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Nature-Based Education: Expanding the Walls of the Classroom

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**NATURE-BASED EDUCATION:
EXPANDING THE WALLS OF THE CLASSROOM**

A Thesis Submitted

in Fulfillment

of the Requirements for the Designation

University Honors

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University of Northern Iowa

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NATURE BASED EDUCATION

This Study by: Halle Kilburg

Entitled: Nature-Based Education: Expanding the Walls of the Classroom

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Abstract

Are the current practices of education one that best benefits a student? Every day, millions of children go to school. While there is a wide variety of what this experience may look like, there are common factors, such as sterile classroom environments, canned experiences, and dry lectures that often contribute to leaving students feeling burnt out, exhausted, and unmotivated. The purpose of this study was to explore how various schools use Nature-Based education to run their programs and the impact of this approach on students and teachers. For this study, four educators from three various programs were interviewed and asked about their personal experience in the field of education, how their current program began, what a day at their school looks like, their philosophy of education, and their perception of how nature-based education has impacted their students. These programs included an independent nature-based preschool, a nature-center school located in the midwestern United States, and a Forest School in Iceland. One of these interviews was conducted on site of the school grounds, while the other two interviews took place over Zoom. Throughout the interview process, various common themes occurred among all educators. An emphasis on trust and freedom- peer-to-peer, and student-to-teacher- emerged. The impacts of the social-emotional learning built into the school community of schools with nature-based education were also seen through the fulfillment of educators and the joy of the students. This fulfillment of educators was highlighted in the way all three educators proudly described their school, their philosophy, and their mission. These findings leave us with the question of how to incorporate these practices to benefit all students.

Introduction

There has been a trend in education, enhanced in the past fifteen years, to focus on increasing standardized test scores. The false belief is that a higher test score automatically translates to an increase in a student's knowledge and content. While the two are not entirely disconnected, standardized test scores fail to tell the whole story, and in an attempt to play the game, many teachers begin to "teach to the test", focusing on testing strategies and specific questions rather than high-quality content and learning. In hopes of achieving these higher test scores, teacher autonomy in how the curriculum is presented to students has been drastically minimized, and instructional time spent on improving math and reading scores has been increased, leaving only scraps of time in the school day remaining to dedicate to science, social studies, art, and various other social skills. As students now return to school after a global pandemic, one-to-one technology has become the new normal. The rigid, PowerPoint and lecture format of school districts are leaving students and teachers alike unmotivated, bored, and exhausted. The mental health and behavioral problems of students (arguably increased by this) are creating large, additional obstacles to learning. There is a new, emerging form of learning taking place, however: nature-based learning.

Nature-based learning has been taking place in other parts of the world, and it is beginning to gain popularity in the United States. The purpose of this study was to explore how various schools use Nature-Based education to run their programs and what these effects are. The study included research on the defining characteristics of nature-based learning, how the Forest School Association in the UK is running its schools, and how U.S. Schools are beginning to implement these practices. Then, I interviewed a total of four educators who were part of three programs from the midwestern United States and Iceland.

While each of these programs fell within the umbrella of nature-based education, they differed in how they carried out these practices, with underlying themes and philosophies remaining constant among the three schools. Through this research, I inquired more about the most effective practices to best serve students not just academically, but holistically, to reignite the joy of learning for both students and teachers. Current traditional practices of teaching often fail to retain student engagement, support the child as a whole, and allow for autonomy from both the students and teachers. The goal of this study was to better understand the impact of Nature-Based Education on student learning.

Literature Review

To further understand what nature-based education looks like in a real educational setting, I conducted research to find the impacts of outdoor exposure on the human person and the benefits of learning through nature with an inquiry-based approach. I sought to find data from schools or programs using the nature-based approach, focusing not just on the social and emotional benefits of outdoor education, but the authentic learning of students that this approach promotes.

