to experience a multitude of different sensory inputs while participating in playful activities (Kemple et al., 2016; Ó Néill, 2020; Rosenow et al., 2022; Yogman et al., 2018). While there are many physical benefits of outdoor play, there are also mental benefits to playing outdoors (Harris, 2017; Kemple et al., 2016; Lubans et al., 2012; Ó Néill, 2020). Research shows that children have improved focus, self-regulation, and concentration after playing outdoors (Bodrova et al., 2013; Kemple et al., 2016; Ó Néill, 2020). When framed as essential to a child's ability to concentrate and focus, recess during school becomes an important part of the school day (Ó Néill, 2020; Waterford,

2021; Yogman et al., 2018).

Two Types of Play & Play Progression

Guided Play. Guided play is play which has its parameters set up by teachers or adults (Bodrova & Leong, 2003; Hirsh-Pasek et al., 2010; Shafer, 2018; Sussman, 2012; Yogman et al., 2018). In guided play, “[...]children feel free to explore while the teacher makes sure that they encounter certain content” (Hirsh-Pasek et al., 2010, p. 54). By implementing adult guidance within play, children can learn different strategies and skills by observation. Examples of guided play include teachers providing realistic play food for dramatic play, introducing play themes, scaffolding activities, and brainstorming with children (Bodrova & Leong, 2003; Shafer, 2018; Yogman et al., 2018). Guided play is also foundational in building secure bonds between children and their grown-ups (Yogman et al., 2018). This is because it allows for co-regulation, stress relief, and positive relationship building (Central, 2021; Hirsh-Pasek et al., 2010; Yogman et al., 2018). It is important that adults let children lead which direction the play ideas go (Gray, 2008).

Unguided Play. In contrast, unguided play is child-led and free from adult input (Yogman et al., 2018). Unguided play is also known as ‘free play’ or ‘child-directed play’ (Hirsh-Pasek et al., 2010; Seattle, 2023). When participating in free play, children are able to have complete control over their play scenarios. Children participating in free play work on their executive functioning skills, which is critical for learning. Additionally, “children have been shown to discover causal mechanisms more quickly when they drive their learning as opposed to when adults display solutions for them” (Yogman et al., 2018, Implications for Preschool Education section, para. 1). Research shows that

children benefit from both guided and unguided play (Brodova & Leon, 2003; Brodova et al., 2013; Hirsh-Pasek et al., 2010; Nakatsubo et al., 2021; Yogman et al., 2018). As children mature, so do their play scenarios (Brodova & Leon, 2003; Hirsh-Pasek et al., 2010; Sussman, 2012). Mature play occurs in older preschool children and elementary-aged children (Brodova & Leon, 2003; Brodova et al., 2013). In this type of play, a child's play scenarios may last days or weeks, and sometimes it can be looked at as different 'episodes' each time a child returns to their play scenario (Brodova et al., 2013).

Different Levels of Play

Various scholars have noted different levels of engagement when children's play is observed (Brodova et al., 2013; Paper, 2019; Rymanowicz, 2015; Sussman, 2012). Known as "Parten's Six Stages of Play," one outline was developed by Mildred Parten, American sociologist and researcher at the University of Minnesota's Child Institute (Paper, 2019; Rymanowicz, 2015). Within this outline, the progressions of play are noted.

The first stage of play is known as unoccupied play, where a child is simply observing and not actively participating in the play scenario at hand. This type of play tends to occur in younger children and is important because it gives the child a chance to know their space and the materials available to them (Brodova et al., 2013; Paper, 2019; Rymanowicz, 2015; Sussman, 2012).

In the second stage of play, called *solitary play*, or sometimes referred to as independent or solo play, children play by themselves, giving little attention to what is going on around them. While engaging in this type of play, children are able to master

new skills and prepare themselves to play with their peers in the future (Brodova et al., 2013; Paper, 2019; Rymanowicz, 2015; Sussman, 2012).

Onlooker play, the third stage of play, involves children actively watching what is occurring around them. As children observe what is happening around them, they are able to pick up on social situations, learn relationship dynamics, or discover a new way to use an object (Brodova et al., 2013; Paper, 2019; Rymanowicz, 2015; Sussman, 2012).

