DEEPENING THE WAY WE LEARN

KINDERGARTEN ATELIER
SPRING 2012
Expression is the act of transforming ideas into something or communicating an emotion through music, sculpture, painting, etc. I think this is a wonderful word to use to think about our curriculum this semester. Last semester we saw a cycle arising when observing children’s learning. What are the components of this cycle? It begins with awareness or a sensitivity to seeing what is there--this leads to emerging theories, interpretations and reflections-- which causes the child to understand and build upon her knowledge of the media. This in turn causes the child to reinterpret her knowledge of the media, which all leads to the child’s use of media to reinvent or form new theories or hypothesis.

This semester the children experienced this cycle in a more complex way. Instead of just transforming and documenting, the children have taken their documentation or their photographs, and moved their ideas across media into sculpture and building. The move to sculpture and building allows for even deeper thinking and interpretation. The next question:

How does one represent an idea visually? A child must understand materials, understand how to construct and re-construct, understand planning and creating steps to build, and they must understand how to think symbolically, making THE IDEA visible and revisit-able.

At the end of the semester we find our children using these new understandings of expression AND REPRESENTING IDEAS SYMBOLICALLY, as a way to interpret and express their ideas about their inquiry work with the human body, making their learning visible and revisit able.

Our story unfolds...

Below:”We added crystals inside our first design, so we could catch light and create a more blurry idea.”

Sculpture title “Blurry”
Building base knowledge with new materials to create a new language
With the thought that the children would be moving into constructing, we began the semester with some proposals and challenges using wire. Like any new medium, the child has to develop a relationship and understanding of it—then develop it into a language to express ideas. The child has to understand the media’s possibilities and affordances, just as if they were learning a language.

The children’s first experiences with wire were to develop and investigate gauges of wire and to discover ways to connect, shape, and construct small simple designs in order to understand the complexities of it. Within the next experiences and using our reflection drawings to build knowledge about the material, the children were challenged to figure out how to connect wire to materials that they had worked with the previous semester in order to develop a better understanding of construction itself.
After these experiences had resonated with the children, we met to reflect on and interpret the photographs that they had taken during their transformation project. These words came to the surface: Windy, stretchy, old, destroyed, apart, etc. The challenge began. Could the groups of children design a sculpture that could represent one of these words?
DEEPENING OUR IDEAS THROUGH INSPIRATION
Each atelier group went on an "inspiration" or material fieldtrip, armed with the words they were going to interpret through sculpture. During these research trips, the children were given opportunities to document and find new meanings in interpreting their words.

Photos taken by the children
CONSTRUCTION:
IN PLANNING THEIR SCULPTURES THE CHILDREN
THOUGHTFULLY CONSIDERED THE MATERIALS THAT WOULD
BEST CONVEY THEIR IDEA. THEY PLANS AND CONSTRUCT THEIR
FIRST IDEAS.
Using idea Sketches for a new interpretation for a sculpture, the group would then decide which sketch was the best.

**REFLECTION/RE-PLANNING**

During reflection, the children met as a whole group to share their sculptures and to get feedback in editing this first sculpture. The idea sketch was a valuable tool in the beginning to get the group to think together and to help circulate and construct ideas together. The children were asked to think about readability to explain if they were to change anything and why, and what they would do differently. Did the materials best express their idea or the complexity of their word? As a larger group, we sketched out new, more readable ideas
The children felt their first example did not show “ripple” enough in the first sculpture, which was too tight looking at the top. This next design allowed for movement and flow more like a ripple.

(On the right) The children decided in their second sculpture that the use of wire was not needed to show the idea of broken, that wire actually distracted the viewer. “Broken’ would feel like... more shattered pieces.”

(ABOVE) The children felt their second sculpture should have elements of the same shape should also catch light and wind to show their idea of watery. “It should feel like you are underwater.”

RE-CONSTRUCTION
With ideas edited, the children again went to planning and constructing more readable expressions of their sculptures and ideas. This tool of reinterpreting was vital within their learning process of expression. With these revised sculptures, their ideas became more readable and more complex.

(Above) The children felt their second sculpture should have elements of the same shape should also catch light and wind to show their idea of watery. “It should feel like you are underwater.”
Using new knowledge to interpret inquiry curriculum: Building new ideas together

After constructing their new sculpture ideas, the children had a deeper and more complex process of expressing their ideas through this new media. This more complex understanding of using media as symbols, and for editing, interpreting and working together made it possible for them to now take this knowledge and use it to express the ideas about their classroom inquiry on the human body.

