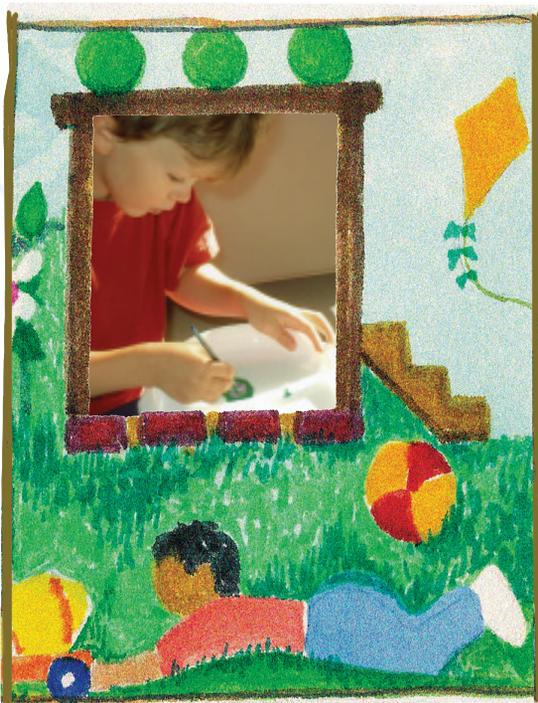


Designing the Environment to Build Connection to Place

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How do teachers respond first to a crisis in their center, then to a larger crisis in their city? And how do these crises affect the design of an environment for three- to five-year-olds? This article shows how an environment's design shifts, evolves, flourishes, and builds connections among children, staff, and place as teachers respond to local crises.

Peter Green Hall Children's Centre serves 91 children, from infants to after-schoolers, and is located on the ground floor of a 14-story apartment building for families at five local universities. Under director Barb Bigelow, the staff since 1996 has been influenced by the ideas and practices of the Reggio Emilia approach but has not copied them. Rather, they take Reggio ideas and practices as points of departure for rethinking their own practices. Aspects of the Reggio Emilia approach with particular resonance for us include these concepts: children as rich protagonists in their own experiences, with knowledge and creativity to contribute; teachers and children as collaborative partners in long-term learning; making learning visible through documentation; and the impact of visual aesthetics on the functioning of the environment. We have long recognized that a beautiful, caring, sensitively organized environment has a major impact on the sense of belonging, comfort, safety, and capacity to be responsible and productive of all participants in a setting (Kritchevsky & Prescott 1969; Edwards, Gandini, & Forman 1998; Cadwell 2003).

A crisis in the center

In September 2003 the center faced a crisis. All three staff members in the senior room (children three-and-a-half to five years of age) were leaving (one for a job opportunity, two for maternity leave), and no suitable candidates had applied for the positions. Barb wanted to move either Annette Coates or Bobbi-Lynn Keating—the two teachers in the junior room—to bring stability to the senior room. But Bobbi and Annette work well as a team and were unhappy at the prospect of giving that up. After an intense day of discussion, the agreed-upon solution was that *both* Annette and Bobbi would move to the senior program. Appropriate accommodations were made for the junior room.

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Bobbi-Lynn Keating is a senior room teacher at Peter Green Hall Children's Centre. She has worked in the field of early learning and child care for 16 years—the last 11 being at Peter Green Hall, which she considers a privilege.

Barbara Christine Bigelow, BCS, has served as executive director of the Peter Green Hall Children's Centre for 15 years. Her career in the field of early learning and child care extends over the past 28 years.

