



The Expressive Languages of Children



ACT is an innovative initiative which integrates local artists into early learning and licensed child care programs. MCRC is the lead agency for this initiative, and thanks to a 3 year GROW grant from the Ontario Trillium Foundation, MCRC has been partnering with Oakville Parent Child Centre to grow the ACT initiative into the Oakville community.

Artists and educators work collaboratively to listen deeply to children and offer a variety of materials and experiences that support them in sharing their ideas, feelings, questions and theories in multiple ways. Families are viewed as partners in this initiative, and thinking and learning is captured through a process called pedagogical documentation.



ACT Partner:



www.mcrc.on.ca/act-initiative

Funding for ACT
provided by:



“Children are at the forefront of teacher research. The studies are usually designed to help teachers gain new ways of seeing children, develop deeper understandings of children’s feelings and growth, and become more responsive to children,”

(Henderson, Meier, Perry & Stremmel, 2012, p.2).

Our 2018 Exhibit is a compilation of various kinds of teacher research conducted throughout the past year. Some educator-artist teams began their work with a particular question in mind while others came to a question or big idea as they studied the children’s work and experiences over time. Research helped to give visibility to children’s strengths and intelligence and the possibilities that exist when adults slow down and take the time to really see and *listen* to children.

As you engage with the exhibit, we invite you to consider the following:

Which story are you personally most drawn to? Why?

Notice where you see children as Researchers and Collaborators; Risk Takers and Innovators; Creative and Empathetic; Caring and Gentle; Thoughtful and Generous; What else do you notice?

Where do you see children using materials as languages?

What roles do you see the educators, artists and families taking in the children’s experiences?

What does the exhibit leave you thinking about?

Investigating Sound

“Infancy and early childhood are prime times to capitalize on children’s innate musical spontaneity, and to encourage their natural inclinations to sing, move, and play with sound,”

(Kemple, Batey and Hartle, 2004, p.30).

How it began

This research began with conversation around the children’s current curiosities and what we were noticing the children were drawn to and enjoying in the classroom. We noticed how much the children loved our group gathering times where we sang songs and explored props and materials together, and we also noticed how the children liked to tap things around the room; different materials, different surfaces, anywhere in the classroom.

As we reflected collaboratively on our observations, we began to brainstorm ideas for a potential research question; something that would help us get to know our children more deeply and understand their curiosities regarding music and sound. As we didn’t want to limit our research and focus to just music as we currently understood it, we decided to broaden our question to look at sound as a whole. This led us to our question:

What do toddlers notice about sound?

Once we felt as though we were starting to see big ideas form from the moments we documented, we decided to bring our research together more formally. What follows are 3 big ideas that we found our children noticing about sound:

Sound Invites a Response
Sound Builds Relationships
Sound Can Be Influenced

What we learned

Through our research we learned:

Children are constantly researching and investigating sound; they aren’t banging pots or dumping materials mindlessly.

One and two year olds may be hearing many sounds for the first time which can affect the way they react and respond to them.

Often times what may seem as intentional ‘negative behaviour’ is actually a child researching and testing a theory.

Children need to be able to explore sound in many different ways with a variety of materials and surfaces.

Sound Invites a Response

“Children bring to the early childhood setting the results of their experimentation with sound-making materials in the home and play setting and a knowledge of how to manipulate materials to produce sound. They have a sense of what it is to move, to sway, to swing to music, and to use a repertoire of ‘moves’ that ‘go’ with the music experience. Implicit in the above is the capacity to identify and name sounds and to discriminate between different sounds. Importantly, children bring a feeling for music, a sense of their own engagement with music, and the role it plays in their lives and those of others,” (Barrett as cited in Wright, 2003, p.75).



The music inspired Naya (2.3yrs) to sway, twist, turn, hop and gallop. She picked up the mop to use as a prop, twirling it around her to the beat of the song. She responded to the end of the song by gracefully spreading her arms wide and holding them to the final note.



The thunder drum instrument piqued Willow's (1.8yrs) curiosity and she took it in hand to study the rumbling sound it emitted. At first she was unsure of the sound, but upon shaking it harder the third time without holding the coil, her visceral reaction was to throw it in surprise.



Aekan (1.11yrs) repeatedly banged a tin can with a ladle in hand to create sound. Sophia (2.4yrs) responded with **“Too loud...it's too loud,”** while Willow moved her body up and down to the beat with a smile on her face. We noticed more clearly that different sounds invite different responses and just like adults, children have different sound tolerances and responses.

What do toddlers notice about sound?

Sound Builds Relationships

"Toddlers experimenting with the polyrhythms of their agile bodies, have great fun making evocative calls, and they create community with peers or older companions who are prepared to play. Imitating each other's vocal inventions, they create together what the Norwegian musicologist Bjorkvold (1992) calls 'children's musical culture'," (McPherson and Welch, 2018, p.27).



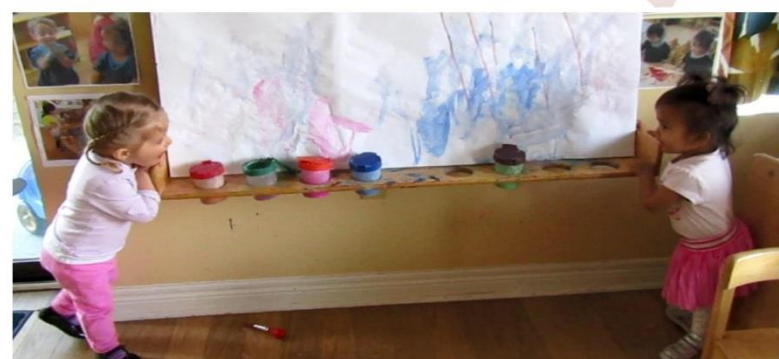
Avery (2.6yrs) was making loud noises through the tubes. He then invited his educator Anj by saying "Your turn!" giving Anj the opportunity to join in and create a relationship with him in connection to his exploration.



Avery (2.3yrs) engaged Willow (1.5yrs) by holding her hands with tightly clasped fists while swaying back and forth to the rhythm. Despite everything going on around them with other children, their deep connection through this music (albeit only for a few minutes) was palpable.



Tess (2.3yrs) picked up a pylon and began saying "Hellow" through it. Avery (2.5yrs), who was nearby, replied in a loud voice, "HELLO!" Tess then invited her educator Vicky to join her by saying "Hello Bicky" through the pylon, where they continued to exchange 'hellos' a few times. This exploration of sound invited and engaged both Avery, her friend, and Vicky, her educator, encouraging both of them to research with her.



"Hello Elle!" Tess (2.4yrs) called to Elle (1.11yrs) through the tunnel of the easel. This engaged Elle to shout back "Hello!" Tess then encouraged her to participate in throwing her legs out from under herself, and giggled uncontrollably from the action. Two months later, Elle engaged her twin sister Sasha (2.1yrs) in sharing in the same fun she had with Tess by saying hello to each other and swinging their bodies.

What do toddlers notice about sound?

Sound Can Be Influenced

"Music can be defined as the controlled movement of sound in time," (Wright, 2003, p.4).

While jumping and hearing the 'POP, POP' happen, Tess (2.4yrs) realized that she had an influence over the sound that was coming from the bubbles popping underneath her feet. Tess pressed down on the bubble wrap and heard a 'POP!' She looked up at Vicky, her educator, and said, "I pop it!" Tess then continuously popped the bubbles, each time proudly stating, "I pop it!"



Naya (2.5yrs), Avery (2.5yrs), Aekan (2.1yrs), and Finn (1.10yrs) noticed the influence they could have over various sounds the plates made as they spun (creating a reverberating clatter) based on how they were dropped. We also believe they were exploring the rotation and trajectory schemas.



Avery looked to Naya for guidance on how to create the same reverberating clatter.



Aekan discovered his ability to stop the spinning with his hands.



Finn delighted in making the plate spin.



Aekan sat on the carpet with the ladle and the tin can and began banging the top of the tin can and bobbing his head, which seemed like he was trying to match his head movements to the rhythm he was creating.

Was Aekan remembering and trying to imitate the African music that has been played in the classroom before, or was he inventing a new musical piece?



When the chimes fell out of their hands while exploring individually, Tess and Finn were quick to repeat the experience of gathering all the chimes in their hands on each subsequent grab, noticing their actions could start and stop sound.

What do toddlers notice about sound?

A Study of Plants

"I love having plants around. It's a daily reminder that all living things require our attention...plants force you to ask yourself questions. Are they getting enough water, enough sun? Do they need special nutrients? They thrive on questions, just as we humans do,"
(Adams, 2015, p.77).

Our intention

In our preschool room we began with the intention of studying children's empathy. To do this, we nurtured children's relationship with the natural world through inviting the children to plant vegetables and herbs (basil, tomatoes, and purple, yellow and green beans). As we listened to and observed them closely over a number of months we learned that children are careful observers; their ability to notice and pay attention to detail and their disposition to be curious was evident through their words, actions and work. We believe this all stemmed from the children's ability to care deeply for their plants.

Reflections

Through studying the children's work and experiences with their plants over three months, we learned even more so that:

Children are empathetic by nature; adults can nurture this disposition.

Children should have more opportunities to be around nature; their abilities to be caring, empathetic, gentle and close observers became visible.

Children will naturally do things they are interested in; child directed vs. teacher directed is important.

Simplicity (in materials and set-up) can invite complexity of ideas and thinking.

Small groups are important for deep work and reflection.

