How Can Something This Good Be So Simple:
Supporting Parent Engagement in Children's Learning Outdoors

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Introduction

On April 4, 2011 a mother from a suburban community in Minnesota was loading her two small children in the car to come to school when her 3-year-old daughter stopped the flow of activity. “Wait, Mom, I have to smell the grass.” In this simple statement, the child demonstrated close observation skills, recognition that grass is fragrant, and perhaps, considering her urgent tone, an understanding that grass after the fourth snowiest Minnesota winter in recorded history represents hope in three-dimensional form.

The mother in this story, hurried as she was with the process of getting young children ready for school, could have easily said, “Not now – we just don’t have time,” but she did not. Instead, she recognized the learning opportunity at hand and paused to allow her young daughter to crouch low and breathe in what no air freshener or dryer sheet will ever really be able to capture.

For the past two years teacher/co-researchers at the Forest Lake Family Center have conducted a qualitative study of parents’ understanding and support of their children’s learning as it occurs in the Nature Explore Classroom and outdoor settings at home. This study of parent engagement recognizes the foundational role parents play as children’s first and most important teachers and serves as a logical extension of research conducted previously at the Family Center on preschool children’s skill development in the Nature Explore classroom (Bohling, Saarela & Miller, 2010). Our data included poignant stories shared by parents who used written documentation and information on the benefits of outdoor play to better understand and connect with their children. All data were based on parents’ close observation of their children in outdoor settings at home and at school. Our study also examined the intentional ways the Family Center supported that learning and connection through information and relationships with staff.

The void of literature related to the parent role in children's learning outdoors points to the need for this research. Most of the writing related to parents and their children's learning outdoors speaks to perceptions of contemporary barriers that prohibit children from playing outside, with an inherent notion that outdoor play is good for children (Valentine & McKendrick, 1997; Veitch, Bagley, Ball & Salmon, 2006; Weir, Etelson & Brand, 2006). The primary barrier cited in this literature is a parental concern for safety, but the concern is most often related to neighborhood settings and traditional public play spaces rather than home environments and outdoor classrooms.

Other authors have linked adult concern for children's safety to an organic conflict between freedom and containment – a child's developmental need to explore with few restrictions and the instinctual need of the adult to protect. These same voices, however, caution parents and other caregivers against too much restriction in outdoor play environments that may inadvertently limit optimal brain and body development (Hart, 2002; Hewes, 2006; Valentine, 2002).

There is broad agreement within the pediatric, environmental, and educational communities that outdoor play provides important skill development and health benefits for children (Akinbami & Schoendorf, 2002; Bouchard & Katzmarzyk, 2010; Burdette & Whitaker, 2005; Cosco & Moore, 2009; Fjortoft, 2004; Kellert, 2002; Miller, Tichota, & White, 2009; Taylor & Kuo, 2006), but very little original research has been devoted to the essential parent role in supporting these skills and benefits. This study begins to close the gap by looking at children's growth and learning in outdoor environments *through the eyes of their parents*.

The unique perspective shared through the observations and stories of parents in this study will be beneficial to a number of audiences. Parents and caregivers, eager to support their

children's growth and healthy development, can turn to the findings of this study to find dozens of nature-based experiences that promote rich learning and positive family interaction but cost little to no money. Educators and administrators can use study findings to forge new partnerships with parents, encouraging simple, home-based outdoor experiences that support curricular goals. Policy makers and funding entities who want to support family wellness at the community level can be confident in funneling resources toward outdoor learning initiatives, knowing that interaction with nature can have a lasting appeal for a broad demographic spectrum.

Purpose of the Study

The purpose of this single case study was to explore parents' understanding and support of their children's learning outdoors through parent-documented observations that took place in the Nature Explore classroom (NEC) and home-based settings. Participants in this study were parents and their young children (toddlers and preschoolers) enrolled in parent-child classes at the Forest Lake Family Center during the 2009-10 and 2010-11 school years. A secondary purpose of the study was to examine ways program components (curriculum, environment, relationships with staff) supported parents' understanding of their children's learning outdoors.

Research Questions:

Five research questions guided this inquiry:

How has the Forest Lake Family Center's intentional focus on connecting families to nature…

1. helped parents identify the benefits of spending time outdoors?
2. helped parents identify the skill development that takes place for children in nature?
3. supported family experiences related to spending time in nature?
4. changed parent's perceptions and behaviors related to spending time in nature?

What is the program's role in…

5. supporting parents' understanding of their children's learning in an outdoor environment?

Research Approach

A qualitative single case research approach was used for this study to allow for an intensive examination of parent observations and experiences, shared through verbal interviews and written documentation. The Forest Lake Family Center was purposefully selected to participate in this study because of consistent parent attendance in weekly parent-child classes and the regular access Family Center parents and children have to a certified Nature Explore classroom, located on site. Four teachers (licensed parent educators) collaborated as co-researchers during this study, paying particular attention to parent's stories and perspectives.

We used several data collection techniques including:

- Parent Focus Group Interviews (Appendix A)

  Three parent focus groups were conducted during the course of the study. Two focus groups were comprised of parents enrolled in Early Childhood Family Education (ECFE) infant and toddler classes and School Readiness preschool classes. One focus group was conducted with parents enrolled in a Family Learning Program (FLP) who were working on basic education or English language skills.

- Mini Nature Notes (Appendix B)

  Mini Nature Notes were written observations and documented skills recorded by parents on index cards after they had observed their children at play in the Nature

Explore classroom in Fall 2009 and Fall 2010. Parents recorded 86 Mini Nature Notes.

- Nature Stories (Appendix C)

  Nature Stories were written observations of children's play outdoors, recorded by parents on a form developed by parent educators. Seventy-five nature stories were submitted during the 2010-11 school year; 44 observations were made in the Nature Explore classroom, 31 observations were made in home settings.

- Year-End Summaries (Appendix D)

  At the close of the 2010-11 school year, parents were asked to provide written responses to the following phrases on a form developed by parent educators. Ninety-three year-end summaries were collected from parent education classes. We asked parents to respond to the following statements:

  "Please describe any changes you have seen in:

  The amount of time your child spends outside…

  The amount of time your family spends outside…

  Your perception of what your child learns during outdoor play…"

We developed an analysis protocol (Appendix E), using the five research questions as the foundation. We analyzed data from the focus group interviews and nature stories using this structure and compiled lists for each section: observations, beliefs, changes in perception or behavior, family experiences, and program role. Finally we created a comprehensive list of documented skills from the Mini Nature Notes and a comprehensive list of documented changes from the Year-End Summaries.

Parents were informed of the purpose of the research at the beginning of the school year. At that time they were able to opt out of the study if they did not want their children to participate. All parent participation was voluntary. We created pseudonyms for all children cited in the data to protect their identity.

The Site

This research was conducted at The Forest Lake Family Center, which is part of Independent School District 831(Forest Lake Area Schools) and is located in Forest Lake, Minnesota. The Family Center serves families with children from birth to five years (or until they enter kindergarten). The building, which currently houses the early childhood programs of the Family Center, also serves as home to a K-6 Montessori program, the Strive program (an alternative setting for grades 7-9), and the Alternative Learning Center for grades 10-12. Set in an established residential neighborhood the grounds of the building allow for a generous dedicated outdoor space for the preschool programs as well as access to a small wetland, residential streets and open fields. The Family Center offers a variety of programming, with varying levels of involvement, to any child in the school district. We offer full integration for children with a variety of abilities and income levels. Approximately one-third of our preschool children are supported by Early Childhood Special Education staff and over 50% receive financial assistance.

Forest Lake Area Schools is one of the largest districts in Minnesota geographically, encompassing 240 square miles. Eleven towns, cities or townships lie within the district boundaries. Family Center programming was established in 1989 as part of a statewide network of school based programs for young children and their parents. Involving families through direct parent education classes is a hallmark of the Minnesota Early Childhood Family Education

(ECFE) and School Readiness programs, which receive partial funding from state aid and local levy dollars. In ECFE or School Readiness classes families commit to weekly attendance to participate in parent/child activities and parent education classes.

Along with these state-wide programs the Family Center also offers additional preschool classes, home visits, family literacy services, intervention services and early childhood screening. The teaching staff in Forest Lake consists of early childhood and parent education teachers. All are licensed by the Minnesota Board of Teaching and hold at minimum a four year degree, with 75% holding graduate degrees in their respective fields.

Findings

As we analyzed the focus group data and data recorded by parents, four key themes emerged:

1. "It's good for my child to be outdoors."
2. There is value in the simplicity of the outdoor experience.
3. The benefits of spending time outside outweigh the inconvenience.
4. "Good information helps me make good choices."

Theme One: "It's good for my child to be outdoors."

The first key theme that emerged from our analysis of focus group and Nature Story data was parents' perception that spending time outdoors was good for their children. Parents articulated this belief by describing the health and learning benefits they felt their children gained from outdoor play, and by identifying the skills they observed their children demonstrating during outdoor play. Parents described and documented these benefits and skills after participation in Family Center classes and close observation of their children at play in outdoor settings at home and in the Nature Explore classroom. In this section we have identified parent

observations, taken directly from parent focus group interviews and Nature Story data, which illustrate parents' belief that spending time outdoors is good for their children.

One group of benefits articulated by parents related to children's mental and physical health. For example, parents described improved sleep habits in children, the benefits of physical exercise outdoors to cardiovascular health, increased physical strength, a greater sense of calm and focus, improved mood, a belief that there are fewer germs outdoors than indoors, and a belief that outdoor play gave their children opportunities to exercise distance vision and absorb healthy amounts of Vitamin D.

