



Reflections Project

Owl - Lincoln Road: Infant

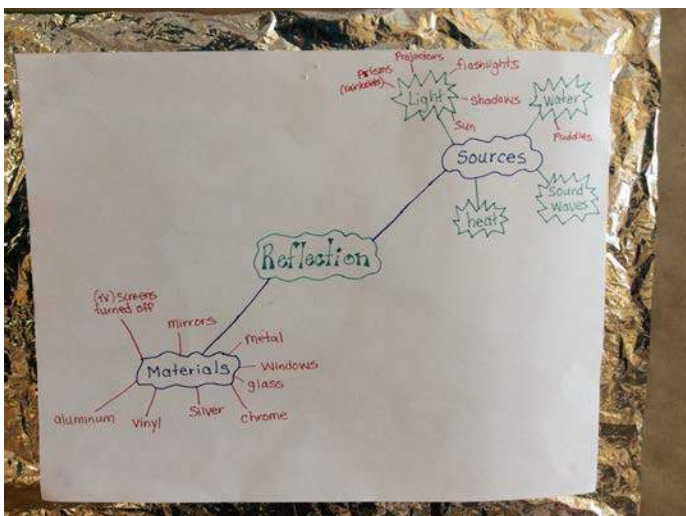
Background

Our project on reflections started in January 2018 and wrapped up in April 2018. The ages of children involved were between 9 months and 18 months old. The staff involved in the project were Nancy Lazo, RECE, Shannon Swanson, RECE, Melody Brubacher, RECE, and Kate Delemere, RECE.

Phase 1: Beginning the Project

January 2, 2018 was a new year and the infant room was filled with giggles as the educators and children returned from a relaxing Christmas break. There were some new faces and some of our senior infants. The teachers observed the children's sense of wonder as they explored the mirrors that were everywhere, on the walls, on the floor, in bins and in the hands of the infants. These new reflective toys were brought into the infant room in December 2017 when Santa came for a visit, and left the infant room with new reflective toys.

One of the infants William held a pebbled mirror in his hands. He could see a smiling face looking back at him. Eleanor stood in front of the wall mirror kissing her cute face in the mirror. Elise noticed there were other mirrors too, a big one and small circular ones. Stanley found a small hand held mirror; he noticed his reflection and flipped it around in his hand. He noticed that one side he could not see himself. Hmm why was that? The infants also like playing peekaboo with themselves and others.



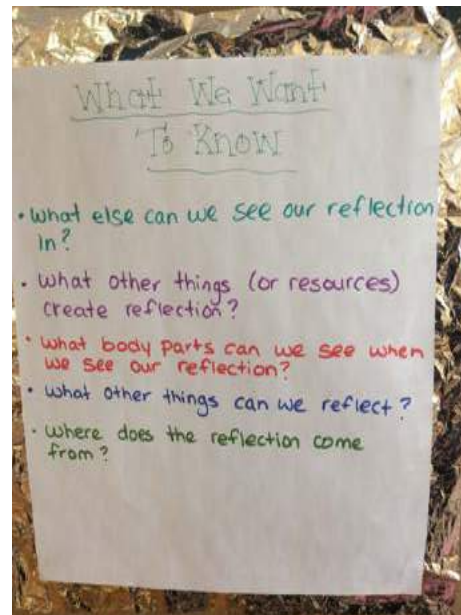
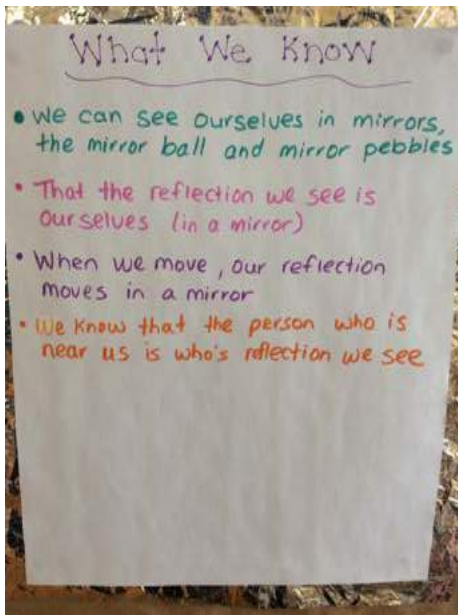
Through our observations of the children's interest of reflection, this web was created for possible directions for the project learning to go.