Our role as educators should entail:

Providing children with materials they need

Offering certain knowledge children may need to be successful with their ideas

Sitting with children

Exploring with them

Listening to them and with them

Working together and learning alongside children

Being curious about what children think, know, and wonder about



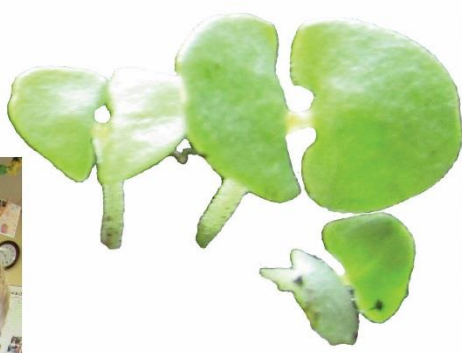


Care Deeply

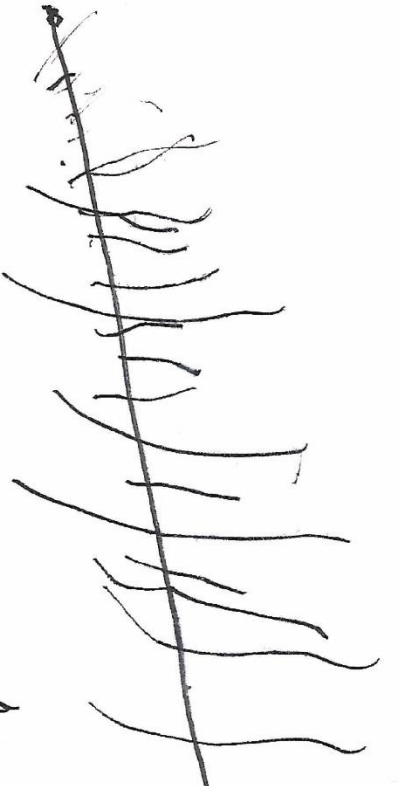


"My plant needs sun."

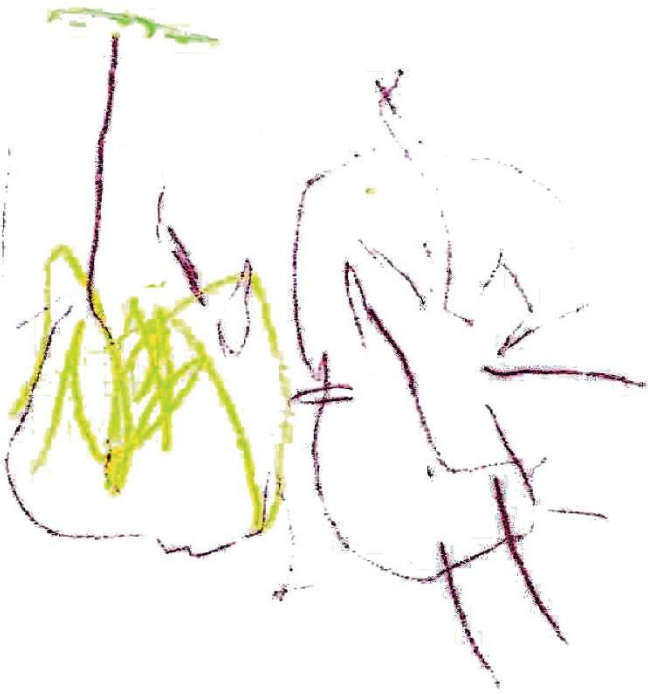
Notice and Pay Attention to Detail



"Look, look! The stick on the plant is furry."



Disposition to be Curious



Evan's (4.5yrs) curiosity of Michelle's (3.7yrs) strategy to draw her plant led him to trying the strategy himself.

Young Children as Storytellers

How it began

Our research spanned about a year, from September to June, in a parent-child program. At the beginning of the year, we met a young child named Teresa (4yrs). On her very first visit, she drew a large portrait of herself, then a portrait for every family member, and finally one of herself with an imaginary friend named Cutie Star. Each week, she requested only a pencil and paper and as fluidly as some people speak, she drew. Teresa's drawings intrigued us and invited us to think more deeply about young children and storytelling. Curious to know more, we decided to research:

What do children tell stories about and how do they tell them?

We met once a week to study the children's stories, noting what they told stories about and how they expressed them. To further our inquiry, we also asked parents to help us record their children's stories. To support this, we offered the use of a handheld voice recorder and digital cameras. During our meetings, we also questioned our definition of a story. For example, how long does a story have to be and does every story need a beginning, a middle and an end?

Through our secondary research, we discovered that stories can be comprised of a single spoken sentence, a visual mark on a page, a wordless gesture expressed through movement between two dancers, or in any other language that defies words. Once we realized all of this, we began to look and listen for stories in a very different way and suddenly, we found stories everywhere!

We curated their stories into the following 3 big ideas:

Experiences They've Had
Relationships with Space and Others
Seemingly Unrelated Ideas

Each story is a gift that illustrates some of the many ways that children tell stories.

Reflections

Through our research we learned:

Storytelling happens everywhere and all the time.

Providing a variety of media for storytelling expands the ways children express them.

Learning to listen differently to children's stories includes attending to the ways they express them (which includes movement) and understanding their reasons for telling stories.

Documenting in real time (with audio and video recordings) allowed us to review and rethink an experience, to see and hear more, and to make deeper meaning of the experience.

Experiences They've Had

"The game is not a simple remembrance of impressions, but creative re-elaboration of them, a process through which children combine the data of experience with other data to construct a new reality corresponding to their curiosity and their needs. But exactly because the imagination constructs only with materials from real life (and therefore the adult can construct to a much greater extent), it is necessary that children be able to grow up in an environment rich in impulses and stimuli to nurture their imaginations, and to apply the imagination to appropriate tasks that reinforce its structure and expand its horizons," (Rodari, 1996, p.112-113).

Using found clay shapes already on the table (i.e. a long coil) Vivian (3.5yrs) altered it in such a way that it triggered a memory. She explained, "I made a turtle. We saw turtles at an aquarium." As she stuck tiny pieces of clay onto her turtle's back, she added, "I'm making a shell. This is a sea shell on its back. I put a sea shell on its head. It's a girl turtle." When asked why turtles don't sink in the water, she pointed to the long coils attached to her clay turtle and explained, "Turtles swim with their legs." Her grandmother confirmed that the turtles they saw at the aquarium also had shells on their backs.

Vivian created a second clay form, and stated, "This is a fish. She is friends with the turtle. They all swim together. There are shells on the fish too. Elsa is the turtle and Anna is the fish." As she curled a coil into a spiral, she added, "A water snake. He's curling up to go to sleep. But he's waking up."



Throughout her clay construction, Vivian and her grandmother shared an unspoken communication, a wordless exchange of knowing glances and gestures that implied a shared memory and a mutual delight in remembering this experience together.

Over a period of 4 weeks, Ronan (3.5yrs) used red clay to build an eagle's nest surrounding its habitat. His information came from a confluence of ideas, from encounters he's had with eagles and nests such as a real nest in the classroom, a robin's nest above his front door, a visit to a Birds of Prey exhibit and an early memory of an eagle flying overhead, high above a forest near his house.



"Those are eagle eggs! Eagles eat lots of worms. The baby eagles will be hungry when they hatch."
"That's the daddy's nest. Let's make a baby nest. Mommy, can you make a big bird? A dinosaur bird. A pterodactyl. And an eagle! They are friends."

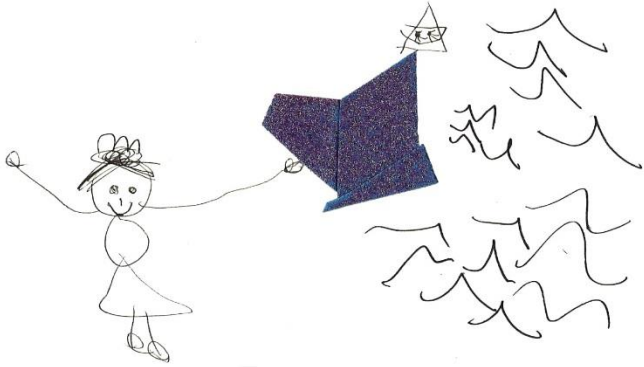


Was Ronan's 3-dimensional representation of an eagle habitat a theory of biodiversity or interconnectedness?
Was his 3D clay representation of an eagle habitat his way of making sense of his experiences with nests and eagles?

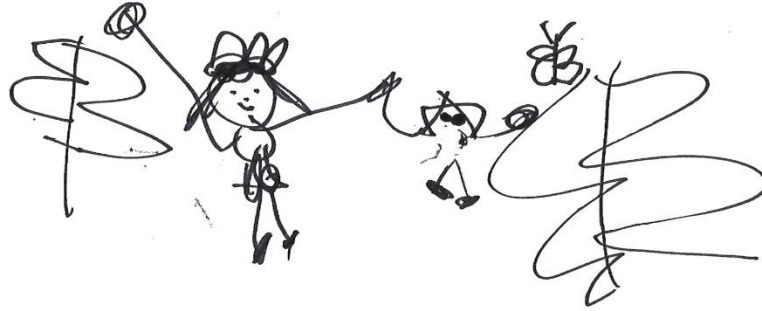
What do children tell stories about and how do they tell them?

Relationships with Space and Others

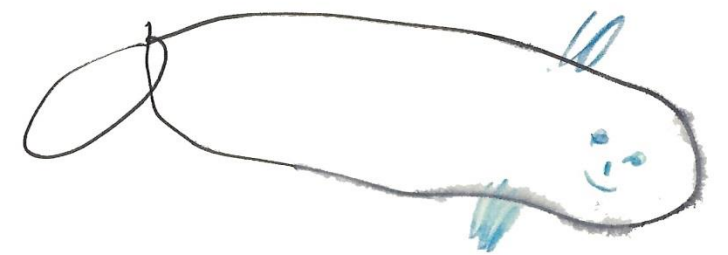
Throughout the year, we observed Teresa (4.1 yrs) as she developed her drawing skills into an increasingly complex and technically sophisticated form of storytelling. Her mother explained that she often drew herself in stories that included herself as the main character with an imaginary friend named Cutie Star. As Teresa drew her adventures with Cutie Star, she narrated them to the visiting artist, someone with whom she developed a year long friendship. All of her stories expressed her sense of self as a storyteller and her relationships to others.



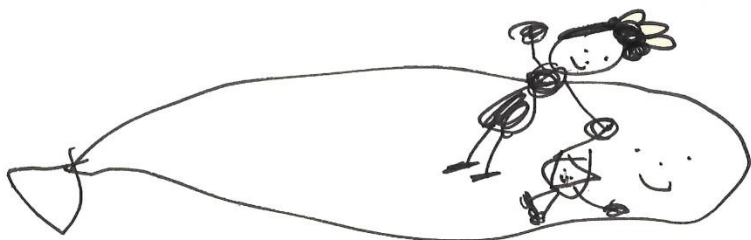
"Can we pick a kite? And Cutie Star said yes! We pick a kite, said Teresa. So they picked the kite."



