

Selected Reprints from

MUSEUMS,
ADULTS,
AND THE
HUMANITIES

*A Guide for Educational
Programming*

American Association of Museums
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Contents

INTRODUCTION <i>John Strand</i>	4	PART 3 LIFELONG LEARNING AND THE MUSEUM	69
PART 1 RELATING THE HUMANITIES TO THE MUSEUM	5	Basic Components of Adult Programming <i>Allan B. Knox</i>	70
The Challenge of a Humanities Approach <i>Roger A. Fortin</i>	6	Community Involvement <i>Lawrence A. Allen</i>	87
The Link from Object to Person to Concept <i>James Deetz</i>	14	PART 4 DEVELOPING HUMANITIES PROGRAMS FOR ADULTS	95
PART 2 ADULTS AS LEARNERS	25	The Human Context of Objects <i>Alan J. Friedman</i>	96
Andragogy <i>Malcolm S. Knowles</i>	26	Program Formats for Humanities Themes <i>Malcolm Arth</i>	114
The State of the Art <i>Roger Hiemstra</i>	38	PART 5 CASE STUDIES	127
Basic Concepts and Assumptions about Adult Learners <i>Lawrence A. Allen</i>	50	Adult Learning at Children's Museum of Boston <i>Elaine Gurian</i>	128
Motivation to Learn and Proficiency <i>Alan B. Knox</i>	56	Old Sturbridge Village Teacher-Training Program <i>Alberta Sebolt</i>	154

Adult Learning at Children's Museum of Boston

The Boston Children's Museum is a *hands-on* or *participatory* or *interactive* museum, that is, one that gives visitors physical and programmatic access to real objects and artifacts in authentic settings. It is the second oldest children's museum in the country—the Brooklyn Children's Museum is the oldest. The Boston museum was founded 67 years ago by teachers who understood that access to real artifacts, such as natural history specimens, would be a significant aid in their teaching. I've discovered that several institutions in Europe have similar histories.

Michael Spock became the director 18 years ago, and he inaugurated the hands-on approach with an exhibit called "What's Inside." It was an attempt to reveal for visitors some of the mysteries of life, such as the insides of toilets and manholes. The success of that exhibit was phenomenal, and the participatory approach became the governing philosophy of the Children's Museum. But, while our museum is known for hands-on exhibits, one of the things I want to stress is that we use a multiplicity of interpretive styles. We recognize that people's learning styles vary. In order to be an educational facility, we need to put in many approaches, so that there is an entrance point for every learner.

Until July 1, 1979, the Children's Museum Exhibit Center was housed in 7,000 square feet in a residential neighborhood at the edge of the urban environment. We moved on July 1, to a renovated wool warehouse on the wharf, where we have 21,000 square feet of public space. Five years were spent planning the move, plus a year and a half in construction, and the museum opened at the peak of the summer season to 3,000–4,000 daily visitors. The organizational structures and our nerves were about equally tattered by then—you can prepare yourself intellectually for that kind of change, but you can't prepare yourself viscerally.

The wharf site is at the inner-city edge of four ethnic communities, but on neutral turf not identified as belonging to any one of them.

If we were perceived as belonging to one community, we would have had great difficulty working with any other community.

The museum building has 150,000 square feet, and we share it with the Museum of Transportation. The first floor has the lobby, the museum store and two restaurants, which pay us rental income plus a percentage of the gross. The Museum of Transportation is an independent institution, though it is compatible in philosophy with the Children's Museum. The two museums share administrative functions where duplication would be wasteful and expensive; the loading dock, building maintenance, security and the museum store are shared. We are both learning how to live "over the store" and live with each other—tasks not without difficulties.

The Children's Museum has two program divisions to serve both children and people who work with children. The *Exhibit Center*, of which I am the director, is what one normally thinks of as "the museum." It is the portion open to the general public and houses the exhibits. The Exhibit Center has trained floor staff to do special programs and answer questions to help people get the most out of each visit.

The other division is the *Resource Center*, where parents, teachers, and community workers can come for more in-depth information, training, workshops, classes, programs, kits, curriculum units and consultation on general and specific topics relating to children and their learning.

Our budget puts us in the top 10 percent among museums, but we are a small museum in our souls. Part of our audience is people who are involved with the proliferation of small children's museums all over the country and who see us as a model. We must use indestructible materials to deal with our 500,000 annual visitors, which means we can't make exhibits out of papier maché; they wouldn't last. But we want to translate our exhibits into terms that the other museums can afford to produce. This new growth in audience, space and budget takes an emotional leap and a training leap on our parts, which will probably take about two years to shake down.

The Resource Center complements the Exhibit Center's major themes. Our curatorial/education staff members are called *developers*, and they are subject matter specialists who work cross-divisionally to develop comprehensive programs, with the idea that learning can start at any given point—a visit leads to reading a book or taking a course; a workshop inspires an exhibition; etc.

An example of this comprehensive development is our "Special Needs Program." First, there was a program for visitors with special needs (disabled persons), who received a one-on-one tour of the museum with trained staff members. From there, we

mounted "What If You Couldn't . . .?" an exhibit for normal children and adults about handicapping conditions and remediations for them. Out of that came a book by the same title, published by Charles Scribner's; then we became a subcontractee under a grant by the Bureau of Education for the Handicapped to WGBH-TV, the Boston educational station, and we published a six-unit curriculum kit, which is sold nationally by Selective Educational Equipment. In 1979, a new version of "What If You Couldn't . . .?" was installed, and we have been funded to make a traveling exhibit of it which will also be toured by the Smithsonian Institution Traveling Exhibition Service. We are continuing the special needs tours, followed by staff support groups and sign language classes. Another grant allowed us to develop building and program modifications for special needs visitors. Under this grant we will also produce a booklet describing our efforts and their results, so that other institutions can take advantage of what we have learned. In 1980, we hope to reinstitute staff workshops for parents and non-disabled siblings to learn arts and crafts activities they can do with disabled children at home.

At our old site, the Visitor Center served about 180,000 visitors a year. In our first year at Museum Wharf, we expect to serve more than 500,000 children and adults. The Resource Center expects to serve an equivalent number through kits, courses, workshops, classes, publications and multiplier/outreach programs.

The museum has a full-time-equivalent staff of 85, composed of about 120 people, some working part-time. There are 12 full-time and part-time developers, of whom nine are content specialists and three are what I lovingly call my "utility infielders"—developers who can apply their exhibit and teaching skills to practically any subject. Developers spend varying percentages of time from year to year in the Exhibit Center or the Resource Center. For example, if a developer spent 70 percent of his or her time last year creating and mounting an exhibit and the programs to go with it, it's likely that this year he or she will spend some more time in the Resource Center working on a curriculum unit or teaching courses about that topic.