One example of parents' recognition of the health benefits of outdoor play came from the Spring 2011 parent focus group, in which Amy described how nature provides calm and release to her three-year-old son with autism. She compared her son's behavior indoors to what she observed outdoors, noting that he was more content and a "happier kid" outside. She described the growing commitment she had made to daily interaction with nature and her recognition that time outdoors had a positive, sustained impact on her son's behavior: "If we go out in the afternoon, our evenings are definitely easier." The following story illustrates the confidence she had gained as a parent in making outdoor play a part of each day:

> *"We have get-togethers at my grandma's house. This year I was so happy to be able to take (my son) outside. I was much more confident in my decision to take him outside. This year I just said, "Let's go outside" versus "I have to get out of here". We all went out and had so much fun outside that I didn't feel guilty about leaving the social setting – I actually brought the social setting outside. I thought, "I did something really good for my kids today." It was a proud moment rather than a guilty feeling."*

Parents also shared unique learning benefits they felt their children were experiencing during outdoor play that might not be realized in indoor environments. They described the freedom children had to explore and exercise their curiosity in outdoor settings. Parents identified unique sensory experiences available to children outdoors (e.g., wind, smells,

temperatures, textures) and noted that children were able to use their full bodies during play. They described how open-ended natural materials like sticks and dirt drove their children's creativity, imagination, and problem-solving. They also described observing higher levels of determination and risk-taking in their children during outdoor play. The following story, shared by Nikki in the Spring 2010 parent focus group, illustrates her understanding of what her child needs to learn and how natural materials in an outdoor setting provided unique learning benefits to her four-year-old son:

> *"Adam learns a lot better if he's moving and shifting. For example, with learning his letters, getting him to sit at a table was like pulling teeth, but if he can manipulate blocks or make letters with sticks, that's how he learns."*

Amber is a parent who completed her General Educational Development (GED) program while enrolled in the Family Center's Family Learning Program with her two young sons. She went on to enroll in college classes and told us she wrote her first college English paper on nature-deficit because of information she had received in parenting classes on the benefits of outdoor play. She shared her understanding of the health and learning benefits outdoor play provided for her children during the FLP parent focus group interview:

"My children learn better outside – they're more relaxed outside. The soil is so relaxing. They're exercising their vision, their balance, and their senses are all more enhanced…I think it helps children with their emotions being outside more. Being outside, it's all around good for them. It helps children with ADD and ADHD and depression. I am ADD. I am working on a paper on ADHD. From everything I read the outside is like a big natural medicine for a lot of stuff."

Other comments made by Amber suggest, however, that practicing this knowledge has not always come easily:

> *"At home one of my sons doesn't want to go outside – it's a hassle – but here (at school) he goes outside and enjoys it. It's not as much fun to go out at home, but (school) has helped him. It gets him to go outside more in the winter. He looks at things more, like different shapes. We both don't like winter, but we did it (went outside)."*

Parents verbalized and documented hundreds of skills after observing their children at play in the NEC and at home. In parent focus group interviews, parents cited their observations of creative thinking, respect and caring for nature, balance, coordination, spatial awareness, experimentation and leadership skills. Parents also noted the development of independence and multiple social skills, such as sharing ideas and plans with peers, sharing materials, and initiating play with peers. Parents described how engaged their children were during outdoor play and how much their children simply wanted to be outside. One parent shared that her preschool daughter does not engage in class while inside, but as soon as the class goes outside, "she comes alive," interacting with other children and inviting them to move materials and build with her.

Parents recorded 515 individual skills in the 86 Mini Nature Notes and cited 197 individual skills in the 93 Year-End Summaries. Interestingly, we discovered that in the fall Mini-Nature Note observations, parents most often "borrowed" skill phrasing from the *"Key Skills Children Are Developing in the Nature Explore Classroom"* handout that we offered them (Appendix F), though a few came up with their own personal wording. However, when we asked parents to complete the Year-End Summaries in the spring, we offered no additional resources – all phrasing was completely original and authentic to each parent. We noted, in particular, the depth of understanding represented by the skills parents identified in their responses to Item #3: "Please describe any changes you have seen in your perception of what your child learns during outdoor play" (Appendix D). We grouped the 197 skills that parents generated on Year-End

Summaries into 13 categories and charted how often a skill in each category was cited (Appendix G). Parents cited movement and motor skills most often (33), followed by learning about nature (27), creativity and imagination (26), social skills (24), intrapersonal skills (17), visual-spatial skills (16), discovery and exploration (16), science and math skills (13), sensory skills (7), health benefits (6), cognitive skills (6), language and literacy skills (4), and caring for nature (2). The following two examples reflect the original phrasing and careful detail parents used to describe their children's skill development in Year-End Summary responses.

Sara is a mother who was enrolled in Family Center Classes with both of her children, ages two and four, during the 2010-11 school year. On her Year-End Summary she wrote that her family had always spent time outdoors during warmer weather, but close observation of her children during the school year had taught her how much they loved to play outside in winter as well. She noted that time outdoors "affects (my children's) behavior the rest of the day," and she articulated some of the skills she believed her children were developing when they played outside:

> *"I think that what they learn during outdoor play is more beneficial than many hours of indoor play – coordination, cause and effect, appreciation for nature and how fragile or strong it can be, and the freedom it provides to just run and be kids."*

The second example came from a mother of a four-year-old girl who observed her child during parent-child time in the NEC and during outdoor play at home. This written comment from her Year-End Summary demonstrates her awareness of the rich nature-based science and art experiences her child was engaged in and the skills those experiences were fostering:

> *"(My daughter) is gaining basic science knowledge – for example, temperature change, what floats, what sinks, what can be found under rocks, plants have roots, bees visit flowers, seeds yield plants. She also sees nature as a provider of art materials –*

dandelions produce yellow smudges, you can paint with puddle water, and beautiful sculptures can be made with snow."

Parents also demonstrated an understanding of their children's skill development in the Nature Stories they wrote. Petra shared a Nature Story she observed and documented at home, in which she described her two sons, ages two and three, playing "store" in the snow, using pieces of a snow fort some older children had made as a counter and refrigerator to sell "oranges" with imaginary money. In response to the question, "What do you think your child learned from this outdoor experience?" Petra was able to identify a number of detailed skills: math, kinesthetic, social, language and intrapersonal skills, as well as creative representation:

"They were pretending that snow is food and groceries (oranges), recognizing that money has value and is kept in pockets, they were developing fine and large motor skills, learning cooperation and teamwork with siblings and mom, they developed listening skills (conversation), as well as self-confidence and pride."

Kelly recorded this example of skill development and parent support in a Nature Story after observing her three-year-old daughter attempting to navigate a tunnel made from recycled Christmas trees in the Nature Explore classroom in February 2011:

"Anna went climbing through the pine trees – she called it a tunnel first, then a tree fort. She hid in there laughing and saying, "Try to find me!" but she did not want to crawl all the way through. I encouraged her and told her to slither on her stomach like a snake and push the branches out of the way. As she started to crawl through she got scared in the middle but was smiling and laughing at the end."

Kelly was clearly aware of her daughter's delight in wanting to play hide and seek, but her close observation also allowed her to notice the parts of play in which Anna was more cautious. Kelly supported Anna's physical and emotional skill development through gentle encouragement and the engagement of her daughter's imagination. In her Nature Story Kelly documented that through this experience she believed Anna developed two specific skills: "the courage to keep trying and awareness of her body in a small space."

Theme Two: There is value in the simplicity of the outdoor experience.

The second theme that surfaced through our data analysis was parents' understanding of nature's simplicity and the value of that simplicity for their children. After observing their children in the Nature Explore classroom and at home, parents shared many stories of children using simple, open-ended natural materials outdoors and how those materials drove creative, meaningful play. For example, they described children building forts with blocks and tree parts, making a pretend fire with sticks to roast "marshmallows", making witches brew with dirt from the driveway, and creating "mountains" and "castles" with snow. One particularly poignant example of a parent's understanding of the value of simple natural materials to children's play came from Delise, mother of five children, one of which was a preschool student at the Family Center. She recorded and shared this Nature Story about a play experience at home that extended through many weeks in the winter of 2011. The play theme is complex, but the materials supporting it are quite simple:

"Our children, along with children from the neighborhood, pretended that chunks of snow and ice were snow babies. They named them, made snow cradles for them, toted them all over the neighborhood in conjunction with pretending they lived in an Eskimo village. They carved dwellings out of snow banks. On warm days we stored the snow babies in our upright freezer. The babies' names were Gary, Larry, Sherry, Strawberry, Dairy and Merry."

Delise later gave us a copy of a story one of her older daughters had written and typed, called "Snow Babies". Delise's daughter was inspired to extend her play into a literacy activity because of her emotional connection to the experience – a good reminder that emotional connection to a play theme often prompts children to engage even more deeply in meaningful activities and skill development.

Parents also demonstrated a belief that children do not need manufactured toys to have meaningful play experiences – that nature's simple elements alone can provide rich play and skill development opportunities for their children. During the Spring 2010 parent focus group interview, Rachel, a parent who has had all four of her children in Family Center classes over the years, spoke of her family's love of camping. She shared how happy and engaged her children were while camping and how little they needed for satisfying play away from home:

> *"I've noticed that all our children need is to find some sticks and run around in the woods…That's why we camp…We don't take a lot of things for them to do. We've just been more aware of that*."