"Next, there was a butterfly and Teresa was holding Cutie Star's hand. But Cutie Star was surprised because the butterfly appeared."



"And then! And then, when Cutie Star was not looking, then a whale appeared."



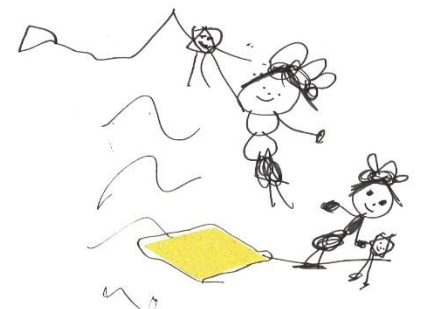
"Cutie Star was again surprised. And the whale said, 'come.'"



"And then! And then, the whale said, 'Bye friends,' and he was going to the water."



"And then Teresa took Cutie Star's hand."



"And then! 'I'm doing magic,' said Cutie Star."

"Dance does not occur in isolation. Its intention is to communicate ideas and feelings. Paley (1990) suggested that, in isolation, ideas grow stale; it is the circulation of ideas, the performance and the sharing which builds flexibility in thinking. Ideas need to be socially constructed, and so does dance. Paley (1990, p.12) commented that, 'An idea must find the rhythm of a group to be fully communicated. The imagination is not a unilateral function; it thrives in the company of those who share its point of view and asks the right questions.' Therefore, children need to discuss their dances with others as well as 'make and do' dances. They must socially construct dance in a supportive learning culture," (Schiller & Miners, cited in Wright, 2003, p.95).



Since many children continued to show an interest in seeing their own faces in photographs and in mirrors, we presented an overhead with their photos printed as transparencies. Some children seemed curious about the transparent photographs, however what surprised us was how they entered the space; a bright light on a white wall suggested the space of a stage to them. We also played Tchaikovsky's music from The Nutcracker in response to a child's recent theatre experience.

As we observed closely, all of the children seemed to use their bodies to 'listen' to each other. As each child assumed particular roles (musician, lead dancer, supporting cast, set designer), we realized that collectively, these children were telling us wordless stories about their relationships to each other. They expressed their relationship to the surrounding space and each other through the language of movement and dance.

What do children tell stories about and how do they tell them?

Seemingly Unrelated Ideas

"In the 'fantastic binomial,' the words are not taken in their daily meaning, but freed from the verbal chains that hold them together on a daily basis. They are 'estranged,' or 'shifted,' thrown against one another in a sky that has never been seen before. Hence they are in the best possible condition for generating a story," (Rodari, 1996, p.13).

On another day, Teresa (4.6yrs) reacted to the artist's drawing of grass by finishing the drawing while telling the following story:



"A Passover feast in a garden. The Passover. It's a feast. In the feast are ear muffs. With Passover eggs. If I were in that feast, I would hide my Passover egg in a tree. I have a little tree, an oak tree. And a Passover egg for the cloud. Egg muffs. The centipede. The dragon fly. The spider. They also have egg muffs." Teresa also added, "Cutie Star and Teresa in the sky."

Did Teresa see a fully formed image in her mind before she drew, or did one detail intuitively lead to the next?



One morning, Hala (3.8yrs) selected a basket of animals and a basket of wooden blocks to inspire a story. Her mother audiotaped Hala's story and also photographed her as she spoke. As she arranged and rearranged these materials in front of her, she told the following story:

"There's some water that can, that sprays it easily. And there's usually a plug, there's usually a button that you push right here about this small and you can press it and then the water sprays down here on the horses. Or even people could do that."
"That's how they have a shower?"
"Even people could have a shower."
"Wow! Does the horse like that?"
"Yup. The horse likes that. They just can warm water, and horses usually like warm water on that, so... He was running lots. Having a jog with his little puppy. With his little puppy. And it's lunchtime and some animals are eating grass. And they, and they..."
Note how Hala's mother probes with questions that further Hala's story without influencing it.

"Who's coming?"
"The owl. And at one time, the owls come to the farm. And they try to get monkeys and they bring them home for lunch. The owl's coming to the monkey. And the monkey knows. So he sees the owl and he tries to escape the owl. He tries to go and escape the owl. And he tries to escape the owl. Bye bye. And it's time for lunch time... And the monkey is..."
"And the monkey told the owl he could have spinach and rice for lunch instead of having monkey for lunch?"
"They could go to the zoo."
"These animals can talk?"
"Yes, to make spinach and rice. To help the pig tie his shoes. Tie his shoes. Now the elephant is going to go to ..."

At this point, Hala's mother has made a gentle suggestion that influences Hala's story, but Hala is free to choose it or not. Generally, she is there to listen and observe.

"Elephants love water. There's the elephant."
"Is he gonna drink it all?"
"No, he's gonna drink all that is left from other animals. And then ... A llama. A llama! There's a llama. There's a llama at this farm. The llama's trying to get some shade under the tree. Now the llama, now the llama is going to get some hay cuz llamas love hay! Llamas love hay. Llamas love hay! Now... something that goes like this for the animals to do different tricks on. They could be the same as this."

What do children tell stories about and how do they tell them?

Art: A Relationship Medium

"Both children and adults need to feel active and important, to be rewarded by their own efforts, their own intelligences, their own activity and energy. When a child feels these things are valued, they become a fountain of strength for him. He feels the joy of working with adults who value his work and this is one of the bases of learning..." (Loris Malaguzzi)



Hudson (2.4yrs) helped himself to the painting supplies on the art shelf. He has been to this parenting program before and knows where to find the painting materials without adult assistance. The educators encourage this independence. Hudson seemed to gain confidence and a higher degree of classroom comfort because of this.



His caregiver Samantha listened carefully to Hudson's intentions to paint. She supported and assisted and allowed him to take the lead.



When Hudson handed her a brush and invited her to paint with him, she responded by asking him to tell her what colour to use. Again, Samantha participated but Hudson led.



Ironically, Samantha never actually put brush to paper. Hudson told her what colour to use and she prepared her brush but her actions seemed intentional on participating without influencing any of Hudson's creative decision-making. At this point, Hudson was in deep concentration and did not notice Samantha wasn't painting.



Hudson's creative decision-making flourished as he continued to take the lead on his painting project. His actions grew more confident and concentrated.



Hudson had Samantha's undivided attention. It seemed it was not necessary for Samantha to do much more than be nearby.



Hudson also kept stopping and referring his thoughts back to Samantha, showing that it was important to him to have her nearby.



Hudson continued to learn, experiment and manipulate the painting materials in his own unique way. Samantha continued to assist, encourage and guide rather than interfere, prescribe or restrict Hudson's painting experience.

Reflections

Intentionally Holding Back

Hudson's request for his caregiver Samantha to participate in his painting activity was intentionally side-stepped by Samantha. Why? To what benefit? We can see from the beginning of the story that Hudson, being 2.4yrs, is competent and capable. He helped himself to the art supplies, set himself up at the art table and made many painting decisions with intention and without much adult instruction. He maneuvered through his morning with independent confidence. All of this character development was repeatedly endorsed by his personal caregiver, Samantha, within this painting experience. Her view of the child (Hudson) included having the confidence in his abilities and providing the 'space' for Hudson to show his competence. 'Intentionally holding back' is not the same as doing nothing at all. Samantha remained in the present moment; listening, responding, redirecting and validating his actions while Hudson led the way.

Antonio and his father Guillermo regularly visit this parenting program. They often play with the trains, cars and trucks together.



On this day, for the first time in this program, Antonio (3.7yrs) decided to paint a piece of representational art; a fire truck. They both shared this moment.



Antonio painted this fire truck while reminiscing out loud about the many details his toy fire trucks have at home. As he talked out loud, he painted these details on his page. Guillermo sat quietly observing and listening.



Then, an inquisitive conversation began. Antonio thought deeply as he explained to his father about the fire ladder and how it connected to the truck. Guillermo asked Antonio a few more questions. There were long silences of thinking between the questions and answers for both. The conversation was quiet and calm. As Antonio thought about the questions, he was able to recall more details to include in his painting.



Antonio finished his painting by adding the round connectors for the hoses and then painting the hoses.

Reflections

A Conversation of Inquiry

Antonio's father, Guillermo, became a partner in his child's learning. Guillermo provoked Antonio about what he remembered and what he could paint. Also, Guillermo instinctually knew that if you break down a task into smaller parts, the task becomes more manageable. Here, he helped Antonio to recall from his memory smaller details of his fire trucks at home. The more the conversation grew, the more details Antonio was able to recall to include in his painting. This engagement in conversation also seemed to deepen their relationship. Transportation seems to be their shared passion. It was also a very relaxed environment, lots of joy and conversation without pressure.





Oliver (2.6yrs) regularly visits this parenting program with his grandma Margaret. They have a close relationship. Oliver often chooses to paint first when entering the program. They talk about many things while Oliver paints. It's a relaxing time.



Margaret seemed to know a few things about painting herself and offered a few technical lessons to Oliver over the season's worth of visits. Here, she showed Oliver how to rinse his brush to keep his colours bright on the page.



Margaret also introduced the 'art of possibilities' to Oliver when encouraging him to try many colours.



Reflections

Embracing and Fostering Independent Children

For some time, Margaret has been intentionally encouraging Oliver's independence. Throughout this story, the two share a strong emotional bond. Margaret empowers Oliver by showing him a variety of painting techniques. She also invites Oliver to think of larger artistic possibilities, such as using many colours. These little things become big things when growing relationships as well as independence. In the end, Oliver accomplished many different painting techniques and processes necessary for being an independent watercolour artist. This dance between assisting the child and fostering independence can be multi-faceted; a dance Margaret handles beautifully.

Art: A Relationship Medium



(October 2017): It had been two weeks since the 2nd ACT Exhibit in Milton and it was also a PA Day. Michaela (4.3yrs) asked her parents if they would take her to the parenting program today. She remembered how her parents brought her to see the Exhibit and she remembered seeing her clay sculpture on display there. She came intending to play with some more clay and her parents happily supported her request.