What is nature-based education, and how is it connected to forest schools? The Forest School Association describes forest schools as a “child-centered inspirational learning process that offers opportunities for holistic growth through regular sessions” (Forest School Association, 2022). Forest Schools are not made by a singular lesson being taken outdoors, but they are rather a continual practice. The Forest School Association goes on to state, “It is a long-term program that supports play, exploration, and supported risk-taking. It develops confidence and self-esteem through learner-inspired, hands-on experiences in a natural setting” (Forest School Association, 2022).

Nature-Based Integration

It is important to note that while nature-based education and forest schools are very connected, they are not the same. The theory of nature-based education is that children continually return outdoors, typically anywhere from 25-50% of the day (Larimore, 2016). Nature is the central theme of the curriculum, and even the indoor space of the classroom is centered around the natural world. Teachers have a curriculum, and it is taught through nature and the outdoors.

Forest schools utilize nature-based education, however, they take the infusion of nature a step further. Children in forest schools spend an average of 75-100% of their days outdoors, completely immersed in nature (Larimore, 2016). It is from the activities that students have in nature that the curriculum emerges. There is much more of a focus on play, exploration, and inquiry in the forest school settings. Forest schools use many nature-based learning practices, but nature-based learning practices can be utilized in schools that are not explicitly forest schools.

Benefits of Outdoor Education

While it is important to distinguish the primary differences between these two terms, it is even more important to distinguish the positive aspects of this type of education. Research has shown that children benefit from exposure to the outdoors, including improved self-esteem and lessened anxiety and stress (Camassoa & Jagannathan, 2018). While any outdoor exposure is better than none, the particular type of outdoor exposure children receive matters. In the study conducted by Leea and Bailie (2019), two groups of five to seven-year-olds were exposed to the outdoors between one and two hours a day. One of the groups spent their time outdoors at a typical playground, which included swings, slides, and monkey bars, while the other group

of students was left outdoors in an area that had natural woodlands and a meadow. The students who had been exposed to the natural environment, rather than the playground, showed much higher physical and cognitive development than their peers (Leea & Bailie, 2019).

It is important to identify the ways in which nature-based education may affect the learning of students, including how this approach can impact student self-esteem and stress levels. An Urban School study entitled “Nurture through Nature” or NTN, followed eighteen students who were taught through nature-based education for four years (Camassoa & Jagannathan, 2018). Third-grade students were split into two separate groups, with one group exposed to nature-based learning and the other, the control group, exposed to the same curriculum that had been occurring. After four years, the students, now seventh graders, who had encountered nature-based learning averaged higher classroom grades than their peers in science, math, and language arts. The most significant differences in grades amongst the students after four years appeared in science and language arts. NTN students averaged a grade of 81.4 while their counterparts averaged 73.3 in language arts, and NTN students averaged 80.2 in science while their counterparts scored 73.2 (Camassoa & Jagannathan, 2018). The socio-economic statuses of students had not significantly changed, but their performance levels undoubtedly did.

The effectiveness of outdoor education on students’ academic performance is highly dependent upon how the teacher supports student learning through the natural world. Educators sometimes attempt to promote nature-based learning, but instead of learning through nature, the way it is intended, students instead just learn *about* nature. It is not that learning about nature is a negative component of a lesson, but rather the set-up of the lesson is through direct instruction with the students using no inquiry or discovery of their own. A step up

from this method, but still not fully nature-based education, is learning *with* nature. Lessons are structured for students to learn with nature, but still not through nature. Because students learn *with* nature, it is often only science (biology-specific) lessons that are incorporated into the curriculum with the integration of nature. Some senses of the students are utilized, but not all. In the method of students learning *through* nature, multispecies ethnography, or the connection between the natural world and humanity, is utilized (Ameli, 2022). Students begin with observations and then the teacher facilitates elaboration upon these observations. The teacher, with nature, is a co-educator.

Students are highly capable of exploring complex concepts in nature-based learning when the teacher teaches with nature (White, 2014). A study conducted by White took preschool students into nature where they were tasked with taking photographs of anything they desired. They then articulated why they chose to take the photos that they did, and their reasons directly correlated and connected to past experiences and prior knowledge, scaffolding and connecting their observations to any prior understandings they had. Students made connections anywhere from the way vehicles worked to the way animals looked, to connections about death and the afterlife.