In the same focus group, Julie, mother of a four-year-old preschool student, described a contrast she had observed in friends to share her value for simplicity and appropriate risk taking:

> *"I have friends with two children. They have a bouncer and a play center, but if the kids go close to the tall grass, they say, "Don't go!" Wallace, my son, loves to go in the tall grass and explore, and he always comes out! Their kids have every toy under the sun, but nature gives children all the toys they need to expand their imagination."*

We synthesized lists of the outdoor family experiences parents described and documented in parent focus group interviews, Nature Stories and Year-End Summaries. Appendix H summarizes family experiences parents recorded that took place in home settings. Parents cited 119 different family experiences that occurred in home settings, which we separated into nine different categories and ordered according to frequency. The largest category featured 46 different ice and snow experiences, followed by animals and insects (22), yard play (15), plants

and trees (11), collecting items (7), walks (7), "out and about" experiences (6), wheeled activities (3), and weather experiences (2).

Appendix I summarizes experiences that parents observed in the Nature Explore classroom, most of which were recorded during a full week in February when all classes spent parent-child time outdoors. Parents identified 77 different experiences after spending time with their children in the Nature Explore classroom. We categorized and ranked these experiences, as well, and discovered that parents described play with ice and snow most often (30), followed by play with trees and tree parts (21), playground equipment and games (9), water play (7), imaginary play (6), gardening (2), music (1), and digging (1).

We discovered that between both lists, the family experiences parents shared were consistently "low overhead" activities that required only simple materials, if any. Outside of a few activities that teachers set up in the Nature Explore classroom during Winter Week in February, most of the home and school experiences cited by parents took advantage of natural materials that already existed in the environment. Belly flopping in the snow, watching a turtle cross the road, looking at the stars at night, collecting rocks, floating leaves in running water – these examples represent the simplicity in the experiences parents identified. None of the experiences required electricity and all came at virtually no cost, outside of the occasional bike, bucket or sled – a notable contrast to the electronics and high-gloss toys that are an increasing part of many children's indoor environments. Outside of a few experiences that occurred away from home (school-based play in the NEC, camping, playing at the beach, playing with shadows in a local field, watching a waterfall) parents observed most experiences at home or in their immediate neighborhoods. In focus group interviews, parents shared their belief that simple, basic materials can support significant skill development in children, and they provided many

examples of how often this learning took place right at home. Mary, a parent of two young children, works as a naturalist at a local nature center. In the Spring 2011 parent focus group interview, she shared how her perception of nature had changed as a result of her Family Center involvement – that nature is, indeed, everywhere, and access often begins in our own backyard:

> *"I always thought that I had to go to a natural area to experience nature – I never thought of my own backyard. When I started coming here I started to realize how much of nature is in our own backyard. We have birds, insects – a pond with frogs and turtles – I'm realizing how much nature is in my neighborhood. Taking a walk around my block, looking at flowers, trees, bugs – it's a very valid experience. I can use what is in my backyard to teach my children about nature and then enhance it by going to nature areas."*

Theme Three: The benefits of spending time outside outweigh the inconvenience.

This theme can best be understood within the context of Minnesota's weather during the 2010-11 school year. The first measurable snow arrived on November 13 – just two months after classes began – and the last snow occurred on May 2. Forest Lake received a total of 86.6 inches, making it the fourth snowiest winter in recorded Minnesota history. The temperature high was at or below 20°F for 41 days (State Climatology Office, DNR Division of Ecological and Water Resources – University of Minnesota and WeatherUnderground.com).

The weather conditions explain why so much of our data were winter based and why they inherently demonstrate the level of commitment our parents made to getting children outside every day – even in the winter – by regularly carting winter gear back and forth each school day. Parents' acknowledgement of the importance of appropriate outerwear was evident in our data. Out of the three parent focus groups and 75 nature stories we analyzed, winter gear (coats, snow pants, mittens, boots, hats, gloves) was referenced 27 times as part of an observation. Preschool parents described the independence their children were learning in putting on their gear. Toddlers' parents talked about their new walkers being challenged by maneuvering through snow all bundled up. A number of FLP parents – many of whom grew up in parts of the world that do not experience winter – talked about how important the gear was and how surprised they were by how warm they stayed when they were dressed appropriately. During warmer weeks, parents described the cause and effect their children were learning when gear got wet – and how wet clothing often dampened the enthusiasm children felt for being outdoors.

Getting young children dressed and ready to play outside in the cold winter months is an involved, time consuming process. As one parent of a two-year-old described in the Spring 2011 focus group interview: "When I put one boot on, she takes it off. After 20 minutes of putting her clothes on – snow pants and layers – we finally go outside." Within the classroom, even though it takes considerable time to bundle a group of young children, teachers believe the effort is worth it, and they gently explain this worth to parents. Parents have consistently supported this commitment by bringing the multiple pieces of clothing children need each day to stay warm and dry outdoors. No one demonstrated this commitment better than Jennifer, mother to triplet sons and a first-time parent in our program this fall. In one of our early parent class discussions, Jen shared that she "wasn't crazy about taking the boys outside," but a few weeks later said she

noticed how much her sons loved time outdoors at school. She mentioned that she was starting to be more intentional about getting outside at home. When winter arrived, Jennifer faithfully got the boys from the car into school in a three-seat stroller, carrying a bag of gear that looked like it might be more at home in a sleigh. The last week of school, Jennifer brought in two beautifully written Nature Stories that had taken place at home (Appendix J), suggesting that she not only valued the time her sons were spending outdoors, but also recognized the skills they were developing during their play (imagination, freedom, visual recall, experiencing size and scale, turn-taking).

When children interact with natural materials like sand, soil and water (and sometimes combinations of the three), the learning may be rich, but parents, teachers and caregivers are left with the inevitable byproducts of outdoor play – dirty hands, feet, and clothing. When adults do not understand the unique benefits and skill development opportunities messy outdoor experiences provide for children, the time required to clean dirty children and their shoes and clothing can feel like a significant inconvenience. We did not ask any interview questions specifically related to messy play or coping with dirty children in any of the parent focus group interviews. However, parents described their understanding of the role dirt can play in children's learning outdoors and changes in their attitudes and behavior related to messy play within the context of other questions. When parents in the Spring 2010 focus group were asked to describe changes in the outdoor space at school since the installation of the Nature Explore classroom, Claire, parent of a three-year-old boy, shared her attitudes toward coping with dirty children after the dirt digging area was added to the NEC:

> *"A lot of times we have the tendency to say, "No, don't get dirty." Now, it's "OK, get dirty." My children play in the mud and I'm like, "OK, it's washable." It's so much more sensory and hands on!"*

In the Spring 2011 parent focus group interview we asked parents what they had observed about their children's learning and skill development in the Nature Explore classroom at school. Alissa, mother of a four-year-old, described how the dirt digging area in the NEC gave her daughter experiences that are not available at home. Through close observation, she recognized a variety of ways her daughter used dirt in her play and the kinds of skills she was developing. She also noticed that her daughter's attraction to the dirt digging area occurred at a very early age:

> *"Abby is able to learn different things (in the Nature Explore classroom) that we aren't able to at home – like digging in the dirt – she has been glued to that dirt since she could walk over there. The playing, the digging, the planting – and imaginative play – she's huge into imaginative play in the dirt in ways we can't provide at home."*

In the Spring 2010 focus group interview, we asked parents what advice they would give other parents regarding children spending time in nature. Nikki, mother to three young children, shared her advice after making observations of her children playing with dirt and mud at home. She described how she intentionally allowed her children to create a mud area at home, but in describing her husband's reaction, she also shared the honest perspective that parents within the same household may not share the same value for children's play with dirt and mud. This is a good reminder that parents develop a comfort level with messy play at different rates:

"I grew up on a farm and the children can play in the dirt up there, but they requested their own mud area at home, so I let them create one by the garden. They carry water buckets out and make mud. Their dad wasn't thrilled…but the children are teaching us that mud is good! I can tell my husband when they are playing in the mud, "That's research, honey. Just leave them alone."

Theme Four: "Good information helps me make good choices."

The fourth theme that surfaced from our analysis of the data was the parent perspective that good information supports good choices as it relates to children spending time outdoors. In seven of our thirty focus group interview questions, we asked parents to describe changes in their thinking and behavior that they felt were "a result of the nature focus at the Family Center." In their responses to these questions, parents described "letting go" of some of the indoor chores that had previously kept them from taking their children outdoors, trading some of the time they had been spending on the computer for outdoor time with their children, dressing appropriately to be comfortable in a wider range of temperatures and elements, and slowing down to meet the pace of their children outdoors. They described relaxing the standards they had previously held for landscaping at home ("letting go of having everything look just right") to give children more opportunities to explore, create, and experiment with natural materials ("loose parts"). They used words and phrases that demonstrated their intentionality in connecting their children to nature ("we're purposeful about it," "we make a bigger effort"). Parents shared an understanding that children's interaction with nature needs to begin early in a child's life. They described being advocates of children's time outdoors to other parents as they shared information on the benefits of outdoor play with spouses, friends, and relatives. Parents also shared that work demands, time constraints, and limited access to nature sometimes made it difficult to make outdoor time a priority, but they nonetheless felt getting children outside was very important and was something they never regretted. They credited the information they had received to parent classes, exchanges with their children's classroom teachers, and observations they had made of their children at home and in the Nature Explore classroom.