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The challenge

The challenge for Annette and Bobbi in their new classroom took two forms: the physical space and the state of the children when the two teachers took over. The room is a big, 600-square-foot box (approximately 20 by 30 feet), with hard surfaces and harsh fluorescent lighting. By far the biggest challenge was noise levels. Bobbi thought it the “worst acoustic room” she had ever been in; Annette thought she would go crazy; and Carol Anne, when she visited, felt like her ears were full of shards of glass. Research into noise levels in child care centers shows they are often so noisy as to cause auditory fatigue in children, because decibels are much higher than the 30–30.75 optimum for recognition and processing of speech (Munro in Willis 2000). The room also has little natural light because of the eastern exposure of all its windows. The acoustics and harsh fluorescent lighting affected the children’s behavior. We hypothesized that the impact of continuous high noise levels was debilitating and a drain on their energy.

When Bobbi started working in the room, her initial approach was “to ride the waves,” absorbing the room’s disordered functioning. Annette’s approach was to explore: she opened a cupboard, and things fell out. Their first discussion acknowledged their sense that the children “did not have respect for themselves, the teachers, or the materials.” Something about the climate in the room suggested that much positive energy had drained from it.

How should they begin? Bobbi says, “We knew from our previous environment that the children needed a connection with the room; we knew they needed to be part of what it was going to be.”

First actions: Stripping the setting, clarifying the schedule

There may be as many ways of facing challenges as there are styles of teaching. Bobbi and Annette’s first response was to strip the environment, to aid their own understanding of the classroom dynamic, and to clarify the schedule to bring a more predictable order to the children’s day.

Stripping the environment

“We have to be able to work” was the teachers’ feeling. Annette conducted a giant sort and clean of everything in the room over the weekend, throwing away broken items. Next, they removed furniture that reduced sight lines and created sound and aesthetic problems. A storage shelf that was too high was cut down to child height. The teachers began a new organization for materials stored in cupboards, acquiring recycled plastic bins for small materials

and putting a photograph of the contents on the front of each bin. The room was cleaned and painted.

Part of the stripping involved removing damaged doors from two plywood cupboards. In one the doors were replaced with a curtain, to help soften sound. In the other the teachers discovered a beautiful set of narrow floor-to-ceiling shelves. The shelves were perfect for the display of many interesting items in transparent jars, which the children could explore and use in making things. Bobbi and Annette believed that if the environment was clean and organized, they could see their next steps.



Clarifying the schedule

“We had an appreciation for some exciting aspects of the program,” Bobbi says, which included a long, uninterrupted playtime. The schedule, however, had been loose, with lunch occurring spontaneously as children expressed hunger.

Bobbi and Annette felt that this lunch hour flexibility led the children to seem anxious and occasionally aimless, and that it contributed to the disorder. Annette says, “We sat down and thought about how every minute of the day should be in terms of the children’s comfort, and how efficiently it should work.”

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One of their first responses was to create a stable, predictable schedule for themselves and the children. They kept the long playtimes in both morning and afternoon but fixed lunch at noon and nap from one o'clock to two. "We knew we wanted a good family-style lunch—a social event. So we have tables where each child and teacher has a place: it's like a dinner party."

For the transition from lunch to teeth brushing to nap, each child has a small activity tray. The children and teacher who arrive earliest in the morning choose beautiful materials to put on the trays for each child to explore after lunch. Each day the trays are different and are a surprise for the children. They might contain a mix of materials such as several small rings, colorful ribbons, and some small animals.



The teachers decided to keep consistent work shifts. The same teacher would always be there early in the morning, and the same one late in the day. This decision required some sacrifices on their parts, as only one teacher ever goes home early, but they believed it necessary to assist the stability of the program.

It was not long before the children responded positively to the consistency in the schedule.

A big vision for the environment

Influenced by the Reggio philosophy, Bobbi and Annette knew they wanted natural elements in the classroom but did not yet know what direction this value might take. They also wanted their classroom environment to reflect a sense of the geography and culture of the place.

During the stripping, cleaning, repainting, and reorganizing of time and space, the teachers and children went on outings. One field trip took them to Halifax's famed Point Pleasant Park, 85 acres of forest on a peninsula jutting into the ocean harbor. The teachers noted the children's avid interest in the things they had seen in the park—mushrooms, red squirrels, birds, trees with many leaves. They thought the forest might provide the vision around which to develop their environment.