Following the Natural Inquiry of Students

It is well known that the transmission theory of education is an incorrect one: the human brain learns new information only by connecting it to what it already knows (Swann, 1998). The more connections that new knowledge has to prior knowledge, the more thoroughly it is learned. Inquiry, through nature-based learning, explicitly does this. All observations made by the child will automatically be in some way connected to prior understandings and knowledge. When that first connection is established, the teacher can ask further questions, driving

additional exploration and findings. Because observation, curiosity, and inquiry are all integral parts of nature-based education, students scaffold one another's thinking through their observations and collaboration. This collaboration creates opportunities for students to question, hypothesize, defend their findings, and communicate. When students are learning through nature, the natural world is more than simply a tool, but a co-teacher itself.

Holistic Benefits

While the academic achievement of children at school should be seen as a high priority, it is important to not neglect the holistic and total well-being of the child while at school, especially within the context of today's mental health crisis. Nature-based education, when done correctly, prioritizes both the academic achievement and overall health of the student. According to Mann et al., "The reported benefits of learning in natural outdoor settings include: increased student engagement and ownership of their learning, some evidence of academic improvement, development of social and collaborative skills, and improved self-concept factors" (2022, p 1). Children spending time not just outside, but truly in nature, has many positive effects on their overall health and wellbeing, leading to improved academic outcomes. A study conducted by Becker et al. (2017) reviewed 13 studies that included regular classes in the outdoors and found emerging evidence for social, academic, physical, and psychological change within students. Using nature as a means to educate students promotes not only their academic success but also contributes to increased resilience and overall health, including physical, mental, and social well-being (Mann, Gray, Truong, Brymer, Passy, Ho, Sahlberg, Ward, Bentsen, Curry, & Cowper, 2022). This way of educating prepares children not only academically, but also works to shape the holistic development of the child.

Methodology

Overview and Research Questions

The purpose of this thesis study was to explore how various schools use Nature-Based education to run their programs and the effects of their approach. The main research questions were:

1. *What is Nature-Based Learning*
2. *What are the benefits of these practices?*

The interview questions that were asked to participating educators were all guided by the two main research questions, however, more specific questions were answered through personal accounts in these interviews. These personal accounts included how their specific program approaches nature-based learning, the impact of these practices on students academically, physically, socially, and emotionally, and the impact it has on educators due to the autonomy they experience. The first step of the study centered on reviewing recent literature on the topic. This was done to discover more about the philosophy behind Nature-Based Education and how it has traditionally been implemented. Simply stated, I looked to answer: *What actually is Nature-Based Learning?* I then conducted further literature review analysis on the effectiveness of these practices, looking through the lenses of both the overall health of students and educators (how this methodology affects individuals physically, socially, and emotionally) and the effectiveness of learning through these practices (how do students who are in nature-based education programs perform on tests compared to students in traditional classrooms?)

After I familiarized myself with the research and philosophy of Nature-Based

Education, I conducted qualitative research, speaking with the teachers and leaders who experience this type of education firsthand every day. I interviewed four educators at three institutions. Through these interviews, I had the opportunity to hear personal testimonies of how these educators have experienced Nature-Based Education, why they are passionate about the driving principles of this approach, and how they actively teach content daily.

After the research and interviews were completed, I then thematically analyzed the qualitative data collected. I returned to my two guiding questions: *What is Nature-Based Learning* and *What are the benefits of these practices?* I then explored how Nature-Based Learning as a philosophy aligns with my personal and professional aspirations as an educator, and how this approach can be integrated into classrooms and schools.

Setting and Participants

The research for this study took place in the Spring of 2023. Three interviews were conducted. The first interview took place face-to-face at a small independent nature-based program in the midwestern United States. The second interview took place via Zoom with the Director of Education at a nature center in a mid-sized metropolitan region in the midwestern United States. The third interview took place via Zoom with two nature-based educators in Iceland. All participants provided written consent per IRB guidelines. The educator at the small independent nature-based program provided written approval for the onsite interview and consent to take photos of the space.