There are also 14 interpreters, mostly young people who are trying to decide about their careers—whether they want to enter the museum profession or whether they want to work with children at all. Interpreters do a 4½-month stint as exhibit staff members. They are the main program people on the exhibit floor.

We are now going to start using volunteers in a major way for the first time. My personal prejudice has been against using volunteers, because I was not willing to be dependent on people who might not show up—the school group they were supposed to take

around will show up anyway. As long as we are not solely dependent on volunteers and design a useful program for them, I think it is appropriate to have them as part of the museum. I started as a volunteer, and I would like to make it possible for other people to do that.

The museum's current budget is \$1.6 million; this compares to \$750,000 in 1978, but much of that jump is attributable to the increased debt service on the new site and to increased operating costs. We earn 60 percent of the budget through admissions, fees and contracts. The remaining 40 percent is raised in research and development grants and from gifts and grants from private individuals, corporations and foundations.

We charge \$3.50 admission for adults and \$2.50 for children, which is a lot. However, all community groups and school groups come in free under a state line item, and we give each person in the group a free pass to come back again. We have a maximum charge of \$15 for a family. We adjust prices for anybody who can't pay. However, that is an uncomfortable moment, and we would like to figure out how to deal with that scenario more comfortably. When we see a family standing back having a lot of conversation, we recognize that it is about money, and somebody from the desk goes over and welcomes them.

A family membership reduces the costs if a family uses the museum multiple times. There is a child's membership for \$10 that allows children to come free for one year; some children come every day. We try to put in as many systems as we can to meet people's financial abilities, but we need to develop even more options.

For the move to the wharf, we organized a capital campaign that focused on programs. Research helped us identify potential support from individuals, corporations and foundations that would not otherwise fund capital costs but that had a natural interest in one or more elements of a comprehensive program. That effort continues now and works well.

Of our 500,000 visitors, 35,000 are school groups, 40,000 are community groups, and the rest (about 85 percent) are the general public. Surprisingly, 45 percent of these are adults and 55 percent children. The peak age group for child visitors is six to nine, but the range goes from birth to 15 years. Children under 12 are not admitted alone, because we are not a baby-sitting service, and we want to stimulate family interaction. Young children can come with a 13-year-old brother or sister, and older children often do come alone and are welcome. There is also a program of junior curators and a program for "children at risk," a therapeutic work experience for adolescents who choose to do their learning in the museum.

A psychiatrist is a consultant to the staff, so that we can deal sensitively with those children.

I used to say that the only word I liked in the title the Children's Museum was *the*, but Michael Spock removed that word, so I am left with two words I do not like. I do not like *museum* because we are more than a museum, and I do not like *children's* because we are not a museum for children only. But that was the name they chose 67 years ago, and it seems to be too complicated to change.

The adults in our audience are parents, grandparents, and a significant population of adults who work with children—teachers, group leaders, civic leaders. The parents and grandparents often work with children in other roles as well, as church leaders, scout troop leaders, and so on. We recognize those adults when we see the pads come out and they start writing down ideas they want to use with their church group or cub scouts.

While we do not have a formal demographic report, we think—and hope—that our visitors span a wider range of education, job, and income levels than most museum audiences. Demographic studies seem to indicate that the audiences for art, history and science museums tend to be educated, upper-class professionals. A significant motivating factor for these people to visit a museum appears to be peer recognition.

The Children's Museum is about to do a demographic study of its audience, and my theory is that we attract a somewhat different audience because the motivating factor is aspirations for one's children. I would guess that our audience includes people lower down the scale in both education and earned income from the audiences art museums are serving. Art museums are places where families can go together, but the dynamics are generally the opposite of the Children's Museum. In an art museum, adults are generally the target audience, and the family goes because the adults want to go.

Zoo visitors are likely to have a demographic composition more nearly like that of the Children's Museum. Zoos are places where adults often feel knowledgeable and comfortable about teaching their children.

About eight museum professionals a week come to the museum, because it is considered an experimental museum for the profession. We enjoy that role, which was thrust upon us by Michael Spock's vision in the beginning, and we take it seriously. A team of volunteers is specially trained to deal with professional visitors. We have some monographs giving museum professionals advance information, so that they are past the initial level of understanding before they get to the museum and can ask more specific questions when they do come. What happens otherwise is that people ask

questions not about process but more about product, which is less useful for integrating into their own institutions.

We keep in mind this audience as potential clients of our work, whether they use a book of ours, or a copy of our exhibitions, or parts of our philosophy and structure. For instance, before the 1980 American Association of Museums convention, we are going to do a workshop on "Moving, Changing, and Growing"—so, while we are engaged in the process, we are writing it down.

Another group in our adult audience is teachers. We do direct workshops with teachers, and when school groups come to the museum, the staff shows the children around while the teachers go to the Resource Center. We publish curriculums so that teachers can use materials in the classroom.

Entering the museum area, a visitor first passes by a 40-foot-high wooden milk bottle—an early piece of "highway architecture," now a yogurt concession, which is used as a symbol for the wharf complex (see figure 1). The visitor walks along a waterfront deck and enters a brick and timber former warehouse, built in 1888.

In the lobby, there is a choice of visiting either the Children's Museum or the Museum of Transportation or, if the visitor is really intrepid, both.

Visitors who choose the Children's Museum find 18,000 square feet of exhibits with a humanities-based content to explore. There are 15 main exhibits; the largest is a two-floor Japanese artisan's shop, home and garden brought from the silk-weaving district of Kyoto, and the smallest is a 300-square-foot exhibit on "Ancient Tools and Technology," where visitors can experiment with simple, ancient, manual tools, such as pump drills and bow lathes.

The exhibits are both environmental and case installations, but the emphasis is on direct access whenever possible. Most exhibits fall within one of three major themes:

1. "Meeting Ground" includes cultural exhibits, such as the "Japanese House," the northeast Native American exhibit entitled "We're Still Here," and the "Grandparents' House."
2. "Child Development" includes a mainstreamed preschool "Playspace," the "Giant's Desktop," "What If You Couldn't . . .?" and "Dolls and Toys."
3. "The City" includes "City Slice" (a three-story cutaway house, cross-sectioned to reveal the systems below, at, and above street level), "Computers," "Factories," a store, a health clinic, and a section on natural history.

