While touching, manipulating, and physically experiencing aspects of the exhibits are common practice in science centers and children’s museums, the art museum has largely been a “no touch” environment where engagement is primarily visual, intellectual, and, for some people, spiritual. But that is changing.

The Dilemma of

In an effort to attract more diverse audiences, encourage repeat visitation, and enhance student learning, an increasing number of art museums are developing interactive spaces and exhibitions. The term interactive can encompass a wide range of experiences in an art museum. Many museums use inquiry-based, tour strategies that might include activities such as games, props, or touch baskets. Some museums have added a hands-on, creative artmaking experience to school museum tours. The newer development of interactive spaces in art museums generally refers to physical spaces either set aside from or designated within the permanent collections and exhibitions where visitors can physically engage with art. Some interactive art museum spaces more closely resemble children’s museums with activity stations explaining concepts, ideas, and styles in art that relate to the museum collections. Other interactive spaces consist of special or site-specific works where the intent of the artist was to engage visitors physically in the exploration or sometimes co-creation of the work.

Museum educators and art curators across the country are creating an increasingly wider variety of interactive art experiences for visitors of all ages. And, from all appearances, visitors are responding positively and enthusiastically. Yet, these spaces are not without their own set of challenges and problems. As more and more art museums embark upon creating and maintaining interactive art spaces, we must consciously and directly address a set of issues that have emerged from experience and research. Following are three accounts of different kinds of interactive art spaces and a discussion of the concurrent issues that each illustrates. These descriptions are written by the museum educators involved in the development and implementation of these interactive experiences. Following these three accounts is a synthesis of the range of issues that present significant challenges for interactive art spaces.

BY MARIANNA ADAMS,
Developing Responsible Interactive Experiences

Cynthia Moreno
Curator of Education
Speed Art Museum, Louisville, KY

Play, creative thinking, and hands-on discovery are the primary tools for exploring art and art-related concepts at Art Sparks Interactive Gallery, which opened in 1997 and is located within the Speed Art Museum’s Laramie L. Leatherman Art Learning Center in Louisville, Kentucky. The 4,500 square-foot interactive space was conceived as part of the Speed Art Museum’s mission “to discover with its communities the joy and power of great art.” The gallery was developed to broaden and diversify outreach to families and schools and cultivate a habit of lifelong learning in the art museum. Similar to a children’s museum model, Art Sparks is a child-centered environment that includes 12 thematic, hands-on activity stations; studio workshop spaces; an Electronic Art room; and Planet Preschool, a discovery room for children 2-5 years old. Emphasis is placed on attracting visitor interest and curiosity rather than communicating large amounts of factual information about art and artists.

We have faced many issues during the early development and operation of Art Sparks, but two variations of one main issue are currently uppermost in our minds—that is the issue of how to develop responsible interactivity where the interactive experiences are authentic to our content and to the creative process. We want to go beyond gratuitous interactivity that on the surface may be fun but lacks depth or does not lead the viewer to make emotional or intellectual connections to objects and experiences.

Connections and Deeper Meaning Through Interactivity

As part of our effort to create responsible interactivity, we seek ways to help visitors make personal connections and meaning. While we deliberately designed a space for creative play, we intended that visitors use this play as a vehicle to connect to their own lives and to the permanent collection. For example, in Design Build, visitors can explore joinery details and match different joinery examples that relate to a Gustav Stickley rocker on display. In People of the Plains, visitors can re-create patterns and symbols used in Native American beaded works by matching the patterns found to custom pattern boxes. In the It's Your Turn to Talk Back area, visitors...
can look at a work of art and express their thoughts and feelings about the work on an edited video loop for other visitors to see and hear.

Visiting families are encouraged to make collection connections by going into the galleries with Art Backpacks to do role-playing and looking activities exploring selected artworks. Art Sparks also offers a rich selection of children's books on art topics and comfortable couches for reading. For parents or adult caregivers who want to try out activities at home, the gallery offers take-away cards with activity suggestions. Evaluation in the first year of the gallery opening found that half of the visitors saw the museum's collection before or after their visits to Art Sparks. However, parents of young children tended to visit only Art Sparks, voicing concern that if they ventured into the permanent collection their children would be disinclined or might not behave well. Since this study, casual observation suggests that, over time and repeated exposure, families with young children become more comfortable with both the museum and art and are more willing to venture into the permanent collection areas. A summative evaluation indicated that the gallery was enhancing the visitor experience in a variety of ways (Adams, 1999). Results suggested that visitors of all ages made shifts in their understanding and perception about art, and they found the experience socially meaningful—a place where significant memories were made.