One parent, Claire, used information she had received at the Family Center as the inspiration for setting up a "nature room" at her in-laws' home in Jordan where she and her family often spend their summers. She began by asking her parent educator if she could use some class time to poll other parents for ideas on things she could bring in a suitcase. She described her experience in the Spring 2010 parent focus group:

> *"In the summers we spend time in a very urban area in Jordan. (Note: Claire told us later that there is no "green" in this area anywhere – you can't even buy potting soil.) We collected natural materials: cattails, bark, weeds, and put them in boxes to take with us. We created murals on the walls of the room…a desert, a forest, and a beach. We planted sunflower seeds in the boxes we carried things in. Everything had to be brought in suitcases! We put mattresses down in the room and a table in the middle with flowers and planted grass. We added wind chimes and natural items. My kids love it, and the kids in Jordan think it's great, too. They say, "Oh, we want to grow things, too. Do you have any extra seeds?" The adults don't really get it. They are so used to that environment. They think I'm the crazy American! The inspiration for this came from the Nature Explore Classroom. Our oldest daughter has Aspergers. These are the things that calm her down. So I thought, "We need to figure out how to transport this."*

Some of the most notable examples of information changing parent perceptions and behavior came from focus group interviews with parents in our Family Learning Program. Cold

winters in Minnesota are new to many of the immigrant families in this program. Some parents not accustomed to winter came into the class believing that cold weather makes children ill and can be dangerous to their health. Yomaris is a parent in our FLP program who grew up in the Dominican Republic. She shared how information she received in parenting class helped clear up some misconceptions she had about the outdoors and how she changed some of her parenting as a result:

> *"I thought my children were going to be sick (if they went outside), but I learned that children are more healthy outside. They can breathe fresh air and get – what is it?...Vitamin D from the sun. Inside there is more bacteria. Before I thought it was too cold. Now I let my children go outside in the backyard. I let them make a hill and slide down the hill. My older one likes to play Nintendo. I say, "How about going outside (instead)." He'd go outside (to shovel the deck) and forget about the game."*

Winter can be the cause of considerable anxiety for parents who believe that cold weather is a health hazard to their children, as was the case with Wana, who grew up in Laos. Wana also shared examples of how new learning had changed her perceptions about children and their interactions with nature in the winter:

> *"(I used to think) winter is so cold. If we would go outside we would get sick. Since my last two years in the program, I let my boys go outside every day for an hour. They are healthier and sleep better. I learned how to like the cold. I used to think winter was so long, how soon will spring come? Now I relax."*

While the information shared in class on nature's benefits spurred some parents to get their children outdoors more regularly – even in winter – it encouraged other parents to spend more time outdoors themselves. Maria is a mother of five children who enrolled in our FLP program three years ago so she could work on her English skills. Maria grew up in Puerto Rico and during her first winter in the program, she called in often to say it was "just too cold to come to school." Over the years, Maria took information related to the calming effects of nature to heart, as was evidenced in a story she told in the FLP parent focus group interview:

> *"When I see my kids very fussy – I just stop and we go outside. I did that during spring break. My little one was very fussy. It was three days that we didn't go outside. I realized I needed to stop cleaning and go outside. We went (sledding) on the hill at church. My daughter loved that and had so much fun. We spent two hours there and later I was better cleaning because nobody was mad at home – everybody was happy."*

In February 2010 we took FLP families to a local nature center for a winter field trip. Maria and her children came fully dressed for the experience, and Maria made a point of trying every activity including snowshoes, Swedish kick sleds, snow art, and taking a winter hike through the woods. This past spring Maria announced that her family would be moving to Florida in June. Her changed attitudes about winter were poignantly reflected in her wistful comment toward the end of the focus group interview: "I finally did a good snowman this year. I made an igloo, too. I'm going to miss snow."

Program Role and Identity

The data suggest that program components both validate existing beliefs and inspire new awareness. Many families already had a commitment to outdoor activities and experiences before attending classes at the Family Center. For these families the program focus on

connecting children with nature validated and strengthened their existing beliefs. For other families the focus encouraged them to think anew about family time outdoors, reassess family priorities and make simple changes in behavior.

The following examples demonstrate how program involvement validated existing parental beliefs. In the spring 2010 focus group interview Rachel explained the way the program focus on nature brought new awareness to her family:

> *"We've always been really outdoorsy, but (the nature focus at the Family Center) has made me more aware of how important it is. It makes more sense and we're more intentional about it."*

John provides much of the at-home care for his son Austin. While participating in a parent focus group in April 2011 he described the impact of teacher encouragement on his motivation to take Austin outside. John described how information received in class and simple encouragement from Family Center teachers reinforced his existing knowledge:

> *"One of the nice things about the Family Center is that as a parent I'm supposed to be doing X, Y, Z – and shouldn't be doing X, Y, Z – but it's nice to have it reinforced. Having someone else say it reinforces it in my brain. This winter two teachers said, 'You should go outside – make the effort.' Now I'm much more likely to go outside and get (my son) to look at the rocks, bugs, bees. When I am exposed to (teachers) saying, 'This is a good thing,' I am more likely to do it."*

A parent who had attended classes at the Family Center for many years wrote on her Year-End Summary that she acquired new layers of understanding about her children's outdoor play: "Every year that we have been at the Family Center, it gets brought to my attention more – new things the kids are learning about outdoor play."

Nikki has attended Family Center classes with each of her three children. In the spring 2010 parent focus group Nikki described how her attitudes about the importance of indoor responsibilities changed when she gave more thought to the impact of not going outside.

"Yes, we're outdoor people, but I've spent a lot of time indoors (in the past). When we started at the Family Center, it was a reality check for my family. It's a lifestyle. You have to start when the children are tiny. In the summer, I let go of the house a little. I'm more lenient because I think it's more important that I'm outside with them. That's a change. Before I'd say, 'No, I have to get this done and that done.'"

Nikki also recognized that her children's perspective had an influence on the entire family:

"(Experiences in the Nature Explore Classroom) have changed our perspective on what a playground is. My parents were trying to clean up their farm and (my son) said, "Grandma, you can't take that away…that's my playground!" There are 80 acres of logs and piles of branches out on it. (The kids) keep moving sticks. In the front, they have a play structure with swings and a glider. They don't use it a lot."

While completing the Year-End Summary parents reported new ideas and observations they had discovered during the school year: "I feel I see endless learning opportunities in our backyard, on walks, at the park that I know I didn't see a year ago." Another parent recognized the richness of the environment due to the simple change in the seasons:

"I didn't realize just how much being in an environment that is constantly changing gives kids such a natural way to have variety in their play! I am better at focusing on plants, flowers, rocks, smells, sounds, etc. to encourage the natural love of nature!"

A third parent documented the change in pace when using close observation skills: "We take time to look at things I would have otherwise walked right past." Each of these parents demonstrated new insights into the value of time spent outdoors.

Sharing Information with Parents and Staff

Parent involvement is built on layers of information. Effective and lasting program change begins with staff training and understanding. Teachers and other staff members are a rich source of information for program participants and one of the most valuable tools in affecting parent attitudes and beliefs. For a program to maintain a focus, staff need to know that the focus will be steady and consistent, not fluctuating with the latest trend or educational catchphrase. It is critical to create and maintain staff understanding before bringing parents on board with any new idea or change in philosophy.

When the decision was made to create a Nature Explore Classroom at the Family Center it required a commitment from both administration and teaching staff to get children outside on a regular basis and incorporate the NEC into the platform for children's learning within the program. The NEC was a visual symbol of a new and important program focus - connecting children to nature. Part of that focus was a commitment to staff development and parent education about the benefits of outdoor play for children's learning and development.

In order to sustain the program focus on children and nature, staff development over the past years has included workshops on visual spatial learning, music and movement, how to use the NEC, teaching with nature across the curriculum, gardening and incorporating art into outdoor learning. All staff received training on how to record Nature Notes. The progress of the research project was reviewed every fall with the full staff. Using a simple form titled *Sustaining the Momentum*, feedback was solicited from teachers and paraprofessional staff as

part of the research review. Classroom staff serves as the primary point of contact for many parents so it is essential that they are well trained and informed.

The second layer of parent information is program-wide information and experiences. Opportunities to share information with parents begin the moment that a parent walks through the front door. From the visuals in the environment to shared information and activities, we intentionally present parents with a consistent and focused message about the value of connecting children to nature. Examples include information shared through weekly teacher newsletters or parent teacher conferences. This information may include ideas for home-based activities, details of upcoming events, reports of what children are learning and skills they are developing through outdoor play. As part of the fall parent orientation the program coordinator talks about our focus on children and nature along with the on-going research project at the site. Many families visit the NEC during fall open house. Visuals in the environment are powerful reminders that we value outdoor time for children. Photos of children playing in the NEC are displayed along school hallways and in parent waiting areas. These display boards have also been used to highlight nature photos taken by children and feature photos of parents and children outdoors together. Teachers send home "Discovery Backpacks" filled with exploration tools such as a magnifying glass, tweezers, collection bag, binoculars and a nature journal, to provide a home to school connection, which underlines the value of spending time outdoors with children.

Finally, parents are invited to engage with their child in nature through direct involvement. Periodically through the school year, families spend the parent-child portion of class interacting together in the NEC. In February 2011 we celebrated Winter Week, a week of winter based outdoor parent/child activities. Parents throughout the program participated in

Winter Week, which provided them a chance to move from discussion to hands-on experiences. Field trips to local nature centers are offered as part of preschool classes and occasionally are open to community families. Parents are asked to share ownership in the NEC by contributing items such as recycled Christmas trees, tree cookies, stumps, fabric or other needed materials.