We have a different internal definition about our mission from the one that the museum's title implies. In the Exhibit Center our goal is to be a beginning museum—with no prerequisites in terms

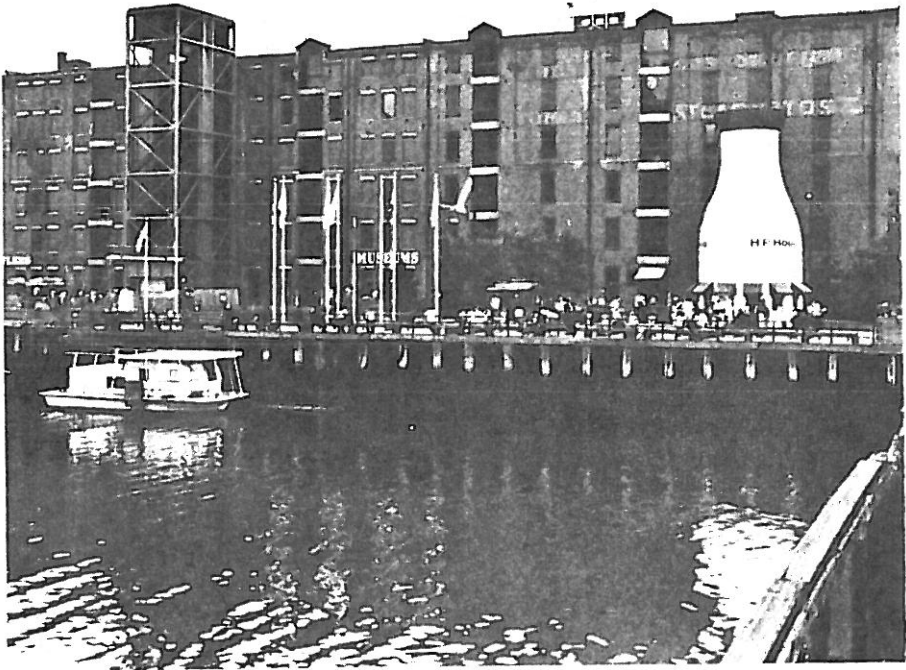


FIGURE 1. The wharf complex with "highway architecture" milk bottle

of education and no prescribed route through the institution. Direct participation with objects, self-directed experimentation, individual decisions about learning, and human interaction are important components in the learning. That is why we have interpreters on the floor, not just exhibitions. One of the critical dynamics is the moment when a staff member does some interpretation with a visitor. We have to *start* at the beginning with no prerequisite knowledge, but I don't believe that our exhibitions have to *end* at the beginning. We go quite far even within an exhibition, and we make much more information available through the Resource Center. We also are a feeder institution, referring people to other museums and resources for more learning.

Another of our goals, I would say, is to show how people relate to the world. Sometimes we say it's demystification—we would like to expose and dispel the mystery of everything. Because that's true, our *process* is always apparent: Our office is an exhibition (much to the distress of my staff), because I think that people should see real work and there should be no mystery about what

the staff does; our exhibition processes are apparent, and we install in view of the public whenever we can.

The exhibits themselves are designed to promote self-experimentation and self-learning. In addition, interpreters conduct programs that focus on particular aspects of each exhibit. For example, in the "Grandparents' House," which is a full-scale replica of a Victorian mansard cottage with six rooms, an interpreter program might focus on making butter in the kitchen. Many children today think butter comes from the store—it has no prior life. In the "Fort Point Health Clinic," programs might include making finger casts. In the "Japanese House," staff members might help visitors make traditional New Year's greeting cards in calligraphy.

All these activities not only are fun but also meet very carefully considered objectives. Some of them are:

1. To create an environment that is comfortable for beginning learners, whether they are adults or children.
2. To create a learning environment that does not require high-level reading skills.
3. To create exhibits and environments that accommodate individual learning styles and speeds, so that the museum can serve young and old, English- and non-English-speaking visitors, visitors with high levels of formal education and those with none.
4. To create a place where the visitor/learner can gain direct access to the objects; to place the visitor in control of new, different, or mysterious objects or situations in a nonthreatening way. The bugaboos of medicine and technology can be tamed when explored in our clinic and computer exhibits; and the mysteries of other cultures may diminish as visitors discover that traditions are often simply different ways of solving daily problems, such as the need for food and shelter.
5. To foster interchange within the group, so that a family's knowledge and personal experiences can be woven into the experiences taking place in the museum.

Adult visitors often see themselves as "chauffeurs," not learners, until they get inside the museum and their interest is captured by what's going on. There is purposely a reduced amount of seating, so that parents could not simply sit down and have the museum act as a baby-sitting service. Whatever the adults' initial motivations, once they were inside, we found that a great deal of adult learning went on. Therefore, our exhibits are designed not for children alone but for adults and children simultaneously.

We have some very specific objectives for adult visitors. We want to create ways for adults to:

1. Do their own learning about subjects they know little or nothing about.
2. Share with their children (a) those things they know more about than is apparent on the exhibit surface, and (b) what they have just learned themselves.
3. Add their own life experiences to the information the museum provides and tell their children about those connections.
4. See their children in a new light—step back a moment and watch their children learning in an entertaining and informal but still educational situation.
5. Observe their children with others in a nonthreatening, nongraded environment.
6. Gain ideas and materials they can use at home for family projects.
7. Feel free to let their children go, so that each member of the family can learn at his or her own pace.

I have noticed that adults learn content at our museum that they might otherwise find threatening. For instance, in an "adult" museum, an exhibition about disabilities will not necessarily be popular, but our exhibit "What If You Couldn't . . .?" drew a huge number of parents because it was "good for the children." It also became very clear that this was a subject adults were personally uncomfortable about, but they could use the pretext of helping the children in order to do their own learning.

We see that behavior over and over. A mother says, "Johnny, you've seen enough of the rabbits, it's time to see the computer." She isn't even looking at Johnny, so how does she know that he has seen enough? If she looked, she would see that Johnny hasn't seen enough of the rabbits at all. But the mother is not comfortable going to see the computer without Johnny in tow, lest she be identified as a learner. That scenario is one that makes our floor staff angry. Therefore, we feel that one of our tasks is to make it comfortable for the mother both to learn and to release Johnny to go at his own pace.