Michaela immediately started working with intention. She explained that she was making a bridge. She cut the clay, kneaded and rolled it, cut and shaped it with such competency. It was like reuniting with an old friend.

Mom and dad seemed to naturally switch their roles as parent and supporter. Most of the time on this day, dad seemed to have been the main supporter. His hands attest to the fact that he did work with Michaela on the clay, but mostly they sat side-by-side and chatted as she created her bridge for most of the morning. She knew and understood the language of this material.



Reflections

Following the Child's Lead

This story comes at the end of another story; Michaela's gained competency in manipulating clay. As one can see, Michaela's agility and speed at being able to, for example, roll, smack and even wire-cut clay became so impressive; it almost outshined the object that she was actually creating. She truly seemed to have mastered the art form. We believe that this is largely credited to her extended exposure to clay within the ACT initiative over the past year. But, this is not the end of the story just yet. We would like to highlight how this is all possible through relationships. The relationships within this story are key.

Both Michaela's parents quietly embraced this experience. From visiting the 2017 ACT Exhibit in Milton, to celebrating Michaela's creative work, to the endorsement of bringing her to the program this morning to play again with clay. The body language between Michaela and her dad was wonderfully captured within these photos as her dad quietly supported while Michaela took the lead. Through all of this, Michaela gained confidence, artistic skills, closer bonding with her family and of course, a greater sense of herself through the creative expression of clay.

Art: A Relationship Medium

"It's All About Water!"

How it began

For the past two years, we have observed many children from 1-6 years of age in an adult and child Drop In program. We noticed that no matter what materials were selected, their investigations consistently led them to play with water. Last year, we often shared the same unanimous exclamation, "It's all about water!"

Therefore, we decided to intentionally present water in many different ways throughout the room, including art materials that required water. As we encouraged children to immerse themselves in sustained investigations with water, we wondered if they might naturally reach that state of *flow* that Csikszentmihalyi (2016) discussed, a contemplative state of inner calm and deep concentration that naturally comes from being in close proximity to water (Nichols, 2014). We wondered if young children experience this kind of deep connection to water, perhaps they will come to value it as a natural resource. This study raised the issue of how we use water and our ethical responsibility as educators and artists to develop a practice that invites young children to value water as a natural resource.

After many discussions about how children play with and use water, we decided upon the following research question:

How do children react to water?

For the next 6 months, we noticed and documented the way the children seemed to experience deep levels of concentration and focus when they engaged with water, and how water sustained their attention for long periods of time.

Through this research we learned:

Children seem to be drawn to certain art materials because of the water accompanying them.

It's important to step back and watch things unfold versus jumping in and asking too many questions.

Connecting with parents and asking them about their child at home gives us a deeper understanding of their child.

Children don't need to be 'taught' things or always have their attention drawn to things; they are careful observers and notice many things by themselves naturally; sometimes we need to be quiet and allow for silence.

Sometimes instead of asking a question, restating what a child said is enough to provoke them to say more on their own.

Water seems to have an immediate calming effect on children; they work cooperatively and easily share resources and physical space.

Capturing experiences through video helps when reflecting on the children's experiences later; we often miss a lot at first glance.

What we learned

Concentration and Focus

"Water is changing all the time, but it's also fundamentally familiar. It seems to entertain our brains nicely with novelty plus a soothing, regular background. Envisage yourself being by the water: the sounds, the sights, the smells, all changing moment to moment yet essentially staying the same. It's regularity without monotony- the perfect recipe to trigger restful involuntary attention. It's also the inverse of our current condition of monotonous suffocation," (Nichols, 2014, p.155).



In spite of the many children on either side of her who came and went, Jessica (2.2yrs) maintained her personal space with grace and concentration. Throughout her time at this table (approx. 45 minutes), she lined up glass beads along the edge of the pan closest to her, then gathered them all together and sometimes stopped to feel the surface tension of the water in this pan. When younger children stretched their hands towards her as if to contribute to her investigations, she patiently waited and then continued.

Zeno (3.7yrs) spent approximately 30 minutes transferring water beads and glass beads from one water container into another. He occasionally glanced in the direction of the gathering circle as singing grew louder, and he made occasional eye contact with the artist who sat across from him. He appeared to concentrate on the weights and densities of the water beads and the glass beads.



Beth (4yrs) methodically and quietly focused her attention on pouring water between small cups and one larger cup, taking special care not to overflow the cups. She explored surface tension as she tried to fill them right to the top.



In sharp contrast, Caleb's (2.2yrs) physical gestures were large; he poured with arms stretched high above his head for maximum effect. Whenever the water splashed him, he laughed with delight.



Beth seemed to have a deep focus on the nuanced effects of water in motion whereas Caleb seemed to concentrate on the broad gestures of moving between two tables for objects that made a big splash in the water. Each child exuded a dedicated attention to their water explorations, but each child also seemed to attend differently.

How Do Children React to Water?

Length of Time

“This stretching of one’s abilities combined with a pleasurable activity produces the fourth element of flow: the loss of a sense of the passage of time,” (Nichols, 2014, p.219).



Niraj saturated the cloth, allowing the water to pool below the easel. Each time he appeared to be finished, he left the area and moved to another part of the room, but within minutes he was back at the easel spraying more. This continued for the duration of his time in Drop In which was several hours.

The more Saxon (4yrs) dripped colours into the centre of his paper, the more his paper curved into a convex arch, a paper bridge. The more he dripped onto the top of his paper bridge, the higher its arch rose and the faster his drips flowed to the bottom. Saxon used more than one sheet of paper, repeating this process as least three times as it captivated him for over 20 minutes. More than this, time seemed to slow down for him.



As Shaheer (2.4yrs) sprayed water, his approach seemed analytical. He stopped to study the effects of water on each of the chosen materials as he conducted two experiments. First, he drew lines with water-based markers on dry paper and sprayed them until they dissolved into blurry lines. Then, he painted colourful strokes across his paper and sprayed them until they dissolved into a watery puddle of colour. Throughout all of this, Shaheer seemed un-phased to the busy room around him.

As these boys explored liquid volume, displacement and surface tension for 90 minutes, they also worked together during a very jubilant gathering time that unfolded elsewhere in the room.

Jonathan was often heard saying, *“We need more water!”* They worked cooperatively, wordlessly taking turns to add glass beads until the water level rose to the top and overflowed. At one point as Jonathan poured, he said, *“I remember sloshing around in my Mommy’s tummy. And then, I remember sliding out.”*



With water conservation in mind, we normally encourage children to conserve water when at the sink. But for one day, for a 30 minute block of time, we wanted to see what children would do if not prompted by adults to turn off the water. Shine (2.1yrs) remained at the sink for 15 minutes, repeatedly passing her hands through the stream of water and allowing the water to pass over her arms. She was quietly captivated by the moving water.

How Do Children React to Water?

Building Connections

"We have to let children be with the children. Children learn a lot from other children, and adults learn from children being with children. Children love to learn among themselves, and they learn things that it would never be possible to learn from interactions with an adult. The interaction between children is very fertile and a very rich relationship. If it is left to ferment without adult interference and without that excessive assistance that we sometimes give, then it's more advantageous to the child. We don't want to protect something that doesn't need to be protected."
-Loris Malaguzzi, founder of the Reggio Emilia Approach

How it began

Our research began with conversation around patterns we were observing in the classroom related to the children's relationships with one another. On one occasion, as we observed three children washing babies at a table, we were struck by the natural way the girls were connecting with each other and prolonging the experience with one another.

As we considered our observations more deeply, we began to brainstorm ideas for a potential research question; something we could study in depth that would help us get to know our children better, learn more about their natural competencies, and reflect on our roles as educator and artist. Our curiosity to learn more about the children's connections with one another led us to our question:

What strategies do toddlers use to initiate and prolong connections with other toddlers?

Our research spanned about four months and through it we found 4 prominent strategies the children were using to initiate and prolong connections with others:

Awareness of Others
Creating an Invitation
Being a Researcher
Observation

Through this research we realized even more so just how competent, capable and empathetic children are.

We also learned the importance of:

Stepping back, letting go, and nurturing children's natural dispositions.

Offering materials and experiences over time so children have opportunities to build on their previous knowledge and experiences.

Observing and listening to children carefully so we can build on their curiosities.

Finding tangible ways to connect with families as their knowledge enriches our understanding of the children.

Engaging in research; it builds cohesion and meaningful relationships with other colleagues.

Awareness of Others

“Empathetic concern has been inferred from observations of young toddlers who demonstrate an awareness of peer distress through facial expressions and physical actions such as patting, stroking, or by the gifting of toys (Rayna, 2001),” (Degotardi, 2014, p.91).



Abigail (2.3yrs) took time to notice Matteo's (1.10yrs) interest in order to initiate a connection with him. This led to prolonged play experiences throughout the day and a discovery of mutual interests between them.



Hannah (2.3yrs) took time to stop her play and take notice of Santiago (2.1yrs) because connecting with peers is a priority to her. It seems she realized that she was interested in spraying water and Santiago was in need of water, and the connection would fulfill both of their desires.



Marcus (1.8yrs) respectfully offered his support to Zuraib (2.3yrs) during a challenging time in hopes of forming a connection.

What strategies do toddlers use to initiate and prolong connections with other toddlers?

Creating an Invitation

"...toddlers actively seek to establish emotional affiliations with their peers (Hännikäinen, 1999), and illustrates how very young children initiate and respond to invitations to be included in others' experiences," (Degotardi, 2014, p.95).



Santiago (2.2yrs), Hannah (2.4yrs) and Abigail (2.4yrs) remembered how much fun they had from previous weeks with the box. As they approached the box again, they invited one another to join in and make faces, using eye contact and copying each other's ideas.

Noah (2.5yrs) used the paintbrush as a way to invite a connection with Abigail; an invitation that was clearly successful.



Matteo (2yrs) responded to Caliya's (1.3yrs) outstretched arm by offering his paint covered fingers, inviting a connection through paint.