They discussed their ideas at length. Annette went through magazines, cutting out pictures that fit their vision, then sketched a two-page spread that showed images of forests, colors of golden stone and gray boulders, sun and shadow, various greens, and a pergola made from tree trunks and branches. Based on their observations of the children, Annette and Bobbi knew the major areas they wanted to create in the classroom, and they mapped them into their design for an interior forest. The idea map indicated trees, a water feature and a riverbed, a glade, a sandy beach, a bridge, and an organization of space allowing organic rather than purely geometric shapes. The pictures and the idea map show the vision, the dream for what they could make of this environment. These events took place in early to mid-September.

A crisis in Halifax

The night of September 28–29, 2003, Halifax was struck by Hurricane Juan, a class 2 storm that caused class 3 damage. The last hurricane to hit Halifax had occurred in 1893—before our time! We had no idea a storm could wreak such destruction. Trees were toppled over streets, and power in the city was out for days, even weeks.

The hurricane had slammed into Point Pleasant Park, snapping and toppling 75 percent of the trees. The park was closed, not to reopen until the following June. When the children went on an outing to another park, they crawled among the toppled tree roots. The teachers found the children very concerned about the trees: "They wanted to take water to save the trees," and they poured water on the roots and patted them with bits of sawdust "so they would come alive again."

The children, of course, were not the only ones in shock: so was the entire population of Halifax. How do teachers respond in such conditions?

Annette and Bobbi responded by finding "trees" to take into the classroom. Several were limbs from trees in Bobbi's yard, and several were from the neighborhood, reclaimed from the curbs where they had been set out for garbage collection. There are now seven trees in the classroom, seven-foot high branches stripped of their leaves and cemented into green plastic pots. The trees soften the interior space, adding a filigree of organic forms in the upper spaces.

Annette said, "The children were very concerned about the toppled trees, so creating a forest in the classroom

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was the right direction to take.” Using toppled branches as trees for the classroom acknowledged and made visible the children’s concern. It also served as a small act of purposeful construction in the face of the grief everyone in the city felt over the loss of so many beloved old trees.

Changes to the classroom

The harsh elements of noise and lighting required attention.

Improving light and sound levels

Annette’s experiences in theater led her to believe that lighting gels (color transparencies to filter spotlights) might soften the quality of light in the classroom. She spoke to a lighting expert (sound and light technicians for rock concerts or local theaters are good sources of expertise), and together they are experimenting with orange and green filters over the fluorescent tubes to create a more incandescent effect.

In researching solutions to the sound problem, the teachers found that the high-tech solutions available would cost the center \$3,000. This was too costly. But in the process, Annette and Bobbi gained insight into what was needed and found technical experts willing to offer advice.



Two walls of the room are faced with gray melamine below a thin chair rail. The melamine, while easy to clean, contributes to high noise levels. To counteract this, the walls above the rail are now covered with a four-foot-high horizontal band of fabric-covered panels in a warm beige tone. Smaller panels fill the spaces between windows, and window valences are covered with the same fabric. The beige panels are

sound absorbers.

The two teachers constructed the panels, covering half-inch fiberboard with eggshell foam and topping it with fabric. The fabric was purchased at a local fabric store, with the usual pleading for financial mercy by public child care centers with no funding for capital expenses. Volunteers installed the panels.

Two noteworthy points about the panels are the cost and the efficiency. The total cost was \$250, plus 18 hours

volunteer labor. Most significantly, sound no longer ricochets off the walls, and voices can be heard with ease.

Display and documentation

Carol Anne commented to Annette and Bobbi that the room used to be full of documentation (panels that include samples of children’s thinking and feeling in many media—for instance, photos of their activity, snippets of conversation, and drawings) on the upper walls. The walls now hold the bare acoustic panels. Bobbi said the bare walls represent a conscious choice to restore order and calmness. Annette said, “The empty space helps make it tranquil.” She said the walls would stay bare to allow the eye a place to rest. Bobbi said their use might change in response to the dynamic of the room. They smiled at each other, comfortably tolerating the tension of this difference in opinion.