In the fourth stage of play, *parallel play*, children play side-by-side but do not engage with other children directly. In parallel play, children are able to get acquainted with their peers, materials, and the environment around them without social pressures (Brodova et al., 2013; Paper, 2019; Rymanowicz, 2015; Sussman, 2012).

Stage five play, called *associative play*, occurs in older children as their focus shifts from the object of their play to other players near them. In associative play, children take the skills they have learned from the first four stages of play and are able to bounce ideas off their fellow peers or teachers as they engage in activities (Brodova et al., 2013; Paper, 2019; Rymanowicz, 2015; Sussman, 2012).

Lastly, the sixth stage of play, known as *cooperative play*, consists of children forming guidelines, rules, and scenarios in conjunction with their peers. Negotiation between players happens often in this stage, leading to conflict. Conflict between children in this stage of play allows them to practice problem-solving, communication skills, goal setting, and emotional regulation. Because of the intensity of negotiations, this stage of play is mostly seen in older children, since younger children are still in the process of learning how to identify their emotions (Brodova et al., 2013; Paper, 2019; Rymanowicz, 2015; Sussman, 2012). The first four stages of play are often looked at as “immature

play,” while stages five and six are often associated with “mature play” definitions (Brodova & Leon, 2003).

Conclusion

In this section, play was defined and looked at as a skill vital to childhood development. During play, multiple things take place in a child’s mind and body, allowing them to explore what is happening around them in a safe environment. While playing with adults is socially beneficial to children, it is child-led play that gives children the opportunity to make important discoveries about themselves. Placed in a natural environment, play integrates extra sensory experiences that contribute to its effectiveness in childhood development (Kemple et al., 2016; Ó Néill, 2020; Rosenow et al., 2022; Yogman et al., 2018).

Chapter Conclusion

The previous chapter included research on the history of outdoor education, nature’s effects on the human body, the role of standardized testing in the United States, as well as the role of play in childhood development. Knowing the history, content, and context of each of these topics informs ideas related to the question: *how can early childhood educators incorporate nature-based play into school settings that are heavily focused on academic assessment?* In the next section, Chapter Three, I will present the outline for the professional development course I’ve designed. This professional development course aims to equip early childhood educators with tools and resources for including nature-based play into their curriculums.

CHAPTER THREE

Project Description

Introduction

With the American public school systems' emphasis on standardized testing, pressure to incorporate academic skills earlier in early childhood education has led to a decrease in play and outdoor recreation time for students. Research shows that play is integral to childhood development and play's benefits are increased when children are able to do so outdoors. My project aims to emphasize the connection between children and nature-play by asking, *how can early childhood educators incorporate nature-based play into school settings that are heavily focused on academic assessment?* This chapter will outline the professional development (PD) series created to assist in answering this question. In this chapter, the professional development series' description, format, setting, materials, and intended audience will be overviewed. Additionally, the project's timeline, feedback collection, and resources for adult learning will be discussed.

Project Overview

The following sections will look at the general framework of the PD series, including the intended audience, learning formats, meeting times, and topics involved in the PD series. Adult learning practices will also be discussed, as they are important for effective training. The timeline for the PD series, its setting, and assessment practices are also included.

Professional Development Framework

For this project, I created a professional development (PD) series for early childhood educators looking to incorporate nature-based play practices into their

classrooms. Early childhood education typically focuses on ages birth through eight, but for this professional development series, early childhood educators who teach ages two through eight are the primary audience. Created with teaching cohorts in elementary schools, preschool teachers, and childcare center staff in mind, this series consists of group discussions as well as individual assignments. Those working in early childhood education within urban settings are the primary audience.

This professional development series consists of six in-person meetings with three weeks separating each meeting. In between meetings, participants are tasked with reviewing resources on the topic presented for that month, completing assignments surrounding said topic, and the opportunity to discuss the topic with the other participants.

The four areas discussed during the professional development are: the history of outdoor education in America, the effects of nature on the human body, standardized testing and current educational practices in early learning environments, and play's role in child development. One meeting period will be allotted to each topic. In addition, an introduction and closing meeting bookend the series.