The educators Kate, Shannon, Nancy and Melody began comparing notes on the children's' interests, and discovered that they liked looking at themselves in mirrors and that they should begin a project about this interest.

Based on our observations, the infants have some knowledge and awareness about reflection. They know they can see themselves in mirrors, the mirror balls and mirror pebbles. That the reflection they see is themselves (in a mirror). When they move, their reflection moves in the mirror. They know that the person who is near them is who's reflection they see.

We have also deduced what type of questions the infants may have on reflection based on how they play and explore the mirrors. What else can we see our reflection in? What other things (or resources) create reflection? What body parts can we see when we see our reflection? What other things can we reflect? Where does the reflection come from?



Phase 2: Developing the Project

We began our project by discovering some neat facts about reflection. We placed a mirror on the ground and were going to cover it up. However, the infants discovered it before we could do anything with it. Eleanor and Kaylynn were the first ones to notice the mirror on the ground. They walked right over, no fear, just curious as to what this new surface was. They smiled and giggled as they noticed their reflection looking back at them, but from underneath them! That was different. It was a new angle.

Nicholas, Quinn, Stanley and Elise were a little more apprehensive about cruising this surface. To them, the perception was that it seems like a big hole they might fall into. They had to test it out a few times by taking small steps on it, sitting on the edge, or using their hands to see what the surface was all about. Once they realized it was safe, the infants sat on the mirror and brought their faces closer to their reflection and smiled or made some silly faces (thanks to some encouragement from Nancy) Other angles we discovered were holding a mirror at a 90 degree angle from the other mirror. This gave off 3 different angles to see from and the children's reflection was different. Eleanor wanted the mirror on top of the other mirror or on the wall. She really wanted to see her own reflection. Kaylynn started to tickle her reflection. We explored holding a smaller mirror over their heads, they had to look up at their reflections. Kaylynn stared, slightly puzzled and then started to tickle her reflection again. Quinn noticed her reflection too, up above. She smiled and waved at herself.



Eleanor was able to understand that the mirror isn't real but shows her a reflection. Nancy, Eleanor and Elsie were all looking in the mirror, Nancy asked, "where is Nancy?" Eleanor pointed to Nancy

and poked her. "Where is Eleanor?" Nancy asked. Eleanor pointed to herself. Then she looked at the mirror and Nancy asked her again. She liked to watch herself tap Nancy and herself when demonstrating who was who. Nancy pointed to her reflection in the mirror and said "that's Nancy too". Eleanor then would point to the mirror and then Nancy. Then to her reflection and then herself. We learned about different angles, views and perceptions. As well as discovering what body parts we can see when we see our reflection and who we see.

Blankets and material were put up to cover the big and small mirrors in the room. The infants went over and would pull up the material to see their reflections. Elise would say "boo and smile everytime she saw her reflection. When Kaylynn looked in she would notice others in the mirror and then would turn around to see where they were behind her. She smiled when she found them. Quinn noticed there was a space between the blankets where there was nothing covering the mirror and pointed at her reflection. She then slid the blanket down to see the rest of herself and the mirror. Elise heard Shannon say "where are you?" So Elise stood in front of the mirror and behind the blanket to hide. She then lifted the blanket and said "boo" to all her friends watching. Kaylynn continued the peek-a-boo game with a basket and placed it on her head, covering her eyes. She then would lift it and peek out from underneath.