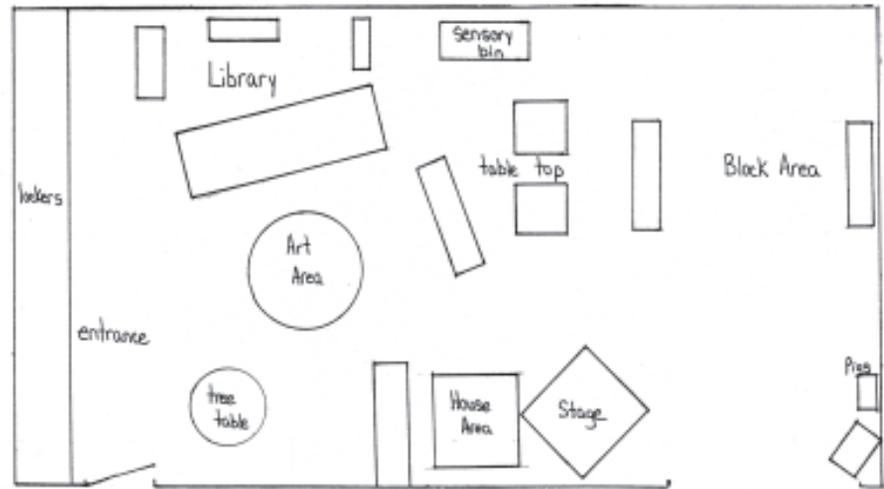
The documentation in the room currently is displayed at lower heights, sometimes on the back of a materials shelf, sometimes in three-dimensional form on top of a shelf, or in the entryway. The entryway includes a communication center—a cut-down music stand that holds the senior classroom program book. The program book documents each day’s activities with a page of description and a page of digital photographs taken during the day. When parents arrive, they look at it with their children.

The top shelf of the wide art shelves at child height contains an interesting display of work by the children. On mini-easels are paintings of cats. In front of these are small plasticine figures of lions and cats the children have constructed. Beside these is a photograph of Nova Scotia folk artist Maud Lewis and one of her paintings of a cat. The interest in cats arose when one child was looking after kittens for the SPCA. The display clearly states that things that are carefully made matter, and that grown-ups as well as children make such things.

A map of the room (see p. 20) shows eight areas. The entryway extends along the short wall of the room, with



one wall covered with cubbies. From here the children enter either the library near the windows or the art area. Further into the room, on the window side, is a sand/water/table-top area and opposite it, housekeeping and dramatic play. In the far corner on the window side is an open, carpeted area for blocks and meetings. Across from it is a pathway to the bathroom, with the large guinea pig cage against the wall. While Bobbi and Annette had plans for the guinea pigs to be elsewhere in the room, this is the spot Tuft and Smoothie prefer—at eye level with the children and with a wall at their backs.



The art area

The art area, a rhomboid shape, is at the heart of the classroom. It is the first area children enter after saying goodbye to parents. The area is framed by two sets of shelves, with two worktables inside. One of the tables is small and low, with a teacher-made tree “growing”

through the middle. The tree table is the children’s favorite place to work. It evolved from a table that was about to be discarded. Annette and Bobbi cut the table in half, positioned it around the tree, and nailed it back together to try out the idea of having a table under a tree: “We wanted to see if the children appreciated the idea, if it was worth it. It turned out to be the most popular table. We hypothesize about why that is.” Perhaps it is the stools or the lowness to the ground; or perhaps the sense of enclosure and quiet breathing space created by the feeling of being under a tree.