We use several interpretive techniques to accomplish our objectives for adults. We try to create a setting where parents talk to one another. For example, our preschool "Playspace" is deliberately designed and staffed to serve as an internal natural support setting (see figures 2 and 3). Like a park, this warm, small, and safe indoor space allows parents of young children the opportunity to share their experiences, exchange information about neighborhood resources, watch and compare their children with others, learn about child development and receive some special support from materials, staff and other parents. The overt message is that it is designed for the preschoolers themselves, but it is a place where parents can

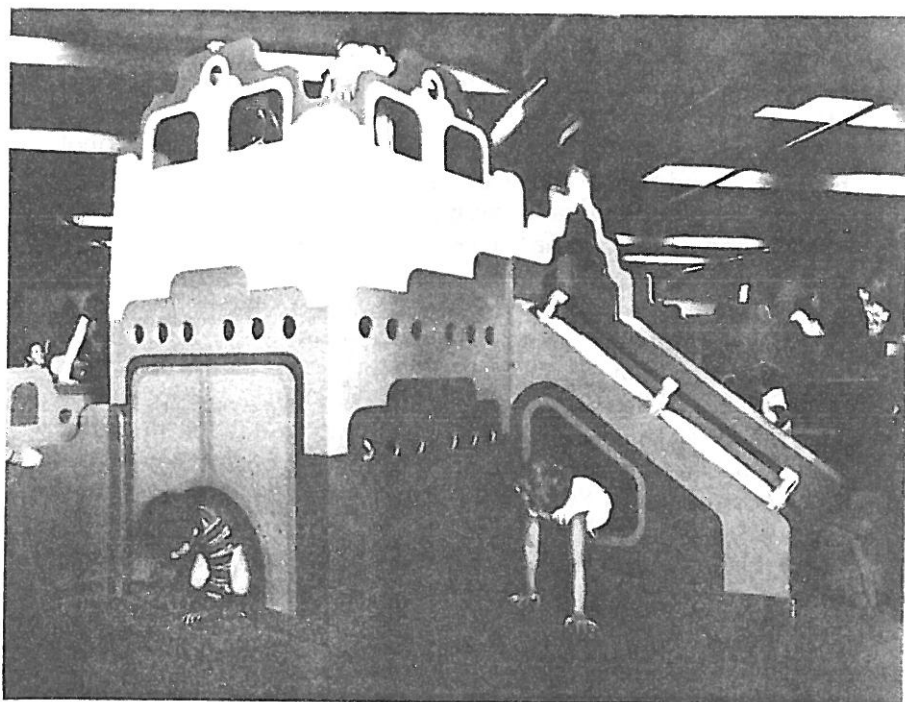


FIGURE 2. Children feel free to explore in "Playspace"

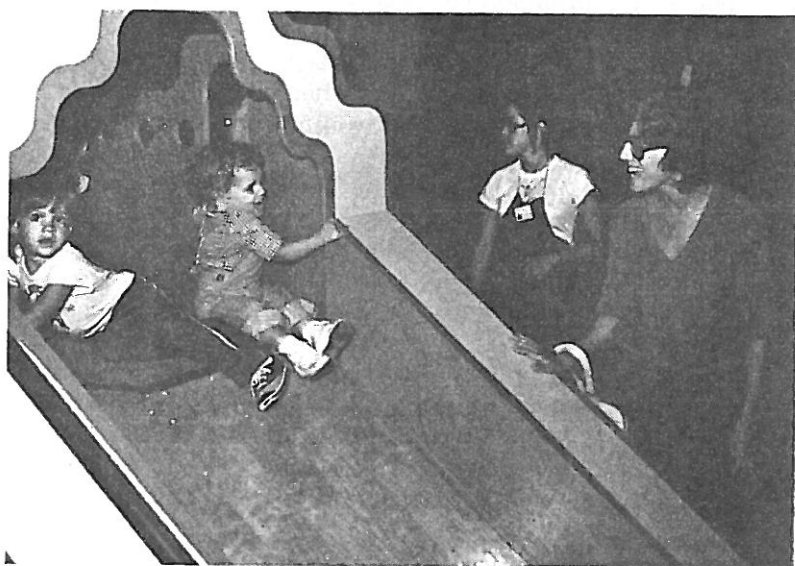


FIGURE 3. "Playspace" offers parents of preschoolers a place to congregate indoors, share ideas, and receive support from museum staff members

sit around an enclosed space, just as they sit around the sandbox in playgrounds. Museum audiences tend to come for an hour and a half, but this audience tends to come often and for long periods of time.

The Boston weather is such that natural outdoor settings cannot be used a good part of the year, so there are surreptitious support settings for parents of very young children. In an urban environment, when what I call the "crack up" time of the day comes, these parents need to get out of their small living spaces. Where can they go? Did you ever wonder why there are so many 18-month-old children in the library, when they don't read? Well, the mothers needed some warm place to go, out of the house, before they went crazy. Many of them go shopping. Look at what's happening in the middle spaces of shopping malls, and you'll see the same activity that we are promoting in "Playspace," except that we put some support in, in the form of learning activities for children, a knowledgeable staff, and good reading materials on child care. We think the impulse to congregate and help one another is a healthy one; we want to offer real supports that are psychologically sustaining.

Another technique we use is to create a setting where parents or grandparents talk to their children. In the "Grandparents' House," objects are deliberately selected and displayed to evoke stories from adults—to elicit the transference of intergenerational personal information (see figure 4). It's a common thing to hear, "Oh, Sally, look at these old ice skates! I haven't seen a pair like these in years. Your Uncle John used to have a pair when he was a kid. I'll never forget the time when Uncle John and I . . ."

This exhibit does not work well unless one of the visitors has real memories that can be triggered by the objects. The house is not a historic building frozen in time. It was built to be a turn-of-the-century, continuously occupied cottage, now fictitiously occupied by the current generation's grandparents. As we all grow up, the current grandparents are going to be of a later and later time period, and we will change the house to reflect the appropriate era. For instance, the grandparents of today changed the wiring in their house but left the old wiring in, because it was cheaper to do that. So, the house reflects the history of changing technology. We had to select a date on which they hypothetically remodeled the bathroom and the kitchen. About 1940, we decided, so we looked for decorating styles of that era. Let me tell you, wallpaper with swans on it is not easy to find!

We also do hands-on programs, such as playing marbles, with a staff person in the "Grandparents' House." Those activities might suppress the intergenerational transfer of information, because



FIGURE 4. The ordinary objects in the "Grandparents' House" stimulate adults to share their memories and knowledge with their children



FIGURE 5. The collections in the "Grandparents' House" represent the era of today's children's grandparents and are continually updated as the generations change

people's memories are private, and in a group setting the adults focus on "Play with the nice lady, Toby." On the other hand, children who haven't come with an older person won't make much sense of the exhibition, so we want to offer an activity for them.

Furnishing the "Grandparents' House" was a very interesting curatorial phenomenon. Against the historic consultants' wishes, we rejected the beautiful in favor of the ordinary, because we wanted things that would trigger reminiscences by paralleling the experiences of most of our audience: "My grandmother had that radio. I used to listen to 'Fibber McGee and Molly' on it. Do you know who Fibber McGee and Molly were?" It is breathtaking to go in that house, because that triggering phenomenon happens all the time! It may upset the scholars and curators, however, that we don't collect things of great artistic value or unique artifacts. A museum's central role in the past has been as a repository of unique objects, so it is difficult for museum professionals to see us collecting more and more things that we all have in our houses anyway. But what we have in our houses now won't be there forever, and it



FIGURE 6. Some exhibits are not hands-on, but there are materials accompanying them to encourage visitor interaction

will be useful for children to have a place where they can look at those things generations later (see figure 5).

