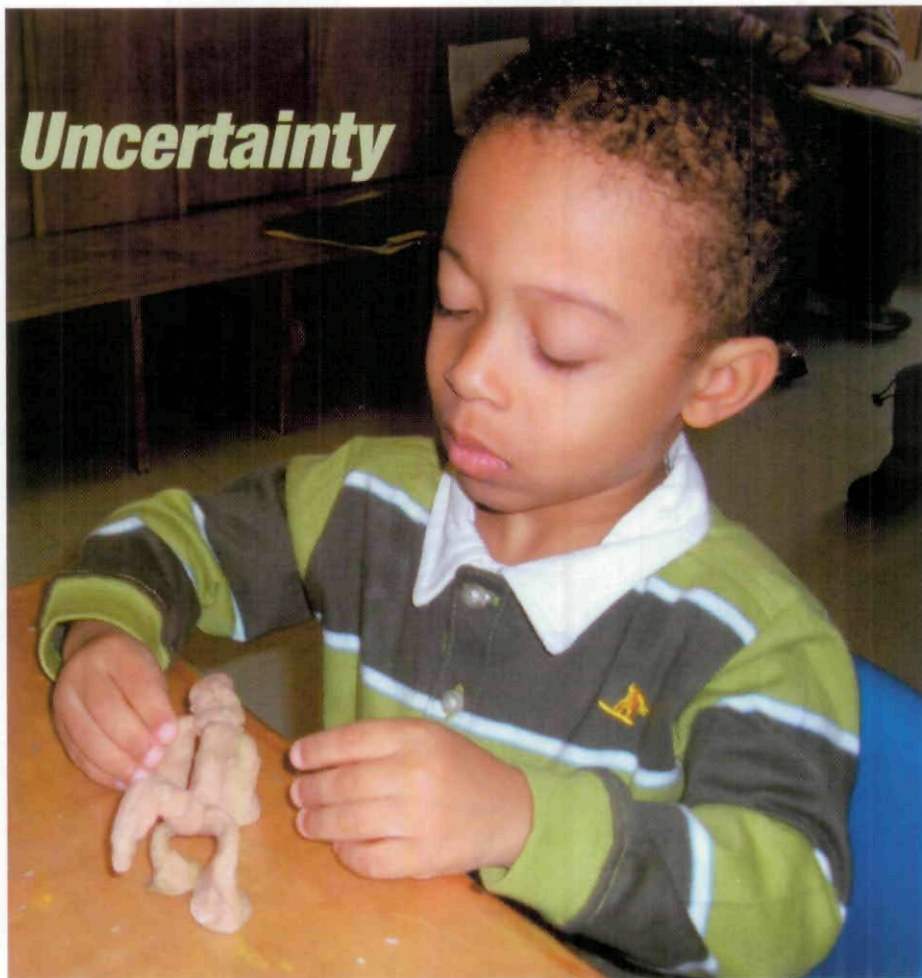


Moving into Uncertainty

Sculpture with Three- to Five-Year-Olds

Carol Anne Wien with
Bobbi-Lynn Keating,
Annette Coates,
and Barbara Bigelow



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Barbara Bigelow, BCS, is the executive director of the Peter Green Hall Children's Centre and is celebrating her 25th year of employment at a "wonderful organization." Her career in early learning and child care extends over 30 years.

All photos courtesy of Peter Green Hall Children's Centre staff.

"It's not playdough. It's sculpture,"

said Omar, one January day, when invited to put away the playdough before lunch. We found his comment intriguing. What could the term *sculpture* mean to him? Did other children in the room also think playdough creations were sculpture?

Bobbi teaches in the seniors classroom (children 3 to 5 years of age) at Peter Green Hall Children's Centre in Halifax, Nova Scotia, Canada. The center offers care for 91 children from infancy through school age. Situated in an apartment building for families of university students in the city, the center serves a group of children that is highly diverse both culturally and economically. During that year, I (Carol Anne) visited this classroom weekly as an educational consultant, listening, observing, and meeting with the

staff—teachers Bobbi-Lynn Keating and Matthew Sampson, center artist/assistant director Annette Coates, and director Barb Bigelow.