The forest pergolas

The most compelling forms in the classroom are two large pergola-like square constructions. At first glance they look a bit like canopies one might find on rustic four-poster beds. Four small branching tree trunks (about four





inches in diameter) define the corners in each space. The branching treetops are joined by a framework of large twigs. One structure has an open top and frames the housekeeping area. The other has a loose, organic lattice-effect top of branched twigs. It frames the stage area. Each space creates a sense of enclosure, with a clearly defined inside and outside. Yet they are transparent and easy for adults to monitor. Both pergolas offer possibilities for multiple uses suggested both by children's interests and by the teachers' delight in furthering those interests through their own ideas.

Housekeeping. The housekeeping area includes a tiny hutch with beautiful dishes, a table and chairs, a tiny stove with a white enamel kettle, and an array of household utensils hung against a coding scheme on a pegboard. A wicker baby carriage and a doll sit nearby, and hooks on the posts hold occasional accessories such as purses. The area is free of clutter even as the children interact inside it.

The stage area. This area is an empty space left free for claiming by children's imaginations. The stage area has a bare floor. A portable stage or a small carpet can be placed in the area. Children or teachers hang scarves, masks, hats, and dress-up possibilities from nodules on the pergola trunks. Wicker baskets offer props. They may tie large fabric pieces between branches to act as walls or backdrops. They can drape a gauzy soft green curtain over the front of the pergola to create a stage facing the carpeted area, so an audience can participate.

The two structures were made over a three-day weekend in an astonishing burst of creativity. Inspired by the pergola in Annette's design sketch, Annette and Bobbi built them in a pioneer-like process. Driving a truck into the Nova Scotia woods (with permission), they sought trees of the right size that had been felled by the hurricane. They hand-sawed them to transportable dimen-



sions, piled the trees on the truck and brought them to the center. That was the first day of the weekend. On the second day they built the two pergolas. On the third day they maneuvered them into place. As they moved them, the stage structure happened to be turned at an angle, in a diamond shape, next to the housekeeping structure. They thought it was more interesting at an angle, sculpting several spaces around it, and the shape has withstood the test of the children's use and interest.

Ongoing design and assessment of the environment

Which areas of the room are the teachers most pleased with in terms of how they function, and which do not yet function as they might wish? They are delighted by the children's response to the stage area and to housekeeping, and they are intrigued by the children's love of the tree table. In general, the art area functions well. Once an area works well, Bobbi and Annette tweak it to get it "to do more." An example in the art area is the new system of palettes and jars for choosing paint. The children enjoy it.



The teachers like the library with its adult-size park bench, rack of books, and fish tank for observation, but they think it isn't "soft enough." Nor does the bench function as they expected: no one sits there. They notice and think about this.

The tabletop/sand/water area awaits its transformation by bringing the forest indoors, according to the design. Annette's vision includes a sandy shore next to the window and a dry riverbed leading into the window side of the block area.

The block area has accessible materials, a large building area on a carpet, and ample and carefully ordered storage. It is safe and clean, and it looks like block areas in other programs. Yet the teachers say it is the least defined area at the moment. Annette feels it is not aesthetically pleasing.

Does it matter whether an activity area has more than a utilitarian design? Annette argues, "If things are presented in a beautiful way to the children, then they have more respect for them. They interact with them in a different way." The teachers plan to cut a 12-foot-square forest-green carpet into a curving, organic shape. Plans are emerging for the dry riverbed of small stones, the water feature, the bridge, and the cave.

How do the teachers know when they have got the design right? How can they tell when an area, and the room as a whole, works superbly? This question pre-

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sumes that teachers, who operate with tacit expertise implicitly guiding their decisions, can make explicit to outsiders all the multiple strands, ideas, and reasons (both rational and intuitive) that make up the discerning judgment that is the mark of any professional practice (Polanyi 1966; Schon 1983; Wien 1995). Bobbi says she knows if an area works well based first on how children use it—"if there are no experiences of conflict that break down" into disrespect for self, others, or materials. Second, if the area allows children to create and to act purposefully, with concentration and enthusiasm, if it helps their ideas flourish into expression, the teachers believe the design works. These essential criteria are presently fulfilled, in their judgment, in the housekeeping area, the stage area, and the art area.