Results suggested that visitors of all ages made shifts in their understanding and perception about art, and they found the experience socially meaningful—a place where significant memories were made.

In the Family Activity Area inside the Jacob Lawrence: Frederick Douglass and Harriet Tubman exhibition at the Speed Art Museum, Louisville, KY, adults and children play the "Road to Freedom," an interactive game that uses the questions of escaping slaves on the freedom trail to explore the imagery, emotion and meaning found in Jacob Lawrence's series on slavery and freedom. Photograph by Kenneth Hayden. Game designed by Gwen Kelly. Activity Area Design by Carol Ely.
students have with the Art Sparks interactive gallery, the more actively they engage in tours of the permanent collection and the more they remember works in the collection weeks after their tour (Adams, 1999). An unexpected issue was that, at first, some docents had difficulty adjusting to the shift in teaching strategies needed for the relatively unstructured experience in Art Sparks. The inquiry discussion method used in the permanent collection did not always transfer well to the interactive space where children were free to directly explore and learn through play.

**Expanding the Art Sparks Model of Interactivity**

Since opening Art Sparks 5 years ago, we have worked to fine tune the space into one that uses interactive experiences in responsible ways. During the design of Art Sparks, we sought to create a space that facilitated and reinforced visitor learning happening at the activity stations. Through subdued lighting, soft colors, and a meandering path through the stations, visitors seemed to understand that while the space was interactive, it was also a place for reflection and quiet play. Activity stations were designed to be a balance of “hot,” requiring high physical involvement; “warm,” requiring moderate physical involvement; and “cool,” requiring very little physical involvement and quiet, intellectual engagement. These different types of stations were distributed around the gallery to spread out the energy level.

Our success in Art Sparks led to a collaboration between educators and curators in the creation of Family Activity Centers within special exhibitions. The development of these centers proved to be much more challenging than we expected. As a self-contained space, the Art Sparks gallery allowed us much more control of the space and the variables that affect the visitor experience. When we took interactive experiences into the regular galleries, we found that the formula that had worked so well for us in the Art Sparks gallery could not be directly transferred into the museum proper.

For example, in our recent Jacob Lawrence exhibition of the Harriet Tubman and Frederick Douglass Series, we wanted to involve families in exploring and talking about slavery issues. Rather than the playful atmosphere of Art Sparks, we wanted a reflective interactive area respectful of the exhibition’s powerful content. Also, there were likely to be as many adults as there would be children. We discarded many interesting but inappropriate ideas for the activity center before settling on inviting visitors to metaphorically “travel” the freedom trail of a runaway slave. We found this process of exhibit development to be quite challenging, and although the end result was considered by visitors and staff to be effective, we learned that when the environment, exhibition content, and visitor age range for an interactive experience changes, everything changes.

The Art Sparks model has proven successful with our visitors. However, as museum educators, we continue to reflect on our work and search for ways to make the experience more authentic and more meaningful for visitors of all ages. We have visited different types of interactive art spaces and gleaned lessons and ideas from the experience of others that we would like to try. In addition, as a staff, we have been influenced by the central concepts guiding the infant and preschool centers of Reggio Emilia, primarily the focus on engaging children in activities that encourage their natural quest for meaning. So, as we design a series of updates to the Art Sparks gallery in the next few years, we are pushing ourselves to think about how we can create an experience that is more deeply meaningful. We want visitors to feel more connected to the artistic impulse and creative process. We want to integrate more original works of art from the collection as well as works commissioned just for Art Sparks. And right now we are participants in a discovery process with more questions than answers.