We also try to create visitor interaction in the exhibits that are "don't touch." For instance, in our "Dolls and Toys" exhibit, there is often a parent or grandparent sitting on the raised platform by the "Mouse House," reading aloud Beatrix Potter's *Tale of Two Bad Mice*, while children look at the antics of the mice inside the two-floor dollhouse (see figure 6). The dollhouses are nonparticipatory, but the triggers for fantasy are not necessarily participatory. Visitors don't need to touch dollhouses to imagine a miniature world in them.

The exhibition case of toys, dolls and games on the back wall in figure 6 is not as filled as I would like it to be. The exhibition technique I want there is one the Victorians used: a mass of visual raw material. When a population is offered too much to handle visually, people do their own learning, making their own selections, instead of accepting a curator's predigested selection.

You can see this technique in institutions that have not upgraded their installations. Boston is fortunate because the Museum of

Comparative Zoology at Harvard has mercifully never modernized its exhibits. (If it just waits a little longer it will discover it is in the forefront.) In its hummingbird case, there is every single stuffed hummingbird imaginable. If you stand there and listen to children and adults, you hear: "Look at that one—that's my favorite," "That one is more beautiful," "That one is bigger." People are doing their own learning with unexpurgated data, and that is an important tool for us to remember.

Another interaction technique is at work in exhibits like the "Giant's Desktop" and "Big and Little" (see figures 7 and 8). These encourage families to compare and contrast their own hands, feet, hat sizes, etc. The "Giant's Desktop" is built to scale, 12 times normal size. The telephone and other objects work. Children are fascinated with scale size. A lot of children's literature is about too big and too little, giants and fairies. We have both ends of the spectrum in our exhibitions.

Opposite the "Grandparents' House" are two stores, currently a superette and a health care center. We have the capacity to change the stores to any work setting. These exhibits give children access to things that they see adults do but usually are not allowed to touch themselves. The superette is in its fourth generation—we are still trying to figure out how 500,000 people can touch food without getting contaminated by it or destroying all the cans.

Adults like using the superette, because they shop a lot, and it's a role they are comfortable in, so they can be instructors to their children. A simple experience like shopping often turns out to be about economics. "This is too much money," "Do you have this much money?" "Do you really need all this food?" Whole issues of consumerism happen. There is also a stockroom. "Do you want to be the shopkeeper?" "What does the shopkeeper really do?" These questions are raised for all ages. If we give adults settings in which they are comfortable and think they know something, we find that they do learning and teaching with their children that they might not do otherwise. This is important to us.

The health care center, like the special needs exhibit, works on two levels for adults. One is that they may be afraid of and ignorant about their own health care delivery system. So they certainly would like to look at X-rays and work the dentist's chair themselves, but they are grateful that we haven't announced that it's for them. We allow them to do it surreptitiously.

The other level is that adults know something, or think they know something, and can inform (or misinform) their children. There is always a problem of the transference of inaccurate information. I haven't figured out how to solve the problem. Some

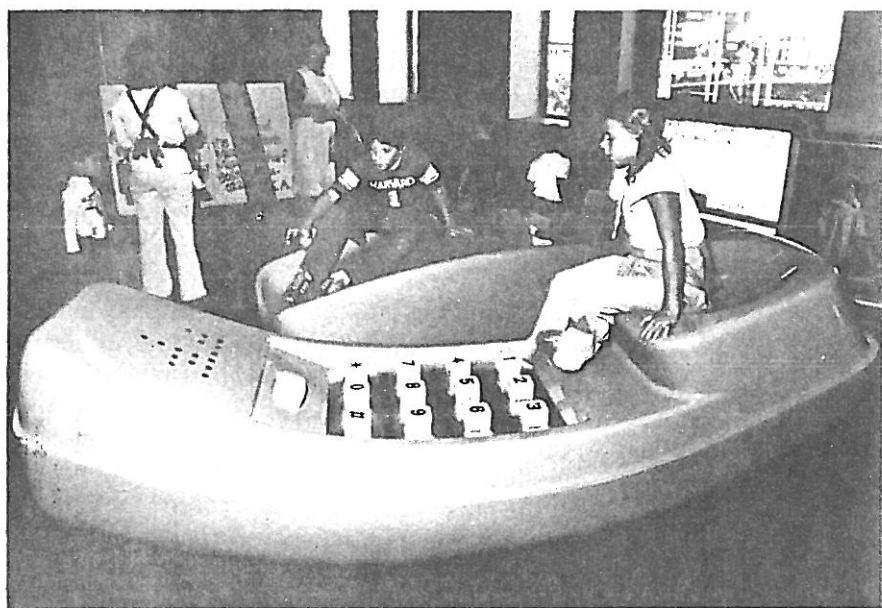


FIGURE 7. Children enjoy scale-size enlargements on the "Giant's Desktop"

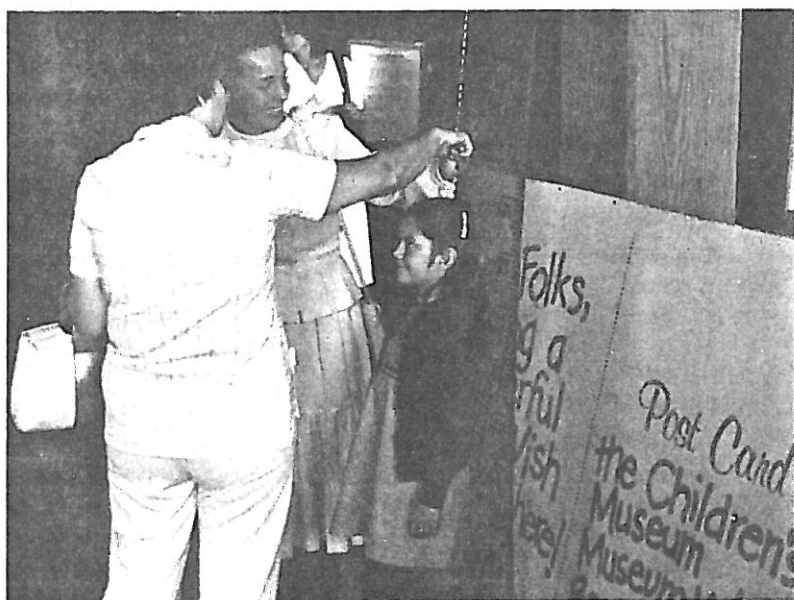


FIGURE 8. Adults are also fascinated by scale comparisons

adults with great authority say the wrong things, and it's very difficult for staff members to intercede gracefully in that situation.