Enrollment in this series counts toward professional development hours that teachers in licensed child care centers, public schools, and private schools usually need to complete as part of their contract or to maintain their teaching licenses. To accommodate busy schedules, the in-person meetings occur in the morning on the first Saturday of each month.

Adult Learning Principles

For this professional development series to be beneficial to its participants, looking at adult learning principles was necessary. Adult learning principles are practices that have been shown to best engage adult learners. Sources examined for effective adult learning strategies were "Effective Teacher Professional Development" by Darling-Hammond et al. (2017); *Workshops: Designing and Facilitating Experiential Learning* by Jeff Brooks-Harris and Susan Stock-Ward (1999); and the NAEE's (North American Association for Environmental Education) Natural Start Alliance online teaching resources (2019).

"Effective Teacher Professional Development" by Darling-Hammond et al. (2017, p. 4) identifies seven elements of effective professional development design:

- Is content-focused
- Incorporates active learning utilizing adult learning theory
- Supports collaboration, typically in job-embedded contexts
- Uses models and modeling of effective practice
- Provides coaching and expert support
- Offers opportunities for feedback and reflection
- Is of sustained duration

To ensure the success of this professional development, my goal was to incorporate as many of these factors as possible, while also relating the topics at hand to the educator's own experiences.

In addition to the seven characteristics outlined above, strategies from the book *Workshops: Designing and Facilitating Experiential Learning* by Jeff Brooks-Harris and

Susan Stock-Ward (1999) were implemented, particularly, the first chapter's overview of David Kolb's 1984 model of experiential learning. According to the book, Kolb's experiential learning model includes four learning elements: concrete experience, reflective observation, abstract conceptualization, and active experimentation (1999, p. 12). All four elements can be combined for successful learning. Using Kolb's 1984 model as inspiration, authors Brooks-Harris and Stock-Ward present three major steps to successful workshop development: understanding the workshop's participants, developing an appropriate layout for the subject covered and intended audience, and presenting the information in an engaging way. These three major components are implemented in the design of this professional development series.

Using the seven elements of effective professional development design and the three major steps for successful workshop development together serve as the outline of this professional development series. Additionally, these workshops incorporate strategies from the NAEE's Natural Start Alliance (2019) summary of teaching practices outline. These practices are focused on nature-based, whole-child approaches to learning. Educators will be encouraged to use these practices as they work through the program. Though aimed at children's learning, I believe that the NAEE's Natural Start Alliance's summary of practices document can provide insight into adult learning as well, especially with regard to modeling exercises, group collaboration, and the classroom application assignments of the workshop.

PD Timeline and Setting

Since professional development is implemented best over a duration of time with breaks between sessions (Darling-Hammond et al. 2017), that is the format of this

project. This professional development workshop takes place over the course of six months, with in-group sessions taking place on the first Saturday of each month. The first meeting takes place the first weekend in January, following return from winter break and goes until the first weekend in June, which is one week prior to the end of the school year.

Meetings run from 9:00 am - 12:30 pm. They follow this format:

- 9:00 am - 9:25 am: Check-in, warm-up activities
- 9:25 am - 10:00 am: Review on previous topic; questions / insights from assignments
- 10:00 am - 10:10 am: Break
- 10:10 am - 10:30 am: Partner discussions on topic
- 10:30 am - 11:00 am: Group discussion
- 11:05 am - 11:10 am: Break
- 11:10 am - 11:30 am: Classroom incorporation brainstorming
- 11:30 am - 12:00 pm: Reflection; brief introduction to next topic
- 12:00 pm - 12:30 pm: Lunch; opportunity to ask individual questions of facilitator

Light snacks were provided for participants, but participants were required to pack their own lunch. A ten- minute break was held at 10:00 am and lunch was from 12:00 pm - 12:30 pm. Childcare was made available depending on the needs of the group participating in the professional development. These arrangements were made during the sign-up process and are dependent on collaboration from the business or school

attending. The in-person meetings took place on the following dates and encompassed the following themes:

- January 6, 2024: 1st meeting when school returns from winter break (intro meeting / intro to History of Outdoor Education)
- February 3, 2024: 2nd meeting (topic 1 reflection / intro to Nature's Effects on the Human Body)
- March 2, 2024: 3rd meeting (topic 2 reflection / intro to Standardized Testing and Current Education Practices)
- April 6, 2024: 4th meeting (topic 3 reflection / intro to Play's Role in Childhood Development)
- May 4, 2024: 5th meeting (topic 4 reflection / feedback forms introduced/ final take-away assignment: lesson ideas and nature-based play practices in own classroom)
- June 1, 2024: 6th meeting (reflection on study as a whole; feedback; share classroom incorporation ideas; provide additional resources for teachers to look back on)

Since the primary audience was early childhood educators who teach in urban settings, in-person sessions were held at a local nature center that has a classroom available for rent. This nature center is accessible from interstate I-94 in Minneapolis and is situated near the banks of the Mississippi River. I chose this location for its accessibility to urban educators, its proximity to nature areas, and its classroom and educational facilities.

Given the primary audience and setting of this project, early childhood educators working within the North Minneapolis area will be offered sign-up opportunities first.

Meetings incorporated time both inside and outside, so appropriate gear for weather was necessary for participants. Additionally, participants needed access to the internet, a notebook, and a writing utensil. Reading and viewing materials were provided for free in an online format. Keeping in mind the three major steps to successful workshop development (Brooks-Harris & Stock-Ward, 1999), participants filled out intake forms and state whether they need access to outdoor gear, car pooling, and/or accommodations for the duration of the professional development series.

Assessment

Given that this is a pilot program for my professional development series, feedback from participants was needed. Feedback from participants was gathered via anonymous forms (either on paper or electronically), from comments given to the facilitator of the professional development workshops, and an online focus group with the facilitator of the program.

Conclusion

This chapter presented a general overview of my professional development series, aimed at answering the question, *how can early childhood educators incorporate nature-based play into school settings that are heavily focused on academic assessment?* The overview of the professional development series included its proposed time frame, primary audience, setting, and topics discussed. Additionally, resources on adult learning were referenced to give insight about how the professional development series will be structured to best support adult learners.

As an early childhood educator myself, I have seen how balancing academic readiness with nature-based play in education settings can be a daunting task. My hope is

that this program gives early childhood educators tools and ideas for incorporating the outdoors into their classrooms, making play the primary method of learning, and honoring the histories of the lands they are teaching on. Encouraging teachers to learn alongside their students and embrace nature within urban settings is another goal I hope to achieve through this series. Nature has so much to offer and I want to equip early childhood educators with the mindset that they and their students have a place in the outdoors.

Chapter Four reflects on the planning and implementation of my professional development series, feedback and assessments of the series, as well as questions and hopes for the project's future.

CHAPTER FOUR

Project Reflection

Introduction

This professional development series focused on the question *how can early childhood educators incorporate nature-based play into school settings that are heavily focused on academic assessment?* American early childhood education has shifted in the past fifty years, unearthing friction between how children learn and the level of information being presented to them. Children learn through play and movement, but modern education practices have them learn through worksheets and projects that are not developmentally appropriate. As a result of this shift, my research question inspired a set of workshops for teachers looking to incorporate more nature-based play in their classrooms. The design for this set of professional development workshops is based on four separate topics related to child development and nature-based practices: the history of outdoor education in America, the effects of nature on the human body, standardized testing and current educational practices in early learning environments, and play's role in child development. The goal of the project was to provide early childhood educators with background knowledge on each of these topics so they could incorporate nature-based play into their learning environments ethically and empathetically.

In Chapter Four, I will share pertinent findings from the project's development, highlight important connections from the literature review, and overview limitations and implications of the project. Finally, I will expand upon the future of the project's research and the way in which it benefits the field of early childhood education.

Pertinent Findings

The idea of creating a professional development series from scratch was a daunting task. Given that my expertise is in early childhood education, I had a very faint idea of what education for adults is supposed to look like. To create my professional development series, I consulted multiple texts focused on adult education and drew from time spent in professional development workshops. I underestimated the details that go into designing a course aimed at adult education. Things I've taken for granted at past workshops I've attended became important details: for example, having extra pens on hand for participants, snacks, and extra sticky notes can be the difference between a good workshop experience and a great one. After completing this project, I have earned a newfound respect for workshop facilitators and designers.

