

**Shadow Exploration
MacDonald Montessori School
St. Paul, Minnesota**

In our school, each classroom has a name that reflects its characteristics. Our room is named the Sun Room. Many provocations and explorations have come from the fact that the sun shines so brightly in our room. This story is about shadows. The children are between two and two and a half years old.



Bobby noticed his shadow during story time and he extended his arms to see what would happen.

Bobby: "That's my shadow."
Adam stands up and joins Bobby in the sunlight. They are both encouraging each other to stand or squat as they watch what happens.

As they stand:
Bobby: "A big shadow!"
As they squat:
Adam: "A little shadow!"



They continued to run in and out of the light while looking at their shadows.



Adam: "I can't find it. It's going away!"
Bobby: "It's coming back!"
Adam: "It's going away!"

Shadows surround us daily and seem to be an ordinary part of life. But when children notice the amazing characteristics of shadows, they suddenly become very mysterious. Shadows may look like one thing - and then suddenly become something else.

What do they think shadows are? What do children believe about their shadows? How can they affect their own shadows? Where do their shadows go when they don't see them? What are their interpretations and expectations of their shadows?

The children are searching for meaning in their own way – they do it through their actions. The learning process becomes important when questions are created by thought, conjecture and collaborating together.

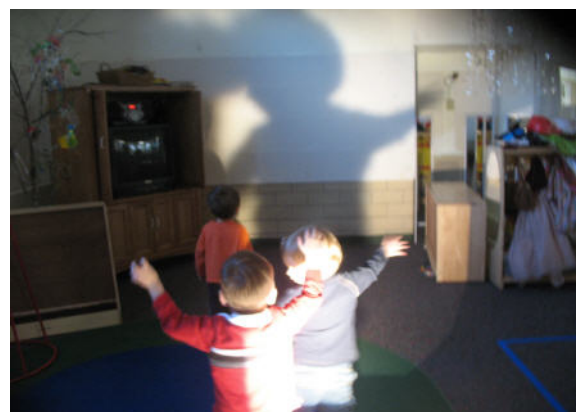
We offered a small group of children another opportunity to explore their shadows the next day. The sun was hiding behind the clouds, so we thought we would investigate artificial light with a light projector.

The children stood in the light looking at their shadows. It was no big surprise for them to see their shadows. It was when they started to move that it got interesting. The way they moved in artificial light affected their shadows differently than when they were in the sun.



They noticed something as they walked toward their shadows on the wall.
Bobby: "It's getting smaller."
Then he moved the other way toward the light source.
Bobby: "It's getting big!"

The children moved around and observed themselves and each other in the light. For a while they just ran around and giggled. Then they started to make observations to each other.



Aaron: "My shadow was following me."

Leo: "Mine's getting bigger – really big!"

Bobby: "My shadow gets bigger and little."

Adam: "I'm getting bigger and bigger and bigger and bigger."

After the light projector was shut off, the children had an interesting conversation.

Bobby: "Where did our shadows go?"

Leo: "I don't know. It went out of the light so I can't see it."

Adam: "We can't see it."

Teacher: "Where did it go?"

Leo: "It went inside there." (Pointing to the overhead projector)

Adam: "It run away."

Teacher: "Why did your shadow run away?"

Adam: "Cause you can't see it."

Bobby: "It's up in the classroom."

Teacher: "Are all the shadows up in the classroom?"

Leo: "Yes."

Bobby: "It's in here." (Points to projector) "The light shut off."

Kevin noticed his shadow the next day, but it was late in the day and the sun had started to set. His shadow looked really large and the other children noticed.

Ben: "He's a giant!"

Lily joins Kevin in the light.

Ben: "Lily's a giant, too!"

They stepped in and out of the light.

Teacher: "Where does the shadow go when they step out of the light?"

Grayson: "It goes in the darkness."

Teacher: "Why don't we see our shadows when it's cloudy, like yesterday?"

Peter: "Shadows don't like rain."

Harry: "Or thunder."

Teacher: "Where do shadows go when it's cloudy?"

Satya: "They're under the ground."

Leo: "They're under the school."



We can see from the conversations and actions during this investigation that the children's theories rely heavily on each other's thoughts and ideas. They also observe each other as well as themselves to see if the same things happen to their friends in the same way. The children are forming new explanations and ideas about the world around them through their thoughts and the thoughts from their peers. There seems to be a sense of comfort having someone to share ideas with when investigating new theories about the world