Research Design

The research design of this study consisted of semi-structured interviews. The interview protocol, which can be found in Appendix A, guided the direction of the interview, but additional follow-up questions were asked based on the flow of the conversation.

Participants were able to elaborate on specific topics and could refuse to answer any questions they desired.

Data Collection

This study received IRB approval to conduct the interviews and to collect photos from participants. The interviews were audio or video-recorded so that the interview could be transcribed and analyzed. The interviews took between 45 and 90 minutes to complete.

Data Analysis

Once the interviews were conducted and transcribed, data analysis began. Thematic categories that emerged were identified using the constant comparative method (Glesne, 2006). Themes such as trust and freedom, the benefits of nature-based learning in the context of social-emotional learning, and educator fulfillment emerged. These key themes will be discussed in the findings section below.

Findings

This section will provide details regarding the three large thematic findings from this study. To begin, the details regarding the context and experiences of each of the educators will be provided. The first theme that emerged, the freedom and trust among educators and students will be explored. Secondly, the impact of social-emotional learning within the context of nature-based education will be presented. Finally, the encouragement among all educators interviewed will be shared.

Nature-Based Educators

For this process, four educators from three schools were interviewed: an individual who began a preschool out of her own home after teaching in a traditional school for

multiple years, a Director of Education at a Nature Center, and two educators at a Forest School in Iceland. While all three of them utilize practices rooted in nature-based education, the approaches and individual methods used differ from one another.

Independent Nature-Based Program

The first independent educator began her nature-based preschool after teaching in a traditional preschool for 12 years. During the COVID-19 pandemic, her daughter was in three-year-old preschool, and while her husband worked from home, she and her daughter would take little adventures to simply get out of the house. It was while she pushed her daughter's stroller down to the 'secret lake' that they discovered near their home that she had an epiphany. "I was just watching her play and thought, "What am I doing?" I was just watching what she was learning on her own just at the lake...". During that time, she was teaching at a traditional preschool that was very regimented, and it was then that she made the decision to quit her job as a preschool teacher and begin her own school. This educator has never forgotten her original philosophy, which is to foster the development of the whole child through play and joy, and her preschool is run with that same mentality of freedom and joy in mind.

This nature-based preschool is mainly an outdoor preschool, weather permitting, for the entirety of the day. Students play outside (see "The Beyond"), learn outside, eat outside, use the portapotty which is located outside, and nap outside (see the tree). As a teacher, she follows the interests of the students in all of her curriculum. She pays close attention to what excites them, what they discuss as they eat, and where they naturally gravitate. Moreover, the content they learn is often modeled after the seasons, allowing for what they learn to be discovered through observation and relevance whenever possible. The students of this

nature-based preschool take a special curiosity and interest in the world around them, and her lessons follow the animal tracks that the class sees in the snow, the changing phases of the moon, or the budding of flowers in the spring. She uses a combination of materials that are already found in nature and books, art supplies, and toys to teach.



Figure 1

“The Beyond”.

Pictured: The preschool teacher’s daughter running into the expansive space where preschoolers are free to explore and learn.



Figure 2

The tree that preschoolers are free to nap under.



Figure 3

The garden in which the preschoolers decided what to plant, planted the seeds, created tags, and helped to care for.



Figure 4

The fort, begun a few years ago, where students collect sticks and play in.



Figure 5

The malleable ramp that preschools ride their scooters and bikes across. Students often rearrange the design of the ramp.

Nature Center Program

The second interviewee, who serves as the Director of Education at a Nature Center Program, has a very different story. She has worked in education for about seventeen years

and served at the Nature Center for almost seven years as the Director of Education. Prior to COVID-19, schools were invited to bring their students to this Nature Center for day-long field trips. The Nature Center eventually made the decision to open a school, and in 2021, they cut the ribbon to their nature-based preschool.