Hannah promoted the joy of slapping the laminate through careful observation of her peers, showing gestures of patience by waiting and making eye contact.



"Aaahhh!"
"Shhhhh!"

Each child participated in inviting another child to respond. Their sounds drew each other in, and their eye contact helped to hold interest.



What strategies do toddlers use to initiate and prolong connections with other toddlers?

Being a Researcher

“Relationships also involve patterns of ‘give and take’, where similarities and differences are negotiated, where common ground is sought, and where individuality is balanced with the interests of others,” (Degotardi, 2014, p.37).



Noah (2.4yrs) and Santiago (2.1yrs) explored the tube for thirty minutes. Through eye contact, laughter and the sharing of space and materials, they were able to explain their ideas to one another.



Their joy soon captured the attention of Abigail (2.3yrs). Santiago and Abigail then worked together for another thirty minutes, prolonging their connection as they worked towards the common goal of researching what classroom materials would fit down the cardboard tube.



Marcus (1.8yrs) shared what little water he had, thinking he would have part ownership in the combined liquid with Santiago. Marcus has researched this strategy at home with his sister when they are eating grapes and he wants more.

One week later, Santiago applied Marcus' strategy with Hannah.



Sloan (1.6yrs) and Santiago researched ways to achieve the same outcomes of thunderous sounds, making the bowls dance to spill the paint and assisting each other in slapping the laminate simultaneously as done in previous weeks.



What strategies do toddlers use to initiate and prolong connections with other toddlers?

Observation

"Toddlers make frequent use of embodied, nonverbal entrance strategies. Sometimes they also combine nonverbal invitations with verbal utterances, embellishing or emphasizing their invitations," (Engdahl, 2011, p.7).



Marcus (1.9 yrs) seemed to remember observing other children using facial expressions to connect with them through the box. On this day, he tried the same strategy in an attempt to connect with Fatima (1.10yrs) by using humour, hoping she would see him and enjoy it as much as he did.



Marcus walked over and standing close to the girls, made eye contact with Abigail (2.4yrs). Abigail stopped and said, "**Marcus wants to dance too.**"

Fatima nodded and they disconnected one hand, offering their free hands to Marcus. Matteo (1.10yrs) observed this exchange and soon after tried Marcus' strategy, which successfully allowed them to share a dance too.

Fatima was able to successfully engage Sloan (1.6yrs) by extending her painted hands against the laminate.



What strategies do toddlers use to initiate and prolong connections with other toddlers?

Provocations from Nature...

Inspire Storytelling and Imagination

"Imagination is possibly the most powerful tool people have. It allows you to sit in a chair in your living room and travel through time and space without moving an inch. People learn by doing and by imagining. Imagining enables you to put things together in new ways, form new associations and connections, and come to new understandings," (Banning and Sullivan, 2011, p.76).

Blake's (7yrs) interest in the turtles stemmed from seeing one at the cottage. Since that time, he constantly drew turtles and placed these fictional turtles in different scenarios.

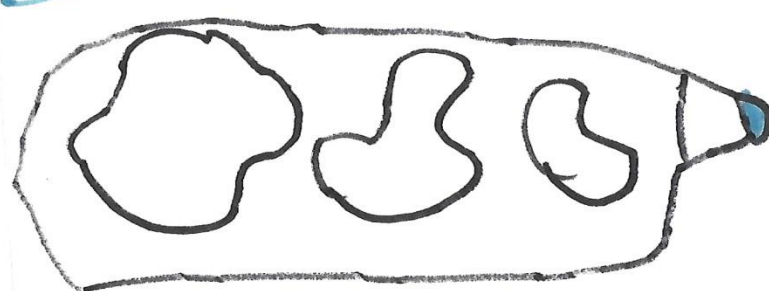


"Two turtles jumped up...to get the ball. They're trying to get them on the net. These lines are-they are going fast. He was trying to catch the ball like the other turtle because he's the friend on that team."
 "The score [board] -it's not in the corner like the gym one, it's on the side so that they can see the score. Those are the tubes. The tube things on the ceiling."

Blake was referring to the duct-work in a gymnasium as 'tubes' that led to the outside world where a McDonald's stand was situated, in the middle of a baseball game.

"Turtle city, turtle city..." He sang as he was drawing. "And look, so...so they just pulled the ladder so-it just fell down, so that the turtle there just jump'd-ed all the way to the chimney. And look, the volleyball come too. Yea, it accidentally got in the tubes."

"I just made that up! Imagine that actually was real?" He surmised after talking about wishing for these things to happen in real life.



Logan's (7yrs) drawing inspired by Blake's scenarios.



Provocations from Nature...

Offer Open-Ended Explorations

"The outdoor environment offers unique stimulus that capture children's attention and interest. Sticks, rocks, flowers, soil, water, etc. are explored with curiosity and drive to learn, as they offer countless possibilities for play. As White states, natural elements are open-ended materials, that can respond to children's imagination and needs," (Bento and Dias, 2017, p.158).



Natural clay was introduced in April and explored until the end of the school year in June. The children worked with it day after day, spending 1.5 to 2 hours at a time, never seeming to tire of it. Through exploring and developing their knowledge of clay, the children's dispositions of determination, patience, collaboration, and perseverance were evident.

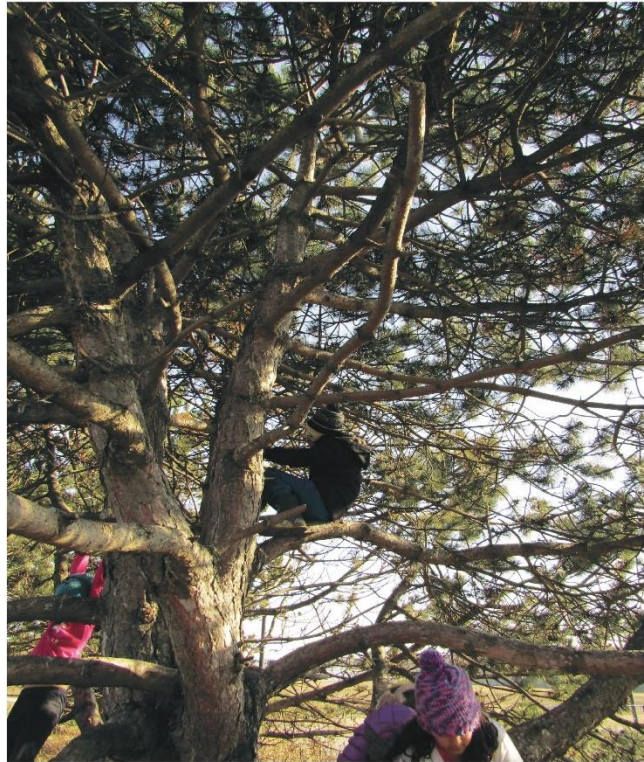
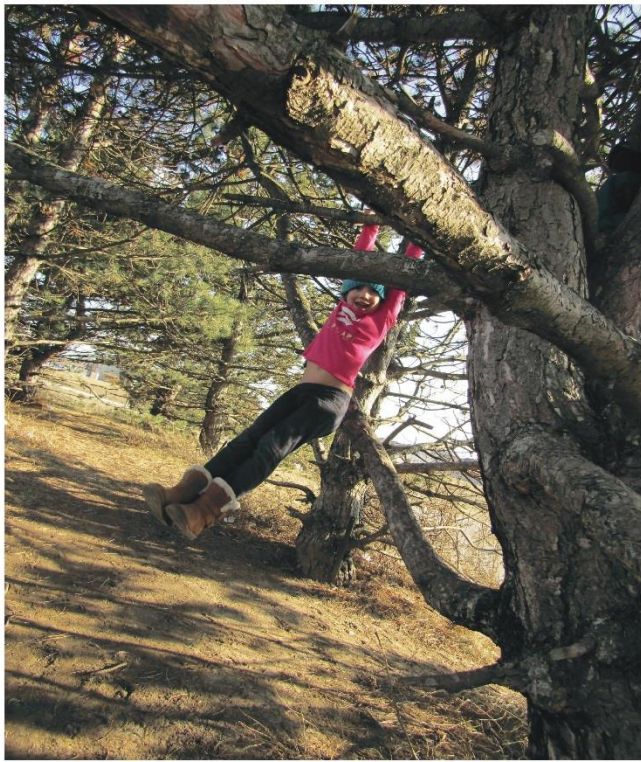


Many times the children would begin creating something individually and then come together and add their pieces to one another's work; making clay a material that invited collaboration. Clay also offered more opportunities than other materials the children were familiar with such as playdough, plasticine, goop, spongy sand, etc. The children used their hands differently with clay; they molded and sculpted, actions that they couldn't do with previous materials.

Provocations from Nature...

Offer Opportunities for Big Body Play and Risk Taking

“Risky play, as several researchers suggest, helps children enhance their ability to master peril. Aldis (1975) notes that much of children’s play involves fear and young children seek the thrills involved in such activities as swinging and jumping from high places. Driven by curiosity and a need for excitement, children approach the world around them through play. Rehearsing real-life risky situations, they discover what is safe and what is not,” (Sandseter and Sando, 2016, p.180).



The children showed courage by testing their limits, making wise choices and necessary adjustments based on their abilities and comfort levels. This courage inspired their friends to try and take risks too. When they did, they were quick to help one another and offer each other support and guidance.



Children were also creative in their actions and enjoyed the freedom of climbing high, making their own choices, and challenging themselves.



The children’s feelings of exhilaration, joy and freedom were palpable.

“Look at me!
Look at where
I am!”



Provocations from Nature...

Invite Careful Observation

“Rather than teaching children to ‘protect’ the earth, we need to recognize that children are already deeply connected with it. We could begin, for example by noticing how children, regardless of where they live, already have relationships with animals, plants, landforms, places, rivers, weather and one another,”
(Pacini-Ketchabaw and Khattar, 2018, p.3).



“The baby.”