The teachers thought Omar's comment was profound, and when Bobbi followed up, asking other children what they thought about sculpture, she found there was avid and startling interest. The following week I returned to find Omar's comment displayed on the documentation shelf, a place that shows and describes the children's work for families and others. The comment and several photos were accompanied by some lumpish playdough animals—a cat, a turtle. What do 3- to 5-year-olds know about sculpture? What do they think it is? Where did their ideas come from? How do they differentiate between their usual playdough molding, which

gets thrown back into the tub at the end of a session, and sculpture?

This article describes a six-month emergent curriculum project on sculpture in a child care center inspired by the Reggio Emilia approach (Filippini & Vecchi 1996; Edwards, Gandini, & Forman 1998). The center has been working for 12 years to transform its curriculum into one that follows the minds of children—listening alertly to their ideas, desires, and hopes—and supports the children in expanding and developing their theories about the world with strong, purposeful curriculum activities embedded with rich learning (Wien et al. 2002; Wien et al. 2005). In addition to describing the sculpture project, we trace the thinking behind the decisions that teachers made to support the children's developing ideas.

First responses

For Bobbi and Matthew, the rash of new playdough animals and the children's insistence they were making sculpture was "this real scary discovery." The fear arose because neither knew anything about sculpture or how to make it, and the idea of embarking on an inquiry into the children's notions felt like "jumping without a net."

For several weeks, the teachers' response was to do more of the same—offer lots more playdough and begin to document what the children did with it. Pedagogical documentation is a teacher research process that educators use in the Reggio Emilia approach, and it is now widely adapted in early childhood settings in many countries (Giudici, Rinaldi, & Krechevsky 2001; Hendrick 2004; Fleet, Patterson, & Robertson 2006). Such documentation—in this case, taking photographs of children as they worked and noting their comments and conversations—helps to make children's theories and learning vis-

ible, both to themselves and to others (Edwards, Gandini, & Forman 1998; Giudici, Rinaldi, & Krechevsky 2001). As a result of this documenting, Bobbi noticed the children's frustration with playdough as a medium. The children commented, "It won't stay together" and "It's breaking." Also, the children wanted to revisit their playdough sculptures to work more on them, but their works dried out and became fragile. The children seemed to hold the implicit notion that if it was sculpture, you kept it.

Problems open up a line of inquiry

Bobbi describes emergent curriculum as "like a road" she is on and sees a new problem arising as adding excitement to her work: "The problem gives me a direction." In this case, she went to Annette, an expert with materials, to discuss the children's frustrations. Annette thought immediately of potter's clay, but this material also dries out quickly and can be as fragile as playdough. She then suggested plasticine. Previously Bobbi had found plasticine unsuccessful: it was stiff and unyielding, and the children did only the most rudimentary rolling and sticking together with it. Annette suggested it might be more "sculptural" to keep the colors neutral—grays, black, white. This would focus attention on the tactile rather than the visual qualities of plasticine. Bobbi put aside her misgivings and agreed to try it, wondering what would happen.

During some small group times, when four or five children work together with a teacher on an activity, Bobbi would explore plasticine with the children. The children responded to the plasticine with increased focus on their work and experimented with added detail when Bobbi introduced real pottery tools, such as wedges, palette knives, and scribing tools. As

As they worked daily with the plasticine, the children's confidence with the material increased, and more and more children attempted ideas with the medium.

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Through the ongoing documentation, the center staff and I saw that many children worked flat, creating their objects in two dimensions or attempted three-dimensional pieces without success. It is difficult to get three-dimensional materials to stand tall, and this property troubled the children. For example, five children were entranced by a basket of artificial sunflowers and tried to represent them in plasticine. Our documentation revealed repeated comments such as these:

"They are just lying down."

"Why won't they stand up?"

"They won't get up."

Bobbi noticed that the children's struggle to build vertically was constant as they worked with the plasticine.