"Recycle" is a store where we sell industrial by-products and wastes. It turns out to be one of the most interactive family exhibitions in the museum, because real dollars are exchanged, people choose real stuff to bring home. Everyone in the family has to decide whether they actually want a bag of 900 buttons for three dollars. Mother is deciding whether she wants to clean them up, and the kids have six projects in mind for Christmas presents. So, there is a lot of give-and-take, a lot of family dynamics going on there.

In an exhibition called "Factories," people actually make a product called "The Spree Spinner"—a top. But the underlying humanities theme is really: What does it feel like to work in a factory? We have strike signs, we talk about product control, visitors have to punch in, they do the assembly line work, they say, "Oh, this is boring," they find out that after they've worked on their top it disappears out the other side into quality control and to get boxed. They can, in fact, get one, but they have to leave the assembly line and go to the station where the tops are boxed and sent out.

One very traditional exhibition is called "Living Things" (see figure 9). The exhibition technique is cases, but the interactive piece is that visitors pull the cases out and each one has something interesting to do inside. This is the "sleeper" exhibit of the museum. It is great for families who want to do some studying together, patiently and quietly. There are 39 drawers, and some families spend all afternoon in there, opening every single one, sharing the information.

A major computer runs many of our systems in the museum (e.g., security, air handling, and budget information). A minor program on the computer is used for an exhibition that consists of 12 computer terminals. We discovered that people's anxiety levels about using computers are so high that it doesn't matter that our program is not very innovative. We are overcoming that first level of fear about the ability to use this technology. This exhibit is always crowded, with adults as well as children, jockeying for position to use the terminals. In fact we have noticed that the adults' fear is much higher than the children's. Again, the scenario is often: "Pat, why don't you sit down and use the computer," but it's clear that Pat is going to be like Charlie McCarthy, the stand-in for the parent.

At the museum, parents get a chance to stand back and learn from their children. Another generational interaction that happens over and over is parents saying "I didn't know Davey could do

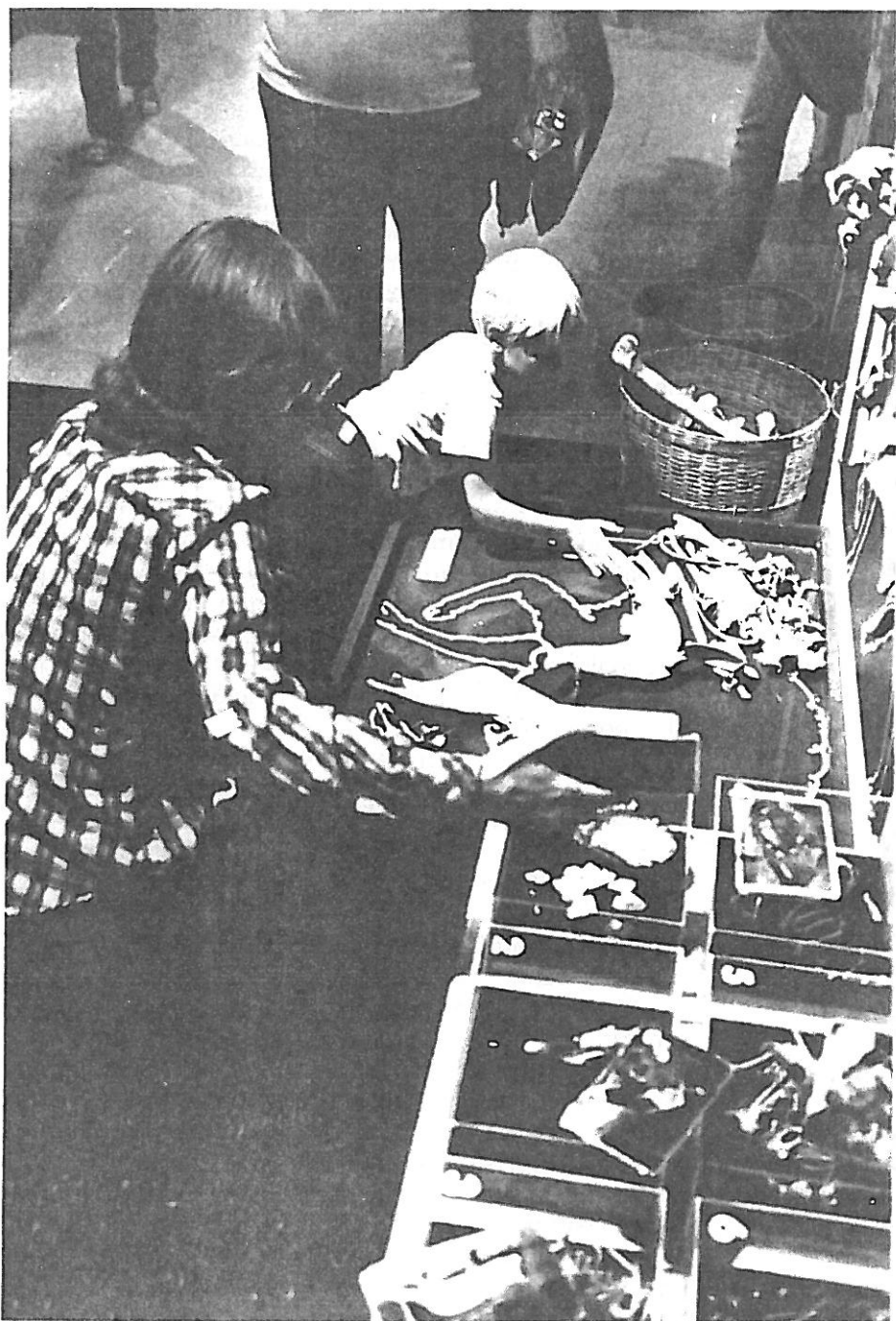


FIGURE 9. The "Living Things" exhibition offers a wealth of materials in cases that can be opened, explored and manipulated

that," "I didn't know Suzy knew that." They get a sense of appreciation of their children that feels good to both sides.

Some exhibits are designed so that children and adults can discover how to use them without signs. Our "WKID-TV News Room" is an example. While one person operates the camera, another reads the news from cue cards, or writes on the weather map, or plays anchorman. They can watch themselves on a monitor. There are no signs, instructions or labels, but parents and children figure things out and then play specific roles. They assimilate that this is how it happens in an actual news broadcast too. It teaches them that video is not a mystical thing and that they can have some input and dialogue about the news. Children often believe that there are special little people who occupy "televisionland" and send us magic messages. It is useful for them to learn the reality.