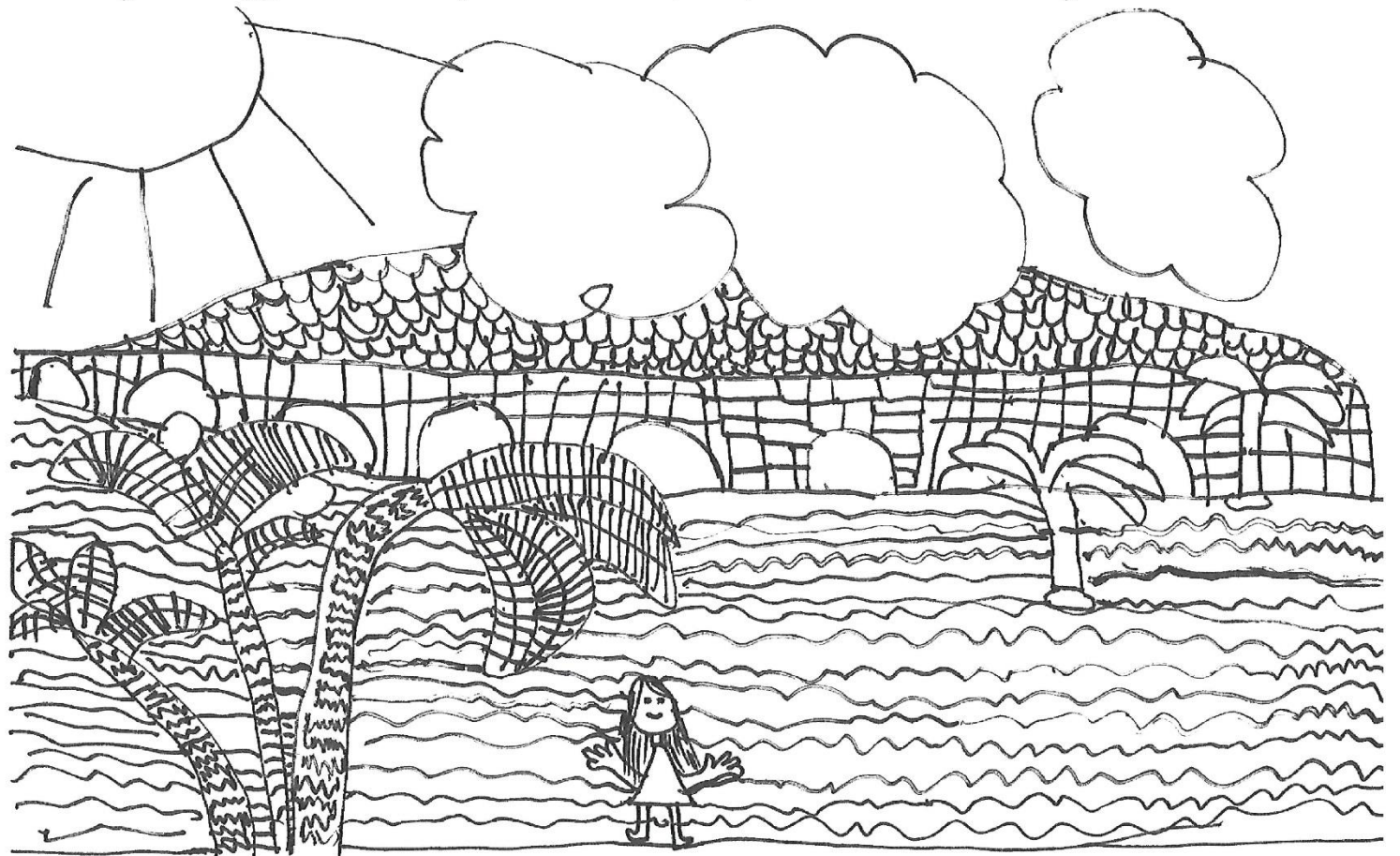


“It’s mom.”

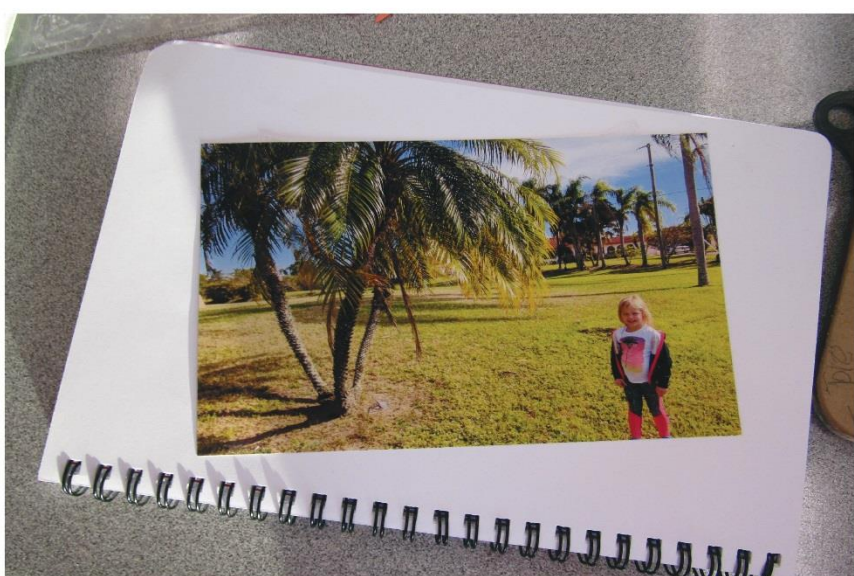


“It’s old.”

Razan (6.10 yrs) took multiple photographs at ‘the forest’ when given a camera. When she was offered back all of the photos she had taken in printed form, she specifically picked out these three pinecones and commented on them in such a way that showed her sensitivities to their lifecycle or the idea that everything, even a pinecone, is part of a family.



Addison’s (6.10yrs) careful observation in her art work showed her understanding of scale in perspective drawing. Her focus on minute details of lines to represent grass, tree trunks, palm leaves, and roof tiles give visibility to her point of view.



Art Materials as Tools for Connection

"We need to strengthen children's relationships with one another and their sense of meaningful participation in a learning community. We do this by offering materials and experiences to provoke questions, to offer new perspectives, to spark disequilibrium, and to enrich collaboration," (Pelo, 2017, p.166).



Over the past 6 months, we have observed our toddlers building connections and forming relationships with one another through the use of various visual art materials such as paint, clay, and markers. The children never seemed to focus on an end product but rather enjoyed the journey of lingering with one another in the process, getting to know the materials and one another simultaneously.

Art Materials as Tools for Connection

What do children value and how do they express it?

“Once a child’s sense of self is established, they are more likely to remember information that is related to themselves. This is known as the ‘self-reference effect’ on memory and emerges early on. From at least three years old, children are more likely to remember objects linked with themselves than those linked with another person,” (Ross et al., 2016, para. 9).

We observed

Since September of 2017, we observed many children who participated in four different preschool programs (one parent-child drop in program, and three different nursery school programs) from the ages of 1-4 years old. Into each of these early learning settings, we introduced a host of art materials to the children, collected a variety of 3D works and drawings from them and studied their work to think about what they might be expressing.

As we gave careful consideration to what we were seeing and hearing, we realized that regardless of the art material used, the children’s works contained intimate reflections of how they made meaning of their experiences. We saw visual metaphors and symbolizations for what we believe they value.

We then curated their artistic expressions into 3 big ideas:

Recent Experiences
Meaningful Places
Meaningful Faces

Reflections

These 3 big ideas were all tied to their sense of self; that is, what you value tells others more about who you are. Through studying these big ideas and the children’s work within each, we learned:

Young children are eager to share their experiences with others in many ways, including symbolizations or visual metaphors.

Young children constantly show us what they value and this reveals their sense of self; this shows us who they are.

What adults think children value is not always what children value – if we listen, they will tell us.

Adults can learn more about what children value by studying their visual representations.

Children showed us that they valued people, places, and experiences by translating them into visual metaphors or symbolic representations.

A child’s selective memory of an experience, a place, or a person, reveals those details that they selectively value or give importance to.

Recent Experiences

"It makes a vacuum cleaner. You have to push it and it picks stuff up. It sounds like this... SHHHHHHHHHHHHHHHHHHH!"

"How does it pick stuff up?"

"Yes! But I had to plug it in, you have to plug it in. There! It has a button to turn it on. It has a light and a button to turn it on."

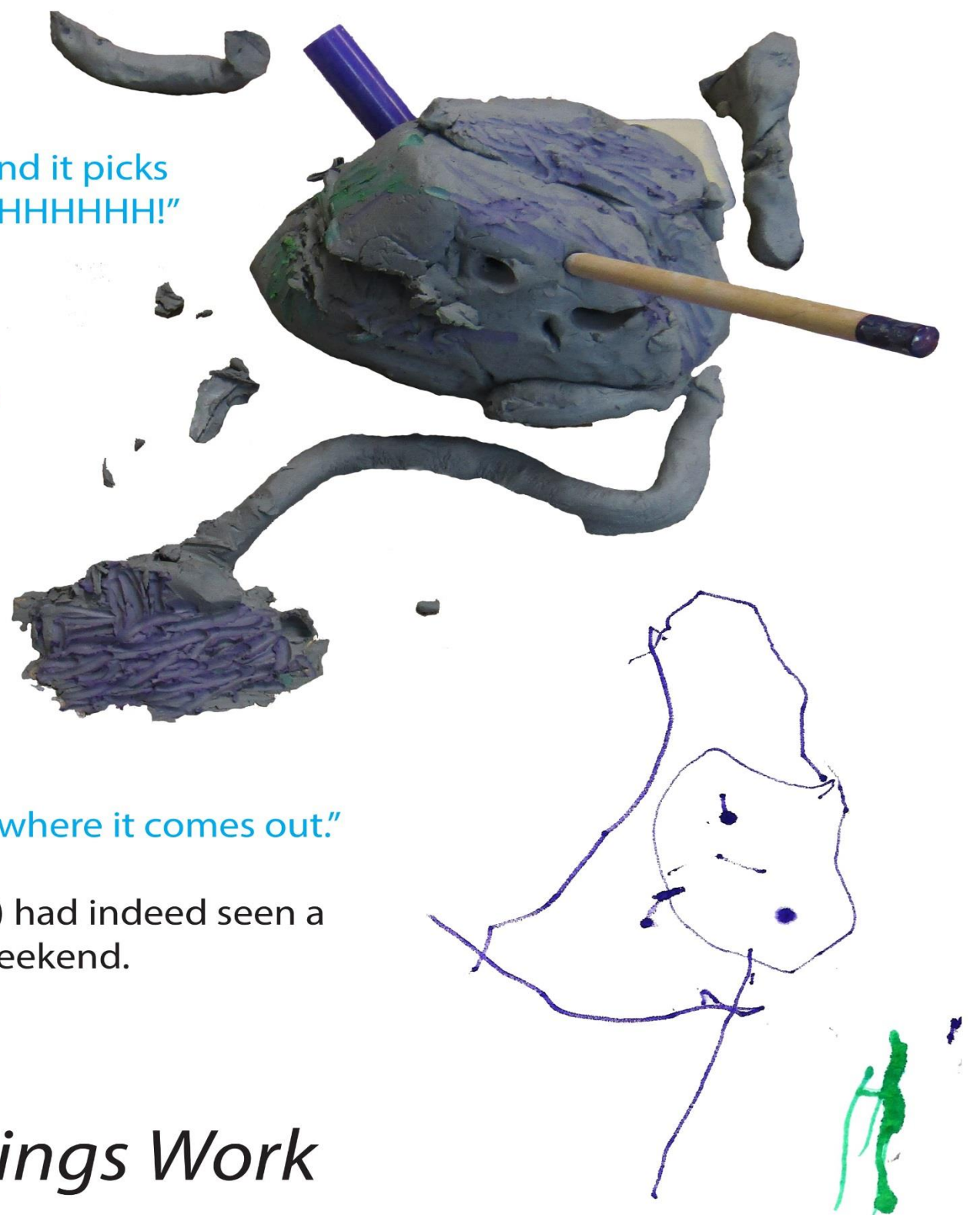
"Where does all the stuff go?"