Since then, this Nature Center has taken a nature-based approach with more structure than the in-home preschool. This Nature Center's preschoolers are taken outside for approximately 80% of the day using an emergent curriculum. They seamlessly integrate outdoor and indoor learning by bringing many elements of the outdoors inside of their classroom. The lessons are still guided by inquiry and student curiosity, the terrain just differs slightly. The Nature Center's classroom contains an abundance of wooden materials and greenery to mimic the outdoors, and the cement floors allow them to bring the natural world, for example, a pile of snow, into their classroom for a lesson. They too, much like the home-based preschool, base lessons on the seasons and student interests. "This is not to say that we just play all day and we don't plan for lessons, but my staff have to be really quick on their toes and have a big tool kit from which to pull from." The day has structure, including circle time, a snack, a literacy lesson, and a big excursion. This Nature Center Program utilizes materials found in nature, and traditional materials found in their indoor classroom (when the weather is bad, they move their lessons inside), and every student receives individualized gear for the outdoors, including a raincoat, rain boots, hats, socks, and more.

Iceland Nature-Based School

The last school interviewed was a Nature-Based School in Iceland. The interviewees were educators who served as teachers at the school, both beginning their work at the school in 2009 and 2007, respectively. This Iceland School serves approximately 200 children from

the ages of 1 to 6. The preschool program, for children ages 3-6, is the main focus of the two educators interviewed. Every fifth week, students go out to the forest, where they spend the week completely immersed outdoors.

This Nature-Based School, with its students outside, follows the flow technique (Csikszentmihalyi, 1990). There is no organized plan. "The only plan in Kindergarten is to eat." They have a curriculum that is seen more as a thread. An emphasis is put on the teachers' and children's ideas. The school as a whole aims to hold the delicate balance of children's freedom and joy and learning through flow. Tools, nature, and the seasons are the main materials of learning. Students' curiosity is the driving force of the day.

Commonalities of the Various Programs

After consolidating the research and interviews of these three schools implementing nature-based education practices, common threads emerged amongst all three schools, despite slightly differing mission statements, practices, and day-to-day methods. All three schools flourished under an abundance of trust and freedom amongst students, educators, parents, and administrators. In all of these schools, social-emotional practices were implemented daily, either explicitly, strongly implicitly, or both. The last emerging theme amongst all of these schools came from the educators explicitly stating the importance of finding joy and fulfillment in the field. Children know when adults are invested or truly believe in what they are doing, and teachers experience much less burnout when they feel that they are respected, seen, and have the freedom to make choices on behalf of the interest of their students. These three core values are prominent in nature-based education, but these principles can and should be applied to all classrooms for all students.

Theme One - Freedom and Trust

A major foundation of nature-based education lies in the trust and freedom found within the context of the entire school's setup. All of our interviewees touched on the importance of responsiveness to students. In traditional classrooms, students tend to have very little autonomy over every aspect of their day. How long they get to eat, what they will be learning about at 2:00 pm, and even a project they will work on is often predetermined, sometimes not even by the teacher. The natural curiosity and joy of learning for both educators and students can re-emerge through the freedom found within this approach to learning.

The two educators from the Iceland Nature-Based School highlighted the beauty of this autonomy in their interview. The preschoolers at the Iceland School are given an abundance of trust and freedom daily. A pure example of this trust can be seen through their outdoor space. Every day when they go outside, the children are free to run around in an expansive space- one that has no fence. Students play, explore, and learn, all without structural confines. How is this done? "We have three main rules because it's an open area."

1. When the bell rings, they come to a certain area to hear a message.
2. They are not allowed to get onto the asphalt because a road is near.
3. They must be able to see the house or their teacher with their eyes.

This amount of freedom and trust is very countercultural to the traditional school setup. "We have to learn to trust them and know that they trust us too." Children are entrusted with various tasks and responsibilities, and because they have been given the respect and trust of these rules, they, according to these Iceland educators, consistently live up to these expectations.