The final layer of information for parents at the Family Center is delivered through parent education classes. Classes at the Family Center are staffed by licensed early childhood teachers and parent educators. Parents with children ages birth to three attend with their children one day per week. Parents in selected preschool classes for three to five year olds also attend regularly. During these parent days parents spend approximately half of the class time in the early childhood classroom participating in parent-child activities throughout the room. During the second half of the class, parents meet together in a separate room with the parent educator. The Minnesota Parent Education Framework provides the structure for parent education topics which include child development, parent development, parent/child relationships, family relationships and culture and community. Parents receive information and support through guided discussion,

direct instruction and written resources. Parent education classes serve as a wonderful platform to reinforce program-wide messages in a more detailed and tailored fashion.

The following are examples of how lesson plans and activities, developed at the Family Center, are used to reinforce the importance of connecting children to nature through direct teaching. Parents are asked to read "Did You Know" research facts to spark discussion about the many benefits of getting children outdoors. Parents and children work together to find the different areas of the NEC using "Seek and Find" activity sheets. Parents are challenged to think about where they fall on a continuum of "I Love Being Outside" versus "No, Thank You". This is followed by an opportunity to for parents to think about where they would place themselves as a child and where their own children would fall on the same continuum. This activity sometimes opens a discussion of why being outside is a challenge for some families. Parent educators use a "Gearing up for Winter" activity to teach parents about the importance of having and using appropriate winter clothes and gear for both children and adults. Parents always welcome ideas for family activities such as the Nature Explore Families Club materials. Parent education classes also incorporate video clips, website information and materials from other sources.

Documentation activities are used to help parents better understand their children's skill development in the outdoor environment. Simple observation is used in a Mini Nature Note activity. Parents observe their child playing in the NEC and record what their children were doing and the skills their children were developing. Parent educators created a "Nature Story Form" to encourage parents to observe their children and record play and skill development. Through these written summaries parents demonstrated close observation skills and their understanding of children's learning. "Getting to Know You" forms are used by parent educators to gather information about topics of interest and general information about class

participants in the fall. At the end of the school year a similar form is used to allow parents to reflect on their own learning during the year and also changes in their children or families as a result of their participation in Family Center classes. In Fall 2010 the following questions were asked on the "Getting to Know You" form:

1. How often does your child play outside?
2. What does she/he do while playing outside?
3. How often do you play together outside?

Follow up questions on the spring 2011 form were asked in the context of changes seen in:

1. The amount of time your child spends outside
2. The amount of time your family spends outside
3. Your perception of what your child learns during outdoor play.

This year-end reflection is a valuable source of self-report from parents on how Family Center involvement changed behaviors and perception.

Discussion

Parents in our study echoed the current literature on children and nature in their recognition that spending time outdoors is a good thing, worthy of precious family time. Part of this value placed on outdoor play was clearly cultivated by information shared through Family Center classes and interactions with staff. Not only did parents describe the general value of their children spending time outdoors, but they were able to articulate the deeper reasons behind their belief – health benefits, unique opportunities for learning and skill development, greater levels of calm and happiness. Parents compared the experiences their children were having in outdoor settings to experiences in indoor environments, and they described the unique qualities of outdoor materials, sensory experiences, and spaces. Parents recognized that these unique

qualities provided unique opportunities for learning. This is significant, because if parents believe that what children learn outdoors is merely duplicating what they can learn indoors, they are less likely to add interaction with nature into busy lives. Parents want to do what is best for their children, and if they understand that daily interaction with nature can yield distinct health and learning benefits, the impetus to get outside becomes stronger.

Most importantly, parents were basing their belief that time outdoors is a "good thing" on the personal experience they had gained through close observation of their own children. They believed in the goodness of the outdoor experience, not from just hearing or reading about it, but because they had witnessed the impact nature had on their children first-hand. Close observation of children's behavior and emotions is the foundation for effective parenting in any setting. Though the observations made by parents in this study were made exclusively in outdoor environments, the skills parents practiced and the new understanding they gained about their children can be translated to other parenting situations. Close observation provides critical feedback to parents on children's temperament, motivation, and understanding of the world. This feedback then guides effective parental response and support, allowing children to feel acknowledged, understood, and supported in their growth.

All parents yearn to raise children who are happy and thriving, but new millennium parents are bombarded with a complicated mix of messages telling them how to go about that. Contemporary parents receive strong, well-financed marketing messages from toy and media corporations that suggest toys and experiences need to be purchased, sometimes at great cost, to be "educational" (Thomas, 2009). Krister Svensson, director of the International Toy Research Center in Stockholm, is one of the growing number of voices that caution against adult-directed, "targeted learning" at very early ages: "Parents who use learning toys to hothouse their child can

become frustrated if the child is not progressing as fast as they would like. The seeds of failure can be sown before the child learns to talk. Ideally, the act of play must come from the child's point of view – not the parents" (Wall, 2006). Our previous research on preschool children's skill development contradicts the message that children need adult-designed, manufactured learning toys in order to thrive. Our findings suggested that the more simple, natural, and open-ended the material, the greater the opportunity for learning (Bohling et al., 2010). In this year's study many parent stories reflected the value of the simplicity found in the outdoor experience. As parents shared their stories they demonstrated an understanding that simple materials and experiences present great educational benefits for their children. These findings can help parents to see the weight of simple interactions with nature – that when a child pretends that a low hanging branch is a car wash, it is more than just "a cute kid thing" but a rich opportunity for discovery and learning. Our findings can also help parents resist marketing messages that imply the superiority of manufactured toys, allowing them to recognize the substantial educational properties of the natural materials in their own neighborhoods.

Interestingly, most of the data contributing to the simplicity theme came from home settings. Parent stories like "Snow Babies" demonstrated how simplicity in materials can drive complexity in play. Parents expressed confidence in being different than their neighbors by allowing nature to "give children all the toys they need." Their stories validate the backyard experience – helpful to families who long for permission to opt out of the hectic programming of life and just spend time without an agenda. The synthesis of our data, particularly the lists of family experiences in outdoor settings, can assist parents who are not quite sure what to do once they get outdoors by giving them 116 simple ideas to try.

Current average annual child-rearing expenses for families in the United States range between $11,650 and $13,530 per child (Lino, 2010). In 2009 families in the United States spent $41.2 billion on traditional toys and video games (Mantell, 2010). In tough economic times, our findings can be helpful to families living within modest means looking for inexpensive ways to support children's learning. Nearly all of the 116 at-home family experiences parents shared were easy to access and available at no cost, outside of the investment in outerwear and footwear.

Making a conscious choice to get children outdoors is not always convenient for parents. Children get wet and dirty. They need sunscreen in the summer and many layers of warm clothing in the winter. Indoor chores and responsibilities demand adult attention. Parents spoke about these obstacles to getting children outdoors in the data, but they went on to describe benefits they felt outweighed potential inconvenience. In some cases, they were able to articulate benefits directly associated with the extra effort – children learning sequencing and independence as they put on winter gear or the cause and effect lessons learned from getting wet. Time is a fixed commodity for all families – our data suggest that time outdoors offers dividends that trump the hassle.

Increased levels of personal confidence inspired parents to reconsider the inconvenience of taking children outside. As parents became more aware of the benefits interaction with nature provided for their children, they voiced more confidence in their own role in supporting family time outdoors. Parents observed how happy their children were outdoors, how well they played together, and how much they were learning as they interacted with nature. They described how these observations made them feel like good parents. Parents recognized that they were doing

something very important for their children when they provided opportunities for interaction with nature – even when the commitment required them to reorganize the priorities of the day.

Throughout the data, parents gave examples of how research-based information and experiences they received at the Family Center inspired their choice to be more intentional about children's time outdoors. Our findings illustrate that information on nature's benefits resonated with parents across a broad demographic spectrum (e.g., socioeconomic, gender, education background, culture). Information related to children's health left a particularly large imprint. In several cases, parents with the least amount of initial comfort in outdoor settings (e.g., those who believed that children would get sick if they went outdoors in cold weather) demonstrated the highest levels of behavioral change. For these parents, going outside in winter was not part of their repertoire when they enrolled at the Family Center, but information they received in classes changed their personal comfort level in substantive ways. Parents began to choose time outdoors in winter not only for their children, but for themselves, as well. When parents described making a commitment to consistent, daily time outside, they were representing a clear shift in priorities. The findings of our study indicate that solid, research-based information on nature's benefits, provided by trusted teachers, can influence parental awareness and behavior in compelling ways.

This relationship between information and changed behavior has significant implications for educators who want to encourage families to spend more time outdoors but do not know how to inspire changes in behavior. In a previous article on the engagement of parents in connecting young children to nature (Bohling & Saarela, 2009), we described five distinct levels of parent engagement from a program point of view: 1) staff experience and commitment, 2) children's experiences, 3) parent-child experiences, 4) independent parent initiative, and 5) parent-community partnerships. Each of these levels was present in our data, beginning with the staff

experience and commitment that was present and significant in each of our four themes. Family Center teachers, who were themselves inspired by information on nature's benefits, went on to slowly and steadily direct parents to the same information. Parents were given a number of opportunities to observe and interact with their children in the Nature Explore classroom at school, in each season of the school year. These parent-child experiences allowed parents to collect first-hand evidence of their children's learning and enjoyment in a natural outdoor setting. In parent focus group interviews, Nature Stories, and Year-End Summaries, parents described how information and experiences they had received at school helped them take new initiative at home. Parents recognized that daily interaction with nature at home was not only good for their children, but helped the adults in the family feel healthier and reenergized, as well. Parents viewed spending time outdoors as something good parents do, which bears significant implications for the longer-range sustainability of their choices. A few parents described how they used information they received at the Family Center and recognition of their own changed behavior to encourage and inspire others in the community – the pinnacle achievement of a program's mission. Relationship-based practice was a consistent thread through each of these levels – an important consideration for programs eager to inspire parents to spend more family time in nature. Relationship-based practice serves as a foundation of trust with parents and a platform for changes in parent awareness and behavior.