Shannon got out mirror octagons. She placed one into the sunlight. The infants liked to throw the rest out of the bucket and onto the floor. This caused them to spin, and make light reflections flash all over the shelf, toys and walls of the room. It also made a very interesting noise. Quinn noticed the reflections and wandered over to see what was causing them. She then picked up an octagon and was looking at it. Nicholas threw it and then would point and say "what's that?", as he spotted the light reflections. Elise started to build a tower with them and Eleanor wanted the bucket back to tidy them up. She was all done or so she signed. Shannon picked up another one and spun it around, back and forth in the sunlight. The infants sat and watched the light reflections coming from it. Elise then climbed into the bucket with the octagons and smiled. Claire liked to hold onto it and point at it. Then she smiled and threw it onto the floor. It is like we created our own disco balls.



Shannon placed four locker mirrors on the floor. Eleanor and Kaylynn came over and started to place them onto the fridge door. Eleanor used her problem solving skills to figure out which way to place the mirror so it would stay. When she got it she clapped for herself. Kaylynn took a mirror and sat on the floor with it. She was looking at her reflection and saying "cheese," like she was getting her picture taken. She would then pull it in close and give her reflection a kiss. Stanley was checking himself out in the mirror, before we could change his shirt; nice muscles. Nicholas was placing the mirrors in front of himself and at the side and behind to see all angles. Victor was trying to understand how the mirror worked. He would look in at his reflection and smile, then turn the mirror over and look confused that he could not see himself. This action was repeated, along with the smile and look of confusion. Nancy noticed her own reflection as well. Nancy held the mirror far enough away that she noticed Kaylynn in the background looking at herself in Nancy's mirror too. Kaylynn mirror bombed her and looked at herself in the background. In the end the infants really liked to put the mirrors on and off the fridge. Nicholas would pat the mirrors on the fridge to make sure it was secure.



We painted our mirror blue but left some spaces to see our reflection. Quinn touched the paint with one finger, when she found the smallest square and pointed to herself when she noticed her reflection. Elise started by using her hand to smear the paint and then she noticed her reflection. She smiled at herself. Stanley just wanted play in the paint. He smeared the paint everywhere! It became body painting for him. When we helped wash off the blue paint, Stanley noticed his reflection then. Every time he looked in the mirror he made a face with his lips. Kaylynn also recognized herself in the mirror, she smiled and gave herself a kiss. She continued to paint the mirror and then painted her body. Claire covered up her reflection as she painted more blue back on the mirror. Some of the infants were able to see certain body parts when they moved the paint around (like their mouth, eyes, nose). They also realized that the mirror could still give them the reflection once we washed the paint off. (Stanley would go back and make silly faces, as if remembering “oh yes, it’s a mirror, I can see myself”). Afterwards, once we cleaned up, the mirror was leaning on the shelf. Elise, Nicholas and Stanley noticed their reflections and the reflection of the room. They explored their sense of self and made faces at themselves.





The children continue to demonstrate that they can recognize their reflections. William noticed his reflection as he stood at the wooden table and smiled at himself. He also engaged in a game of peekaboo with himself or watched himself move as he went up and down. He carefully watched through the mirror.



We experimented with a glass tank and construction paper. We wanted to see if the infants would notice their reflection through the glass in the blue paper. Stanley and Kaylynn noticed their reflections, but preferred to peek in and see what they could place inside. Victor noticed his reflection through the glass, in the blue paper. He smiled when he recognized himself. He also noticed the shiny stones reflecting through the glass. He pointed to them and started a peek-a-boo game by

walking from one side of the tank and peeking to the other side where he could see the stones and his reflection. William also noticed his reflection from a distance. He giggled and babbled to his reflection. The infants discovered that not only mirrors give us reflection but glass can too when it's dark on one side. Since the reflection wasn't clear like a mirror, it took some time for the infants to realize that this material gave off a reflection too.



With a flash light, white paper and a CD, we created a rainbow reflection on the wall. The infants noticed when exploring the flashlight, that the light reflection from the flashlight would shine on the wall or themselves. Depending on how they were holding it. Victor explored the CD's and tried to stick it to the white paper on the wall. He discovered that the CD's don't stick to the wall, they fall. When Nicholas, Stanley and Victor were looking into the two different CD's, (one with music on it, and one which was blank), the infants and teachers could only see their own reflection in the music CD, but not in the blank CD. Victor then found a new way to hold the CD, he noticed there was a hole in the middle of the CD that his finger fit through and he would balance it on his finger while holding his arm out. Shannon then demonstrated what happens when the light reflection from the flash light hits the CD on the floor. It created a rainbow on the white paper on the wall. The infants all got a turn to explore how to point the light onto the CD as Shannon held it, to create their own rainbow on the wall, or their shirt, or shoes and even on their faces.