"It goes in. That's where the stuff goes."

"How does the stuff get out?"

"It has purple stuff. This is where it goes in. That's where it comes out."

Later that morning, we learned that Lucas (3.9yrs) had indeed seen a vacuum cleaner working at home the previous weekend.



How Things Work

As a few children discussed bird houses, Robert (3.5yrs) replied,

"I have a birdhouse in my apple tree! We also have a new bench! Just my backyard."

"I am making a bird tree for a speckled warbler. I've seen them in my backyard in the summer. This is the electric thing. This is the electric thing that pumps air into the paint. And that's how it works. I turned it into a castle."

"I am making a birdhouse chopper."

"These are my antennas. They need to stick."



What do children value and how do they express it?

Recent Experiences

Empathetic Intuition



James (3.6yrs) and Lucas (4.1yrs) shared the following conversation as they worked with the clay:

James: "I want to make a nest... these are eggs... Look at all these eggs! 1,2,3,4,5,6,9,10. There's 10. Yes! 10... They eat soup..."

Lucas: "Vegetables! Green beans. Peanuts!"

James: "No they don't! They like cauliflower. Birds like shells... This one hatched! They're all hatching! Hatching, hatching, hatching!"

When asked how the chickens got out of their shells, Lucas replied, "I'll show you... That's an egg! And it's inside! I'll show you. Like this!"



Even though we aren't certain whether James and Lucas had seen chickens hatch from eggs before, they seemed to experience a shared sense of empathetic intuition. Their desire to simulate the hatching of an egg, from a baby chicken's point of view, constituted a meaningful experience, one that they shared with, and without, words.

What do children value and how do they express it?

Recent Experiences

Remembering a Journey



"A dinosaur. It's a girl and she is a plant eater."

When we invited Duriya (4.1yrs) to draw her clay construction, she paused to reconsider her idea and said, *"I'm making an airplane. The dinosaur is an airplane. An airplane doesn't eat food. With eyeballs. Hair. A nose. And purple ears. Ha ha!"*

She laughed at her own joke (an airplane with a face!) and also drew a picture of it while laughing out loud.



When asked if she had ever been on an airplane, she said, *"A long trip in the mountains. I sat in the middle."*

Later, we learned that she had recently flown to Afghanistan to visit relatives.

A Momentary Glance



While putting all these parts together, Kasen (3yrs), repeatedly kept his hand in motion, moving it up and down in the air.

"I need another wing."

"He has a tail and a head. I am making a seagull."

Although he did not tell us about a recent experience that involved a seagull, Kasen lives in very close proximity to Lake Ontario where seagulls are commonly seen.

"That is his tail. It's on the back of him."

What do children value and how do they express it?

Meaningful Places

"Children relate not only to official places provided by adults, but also to informal places, often unnoticed by adults," (Rasmussen, 2004, p.155).

A Cozy Place

"I am making a snowman. It's a girl snowman. Snowmen watch TV. She watches People TV. People TV is like this."

"When it's snowy, I make a snowman. Look at his nose! My snowman has a hat."

"She's got a bed. I'm making a blanket for her. I'm making a skirt for her in case she get's cold. She's got hair. This is her bed and that's her TV."

Is Paloma's (4.4yrs) clay construction a visual metaphor for a place that makes her feel cozy or safe?



Home



"It's a house. With a chimney. It has a fridge and there's broccoli pizza inside. That's me. Here's a fire. And a table."



When asked if this was a drawing of her house, Siobhan (3.9yrs) just smiled and began a second drawing.

"It's a picture of me and my sister and my Daddy. In a garden."

What do children value and how do they express it?

Meaningful Places

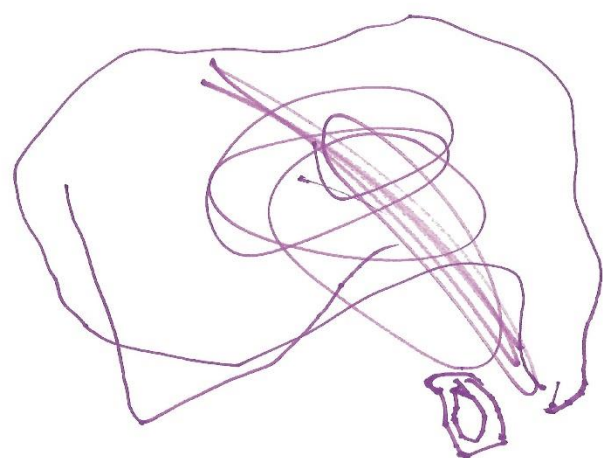
The Best Place to Play



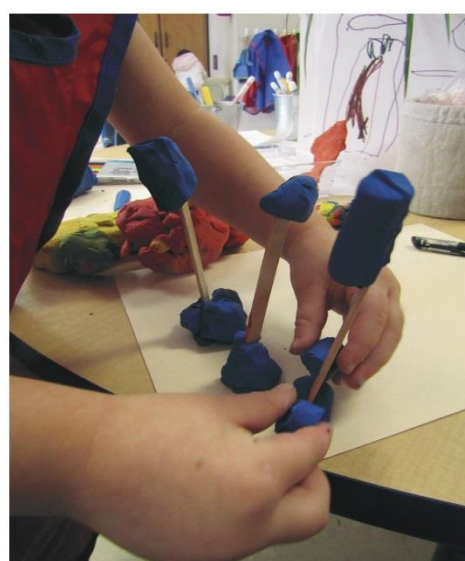
Photo Ashlyn's mother showed of her playroom. (Note: her toy cottage, which she drew, is at the very back of the room, in the upper right corner).

"This is a wall. Our roof on our house is a triangle. It's orange and red. There's a doorbell. It goes ding dong. And there's my bedroom. And there's Mommy's bedroom. And we poop downstairs a lot. Mommy makes yummy food."

"My garage is brown. My backyard has a shed. I have a new bike and my Dad's bike and everything."



"This is my playroom and it has an art easel. Let's build my cottage!"



Ashlyn (3.10yrs)

"My cottage has bricks. 4, 5, 6, 7, 8, 9, 10, 11 bricks! ... 16560! 14. That's how many bricks are in the cottage! Let's make the floor. Its a little falling over. We need a balance beam!"

A Comforting Place

Duriya (4.1yrs) worked for approximately 40 minutes using a soft modelling material.



"A Daddy building with a door and a light. Here's the door. And a bathroom. And a door at the back. And this is a sign (she adds a pink piece of paper).
"A window. Stairs. A front door. And a roof."

Was Duriya constructing the place where her father worked? Was she thinking of all tall buildings as Daddy buildings? Was she constructing a memory or was it a visual metaphor for her father?

What do children value and how do they express it?

Meaningful Faces

We noticed many children who drew or constructed images of people and we wondered how this reflected their sense of self. The most obvious artworks in this category were portraits, faces that either represented themselves (self-portraits) or the faces of special people in a child's life (portraits of family members).

Significant Relationships

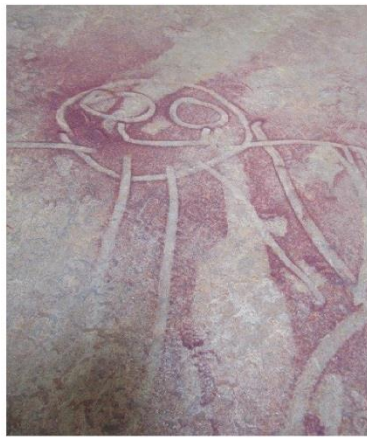
Whenever Leona's (3.10yrs) father picked her up from this preschool classroom, we observed their close relationship. An important aspect of any child's sense of self includes the most significant relationships that populate a child's mind in their absence.



"I'm making my dad."



Self-portraits for Friendship



Sally (4.2yrs):
"I made a picture of myself."



Tom (4.1yrs) in response to Sally, drew and said:
"I'm drawing myself. And I'm a superhero."

A fragile moment drawn in sand when two children shared images of themselves in a busy classroom. An "idea of me" (Ross et al., 2016) offered as a gift between friends.