My project's goal was to provide early childhood educators with resources to incorporate nature-based play practices into their classroom settings, focusing specifically on how modern education standards in America have decreased children's opportunities for nature-based play during the school day. At the end of the workshop series, my participants submitted a nature-based lesson plan for their own classroom by incorporating the resources provided to them during the workshop.

Finding #1: How Adults Learn

The first discovery I made during the development of my project was an adult's motivation for learning is much different from a child's. Consulting David Knowles' text *The Adult Learner*, I learned that "Adults are motivated to learn to the extent that they perceive that learning will help them perform tasks or deal with problems that they confront in their life situations" (Knowles et al., 2005, p. 67). In contrast, children learn

by doing and are task-oriented in their approach to learning. Keeping this in mind, I leaned heavily on the 20/80 rule found in *The PD Book: 7 Habits that Transform Professional Development* by Elena Aguilar and Lori Cohen. The 20/80 rule states that during a workshop session, 20% of the information should be new to the participants, while the other 80% should be reflective and focused on connections to the participants' previous learning. Many of the prompts and assignments created for my professional development series focused on participants connecting the information provided to their own lived experiences.

On this note, the concept of experiential learning was also critical to the development and design of my project. *The Adult Learner* (Knowles et al, 2005) provided many examples of how to incorporate experiential learning into the adult learning process. David Knowles writes in the book, "The resource of highest value in adult education is the learner's experience. If education is life, then life is also education" (p. 37). This quote served as a lighthouse as I wrote out the slide shows, collected resources, and organized assignments for my workshop participants.

Finding #2: Designing a Workshop

As an educator, I've attended my share of workshops, professional developments, and lectures, but I have never designed and implemented my own. To begin my design process, I reflected on the education events I've attended and tried to glean a sense of where to start. I recently completed a workshop series with my teaching cohort, so I looked over the resources and guidebook from that series for ideas on how to format my own information. Additionally, I looked at resources from past grad school courses. Looking at the way past professors have formatted questions, written their syllabi, and

organized course websites provided useful insight. The texts I consulted in addition to these materials included *Workshops: Designing and Facilitating Experiential Learning* by Jeff E. Brooks-Harris & Susan R. Stock-Ward and *The PD Book: 7 Habits that Transform Professional Development* by Elena Aguilar and Lori Cohen. Both of these texts had tips and examples for formatting slide shows, conducting community building exercises, outlining a meeting agenda, and creating a workshop pacing guide as well as facilitating a session meeting.

Finding #3: Timing is Everything

In *The PD Book: 7 Habits that Transform Professional Development* by Elena Aguilar and Lori Cohen, the authors urge workshop facilitators to plan for more time than they anticipate they'll need (p. 158). I took this tip to heart when creating my workshop session agendas, building in an additional five minutes to each activity. Poor time management in group settings is something I've experienced. For example, the sessions of the workshop series I participated in with my teaching cohort ended up going fifteen to thirty minutes over time. Discussions were so rich and detailed that they took extra time, but the facilitator did not build in buffer time, which caused our meetings to go longer than anticipated. That is something I was conscious of in my own workshop design.

Time management was incredibly important for the development of my project as well. Creating a timeline helped me pace myself without causing an excess of anxiety. Breaking parts of my project planning into multiple steps and sections was another tool that kept me organized. Traditionally, I've been someone who sits down and completes a large amount of work in a few hours' time. However, my schedule, ability to focus, and life commitments have shifted. This shift has not been conducive to large periods of time,

so I committed to working on my project for at least one to three hours a day. It took a great deal of pressure off of me and made my project completion much more manageable.