Aside from that, we use very little audiovisual equipment. Many museum people find AV material so impressive they ignore its difficulties. It's expensive, it becomes obsolete quickly, and, with a large audience demand, sensitive high-technology instruments become a repair burden. In addition, electronic media can encourage passive learning and tend to dictate what the experience and learning should be. Therefore, we use as little audiovisual and electronic equipment as we can and only the sturdiest, most easily operable things—slide projectors or hand-cranked eight-millimeter film loop viewers.

WKID is a sixth generation exhibition, in technique. That's a very important point. We consider ourselves an exhibition experimentation institution. No exhibit goes in finished; we change them, based on the way they are used by the public. We have discovered that, as we make changes in an exhibit, we need fewer and fewer words, because how to use it becomes more and more self-evident. But it takes critical refinements about very tiny variables. We cannot predict what they will be. We have to be willing to put things out, observe what happens, and then do another generation.

In other exhibits, signs are important. In "What If You Couldn't . . . ?" different signs were deliberately placed for children and adults (see figure 10). The exhibit is about six handicaps and their remediations (visual and hearing impairment, physical disability, learning disabilities, retardation and emotional disturbance). It allows visitors both to feel what it is like to have the handicap (see figure 11) and to learn that it would not be the end of the world if that happened to them—they could still play ball, play Scrabble, have fun, laugh and tell jokes.

When this exhibit was first mounted in 1976, the subject matter was considered so emotionally loaded, and people's general knowl-



FIGURE 10. "What If You Couldn't . . .?" uses three levels of signs to impart information to visitors of different ages and reading levels

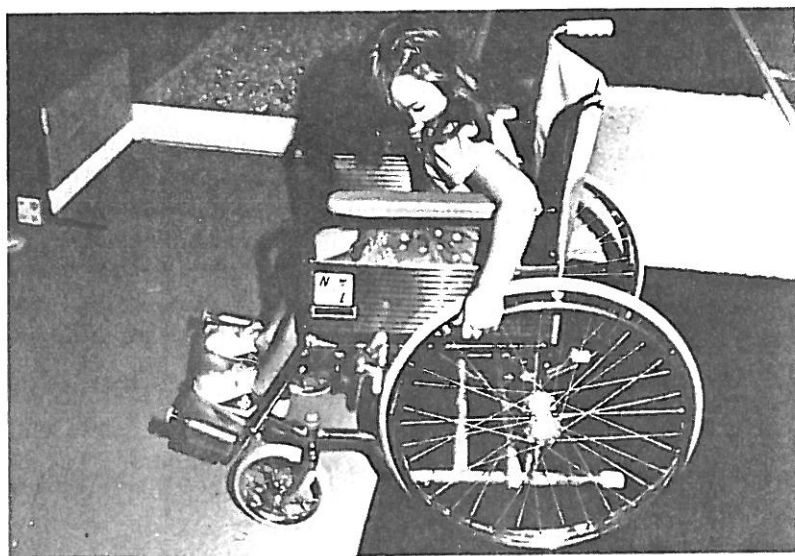


FIGURE 11. Visitors have an opportunity to explore several disabilities "from the inside"

edge about handicaps was so full of misconceptions, that we had to present basic levels of accurate information. We use three levels of signs. There are headline signs that can be read by second graders. Signs with large pictures, also readable by second graders, amplify the headline information. And signs in small type with small pictures are clearly and intentionally for adults. In this exhibition adults want to learn the information, but they also don't want to appear not to know it already. So, they read the small signs; then they say, "I know what this is, Amy," and they transfer orally the information they have just read. We had to understand that they are doing their own learning and allow them to do it in a comfortable role, that of parents; we made it possible by the three levels of signs. The exhibition also works using any one level of signs, or none of them.

Role-playing is a technique we often use to increase both interaction among families and understanding. In our Native American wigwam, which is part of an exhibition called "We're Still Here," visitors accept comparable family roles and try out different tasks, such as grinding corn. In the "Japanese House" visitors take off their shoes, learn to sit on zabaton, and try out chopsticks or calligraphy. In part of the "Preschool" exhibition where visitors can pretend to fill a car with gasoline, we discovered two women practicing to go to a self-service gas station.

In the exhibition called "Meeting Ground," about the discovery of each person's own ethnicity and the commonality of issues among ethnicities, the audience can become part of the installation. The exhibit asks questions that solicit visitors' responses, and their responses become part of the next viewers' experience. A chalkboard asks, "Where did your parents come from and why did they come?" Another section says, "Tell us your name story," and we give some research data on names, so that visitors can look up information, write it down on a special card and post it on a bulletin board for others to see. This ability for members of the public to be responsive and to have their responses shown makes the point that our audience is a rich resource and knows things that we, the professionals, do not. A two-way street of learning is established.

In one area we ask for critiques of the museum. What often happens is that somebody writes a critique and then somebody else writes a critique of the critique. It becomes one of the more active participatory aspects of the exhibition.

An exhibit called "We're Still Here" is about the northeast Native American community. We have an advisory board of seven northeast Native Americans. Their pictures appear in the exhibit, and they signed it. Everything in this exhibition went through their hands, and they stand behind it. It represents their seven collective

points of view—not necessarily every northeast Native American's or the museum's point of view.

The message they wanted to present is that, after the Pilgrims met the Indians and the Indians gave them corn and turkeys, the Indians did not magically disappear from the northeast, as the history books might lead us to believe. There are 12,000 Indians in the New England area today. So they wanted to say "We're still here: We are American, and we share in common our television sets; we are Indian, and we share in particular our heritage." For example, they had pictures of Native Americans in regular T-shirts and in special ceremonial garb. Over and over again, so that children and adults can understand, the exhibit presents the message that one has to make decisions in the continuum of the Americanization process. Where do I stand? How Indian am I, and how American am I? Where are those in conflict? The exhibition tries to address that issue in a graphic way.

It also tries to convey nonstereotypic information about Native Americans. One case is a matching game to show that not all Indians wear the same headdress. People match which Indian wore which headdress. This tries to get visitors to understand that the stereotypic presentation of Indians is a conglomerate, mostly of Plains Indians. The fact is that there are many tribes with different heritages, and the exhibition is designed to raise the visitors' consciousness about that issue. Yet, it's an exhibition where children walking in tend to give a "war whoop." Stereotyping behaviors just seem to happen, and we spend a lot of time in staff training trying to figure out what to do about them.