These high expectations set by teachers for their students are modeled and parallel

the high expectations for the teachers to provide real-world scaffolding and avenues for learning. “It’s so nice to follow the interest and strength of the children, and also the fact that I as a teacher- I’m allowed to use mine too.” The theme of freedom and trust emerged in the interviews with educators at all three schools. For example, the educators at all three schools have the freedom to make choices about curriculum and teaching methods. All three schools base much of their curriculum on the seasons experienced at that point of the year, whether it be the density of the snow, the changing of the leaves, or the budding of the flowers. Students are encouraged to look at the world around them, which is ever-changing. Teachers are tasked to be highly adaptive to this every day, which leads to the empowerment of educators. One of the Iceland educators, amidst the interview, stated, “You can learn things through play. You ask, how can I help children explore more? You have to be innovative in a sense...I mean just give something of you from you.” This entire shift in mindset lies within the boundaries of trust. The educator entrusts the students, and administrators entrust their teachers to make the best decisions for their students.

A major part of this trust is in part due to the relationship building between the student and the teacher. The independent preschool teacher commented, “I feel much more connected to the kids here in this setting...we really work on the relationships and the connections.” She continued on, discussing her decisions throughout the day, “We do a lot of talking and I know what we need to do and what would be best at that time.”

Children, through this curriculum, are free to explore their passions and interests, as the students’ natural curiosity often drives the lessons. The independent preschool teacher explained, “My group was really interested in sea creatures one time. They wanted to know a lot about jellyfish...and so I found books, and they drew pictures and that was what they

wanted to do.” There is a freedom found when students have the autonomy to learn about the world around them through what they naturally want to learn. The independent preschool teacher purely scaffolded and supported this curiosity, driving it forward and making it into a lesson that the students were passionate and excited about.

The Nature Center allowed for a similar freedom for students by following children’s curiosity. “We use an emergent curriculum, which is not to say that we just play all day and we don’t plan. We do plan for lessons, but my staff have to be really quick on their toes and have a big tool kit to pull from.” This Director of Education at the Nature Center went on, “Children are given margin to play and explore and move at their own pace, to move through the world, to move through the day in ways that feel good to them.” This Nature Center allows students the freedom to move in ways that feel good to their bodies. “We notice that in the wintertime, our children slow down. They literally slow down, staying with a task that is fine motor based rather than gross motor based for longer periods of time.” By trusting the students’ bodies, interests, and natural curiosity, students are given the space and freedom to thrive.

A natural consequence of this autonomy and trust is joy for both the educators and the students. There is joy and fulfillment found within the freedom of following curiosity. The Iceland educators highlighted the importance of this joy. “I want to have happy children that feel good to be who they are and have good social skills..it’s important to have good social skills with each other.” She continued on, “I like to follow the interest and strength of the children and also know that I as a teacher- I’m allowed to use mine too...children are allowed to use their strength and interest to kind of blossom, that’s kind of the essence of our school environment.” There is a natural joy of childhood, of curiosity, and of learning, and this

nature-based approach aims to not only maintain but promote this underlying joy.

Theme Two - Social-Emotional Learning

Nature-Based Education allows room for social-emotional learning to naturally thrive and take place within the entirety of the day. At the Nature-Based Center, explicit social-emotional learning is taught in the outdoors. “We teach social-emotional learning every single day, and I have staff that breathe it to life and make it practical.” The director went on, “Every day we have our big excursion, which could be a hike somewhere on our 200-acre property, we split into small groups and that’s time for us to focus on social-emotional learning, those soft skills that we oftentimes overlook at the preschool age but are essential for our young learners.” The Nature Center teaches these soft skills through literature and animals in the morning, and through these hikes, the skills are intentionally utilized and naturally expanded upon.