Imitation for an Emotional Connection

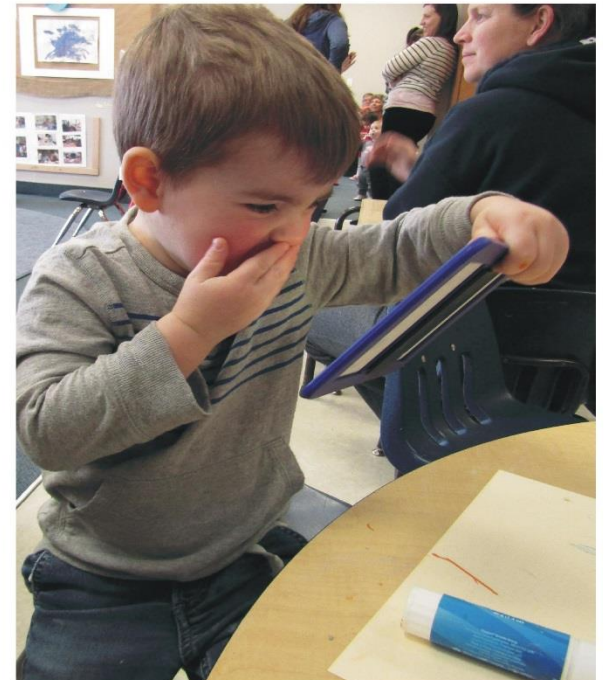
Henry (3yrs) altered his face to emulate his grandfather, someone with whom he shares a very special relationship.



"I am making a moustache. My Opa has a moustache."
(Dec. 3, 2017)



"Just like Opa!"
(Dec. 12, 2017)



"Opa!"
(Feb. 13, 2018)

What do children value and how do they express it?

An Invitation to Paint Outside

Our preschool children have always enjoyed painting inside the classroom. We wondered if that same interest in painting would continue if we changed the environment and brought the paint and brushes outside. We decided that we would offer the children the opportunity to paint almost anywhere and on almost anything on the playground as we were curious to see if their work and experiences with paint would be different.

After the first day, we observed the children so deeply engaged that we decided to continue for a few weeks. We noticed that the freedom the children were given with the paint and materials, along with the opportunity to engage their entire body in a large open space along with natural elements enabled the following:

Children Experienced Peace and a Sense of Calm Children's Social-Emotional Relationships were Strengthened Children's Relationships with their Environment were Strengthened

Through studying the way the children worked with the paint outside, we learned that neither a piece of paper offered on a table, nor a free standing easel, can give the children the same level of satisfaction as being able to move their whole body (forwards, backwards, in circles, etc.) while painting. We saw more deeply the way the outdoors offered different possibilities than our indoor space.

We also learned that when adults remove barriers for children outside and enable them to move and use materials as freely as possible, a stronger connection and deeper trust is formed between the adults and children.

Children Experienced Peace and a Sense of Calm

"The natural setting creates a calm, sensory rich-but not sensory overloaded-environment where kids can play energetically without some of the frustrations, noise, and other stressors that present themselves at indoor play facilities or school grounds. In nature, away from adults and large group of peers, children find peace and calm," (Hanscom, 2016, p.58).



Emma (3.6yrs) and Joshua (3.2yrs), along with many other children, often found places where they could retreat quietly which brought about deep focus and concentration along with a sense of calmness and quiet delight.

Children's Social-Emotional Relationships were Strengthened

"In the less constrained setting of the outdoors, children feel freer to experiment and try new things. Because it is open-ended and children's behavior within it is less prescribed, the outdoors supports valuable risk taking. Children are more likely to stretch themselves and take cognitive, physical and social-emotional risks," (Banning and Sullivan, 2011, p.2).



Ample space on the outdoor playground enabled a context where Joshua and Charlie could be with each other while both being able to explore their own ideas fully.



Charlie (3.2yrs) and Jesse (3yrs) supported and encouraged one another in their painting explorations.



Joshua (3.2yrs) negotiated both his and Emma's (3.6yrs) different desires for space with ease by quietly getting up and moving twice, allowing physical and emotional space for both of their ideas while painting.

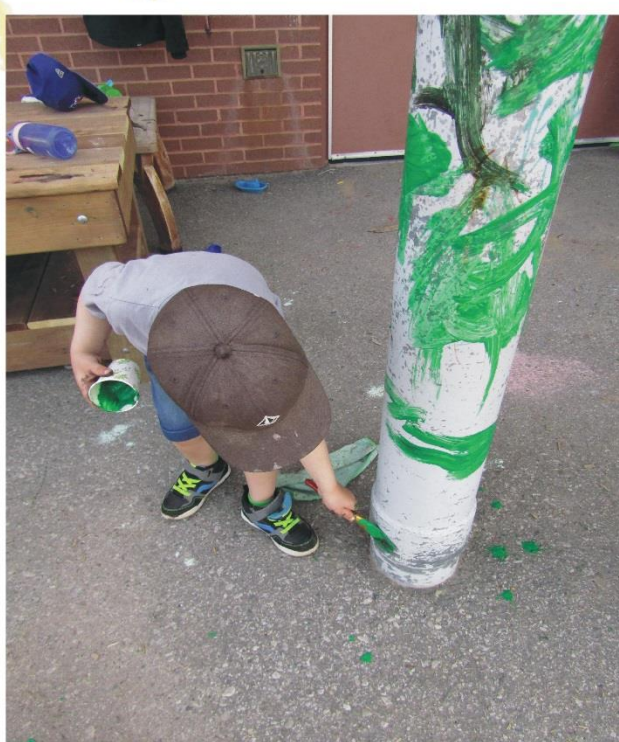
Children's Relationships with their Environment were Strengthened

"Nature models for children the possibilities inherent in new combinations, offering examples of transformations for them to notice. The yellow leaf that lands in the pond creates unexpected reflections... Sand blows across the path and changes its textures...When children themselves are allowed to combine materials or move them from one center to another, they naturally discover new possibilities and ideas... Such creative and dramatic transformations are more likely to occur in settings where children allowed to explore, recombine, and reimagine the elements of their world," (Banning and Sullivan, 2006, p.88).



Charlie (3.2yrs) and Joshua (3.2yrs) explored ways to transform natural wood surfaces with tempera paint, connecting them in a new way to their environment. By being able to move their bodies freely, they were able to explore different perspectives, from different distances and vantage points as they worked, as well as deepen their understanding of their bodies in space.

Joshua also incorporated natural materials he found outdoors, such as this rock, into his painting exploration, deepening his awareness of his surroundings and how materials change when they are combined. His physical mark that he made on this shed further connected him to this space as seeing it again the next day would remind him of his place in that space.



Jaxon (4.3yrs) transformed this everyday column while he walked backwards around it, covering it in paint.

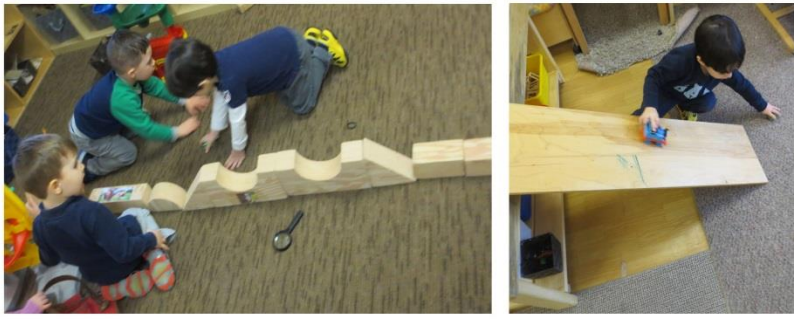
"Of all the senses, the vestibular sense [our balance sense] is often the most overlooked...children develop a strong vestibular sense by having frequent opportunities to move-especially activities that go against gravity... children will benefit immensely by going upside down, spinning, tumbling, and swinging," (Hanscom, 2016, p.48-49).

An Invitation to Paint Outside

The Language of Materials: Blocks, Tubes and Marbles

"The future-conscious teacher is led to prefer a pedagogy that supports these qualities, and equips children to become autonomous and active creators of the future. Such pedagogy involves nurturing in children skills [or dispositions] such as adaptability, imagination, fantasy, altruism, sensitivity towards others, decision-making, resilience, empathy, and interest in other cultures, and abilities in communication, problem-solving and lateral thinking (Wright, 2001a). Indeed the curriculum should encourage critical thinking rather than knowledge acquisition, problem-solving skills rather than familiarity with past problems, openness to change rather than commitment to a set of ideas and institutions (Egan, 1999, p.78)," (Wright, 2012, p.2).

Knowing the Language of Materials Enables Complex Ideas to Grow



Using the materials already in the classroom, the children set up tracks and ramps while manually pushing their vehicles along.



After half-cut tubes and balls of varying weights were added to the classroom, the children experimented further with ramps, inclines and drops, beginning with one ramp and then increasingly extending it.



The children strategically moved their work on top of the shelves on the perimeter of the classroom, expanding the length and making continuous movement of their vehicles easier as they engaged from a standing position.



The educator brought in marbles after a conversation with a child suggesting marbles might go very fast. The children spent weeks playing with only the marbles before adding them to their ramp work. Through this, they became skilled at predicting the movement of a marble.



After pipes and foam blocks were added, the children strategically rolled their marbles down a ramp, through a pipe, and discovered the best way to stop them was by adding a block at the bottom.

Knowing the Language of Materials Leads to Children as Skilled Negotiators of Time, Space, Ideas and Relationships



When children have the opportunity to work with materials over extended periods of time and learn their language (i.e. how they work, move and respond) not only do their ideas grow in complexity, but their abilities to be skilled negotiators of time, space, ideas, and relationships become visible. As children became more in tune with how the materials worked through months of experimentation and adaptation, they discovered ways to be more efficient with their time when setting up their tracks and ramps, as well as how to utilize and share the space available to them and to honour one another's ideas and contributions.



We learned

Creating a culture of inquiry is key. For this to happen, all adults in the program need to be equally engaged through observation and documentation.

Adults need to listen and observe children carefully so that new materials offered are meaningful and support the children's work.

Children play with the same materials over and over again because they are researching theories they have. Rotating or switching out materials in a classroom too often can hinder this. Instead, reflect on how the children are using the materials so that things can be added to enhance their research and increase its complexity.

Nurturing useful dispositions is more important than teaching rote skills.





What are you thinking about after viewing the Exhibit?