"Meeting Ground" fits within a comprehensive program called "Boston Ethnic Communities." We see ourselves as a site for sharing information about and among the local ethnic communities (see figure 12). Within that exhibition there is a section called "Focus On." The current exhibit is called "Focus on Italians" and was developed by the Italian advisory board. It is signed by the advisory board and has a personal statement by each member, telling how they identified themselves, what their aspirations were, and what they thought of the process of being part of the advisory board. We don't exercise any editorial control over people's personal statements, and not everything they say is laudatory. But I think it is very important to show that this exhibit did not spring up because of some unknown person; it took hard work by groups of people. They need not only recognition but also a chance to say what their aspirations, successes and disappointments were.

Several issues arise when you work with the community. Do you make exhibition space available without any editorial control? What



FIGURE 12. Visitors can play an Italian version of hopscotch and visit a West Indian grocery in "Meeting Ground"

is the contract with your advisory board? I take various positions on these questions; they are worth looking at very carefully.

Our evaluation is anecdotal evaluation—staff, repair people, interpreters, teachers, workshop enrollees and class participants write down their experiences, thoughts and observations. Sometimes we track visitors through the museum and write down everything they do; sometimes we ask interpreters to spend 15 minutes watching one space and recording everything they see. We look at where the fingerprints are. If we construct a thing to

go one way and the public wants to make it go another way, we change it. There are also places throughout the museum where the public can give us feedback in notes about the museum in general or particular exhibits. All the notes are read and taken seriously. We think we are about 65 percent right in the first installation of any exhibition, which means that we are about 35 percent wrong. Unless we budgeted in the capacity to change, we would be stuck forever with our mistakes.

A flexible labeling technique we are now experimenting with we call Pioneer Graphics. We design a paper format for each exhibit and allow the developers to type or write the labels on it themselves. This system permits the developers to change or add signs on their own, by-passing the expensive and time-consuming design and production stages.

We go through a process of observation, tryout, more observation, revision, more tryout, more observation, and so on. Modification of techniques is constant. We don't figure out statistical curves or standard deviations. When we feel comfortable with what is happening, we go with that feeling.

I would include as strengths of the program:

1. Opportunities for learning to take place on almost any level, in a completely open-ended way—starting and ending almost anywhere for almost anybody.
2. Interpretive techniques that encourage communication among family members and with other visitors.
3. Opportunities for visitors to interact with objects so that ideas can be generated and can become somewhat tangible.

There are several weaknesses, too, that we have identified. One has to do with the functioning of staff members as teachers. The mark of a good teacher is to know when to intercede to help learning take place. Staff members sometimes miss that moment because they do not know the visitor personally, or because too many people are around, or because they do not have enough experience to recognize the moment. Since each interpreter program is less than six months, it's a real problem to train a beginner to become a good teacher in a compressed fashion.

Because of the burnout phenomenon, interpreter programs have to be short-lived. We rotate interpreters every hour some of the time, and they get a home base exhibit that they stay in all day, at other times. They feel in love with the home base in the beginning of the cycle (two months), they hate it in the middle (two months), and they're in love with it again at the end (two months).

We would like to have a staff member at each exhibit all the time, augmenting the exhibit with a program and monitoring in a non-

punitive way. The physical setting of an exhibit such as the "Grandparents' House" doesn't have to change if there is a program on how to quilt today and how to make ice cream with a churn tomorrow—the visitors' experience will be vastly different. We change programs that way in all the spaces.

An interpreter not only makes more information available to visitors at the exhibit but also can be a referral source for those who want to do second-level learning. The Resource Center is designed to deal with second-level learning—the moment when visitors want to learn more after beginning to learn from an exhibition. In the Resource Center are study resources that are companion pieces to the exhibitions: books and objects that people can use in classrooms or at home.

Another weakness is that we don't always know how to free parents from their children. We recognize that the excitement of the museum and roving from object to object, from exhibit to exhibit are part of a child's learning and separation process. We need to find ways to help parents feel that this is all right, too. The size of the exhibit bays turns out to be a significant issue. Parents will not leave their children to learn at their own pace, unless they believe that the children are safe. With 4,000 people in the museum a day, 800 an hour, their sense of the children's personal safety goes down, and we are trying to solve that problem.

Another issue is how to intercede when a parent is misinforming, being punitive, or being aggressive with a child. When an interpreter is monitoring all the time, he or she can dispel fantasies and misinformation and help in the demystification process. Part of our problem is that our interpreters are usually too young to confront parental figures—or to know how to do it well. Great care is needed, so that the parents' authority and image are not undermined.

Is the museum, in fact, an appropriate place for teaching parents to be less demanding of and punitive with their children? Is the museum a good place to provide natural support settings for parents? I think our answers will be yes, but how can we best do this? The Children's Museum does not advocate a specific way of dealing with parents and children, but interpreter feedback universally shows that everyone feels awful when parents embarrass or berate their children.

It is important to raise the consciousness of our own staff about making it comfortable for everybody to come to the museum. Front desk people can unconsciously make decisions such as, "If he is unkempt, maybe he shouldn't be let in." We try to explore whether we are making such decisions based on our own experience, and if so, deal with that. When the museum seems to be a comfortable

place for all communities to come to, by both overt and subliminal intention, then we have succeeded.

The staff is mixed racially and ethnically. But the whole issue of affirmative action is very complicated. Frankly, we finally learned that we had to separate "rescue" from cultural diversity. "Rescue" programs take people for whom working itself is a risk—people who are on their way out of institutions, people in transition, children in trouble. These people do not have the background to do the museum jobs they are hired for, and we spend a great deal of time training them to do their tasks. I think that is our responsibility, but we now deal with rescue as a separate hiring issue. For most jobs, people who are appropriate and skilled are hired, while aiming for ethnic diversity in the staff. Before, staff members sometimes equated lack of good behavior or competence by a rescue worker with the ethnic group of that person, and this created ill will and confusion among the staff.

The Boston Children's Museum has been a model for many other museums, science centers, discovery rooms and the like, which is very gratifying. But I suspect that in any successful setting, each place and each program needs to be tailored specifically to the goals and objectives, needs and resources of its specific audience and the community at large.

If the Children's Museum has been effective, I believe it is largely because we do this kind of tailoring every day in every program. Our interpretive techniques target different audiences, elicit different reactions and interactions. Our workshops and classes are pieced together to fit the needs of individual participants. Our exhibits themselves have evolved from community concerns: "What If You Couldn't . . . ?" was mounted the summer before the first mainstreamed classes in Massachusetts, in hopes of alleviating some of the fears and misconceptions that parents and children commonly held about the disabled. "Meeting Ground" is a response to the tremendous need of many ethnic groups to maintain their own traditions while being a part of the city. The "Grandparents' House" and "City Slice" are ways of dealing with our urbanness.

So, while I believe that learning can and does take place at any age and in many ways, I also believe it can be enhanced by museum administrators who look carefully at their institutions' own objectives, audiences and resources as they develop new programs.

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