Quinn's parents participated by bringing in a big stainless steel bowl. They realized this was a material Quinn would recognize her reflection in. The educators wanted to experiment and see who would recognize their reflection first.

They started by banging, throwing and stacking the bowls. Quinn was the first one to notice her reflection. The bowl was on the ground when she noticed the reflection of her feet! She wiggled her toes to see them move. Then she crouched down and smiled as she pointed to her distorted image, William was laying on his belly when he noticed his. He grabbed the bowl and pulled it closer to see. Quinn and Elise saw themselves too and gave themselves kisses. After discovering their reflections they went back to the banging and drumming. Again they discovered different body parts in the bowls and realized that some bowls can reflect our image.



William was pressing the buttons on the pop-up toy. We noticed that he was squatting down a bit and realized that he had noticed himself in the mirrors on the front of the toy. He continued to stoop down, look at himself and pop back up with a big smile on his face. William discovered the science of making himself disappear and reappear in the small mirrors.



An old light projector was brought into the classroom. The children enjoyed exploring the light. They discovered what would happen if they put their hand on the projector as well as some toys. Victor liked the feel of the fan blowing on his face. On the other side of the room, a large piece of paper was put on the wall to create a mural. The children explored their shadows on the wall and they drew on them with crayons. Quinn liked to point to her reflection, walk away and point to it again when she came back to the wall.



We made some homemade paint for the children to explore. Kaylynn watched as Melody painted her face, while looking in the mirror. Then Kaylynn looked in the mirror at Melody. Kaylynn painted her face and Melody's face too. The other children were watching them and then they joined in on the fun. They painted themselves, each other and their educators. Quinn painted on the mirror as well.



We spoke to a parent who works for a glass company and handles glass on a daily basis. We told him of our project and the infants interests in glass and mirrors. The parent was able to cut small pieces of glass mirrors and gave them to us to explore. First thing we learned; small fresh cut mirrors are sharp and fragile, we needed to child-proof them. Our teacher child-proofed them by taping the edges and then gluing them onto a piece of plywood. This made them safe for the infants to play and explore with. When we first saw the mirrors on the plywood, we tried to pry them off. When that didn't work, we leaned over the plywood and saw our reflection split in the different mirrors. Shannon was the first one to discover this. Kaylynn and Nicholas noticed their reflection was split in 4 ways. Kaylynn and Claire helped Melody count how many mirrors were on the board; 5 mirrors plus Claire! (when they were counting, Claire pointed to herself so they could include her in the count) Elise, Quinn, Nicholas, Kaylynn and Claire also liked to give themselves kisses. We changed the angle of the board, this encouraged Kaylynn to continue exploring her sense of self and others as she mimicked Melody sticking her tongue out. So many ways to explore our own DIY mirror board.

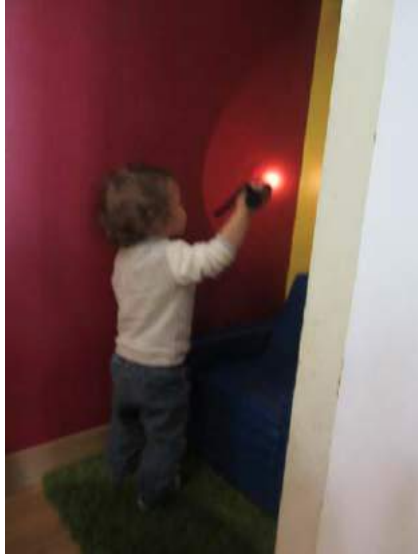


Wiarthon Willy did see his shadow on February 2nd, and on this bright sunny day, the infants explored sun shadows. A whiteboard was placed against a pole on the playground. Kate asked Kaylynn, “Would you like to see a bunny”? Kate placed her two fingers in the air to show that the bunny had two ears. This fostered our numeracy development. Kate began singing “Sleeping bunnies”, to help enhance our language skills. Nicholas was on a tricycle and a shadow appeared beside him. Stanley walked towards the white board and he too saw his shadow. This spontaneous activity, helped to broaden the infants’ sense of wonder about reflection and the sun.