The problem of vertical stability

Bobbi wondered whether to demonstrate how to make the children's work stand. Should the teachers show them what an artist might do? Malaguzzi, the former leader of the Reggio Emilia approach, talks about adults "loaning" their knowledge to children, but with the expectation that

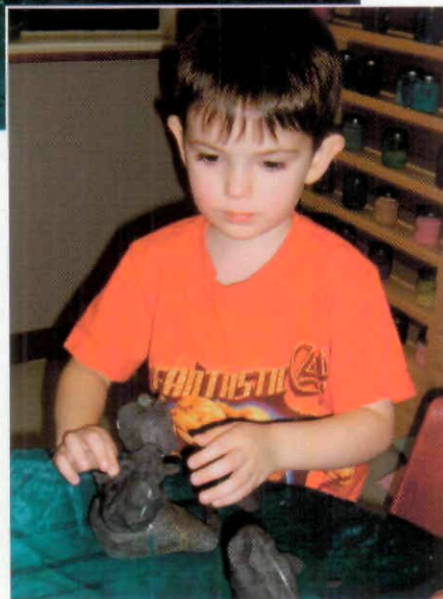


the loan will be “repaid” (1998). How far should the center staff go?

Annette suggested showing the children how an artist might use a wire armature as a framework for getting a sculpture to stand up in three dimensions. In several small group times, she wrapped rocks with wire and demonstrated how to add lumps of playdough to the wire and mold it on the armature. The children were enthralled. With their own wire-wrapped rocks, they explored bending the loose wire on top into shapes and adding clumps of gritty playdough (Annette had added coffee grounds for texture). These materials were highly effective for large-scale three-dimensional work, and soon the children created a cat, a lizard, and a police dog with a worm on its back.

Sharing displays with the children

The teachers displayed six of the rock-and-wire-supported sculptures on a low shelf, a cloth underneath, with photos of each child working on his or her sculpture. Each was accompanied by a little card with the child artist’s name and comment about the work. We found it interesting that even the 3-year-old children understood this



arrangement as a display. While the children rearranged the items frequently, showing others the photos and labels and conversing about them, they did not play with the objects. They seemed to treasure the fact that their work was being kept and shown: some quality of permanence and visibility seemed central to their implicit notions of sculpture, though we can only hypothesize about the origin of their theories.

Four months earlier, a parent who worked at a kiln had donated leftover clay reclining figures. Several of these were on display around the classroom. These figures seemed a probable source for the children’s theories,

though we cannot be sure. If they were the source, it is an interesting example of the Reggio (and Montessori) notion of the power of the environment itself to teach. The idea is that resources and their organization in the room have the power to compel ideas and actions in the children (Montessori 1964; Malaguzzi 1998).

The children’s evolving concepts of sculpture

One week I brought a box of wrapped objects, and Bobbi and I held a small group discussion with five children about whether each item could be sculpture or not. There was general consensus that a sculpture “has to be *hard*.” The children didn’t consider a cloth otter to be sculpture, for instance, because it was soft. They clarified that sculpture might be soft first and then harden, like clay. They became confused by a stone polar bear carving, struggling with whether something made of “rock” occurred naturally. Scott said, for instance, “It’s not sculpture because it’s

made of rock.” Interestingly, the children referred to molding with playdough or clay as carving—“like carved out of playdough, carved out of clay.”

The discussion astonished us because it lasted over an hour, long and intense. Did the children understand that sculpture is something that is human-made? They were confused by items they interpreted to be rock. At one point, when asked if an object was sculpture, Nicolas said, “I don’t know. It’s very mysterious.”

Some quality of permanence and visibility seemed central to their implicit notions of sculpture.

Some of the 4-year-olds showed a clear sense of aesthetic evaluation of objects. Ike, for example, when considering a two-inch-high fuzzy teddy bear sitting on a miniature wooden chair, said no, it wasn't a sculpture "because it doesn't look beautiful." He said this with gentleness, even tenderness, as if it were a great sorrow for the bear not to be sculpture.