Recommendations

Based on the findings of this study, we offer several recommendations for the target audiences of this study:

For Parents/Caregivers:

- Make a firm commitment to getting children outside on a daily basis, in every season. Secure appropriate outerwear and footwear so that children and adults are dressed appropriately to be warm, dry and comfortable during play outdoors. Intentionally place outdoor time on the family schedule or calendar, giving it the same weight as other important appointments and time commitments.
- When children become wet or dirty, focus on the skills and competencies they are developing during their investigative play, despite the inconvenience involved in cleaning them up. Allow children the freedom to get dirty, and recognize that dirty children are learning!
- Accompany children outdoors and watch for detail in their play. What are the notable differences in how children move, play and interact outdoors versus indoors?
- If natural items are scarce in the child's outdoor environment, add a few simple materials (dirt, large sticks and other tree parts, water) and watch for sparks in creativity, problem solving and imaginative play.
- When selecting schools and childcare settings, look for programs that provide daily outdoor time for children throughout the year in spaces that support interaction with authentic natural materials.
- Ask professionals in the community who work with children (e.g., pediatricians, teachers, naturalists) to share information on the many health benefits children reap when they play outdoors in natural settings.

For Educators/Administrators:

- Provide ongoing training, education and support to help teachers become comfortable taking children outdoors and cultivate a growing staff commitment to children's learning in nature. The role of the teacher in providing information and positive modeling to parents is critical.
- Make a commitment to getting children outdoors and helping them connect with nature. Create intentionally-designed spaces for outdoor exploration and provide natural materials that will facilitate learning.
- Seek professional development opportunities that address children's learning and skill development outdoors. Collaborate with colleagues to identify ways existing curriculum can be taught and experienced outdoors.
- Survey parents about the time their families spend outdoors. Doing so will not only gather helpful information, but will in itself communicate the organization's value for learning outdoors.
- Partner with parents at every opportunity to convey the message that "outdoor time is good for kids" – at orientation sessions, in classroom newsletters, during parent-teacher conferences. Parents want reassurance that when they take the time to spend family time outdoors – even in their own backyards – they are supporting their children's health, learning, and well-being in wonderful and unique ways.
- Model a commitment to learning outdoors for parents. Balance technology use with "unplugged" time outdoors that encourages greater social exchange, more movement, and higher levels of sensory integration – for children and adults.

For Policy Makers/Funding Entities:

- Provide tangible, financial support for schools and other organizations that want to make a commitment to creating outdoor spaces for children and families.
- Develop multi-media public service announcements, targeted to parents, which promote the health and learning benefits of outdoor play.
- Support community initiatives that encourage family time outdoors and interaction with nature. Farmer's markets, co-op gardens, and safe and convenient access to public parks and green spaces can contribute greatly to a more deeply connected community.
- Develop policies that protect children's outdoor time within the school day, leaning on existing research that points to outdoor interaction as learning time, rather than lost time.
- Provide incentives for families to consider permaculture designs in home settings rather than time-intensive landscaping that allow for higher degrees of sustainability and conservation of natural resources, while also providing children with a rich, natural learning environment.

One final note for those who work to support parents and families: Parenting is sometimes tricky to discuss. Many would argue that there are definite "right ways" and "wrong ways" to raise children, but those points have historically varied from person to person, from population to population. However, this research suggests that nature is unique in its ability to cut across demographic lines with an appeal for families at every point on the spectrum. Nature is a part of every culture, it defies socio-economic or gender containment, and it has value for every age – from cradle to grave. We need, however, to be mindful that "progress" in connecting

with nature looks different for every family. It is important that we carefully and respectfully assess each parent or group of parents and meet them where they are. Just getting outside and playing "in nature" for any length of time is the entry point. As experience and information grow, families are more likely to spend time playing "with nature" as well.

In a landmark study published in 2000 as "Ask the Children" researcher and author Ellen Galinsky asked 1,000 children, "If you had one wish for your parents what would it be?" Most adults expected that children would wish for more family time. In reality the children were more likely to wish that their parents were *less tired* and *less stressed*. We believe the observations and experiences shared by the parents in our study, particularly those that underscored the calm and simplicity found in nature, can play a significant role in granting this wish…for children and their parents.

References

Akinbami, L. J., & Schoendorf, K. C. (2002). Trends in childhood asthma: Prevalence, health care utilization and mortality. *Pediatrics*, *110*(2), 315-322.

Bohling, V., & Saarela, C. (2009). Small steps into the great outdoors: Engaging parents in the connection of young children to nature. *Children and Families*, *23*(2), 28-32.

Bohling, V., Saarela, C., & Miller, D. L. (2010). This never would have happened indoors: Supporting preschool-age children's learning in a nature explore classroom in Minnesota. Based on research conducted at the Family Center, Forest Lake Area Schools, Forest Lake, MN. Retrieved on August 15, 2011 from http://www.dimensionsfoundation.org/research/index.cfm

Bouchard, C., & Katzmarzyk, P. T. (2010). *Physical Activity and Obesity*. (2nd ed.). Champaign, IL: Human Kinetics Publishers, Inc.

Burdette, H. L., & Whitaker, R.C. (2005). Resurrecting free play in young children: Looking beyond fitness and fatness to attention, affiliation, and affect. *Archives of Pediatrics & Adolescent Medicine, 159*, 46–50.

Cosco, N., & Moore, R. (2009). Sensory integration and contact with nature: Designing outdoor inclusive environments. *North American Montessori Teachers' Association Journal, 43*(2), 158-177.

Fjortoft, I. (2004). Landscape as playscape: The effects of natural environments on children's play and motor development. *Children Youth and Environments*, *14*(2), 21-44.

Galinsky, E. (2000). *Ask the children: The breakthrough study that reveals how to succeed at work and parenting*. New York, NY: Harper Collins.

Hart, R. (2002). Containing children: Some lessons of planning for play from New York City, *Environment and Urbanization*, *14*(2), 135-148.

Hewes J. (2002). *Let the Children Play: Nature's Answer to Early Learning.* Ottawa, Ontario: Canadian Council on Learning, Early Childhood Learning Knowledge Centre. Retrieved on April 15, 2010 from http://www.ccl-cca.ca/NR/rdonlyres/A112461B-030B-4156-A1A2-E380BF998535/0/LearningthroughPlay_LinL.pdf

Kellert, S. (2002). Experiencing nature: Affective, cognitive, and evaluative development in children. In P. Kahn and S. Kellert (Eds.), *Children and nature: Psychological, sociocultural, and evolutionary investigations* (pp. 117-151). Cambridge, MA: MIT Press.

Lino, M. (2010). Expenditures on children by families, 2009. U.S. Department of Agriculture, Center for Nutrition Policy and Promotion. Miscellaneous Publication No. 1528-2009.

Mantell, R. (2010). Despite tough times, parents spend big on kids. MarketWatch, Inc. Retrieved on September 30, 2011 from http://www.marketwatch.com/Story/story/print?guid=80BA638A-54E6-435C-8A84-C0A1FA5EC20F

Miller, D. L., Tichota, K., & White, J. (2009). Young children learn through authentic play in a nature explore classroom. Based on research conducted at Dimensions Early Education Programs in Lincoln, NE. Retrieved on August 15, 2011 from http://www.dimensionsfoundation.org/research/index.cfm

Taylor, A. F. & Kuo, F. E. (2006). Is contact with nature important for healthy child development? State of the evidence. In C. Spencer and M. Blades (Eds.), *Children and*

their Environments: Learning, Using and Designing Spaces (pp. 124-140). New York: Cambridge University Press.

Thomas, S. (2009). *Buy, buy baby: How consumer culture manipulates parents and harms young minds*. New York, NY: Houghton Mifflin Harcourt Publishing Company.

Valentine, G. (2002). "Oh yes I can." "Oh no you can't." Children and parents' understandings of kids' competence to negotiate public space safely. *Antipode, 29*(1), 65-89.

Valentine, G. & McKendrick, J. (1997). Children's outdoor play: Exploring parental concerns about children's safety and the changing nature of childhood. *Geoforum, 28*(2), 219-235.

Veitch, J., Bagley, S., Ball, K., & Salmon, J. (2006). Where do children usually play? A qualitative study of parents' perceptions of influences on children's active free-play. *Health & Place, 12*(4), 383-393.

Wall, B. (2006). Ambitious parents spend on educational toys for toddlers. Your money. NYTimes.com. Retrieved on September 30, 2011 from http://www.nytimes.com/2006/11/24/your-money/24iht-mtoys.3654661.html?pagewanted=all

Weir, L., Etelson, D., & Brand, D. (2006). Parents' perceptions of neighborhood safety and children's physical activity. *Preventive Medicine, 43*(3), 212-217.

Appendices

Appendix A

Parent Focus Group Interviews

April 19, 2010
Interviewees were parents enrolled in infant, toddler, and preschool family classes
Interview Questions:

1. How would you describe the most significant changes in the outdoor space since we created the Nature Explore classroom?
2. Describe any changes you have made in your home environment as a result of the nature focus at the Family Center.
3. How have your children's experiences in the Nature Explore classroom benefited them?
4. What have you observed about your children's learning and skill development in the Nature Explore classroom?
5. How do you think about outdoor experiences differently due to the focus on nature at the Family Center?
6. What changes have you noticed in the indoor spaces in the last few years?
7. What advice would you give other parents regarding children spending time in nature?