The infants’ interest in light reflecting on mirrors, helped to plan and implement a science/language activity. A paper bunny and a cat shape were cut out, each with a popsicle stick attached for holding. These shapes were placed on the floor, along with a lit flashlight. Each child had a choice of either the cat or the bunny shape. As the flashlight lit the wall, Stanley, with bunny in hand, came over to the lit flashlight, making a bunny shadow on the wall. Kate asked him “Stanley, where is the bunny”,

he looked at the shape. The flashlight was then turned off and Stanley looked puzzled. “Where did it go”? Elise stood at the wall, looking at her hand shadows to see if it would reappear, and it did. She held the flashlight and shared her light with her friend Quinn. Kate sang “Here comes Peter Cotton Tail” and the shadows became alive.



**“MIRROR , MIRROR, ON THE WALL”
(Tune of “Twinkle, Twinkle, Little Star”)**

**Mirror, Mirror,
What do you see?
A little child
Looking back at me.**

**It’s a reflection
Made by light
Until the stars
Are shining bright**

**Mirror, Mirror,
What do you see?
A little child
Looking back at me.**

This is a song that the educators created. It was sung during the duration of the project in which the children enjoyed.

Field Study

For our field study we decided to take a trip to Walmart and create a survey. We wanted to observe and research items that we can see our reflection in. Our teachers showed us various items in the kitchen department. In some of them all we saw were colours or a blurry image, but others we could actually see our reflection.

When we walked by some of the store windows, some of us immediately noticed our reflections. We pointed and waved. When we walked by another window, there wasn't a reflection, it was blurry. We realized it is blurry because behind the window it was light (from the blinds) versus the first window there were no blinds, it was dark behind them. This observation proved true when we walked by the televisions. The teachers saw their reflections in the TVs that were off and told the infants about it. (unfortunately they were too high, so the infants weren't able to see their reflection and Shannon really didn't want to bring a whole TV down!)

Shannon brought down other various kitchen items for us to see our reflection in. The toaster definitely had the best clear reflection. Apart from the mirrors of course. We also discovered a different source of reflection. A chrome casing to a pillar in Walmart. Kaylynn spotted herself, pointed and squealed.

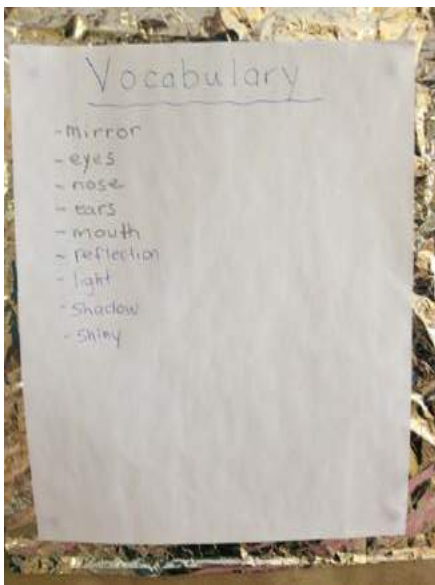
Other items surveyed as to whether we could see our reflection in were:

Window (dark): yes
Soup pot: yes
TV (off): yes
Window (light): no
Microwave: yes

Chrome casing: yes
Kettle: yes
Baking Pan: no

Pan: no/yes (not on the bottom, but on the sides we could)
Toaster: yes
Mirrors: yes





Through this very long project, we used a variety of different words to help express the idea of reflection. To the left, you will see our vocabulary list.

When we looked at the formal definition of reflection, this is what it said.