Walks in the community challenge the children's concepts

Teacher Matthew, who loves to do things outdoors with the children, thought it would be interesting to go on a sculpture walk to see if they could find any sculpture in the neighborhood. In March, they went on several walks, photographing and investigating objects the children claimed as sculpture. Sometimes there were disagreements, such as one about a boulder inlaid with a bronze plaque.

"It's not sculpture. It's a rock."

"Yes, but it's got writing on it."

One boy insisted that the clamshell carrier for skis on the roof of a car was sculpture, but couldn't say why he thought so. The carrier was indeed a streamlined shape easily described as sculptural. We found this presence of aesthetic sense in 4-year-olds notable.

Matthew organized the photographs from the sculpture walks on three panels, set low to encourage interaction among the children and parents, and much discussion occurred as the children revisited them. Many other activities were taking place in the classroom simultaneously, such as a study of faces led by Annette, an interest in building that moved from blocks on the carpet to miniatures with toothpicks and plasticine, as well as frequent play in housekeeping and story exploration in the library.

On another walk with Matthew, to a park bordering the ocean, the group of 16 children discovered

an old military battery with concrete steps, platforms, and two strange iron structures like huge bolts with a hinge on one side and a latch on the other.

"It's a sculpture! It's hard."

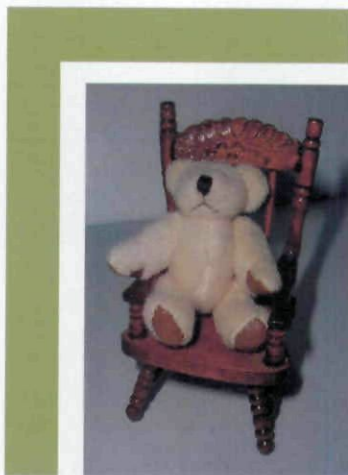
"It's not a sculpture."

"No, it's broken." [*referring to the objects being rusty*]

"No, because it opens and closes."

Here the children appear to differentiate between objects that are practical and objects that are decorative. The concern for what is and what is not sculpture had captured the interest of most of the children in the classroom, and there was an implicit theory among them that if something had a practical function, then it was not sculpture.

Meanwhile, the classroom was flooded with images and discussion. Annette shared art books with sculptures by Michelangelo and others.



The defining characteristics

By late March, we could summarize the children's overall notions of sculpture as an object (1) made of hard material, (2) that has no functional purpose, and (3) is visible and permanently saved for others to see. Some children thought sculpture should be beautiful. There was confusion over whether naturally occurring shapes, such as rocks, are sculpture, and over how sculpture is made.

Further explorations in making sculpture

In late April, Tobias brought a "sculpture" from home and asked to have a small group with whom to share it. Five other boys were interested and formed a group, with Bobbi and me, to discuss the pair of painted plaster fighting dragons, wings wide and mouths stretched open in aggression.



Bobbi and I later realized that a new understanding was occurring for the boys during their discussion:

"But how did they make the eye good?"

"Maybe it's glass."

"Because they are artists."

"Maybe they cooked it." [*Perhaps he means firing in a kiln.*]

"Maybe they put it in the oven to dry up."

"It's not hot."

"Maybe they put it outside to cool."

"I was thinking about that."

A week later the boys wanted to continue. We infer they needed an incubation period for their ideas to coalesce.

When we reviewed the transcript of this conversation, we recognized how carefully the boys were thinking of “artists” in the process of making the dragons, hypothesizing intensely what might have happened to produce the sculpture, which had clear power for them. Reflecting on their conversation, we better understood Nicolas’s remark, “Maybe we should make the same thing!”

This idea was immediately taken up by the group, infectious as wildfire, and propelled all of us to the art area, where Bobbi handed out chunks of plasticine. Much rolling of tails and pressing of bodies began. The boys worked furiously, with an urgency and concentration that had us paying close attention and almost breathless. What I call the “windhorse” effect in emergent curriculum had happened. I borrow this term from the secular Buddhist tradition of Shambhala (Trungpa 1987): it refers to raising a “wind” of energy and alertness, a sense of being alive in the moment. We could feel this energy all around the table, inside each of us—children and adults—a dynamic, positive, creative force.