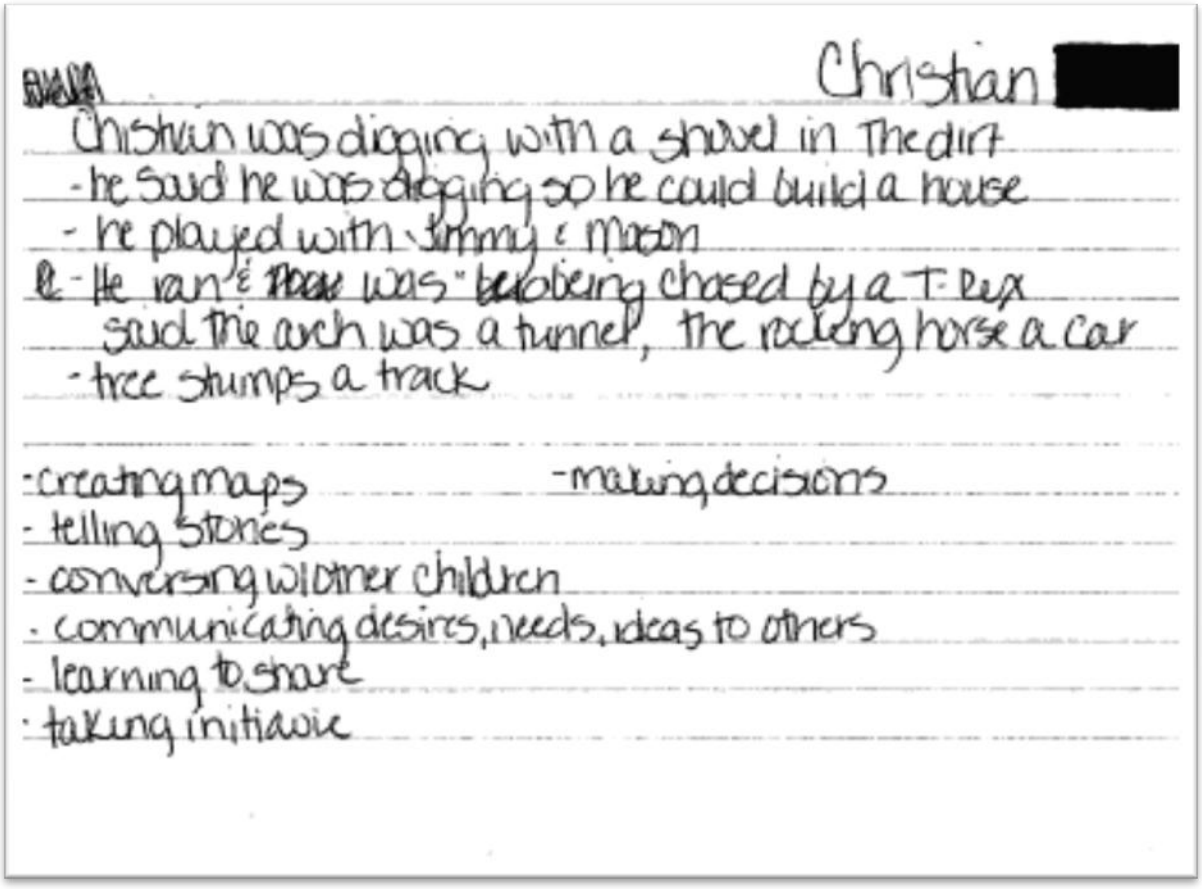
April 5, 2011
Interviewees were parents enrolled in infant, toddler, and preschool family classes
Interview Questions:

1. What have you observed about your children's learning and skill development in the Nature Explore classroom?
2. How do you believe your children's experiences in the Nature Explore classroom have benefited them?
3. How do you think about outdoor experiences differently due to the focus on nature at the Family Center?
4. How would you describe any changes you've made in your home environment/family activities as a result of the nature focus at the Family Center?
5. As a result of the Family Center's focus on nature, what changes have you experienced personally as a parent?
6. What advice would you give to other parents regarding children spending time in nature?

April 5, 2011
Interviewees were parents enrolled in the Family Learning Program
Interview Questions:

1. What have you noticed your children learning in the Nature Explore classroom?
2. How do you believe your children's time in the Nature Explore classroom has helped them?
3. How would you describe any changes you've made at home because of the nature focus at the Family Center?
4. As a result of the Family Center's focus on nature, what changes have you noticed in yourself?
5. What information from the parent class has been the most helpful in encouraging you and your children to spend time outdoors?
6. What advice would you give to other parents about children spending time in nature?
7. What other thoughts would you like to share with us?

Appendix B



Christian [redacted]

Christian was digging with a shovel in the dirt
- he said he was digging so he could build a house
- he played with Jimmy & Mason
- He ran & there was "bebobieng chased by a T-Rex
said the arch was a tunnel, the rocking horse a car
- tree stumps a track

- creating maps
- telling stories
- conversing w/other children
- communicating desires, needs, ideas to others
- learning to share
- taking initiative
- making decisions

Appendix C

Nature Story

Here is your chance to contribute to our Nature Explore research project by sharing your outdoor stories...

Date of observation _____

Child's Name _____Age _____Class _____

Parent's Name _____ Teacher_____

Describe the outdoor activity (time, place, what child did and said; what you said and did).

Add a photo if you can!

What do you think your child learned from this outdoor experience?

Not a Stick
by Antoinette Portis

Appendix D

Spring 2011

Getting to Know You

Your Name_____ Child's Name _____

Age: Years _____Months _____

How have you grown as a parent this year?

What topics stand out as the most useful from our discussions? How have they been beneficial to you?

Please describe any changes you have seen in:

The amount of time your child spends outside…

The amount of time your family spends outside…

Your perception of what your child learns during outdoor play …

Appendix E

Analysis Form **Parent Note#:**

Teacher _____ Observation Date_____ Analysis Date _____

Setting/class _____ Parent _____

Analyzed by:

What is the activity / story?

Significance of this entry:

Beliefs: perceptions, identification of benefits	Observation: identification of skills
Changes in perception, behavior	Changes in family experience
Program Role:staff, curriculum, activity, environment, needs assessment	

Forest Lake 2010-11

Appendix F

Key skills children are developing in the Nature Explore™ Classroom

Visual-Spatial ☐ observing closely ☐ noticing patterns, details, textures, colors, shapes, sizes ☐ discriminating between objects/types/sizes ☐ developing figure-ground perspective ☐ seeing from multiple perspectives ☐ reading and following maps and recognizing landmarks ☐ understanding concepts such as inside, outside, over, under, around, through ☐ making visual analogies (X looks like Y) ☐ learning about dimensionality ☐ creating maps (spatial orientation) ☐ seeing, storing, retrieving visual images ☐ identifying similarities and differences	**Other/Comments**
Language/Literacy ☐ recognizing and using symbols ☐ telling stories ☐ reading ☐ conversing with other children and adults ☐ recognizing that print has meaning/is verbal language translated to written form ☐ practicing letters, forming words, formatting them on the page ☐ naming ☐ spelling ☐ creating pledges, poems, songs	**Other/Comments**
Science ☐ understanding seasons/lifecycles ☐ learning about plant life, pond life, insects, birds, animals, habitats ☐ learning about hibernation, migration, metamorphosis ☐ formulating research questions/hypotheses ☐ conducting experiments ☐ learning about cause-and-effect relationships	**Other/Comments**
Mathematics ☐ counting ☐ matching ☐ learning geometric shapes ☐ understanding whole-part relationships ☐ understanding scale relationships ☐ understanding diameter ☐ experiencing area and volume ☐ classifying ☐ sorting ☐ understanding time concepts ☐ sequencing ☐ estimating distance ☐ recognizing symmetry ☐ understanding perimeter	**Other/Comments**
Kinesthetic/Body Awareness ☐ using body as a tool and learning to use tools ☐ developing fine and gross motor skills (small and large muscle movement) ☐ developing muscle memory/concepts cemented with repeat experiences ☐ turning body into shapes (helps internalize learning) ☐ creating dances (creative and emotional expression) ☐ experiencing textures and shapes of natural materials (sensory/touch) ☐ developing balance and knowledge of stability ☐ navigating through space (awareness of body in space and proximity of body to objects)	**Other/Comments**
Social/Interpersonal ☐ learning cooperation and teamwork ☐ resolving conflicts ☐ communicating desires, needs, ideas to others ☐ learning to share, negotiate ☐ interacting/collaborating with adults ☐ sharing knowledge and expertise with others (children, teachers, parents)	**Other/Comments**
Intrapersonal ☐ developing critical thinking, questioning skills, abstract thinking ☐ developing respect/reverence for the environment ☐ developing a sense of ownership and responsibility to become good stewards of the environment ☐ developing self confidence, pride, self-efficacy ☐ taking initiative ☐ expressing emotion ☐ solving problems ☐ expressing creativity ☐ taking appropriate risks ☐ conquering fears ☐ making decisions	**Other/Comments**
Construction/Engineering ☐ stacking ☐ making balance ☐ bridging ☐ ramping ☐ making tunnels ☐ making lines (straight, curved, zig-zag, etc.) ☐ making walls ☐ cornering ☐ emptying and filling ☐ supporting ☐ making an opening ☐ making symmetrical ☐ propping ☐ stepping ☐ making enclosures ☐ covering	**Other/Comments**
Creative Representation ☐ making representational models (3D) ☐ making representational drawings, sketches, paintings (2D) ☐ pretending/role playing ☐ using natural objects to represent other things (transference)	**Other/Comments**
Music ☐ keeping a beat ☐ creating music ☐ moving to music ☐ singing songs ☐ matching a pitch	**Other/Comments**