Preschoolers at the nature-based independent preschool also receive social-emotional learning naturally integrated into their daily way of life. “You get a mix of teacher-led and kid-led, and then there’s more of the community aspect. I’m just a facilitator, I’m just here as the scaffolder...it sparks more in-depth thinking.” Her philosophy of teaching is a holistic approach to education. “I’m doing nature-based emergent curriculum, which is just more holistic- it’s more meaningful to them and they seem to gather more knowledge. The kids really own it. The relationships and connections that I have with the kids here, they’re so much more meaningful than those I had in the classroom.” She went on, “The classroom is kind of a sterile environment, but I just feel like here in this type of setting, it’s more meaningful because they’re owning their information because they’re interested in it.” This holistic view of the child and the classroom changes the mindset from a purely academic

focus to a focus on the child as a whole. Academic achievement and content are still held in high regard, but other important parts of the child are simultaneously nurtured and fostered, with a particular focus on relationships within the class community.

The relationships built between teachers and students and amongst the students themselves form much more strongly within the context of nature-based learning. Each class is much more of a community, and they see on a daily basis not only what the community provides for them, but what they individually, through their unique gifts, provide for the community. Some students naturally thrive within a traditional classroom setup. Some very intelligent, creative, and gifted students, however, fall between the cracks of traditional styles of teaching. In many classrooms, students with disabilities, ADHD, ADD, or various learning abilities are isolated from peers physically during the day and socially throughout their schooling. The terrain of learning in nature differs from the typical classroom learning environment, and the students who usually cannot sit still, feel the need to touch everything, or want to consistently talk to the people around them suddenly have a place to pour that energy- they become students that others want to learn from. In the natural world, their natural collaborative and highly energetic tendencies are now assets. The varying environments of nature-based education allow for students of various abilities to shine.

As students move from the classroom to the forest, their connections with one another change. The educators in Iceland discussed how being in nature supports inclusion. They said, "The environment is different and nature kind of makes them connect differently. I see different children playing together...the one you're playing with inside may not have interest in something that is outside, the children mix better outside." This shift in surroundings creates different avenues for connection, resulting in a lesser feeling of isolation

for children. “I also feel that in the forest- children with disabilities are more approved in the forest. They love to be outside, and this new group of children will play with ones they never talked to in the classroom...it’s a lot different.” The empathy built amongst students through a simple change of environment, where various strengths can come through, is an impactful life lesson. Students are seen amongst peers not by their shortcomings in one particular setting, but rather as a dynamic individual who has gifts to offer to the community.

The impact of community within nature-based education on children’s well-being cannot go unnoticed. Because of the jobs and freedom entrusted to these students, they begin to not ask what can be received from the community, but rather what they can give to the community. At the Iceland Nature-Based School, a group of students bake the afternoon snacks daily while another group is in charge of setting the table. Students, when they are done eating, take the empty trash trays back to the kitchen. Students do not show up and consume a snack, they are very much active in the process of preparing this snack not only for themselves but for their classmates. There is a sense of pride, a sense of responsibility, and a great sense of community created through this seemingly small action. Children can serve those around them and love their peers while taking responsibility for their community.

In a traditional classroom, if a student misses school for a day, they most likely do not think about how the class as a whole will be impacted throughout the day, because all of the work, teaching, and giving is in theory flowing from the teacher. These small practices of providing for their classmates empower students to buy into the community and use their gifts to impact those around them positively.

Theme Three - Fulfillment for Educators

There is a joy that should naturally flow from learning for both students and

educators. This does not mean that there are never hard lessons to be learned or difficult challenges to endure, however, there is a very palpable difference between giving of oneself for a greater good and pouring energy into an entity that feels unfulfilling. All of the educators were candid about their experiences in nature-based education, and despite hard days, they all discussed the deep sense of fulfillment they received from the ability to work in the ways that they do.

The independent preschool educator interviewed loves her ability to make the learning of her students more holistic and meaningful to her students. “In school, there are certain things you have to learn, but there are ways to do it that make it more meaningful and make the kids really own it.” Here, the educator is highlighting how she has ownership over her teaching approach. This *ownership* applies to both her students and her as a professional educator.

The Nature Center Director remarked, “It just feels good to be here.” They work to create an environment that feels good for parents, students, and educators alike. “It is not uncommon for us to have parent volunteers in our classroom, and we use them as teacher assistants; serving snacks, reading books, and hiking with us. They want to be here.” Providing teachers with autonomy and support within the school leaves educators feeling valued. In this culture, pouring meaning and breathing life into their work is celebrated by the community as a whole.