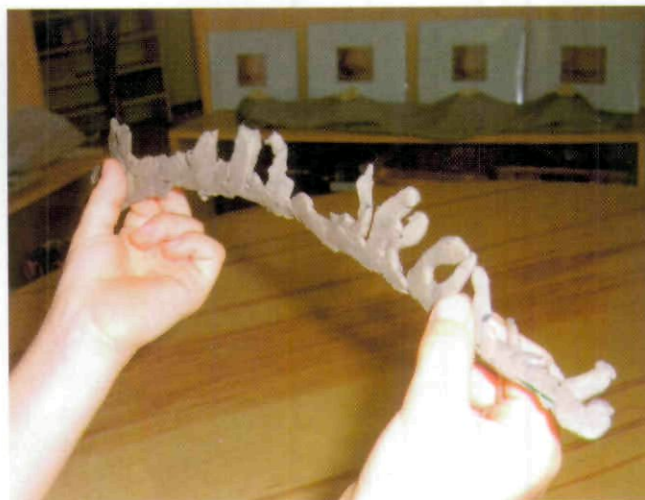
The boys made long flat bodies with spikes down the back and used tools to make eyes and stretching mouths. Knowing their interest in having their sculptures stand, we commented that the sculpture Tobias had brought in stood up. “Ours are lying down,” they said. But shortly after, Tobias wanted his creation to stand, and Bobbi found a spatula so he could pry it off the table. Pointing to a shelf, she offered him a choice of bases—rocks or folded cardboard. Soon each boy chose a rock or cardboard base, attaching dragon bodies and long tails with spikes. The boys worked on their

dragons without interruption for 80 minutes.

For days the boys did not touch their dragon work, sitting in view on a low table, but a week later they wanted to continue. We infer they needed an incubation period for their ideas to coalesce. On the next occasion, they worked with equally furious concentration, several of them for over an hour. They added a base of black plasticine “dirt,” and skulls like those they noticed on the base of the sculpture. They also wanted to add horns on the dragons (Scott was having trouble making the horn stand up). Another child commented, “Everyone is working fabulously!”

Nicolas had made a two-foot long pencil-thin roll with spikes all along it—“the green dragon,” he said. Together we all studied the green dragon in the sculpture, how its head and neck curved up into the air. Nicolas attempted to lift his plasticine figure, but it was fragile, and broke.

Bobbi disappeared and quickly returned with wire and wire cutters. She demonstrated to Scott how to cut a length of wire the size of the horn he was working on. Together they folded the plasticine around the wire and placed the horn on the dragon’s head. Scott saw that it worked beautifully. Nicolas stopped his work to watch several children constructing horns and finally said, “I need wire.” After cutting a two-foot piece, he began to push the wire into the plasticine of his dragon. The coordination required to push the wire into the thin roll was so delicate that the task was very difficult for Nicolas. After 10 minutes, he



was halfway; he wiped his forehead and went for a drink of water, fatigued by his intense effort. We wondered whether he could continue. He returned, and took another 10 minutes to complete his self-set task. When finished, he immediately lifted the dragon into the air like a trophy. He was very pleased, as were we.

We wondered whether he would think to bend the straight, pencil-thin dragon, but he didn’t. The work of getting it up off the table into the air was itself a triumph.

One boy worked with ease and dexterity in three dimensions, but the others struggled, motivated to make their dragons three-dimensional but terrifically challenged by the problem. I speculate that they were trying to bring to plasticine the “language” of their expectations for drawing (Malaguzzi 1998; Steele 1998). The plasticine demanded they learn a new language, new ways of moving their hands and of thinking, the properties of a new material, and the discipline necessary to master those properties and develop a new “literacy.” Such mastery requires the coordination of a third set of reference points compared to drawing: in addition to length and width, depth in space must be coordinated, requiring mathematical estimation.

Bobbi felt the task for her at this point was to support the children who were still working flat. What would help them understand the capacity of

the material to work in three dimensions rather than two? What could she do so young children could be comfortable with the material and create to their satisfaction?