Appendix G

Skills Observed by Parents (n=197) on Year-End Summaries (n=93)

Movement & motor	***Learning about nature***	***Creativity & imagination***	***Social skills***	***Intrapersonal***	***Visual spatial***
33	***27***	***26***	***24***	***17***	***16***
Climbing (4)	*Planting / harvesting*	*Imagination (13)*	*Sharing & taking turns (4)*	*Independence (3)*	*Observing (4)*
Running (4)	*Learning about worms, frogs, trees, ants, sand, plants*	*Making up stories about creatures she sees*	*Interacting (3)*	*Becoming more adventurous*	*Learning how things work*
Jumping (3)	*Describing what clouds look like*	*Pretend play (3)*	*Patience (3)*	*Strength*	*Digging (3)*
Balance (3)	*Changes in seasons*	*Imagination – jumping over canyons, climbing over mountains*	*Social skills (3)*	*Calmed by nature*	*Figuring things out from touching & seeing the "real" thing*
Hand – eye coordination	*Identifying wildlife*	*Using a stick as a wand*	*Engaging positively with others*	*Caring*	*Building*
Endurance	*Learning how plants grow*	*Making up games*	*Transitioning from place to place*	*Better attitude*	*Construction*
Discover what their bodies can accomplish	*Learning plants grow in dirt, birds fly in sky*	*Using nature to create art – dandelion smudges*	*Learning to play with groups and alone (2)*	*Less restrained outdoors*	*Spatial relationships & skills*
Vestibular & proprioception	*Learning about gravity*	*Creative play*	*Compromise*	*Learning responsibility*	*Visual skills*
Coordination	*Learning about wind, birds, rocks, flowers*	*Creativity; building with found materials*	*Confidence & learning to stand up for himself*	*Learning boundaries*	*Learning how to build things*

Appendix G (continued)

Skills observed by parents (n=197) on yr end summary (n=93)

Discovery & exploration	***Science & math***	***Sensory***	***Health Benefits***	***Cognitive***	***Language & literacy***	***Caring for nature***
16	***13***	***7***	***6***	***6***	***4***	***2***
Exploration (7)	*Cause & effect (4)*	*Sensory*	*Learning to have an active lifestyle*	*Problem solving (3)*	*Communication*	*Learning to respect the environment*
Looking for bugs in the sandbox, rocks, grass	*Experiencing speed & distance*	*Using senses- different than indoors*	*Freedom to run and just be kids*	*Learning games*	*Asking questions*	*Appreciation for nature – how fragile or strong it can be*
Adventure (2)	*Comparative concepts*	*Touch*	*Freedom to move*	*Critical thinking*	*Asking for things*	
"No matter what she is doing she is learning- even if it is playing with sticks or rocks"	*Science - plants have roots, bees visit flowers, seeds yield plants*	*Smells, wind on face, touching puddles, throwing rocks into pond*	*Healthy living*	*Decision making*	*Listening – seems like he is in his own little world but he is paying attention to everything!*	
Stages & seasons of life	*Math*	*Using senses – more than inside*	*Vision health*			
Discovery	*Physics*	*Feeling*	*Healthier body*			
Investigating (looking for puddles, watching jet streams)	*Science -temp change, floats & sinks, what is found under rocks*	*Sensory – textures, temps*				
Discovering new things	*Nature experience*					
Experiencing variety in play due to changing environment	*Science (2)*					

Appendix H

Family Experiences at Home

Ice/Snow	***Animals***	***Yard Play***	***Plants & Trees***	***Collecting***	***Walks***	***Out & About***	***Wheeled Activity***	***Weather***
46	***22***	***15***	***11***	***7***	***7***	***6***	***3***	***2***
Building a snowman	*Finding animal track*	*Digging in driveway making witches brew*	*Exploring pinecones at the park*	*Collecting & counting black walnut shells*	*Family walk in winter along a creek trail*	*Playing with shadows in field & ditches*	*Bike rides*	*Observing & identifying daily weather*
Building an igloo	*Feeding goats & horses*	*Looking at the stars at night*	*Floating leaves in water*	*Collecting rocks*	*Going for a walk before bed*	*Playing at beach park in the winter*	*Plowing snow with four wheeler*	*Watching weather*
Burying things in snow	*Fishing & hunting*	*Playing hide & seek*	*Gardening – planting*	*Picking up leaves*	*Neighborhood walks*	*Camping*	*Riding a scooter*	
Catching snowflakes	*Observing insects, bees, pheasants*	*Observing seasonal changes in backyard pond*	*Looking for violets in yard*	*Picking blackberries on daily walk around lake*	*Walking around the block, looking at flowers, trees, bugs*	*Taking children outside at family gathering*		
Creating "snow babies"	*Touching a turtle*	*Running*	*Smelling grass*	*Picking up rocks*	*Walking in pathways*	*Taking pictures*		
Digging a snow tunnel	*Observing trees cut by beavers*	*Swinging*	*Observing cornstalks in empty garden*	*Picking up sticks in woods during a hike*	*Walking on a frozen lake*	*Watching a waterfall & river in silence*		
Making tracks in the snow	*Visually locating & tracking geese flying*	*Observing colors & shapes outside*	*Pretending tree branch is a car wash*	*Picking up garbage on nature walk*	*Walking to the mailbox to get fresh air*			
Shoveling snow	*Watching a turtle*	*Stomping in puddles*	*Playing with leaves*					
Sledding / sliding	*Learning about frogs in back yard*	*Unstructured outdoor play*	*Touching flowers & dirt*					

Appendix I

Family Experiences in the Nature Explore Classroom

Ice/Snow	***Trees & Tree Parts***	***Equipment & Games***	***Water***	***Imaginary Play***	***Gardening***	***Music***	***Digging***
30	***21***	***9***	***7***	***6***	***2***	***1***	***1***
Crunching snow & observing tracks	*Balancing & walking across entire length of large log*	*Climbing on playground structure – alone & with friends*	*Feeling water on the slide*	*Ordering & eating pretend food*	*Watching growth of tomatoes*	*Playing the akambira*	*Digging in the dirt with trucks*
Building with ice blocks	*Counting pine cones*	*Going down the slide*	*Floating stick in water*	*Playing store*	*Planting*		
Riding on a sled – alone and with a friend	*Creating a fort with a friend*	*Throwing balls up the slide and watching them roll down*	*Going fast down wet slide*	*Pretending to be a ballerina, putting on a show*			
Walking on blocks of ice arranged in a row	*Climbing through tunnel made of Christmas trees*	*Playing peek-a-boo with mom at multiple spots on play structure*	*Measuring depth of water in a puddle with a stick*	*Pretending to catch dolphins & sharks in the ice fishing pond*			
Spraying snow with colored water	*Smelling evergreen & pine trees*	*Playing soccer in the melting snow*	*Listening to the water run off the roof*	*Pretending with friends*			
Walking in snowshoes	*Walking on logs*	*Riding on a bouncy airplane*	*Running through puddles*	*Ice fishing in pretend pond*			
Having hot cocoa & graham crackers outside	*Moving materials and building*	*Riding on the large rocker*	*Stomping in puddles*				
Making snow castles	*Collecting pine cones*	*Running & kicking a ball*					
Shoveling snow	*Playing with leaves*	*Playing catch*					

Appendix J

Nature Story

(Note: The following two Nature Stories were originally submitted by the parent as hand-written documentations of observations she made at home. The stories are presented here verbatim, though in typed versions for readability and to allow for the substitution of pseudonyms for children's names.)

Recorded April 21, 2011

Describe the outdoor activity (time, place, what child did and said; what you said and did).

Last fall I had raked leaves into a big pile underneath a row of pine trees-this became a fun place to play at that time, of course. But somehow Sam and his brothers (all 3 years old) remembered this spring (six months later) that this was a fun place to be, despite the fact that most of the leaves blew away and it's not fluffy anymore! Anyway, Sam had his Little Tikes "cozy coupe" car over there and must have noticed that the draping branches of the pine tree were like a car wash! So that became the "car wash" area for a week or so. (Their interests have moved on now…).

What do you think your child learned from this outdoor experience?

Great use of imagination! Learned to see nature in a fun way and apply it to a memory of something fun. We're thrilled to have a big backyard full of all kinds of nature for our three boys to explore.

Appendix J (continued)

Nature Story

Recorded May 1, 2011

Describe the outdoor activity (time, place, what child did and said; what you said and did).

This winter Caleb's godfather gave him a Little Tikes basketball hoop and since it's finally nice outside, I put it together! There was initial excitement then inevitable fighting over the one ball that came with the set….At one point I looked around and couldn't find Jon (panic!) but heard giggling from inside the big box that the basketball hoop came in. Sure enough, Jon was in the box having a blast. Caleb soon climbed in too and since there wasn't room for Sam, he gently sat on top. This continued for a good 45 minutes – a different set of two, inside, at any given time. I suppose this same activity would have happened inside, but since it's an outside toy I thought it would apply!

What do you think your child learned from this outdoor experience?

Toddlers love small spaces, of course, but maybe there was something unique about finding a small space in the great outdoors that was special? Our house is really small so we wouldn't have had such a big box in the playroom anyway. They all learned continued lessons of turn taking since only two would fit inside the box at a time; and I learned that boxes are way more fun than the toys they contain!