Literature Connections

Within my professional development series, I provided participants with a plethora of resources informing them about each session's topic. Many of these resources I also used as research in Chapter Two. The resources from Chapter Two informed the topics surrounding the history of outdoor education in America, the effects of nature on the human body, standardized testing and current educational practices in early learning environments, and play's role in child development in an effort to answer the question, *how can early childhood educators incorporate nature-based play into school settings that are heavily focused on academic assessment?*

Important Articles

The articles that I found myself examining multiple times during my research process include Yogman et al. (2018), Hirsh-Pasek (2010), Nedovic & Morrissey (2013), and multiple sources by Dr. Peter Gray. Each of these sources focused heavily on play's role in child development, honing in on the mental, physical, and emotional effects of child-led discovery. These articles also took into account the ways that nature enhances the effects of play. Additionally, the authors of these articles included insight into how educational reforms in America have decreased children's time in the outdoors.

An additional source I found myself repeatedly referring to was Treuer (2021). Treuer's article provided an extensive deep dive into the beginnings of the national park service in the United States. Through this article, I was able to learn more about how some of the nation's most beloved parks came to be. Most, if not all national parks, are

marred with the blood of indigenous groups and overshadowed by the narrative of white supremacy. Knowing the history of the land we use is important. If educators are going to have their students learn on a piece of land, it is important to know that piece of land's story and the narratives surrounding it. History affects the present, and because outdoor recreation was birthed out of white supremacy, that narrative continues to make certain groups of people feel unwelcome in outdoor spaces. Outdoor education includes equity, intersectionality, and restorative justice - these themes served as the foundation of my project's formulation.

Limitations, Implications, & Future Hopes

Best case scenario, I present this professional development workshop series as a pilot program for a group of early childhood educators interested in incorporating nature-based play into their classrooms. When I started developing this project, I had a group of educators in mind from one of the campuses I teach at. I hope to have the opportunity to facilitate this series.

Limitations

The limitations of this project surrounded time and money. Professional development series need adequate funding and advertisement. One solution would be to write a grant that would allow me to facilitate this project. Additionally, as an educator myself, I appreciate advanced notice when it comes to adult learning opportunities. If I present this professional development series on the proposed timeline, advertising would need to start in early August 2023 at the very latest. With that in mind, booking the proposed location is also something that needs advanced planning and communication.

Having additional staff for the childcare offered during my series and access to a gear library are two other factors that need to be taken into consideration.

Implications

As previously stated, my hope is that I will someday be able to facilitate this series. I would love to take the information that I have compiled and transform it into an online course as well. Additionally, I am hopeful that the resources I compiled, at the very least, are sources that my own co-workers and co-teachers can read and learn from. The prospect of partnering with other educators in the field who are passionate about nature-based play is very exciting.

Future Hopes for My Research

As a nature preschool teacher, I have seen my research's benefits in action. I teach in Minnesota and as of 2023, Minnesota had the highest number of nature-based programs per capita. My research and project can help other educators wanting to make the switch from rigorous academia to child-lead, nature-based play practices. As the number of nature-based preschools and interest in environmental education grows in my state of Minnesota, I am hopeful that this project will be a well-received addition to the growing list of resources for Minnesota early childhood educators.

Communication of Information

For the purpose of my capstone, the professional development series' sources I compiled and created are available via website. I plan to transfer the information from my Hamline account to one that will be more widely available after I complete my program. Once that is done, early childhood educators enrolling in my professional development series can access course materials and resources via the internet.

Chapter Conclusion

This professional development series focused on the question *how can early childhood educators incorporate nature-based play into school settings that are heavily focused on academic assessment?* This research question inspired me to create a professional development series for early childhood educators looking to incorporate more nature-based play in their classrooms.

Through the development of this project, I learned an extensive amount of information about adult learning and workshop facilitation, as well as information surrounding the history of outdoor education in America, the effects of nature on the human body, standardized testing and current educational practices in early learning environments, and play's role in child development.

Environmental education has nuances that my project only scrapes the surface of. Equity, safety in the outdoors, access to resources, and narratives surrounding outdoor spaces continue to be barriers between people and nature. Global warming and pollution pose threats that cause fear around the notions of being outside as well. My goal for this project was not to fix these issues in one fell swoop. My goal was to make educators aware of the benefits nature has to offer, even in the face of a changing world. I hope that this professional development series gives early childhood educators a step toward a more holistic, whole-child approach to learning. Children are made to explore and play. Connecting children to Earth and providing them opportunities to discover the outdoors in a safe environment is a step I hope to see more educators take in the years to come.

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