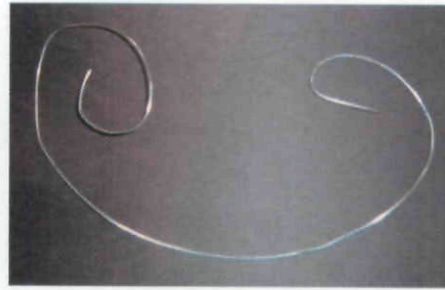
Next steps

In May, Bobbi and Annette brainstormed possible next steps in supporting the children's understanding of working in three dimensions. They decided to provide new materials and props for the children to explore—a wood plank base with three vertical rods plus soft and bendable wire, netting, hardware cloth, and ribbons. The children could wind, bend, fold, and wrap these around the rods, exploring vertical space. The wrapping board opened up new interests in the classroom, creating a kind of playscape that drew in different children, including several girls. But we focus here on something interesting that happened for Nicolas.

Nicolas enjoyed bending, folding, and wrapping the wire with an exploratory freedom. Suddenly it was more than a tool to allow his dragon to lift off the table. He cut a length of wire, coiled one end into a spiral, turned up the other end slightly, and said, "I think I'm making a chameleon. See,

this is its tail. Isn't it fabulous!" His wire design is precise, succinct, expressed, as wire suggests, in two dimensions. He commented that he didn't remember "what

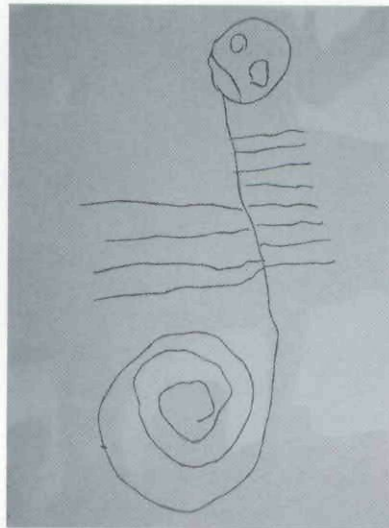
a chameleon looks like" and asked for a reference book: "I need to look in that book to make my sculpture." He studied the photos of a chameleon and asked to do a sketch to "remember what it looks like." After several sketches he produced one he was pleased with.



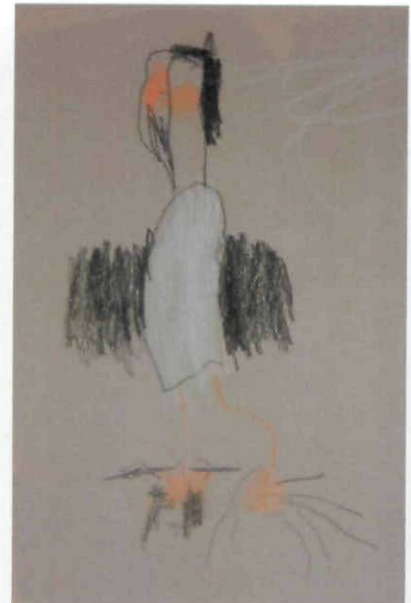
opened without everything that had occurred previously. It also shows how difficult it is to create nice, neat endings in a piece like this.

One day in

June, Nicolas and Scott together decided to make an encyclopedia. It would show all the different penguins they had found in learning how to check out reference books. This work began during a noon hour and lasted several days, and the work went from tight, restricted drawing representations to a fluid expressivity that continues to astound us: how did Nicolas and Scott move from their previous drawings to this level of perceptual acuity and capacity to convey it? Who could have predicted that months of sculpture work would lead to fluent, graceful drawings? Yet the first principle of development in Bredekamp and Copple's summary of developmentally appropriate practice (1997) is that development in one domain affects development in other domains.