FORMAL DEFINITION OF REFLECTION:

- The throwing back by a body or surface of light, heat, or sound without absorbing it.
- An image seen in a mirror or shiny surface.
- An amount of light, heat, or sound that is reflected by a body or surface.

Phase 3: Concluding the Project

We had noticed that the infants were not going to the mirrors hanging on the walls in the classroom very often anymore to see their reflection and they were no longer playing with the mirror octagons and locker mirrors that we left out from the project activities to continue exploring. This indicated that it was time to wrap up our reflections project.

We decided to create a CD mobile to hang in our diaper area and another one outdoors to reflect the sun. We wanted to have the parents be a part of this so we wrote a letter asking which day the following week worked for them. We also created a backup plan for the parents who were unable to attend the final event. We made a take home package in a bag, with some Sharpie markers, two

CD's and a note. It let them know to help colour or decorate their two CD's with things from home, and to return them.

We ended up planning the end activity for a Thursday and the parents arrived at 3:30p.m. We had quite a few parents come out and sit with their children at the little table. The Sharpie markers were in a bucket in the middle of the table and two CD's were handed out to each child and their parent. Then children and parents all got to work as they coloured with many different colours, with their little one creating such beautiful art. We also asked the parents to place their last names onto the CD's so when displaying this mobile in the future we would always remember who helped to create it. Once the other families returned their CD creations, Shannon looked to Randy (the handy man) for assistance to drill the holes into the CD's. Then we attached string and they were put up for display as we enjoyed looking and exploring what we had made, together.



Teacher Reflections

I loved watching the children's joy of looking at themselves in the mirrors and other reflective objects throughout this project. It is so interesting to see them do something different each time with the mirror that is always on our wall. I was amazed that they noticed their reflection in things that I did not even see myself in until I noticed them discover it. For example when William saw his reflection through a window because a toddlers snowsuit covered the light so he could see it. It was neat that having the mirrors be turned to a different angle, created a new learning experience. This was a very fun project!

Melody Brubacher, RECE

This project was exciting and refreshing to see the reflections of the infants in wall mirrors, magnetic mirrors (on the fridge), mirrored blocks of all shapes and hand held mirrors. Every day, there was a spontaneous play activity, based on reflections from the sun, lights and flashlights. This body



awareness helped to develop skills that included the six domains, which will enhance the children's' future learning.

Kate Delemere, RECE

Right from the get-go, this project was fun and engaging. It was fun to deduce what the children wanted to learn about reflection and creating activities to do so. The activities were a lot of fun because infants really do like to look at themselves. It was interesting to see which infants at first were not cognizant of their reflections and who was. After a few exploration activities, it was amazing to see that all of the infants now recognized themselves in the mirrors. Enhancing their environment with more reflective material helped their learning. It was also hilarious to see the infants begin to make faces at themselves or give themselves kisses. Towards the end of the project, I was excited to see how the infants on their own began to recognize various materials in which they could see their reflection in and seeing light reflect from our window into objects in our room was cool too! Little moments like that made the project so much fun and wonderful. They can learn so much from simple activities and through play.

Now that we are done this project, we now have some extra mirrors in our classroom. It's a great enhancement and a great way to continue teaching and learning with the new infants that join us.

Nancy Lazo, RECE

I was very excited to explore more about reflection with the infants. It was so cute to see how they would kiss or play peek-a-boo with their own reflection. I was shocked at how many different objects that the children and teachers found to see our reflections in. Some of them that shocked me that the infants discovered were puddles, the small mirrors on a pop up toy and in the windows on our field study. One that I explored with the infants was that you could see your reflection in a CD with music on it, but not in a blank CD. I would have thought it would have been the other way around, that scratching music into a cd would make the reflection blurry.

The infants also recognized themselves over time during the project, or even started to realize that who they saw with them in a mirror is really sitting or standing behind them. The other part of the project that was exciting to see was when we added light reflection to the activities. The infants were able to look from the object (mirrored octagon, CD) to where the light reflection was in the room and then back at the object. Thus understanding the object and light was creating it. I am so glad that our infants were interested in reflection and I got to learn along with them to explain our knowledge together.

Shannon Swanson, RECE