FIRST PROPOSAL  Our goal with initially using clay was that the children would easily be able to express, move around, and construct what their ideas were about different systems in the body. We realized that the children were more concerned with the shape or size of what they were constructing with clay, rather than using clay to help them understand how the properties of clay might help them better understand the part of the human body. The clay lended more to the child worrying more about the shape or size of the part.
MATERIALS REVEAL NEW IDEAS AND SIMILARITIES

We discovered in using materials that two wonderful things happened. The children began to question, reason, and rethink their previous ideas, often asking questions like: Does this make sense? Does it represent our idea? The moment the children were able to visually see each others idea laid out around the room, they were more able to dialogue, make connections, and reinvent as a class. The children began to talk about how their systems connected and functioned together! This was amazing because this is what we strive for as teachers, to build this type of learning community for the children to construct and form new ideas and generate their questions together. The connection of ideas and connection of learning communities led us to our last proposal to the children: Could they connect and construct their ideas of the different systems using materials to show their ideas?
In this last provocation to the children, they together as a group constructed all of their ideas in the same work space. After doing this, they came back as a whole group and reflected on the work, did some rethinking, and talked about what and how they would change their work. What made sense and what brought forth new ideas. (See examples on the next page). This process again allowed the whole community to learn from each other and construct new meaning and understandings of the human body together. In these examples I would like you to notice how the children reasoned and made sense of how things worked using different strategies. This is so important because the children had to think through their construction. They deepened their abilities to construct and ask even better questions. They learned how to extend their thinking!
EXAMPLES OF CONSTRUCTING NEW IDEAS AND CONNECTING IDEAS

Strategy: constructing a new idea from their peers idea. The stomach group listened and thought about what the brain group had said during reflection signals are sent from the brain to the heart and lungs to pump. The stomach group edited their original idea and thought it made more sense that the brain actually sent a message to the stomach telling the stomach where food was needed. Felicia and Alissa decided to use 5 different materials, each to symbolize a message to tell the stomach to give food to the heart, bones, muscle, lungs, brain. (connecting their ideas to their peer's ideas above this in turn had the brain group thinking and asking does the brain control all of the parts of the body?) Another new idea that emerged is that food does not go to the blood or air, but does go to the heart to help it pump the air and blood.

Strategy: What makes sense(reasoning) The brain group was placing the white rectangles to represent the signal going to the lungs to tell the lungs to work. One child said, Wait wouldn’t there be another signal coming from the same place in the brain telling the other lung to work, too? Both partners chimed in yes! One answered, “They’re like neighbors!” which was a wonderful metaphor for the relationship between the brain and lungs.

(Strategy: Using reasoning) The lung group and the heart group during our final edit constructed their idea together after our discussion led us to, “If the lungs give air to the heart, then does the heart give the air to the rest of the body? Because this idea made the most sense, the children represented the air going into the heart and the air then pushing the blood and the air to different parts of the body. This was a change from their Changing their original idea that air was being pushed only from the lungs.
Within this process came many more examples of thinking and reconstructing. Three very important things that also stood out were better and more complex questions and an empathetic or more connected view of the human body. The third was the children were better able to express their ideas as they edited it. To illustrate this, I would like to share some direct quotes from the children and some images of edited ideas.

**Complex questions that arose from reflection:**
“What does real air look like and does air have a shape?” “How do you grow up?” “How does the mind know what is right and wrong?” “How does the brain know where the signals should go and how does it decide where to go? In reference to the skin: “Why, when you use sunscreen does your skin get lighter?” How does your skin get darker by the sun?” “Does your skin actually change by the sun?” “Do different amounts of air go to different places in your body?”

**Empathetic understanding of the body** -the children relate their understanding to nature and connect what they are learning to their world.
“The heart is like the sun, like the sunlight touches everything, the blood goes everywhere.” “Skin is like a tree bark they both fall off.” “Roots are like the signals from the brain feeding the top of the tree.” “Branches of the trees are like bones.” The heart is like when my sister moves like this, up and down.”
When one group is posed the question does your whole body need food and water to be alive? The children respond: “I think we need it every body, every thing, every animal, needs it”. “Even plants!”
“Plants need healthy water, too.” “They need sunlight like us, too.” “Everybody needs water and air to be healthy.” “Even insects.”
Readability—The children were better able to express their idea as they edited it.

First representation lacks expression of function

Next representation adds the idea of air but still lacks the idea of how they function

Third idea is more readable because it shows that air goes to the heart and that air goes everywhere in the body.

THE FOURTH DRAFT comes after they have met and talked to the whole community, specifically the heart group. THE CHILDREN come to the conclusion that the lungs actually give air to the heart and then the heart pumps the blood in air to different parts of the body. After another conversation ensues, one child ponders, “What we breathe out, the bad air, shouldn’t we add that idea too?”
THROUGH THESE PROVOCATIONS AND LISTENING TO THE CHILDREN THIS SEMESTER, THE CHILDREN HAVE DEEPENED AND EXPANDED THEIR PROCESSES FOR LEARNING AND EXPRESSING THEIR IDEAS. As this year comes to an end, we celebrate their sense of how a community works together in the spirit of collaboration.