We could see so much potential in these actions. Would Nicolas grasp that he could use the wire frame as an armature for a clay sculpture? Would he prefer to keep wire as the sculpture medium? We were impressed by his capacity to generate ideas and to follow through in developing them through study and through sketching. We saw that he had a sense of the preparatory work necessary for successful design. But what happened was one of those quirky unexpected things that has no clear explanation, except that it was unlikely it would have hap-



Teacher reflections

When a teacher sees a problem “as a direction,” as Bobbi does, reflection becomes closely linked to planning the next step. Planning that is closely linked to a specific challenge, such as how to help children work in three dimensions, is suspenseful and uncertain, because the teachers do not know how the events will work out. Everyone gets excited to see what will happen.

The value of documentation

Documentation helps teachers study what children understand and plan what to do: we find it a crucial aid to reflection on teaching and learning. At our center, teachers use documentation as a habit of teaching. They alter displays weekly and provide a focus for conversation among children, teachers, families, and visitors. The development of these skills has been part of the influence of the Reggio Emilia approach on the center (Edwards, Gandini, & Forman 1998; Cadwell 2003; Wien 2008). Without such documentation, we might never have seen the children’s initial frustration with playdough in a busy classroom.

In early June, we studied the documentation generated since January (36 pages of notes and transcripts, 100–120 digital images printed for individual portfolios and classroom documentation). It was only after we had reviewed the documentation from January to May, discussing what was most significant in terms of challenges to the children and tracing their development in those challenges as well as the teacher responses to those problems, that we saw clearly that Nicolas had shifted from using a straight wire in his dragon to working with wire with ease and facility to make a chameleon. Without the review of the documentation, we would not have seen the arc of development in his use of materials.

The intriguing nature of the overall question—
What do young children think sculpture is?—gave us direction.

Teacher decision making

How do teachers decide what to plan, what resources to have available, and what to offer as supportive scaffolding when engaging in emergent curriculum? We found that the intriguing nature of the overall question—What do young children think sculpture is?—gave us direction. Our own sense of inquiry into what children think suggested possibilities for what to ask or try. Such inquiry engages us in problem solving. And a move that does not work well is not seen as an error, but rather as a step toward what will work: teaching is self-correcting.

Conclusion—Children learning, teachers learning

Throughout this project, the children understood that their ideas mattered and that they could participate in deciding what to do—such as offering a sculpture for discussion and deciding to re-create it. They understood they could trust teachers with their ideas, and that teachers would support their intentions—such as compiling a penguin encyclopedia. These are powerful learnings for children in a democracy; they will help the children learn how to participate in group decision making.

The teachers learned much about letting children explore and plan in an area they themselves scarcely knew about. We had no idea of the potential

(cont'd on p. 86)

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of sculpture for children this age. The fact that the children thought of their work as sculpture deepened their levels of exploration and conceptualization: it made their efforts more serious. The teachers learned as much as the children, and this joining of minds enlivens teaching and makes every move fresh and stimulating. The joy of a project is in its continual surprises and in the capacity of everyone involved to participate in this joy. The work was disciplined and focused, and it built skill in both children and teachers from week to week. It is the capacity of emergent curriculum to create joy that makes it memorable, sustainable, and unmatched in developing identity, culture, and attachment in both children and their teachers.

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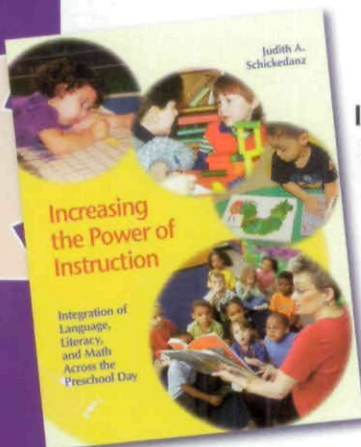
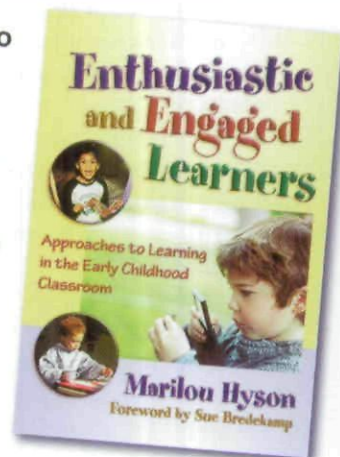
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