For these teachers, the block area has not yet been *designed*; that is, it has not yet been brought into connection with their forest vision for the room. It has not been made into a bigger gift from the teachers to the children—acknowledging to the children their care for the trees that were lost in the hurricane.

Reflections: Balancing a predictable schedule and freedom to choose

Carol Anne sees an important tension in the design of both space and time in the classroom. Uses of time and space, and possibilities for curriculum in this room, all coalesce into a matrix of experiences that hold children safe during their day—safe to investigate, collaborate, generate ideas, make things and friends, and fall in love with the world and its possibilities.

Time

Outside several fixed points in the schedule, the children and teachers participate together in creating the structure of their days. They make spontaneous decisions, such as including in an outing to the library a visit to a nearby store. The children know their ideas are taken into account in the decision-making process. Paradoxically, the design of time is both highly stable and predictable for basic needs, and highly participatory and malleable—even spontaneous—during activity times. It is an example of the "both/and" thinking that successfully replaces the "either/or" thinking of earlier developmentally appropriate practice (Bredenkamp & Copple 1997).

Space

A similar tension operates for the design of space. In some ways, the design is fixed and stable. Areas are defined by their function. Materials are stored in specific places and always returned there. The teachers control the quantity of material so that while much is available, there is no sense of clutter. In some areas, like housekeeping, there is a one-to-one matching map of items and their storage. Many items are stored in baskets, which are a lightweight, natural material, yet easy to clean. Other items are stored in glass jars on narrow, beautiful shelving: the shelves look like they hold jewels, and they pique the children's interest. Simultaneously, within areas, there is tremendous room for and expectation of children's creative exploration of their own ideas and much material with multiple possibilities for use. Every area is for making things, and all areas suggest the use of imagination, whether playing Mommy and Baby in housekeeping or fishing in the stage area, building a city in the block area, making lions and cats in the art area, or reading in the library.

Questions to Ask about Your Environment

What range of activities do children need to experience in this space/time, and what is the range of choices and possibilities available?

To reduce children's stress, how can teachers offer the fewest transitions and the most uninterrupted time?

Different areas of a classroom have different powers of stimulation. How do children use each area? Where do they go? What areas do not entice them?

Where do negative behaviors occur, and how does the environment contribute to these responses in the children? How can teachers change the environment to promote positive interaction?

What would make each area more beautiful and inviting?

What energy do you feel in the environment? What contributes to that energy?

How are local culture and the geographical location of the center reflected in the environment?

In what ways do you see the children, families, and teachers present in the environment?

What do you see if you change your perspective, viewing the room from floor level, child height, from a ladder? What's apparent that you don't see from adult height?

What connections to the environment do the children make? How can they be enriched, along with enriching relationships and attachment to place?

Goals

What is the ultimate goal in the center? Barb says hers is to give teachers the power to do everything necessary to create strong relationships among children, families, the community, and the center. In this center, teachers have a high degree of freedom to decide what to do in their classrooms. Barb gives the teachers the same freedom that she wants teachers to give to children and families. One result is staff stability—many have stayed over 10 years. Bobbi's goal is "to create a place where children learn they have good ideas—and they can make those ideas real." Carol Anne sees this as the cultivation of the imagination. It includes all the child's capacities for thinking, feeling, and valuing.

The teachers' design of space and time provides multiple languages, to borrow a term from the educators of Reggio Emilia (Edwards, Gandini & Forman 1998), with which these thoughts, feelings, and values might find representation and expression. This cultivation is held within the larger vision of bringing the forest into the children's lives in the center. It illuminates how teachers model "the having of wonderful ideas" (Duckworth 1996) and create structures that reflect those ideas. Cultivation of the imagination is spurred by the actively engaged imaginations of two teachers who find in each other a complementary collaboration that takes design of environments to new heights of originality and connection to children's love of place.

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