Similar sentiments were shared by the teachers in Iceland. They commented, “You have to be allowed to be you and it’s hard to be a teacher. You have to have a heart for it.” Here the Icelandic educators shared how being able to bring your full self to teaching in the context of nature-based education supports their overall fulfillment.

Conclusion and Implication for Practice

Traditional classrooms often fail to meet the needs of the whole child. The purpose of this research was to answer, *What is nature-based education?* and *What are the benefits of these practices?* Research has indicated that exposure to the outdoors in the natural environment has positive effects on individuals, especially children, physically, emotionally, developmentally, and academically. While the research points to these benefits, it is important to see its practices effectively carried out day-to-day in educational settings. Teaching through nature-based education, with nature as a co-teacher, promotes the holistic development of students. The entire philosophy of this nature-centered learning leans on increased trust and freedom of educators and students, naturally promotes the social-emotional learning of students, and accommodates a diversity of students. Students are encouraged to use a wide variety of strengths in the outdoors, and there is a palpable connection naturally promoted between members of the classroom community through this style of education. Deep inquiry and curiosity drive the learning of students in nature-based education, promoting an intrinsic motivation to learn not only within the context of school, but within the context of life itself- all beyond the walls of a typical classroom.

As educators, whether we teach in a nature-based school, a traditional public school, or a private school, big or small, there are elements of nature-based education that should be implemented for the improvement of the overall well-being and achievement of our students, and these implementations will, in turn, promote the fulfillment of educators ourselves. There is a need to have the ability to pour our hearts into what we do. It is vital that teachers have the freedom to make lessons their own, and that they are trusted by their administrators to take risks and make decisions with the needs of their students in mind. This

trust that teachers should receive can in turn be entrusted to their students. With trust comes responsibility, and with responsibility comes the opportunity to take ownership of one's work, and the autonomy of this is empowering for students and teachers alike.

Nature-based education programs naturally create a school environment where all strengths are celebrated and given an opportunity to contribute to the community as a whole. Students are implicitly and explicitly encouraged to ask not only what the community can do for them, but what they contribute to the community with their individual gifts and strengths. Students, through this context, naturally learn from one another, building empathy, communication, responsibility, and connection. This further promotes self-fulfillment and self-efficacy in students, continuing to their overall confidence and well-being as a person.

We as educators must create the space for students to flourish not only as students but as children. If schools are going to prepare children for life after school, the children need to learn not only how to be successful students, but how to be successful people outside of the walls of a classroom- individuals who are naturally curious, joyful, and compassionate. Nature-based education encourages high academic rigor while additionally providing support for the child as a whole. What could be accomplished when we- both physically and metaphorically- move beyond the walls and confinements of a classroom?

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Appendix A

Interview Questions

Thank you for taking time to share your experiences with us!

1. Can you please tell us about your background and current role in education?
2. How would you describe what nature-based learning is?
3. How long have you been working within nature-based education?
4. How does your program approach nature-based learning? What are some of the driving principles or goals of your school or program?
5. What does a typical day look like for you or your students?
6. What are your beliefs and experiences about nature-based education compared to a traditional classroom?
7. Do you believe that nature-based learning serves students in ways that traditional classrooms don't or can't? If so, in what ways?
8. From your experience how can nature-based learning impact students academically, physically, socially, & emotionally? Can you share some examples or stories with us about this?

9. What have you noticed about student engagement throughout your time working in this setting?

10. How does nature-based learning impact educators? How can nature-based learning impact teacher practice/engagement and well-being?

11. How much autonomy do teachers have in this system?

12. What would you tell other educators or future educators who are wanting to learn more about a nature-based approach?

13. What else would you like to share?

Additional Questions if time permits:

-What has surprised you most about a nature-based approach?

-What are people most hesitant about when it comes to forest schools or nature-based education?

-How do you deal with unpredictable weather?

-Is there anything you would like to see changed/further developed within your program?