**The Touch/No-touch Dilemma and Interpretation of Interactive Art**

Molly Polk
Independent Art Educator and former Associate Curator of Exhibitions and Education for Kidspace at MASS MoCA
North Adams, MA

Kidspace, a unique collaboration of the Williams College Museum of Art, the Sterling & Francine Clark Art Institute, and the Massachusetts Museum of Contemporary Art (MASS MoCA), is a 2,400-square-foot gallery located in MASS MoCA. Kidspace’s primary audiences are elementary and middle school students and teachers in North Adams, Clarksburg, Florida, and Savoy, Massachusetts, and the key mission of the program is to engage visitors in creative processes and critical thinking both in the gallery and in the classroom. Kidspace presents work made by leading contemporary artists working in all media, some of which is designed to be interactive, in two exhibitions per year. Each exhibition also includes a hands-on art project for visitors that is related to themes raised by the artwork on view. Kidspace opened in February 2000 and is funded by the three collaborating museums as well as the National Endowment for the Arts, the Massachusetts Cultural Council, and the Berkshire Taconic Community Foundation.

One expectation in particular that can cause confusion and frustration among visitors in interactive art spaces is that all interactive art, like ATM machines, video games, or exhibits in science museums, is “hands-on.”
Children in Engaging Space at Kidspace at MASS MoCA interact with ArcTangent, an interactive video installation by Camille Utterback. In this work, lines and patterns are generated in relation to a participant's position around the circular space of the projection. Photograph by Kevin Kennefick.

KidSpace's spring-summer 2002 exhibition Engaging Space included four interactive artworks by a pioneering artist and programmer in the field of interactive video, Camille Utterback. Utterback's work has been exhibited at festivals and galleries internationally, and she was recently awarded a Rockefeller Foundation New Media Fellowship. Through her company, Creative Nerve, Inc., Utterback develops participatory installations for commercial and museum settings. In Utterback's installations, video images are projected on screens or walls. Simply by moving or gesturing in the space in front of these images, participants can change them, altering their colors, patterns, and shapes, as in her pieces Luminous Flux, ArcTangent, and Written Forms. In another work, Liquid Time, participants fragment time by activating a prerecorded video clip with their movement and are able then to experience multiple moments in time simultaneously. In each installation a video camera is mounted either on the ceiling or in the center of the screen and transmits signals of the viewer's movement to a computer. From these signals, software programs written by Utterback extract information about the direction and frequency of the participant's motions and use the information to modify the video imagery.

Visitors to Engaging Space were tremendously enthusiastic about Utterback's work. Children and adults alike delighted in the experience of seeing and making the video imagery change. The magical and playful qualities of the pieces are captivating, and visitors generally spent a lot of time interacting with them. There were, however, interesting challenges that arose in our presentation of these interactive, high-tech works with respect to teaching in the gallery—challenges that are in certain respects relevant to how we teach and learn about art in any media.

**Interactivity Does Not Always Mean “Please Touch”**

Because of the prevalence of interactive media in our everyday lives, from Internet games and chat rooms to ATM machines and computerized supermarket checkouts, we all bring preconceptions about what “interactivity” is when we visit museums. This point of reference can, of course, be an excellent context in which viewers place what may be new experiences of works of art that are interactive. However, one expectation in particular that can cause confusion and frustration among visitors in interactive art spaces is that all interactive art, like ATM machines, video games, or exhibits in science museums, is “hands-on.” Utterback's works are extremely physical. Interacting with the images involves our whole bodies, but we are not meant to touch the screens or the cameras. Several of our adult visitors especially were troubled when we asked them not to touch the screens and cameras and perceived the "hands-off" aspect as a restriction. As many artists, educators, and curators who are working with interactive art are aware, there can be a fine line between collaborating with an artist in the interactive experience and simply damaging the work. Even with cues like signage, lighting, and security or staff presence, there can still be confusion over the degree and kind of interaction that an artist intends, even among those more familiar with the field of interactive art. Our experience in this exhibition suggests the need to articulate a clearer definition of the term "interactive" in relation to the museum setting.
Visitors' Experience and Comfort with Technology Varies

Many tech-savvy children and adults came to the exhibit expecting to find out how the pieces operate, and when they did find out, often moved on to the next piece without pausing to consider the qualities of these installations as works of art. I refer to this scenario as the “game-over syndrome,” where the interactive overshadows the art in the mind of the viewer. Standing in stark contrast to tech-savvy visitors, however, are those who have had negative or very limited experiences with interactive technologies. Visitors are sometimes wary of initiating engagement with interactive art, and for people who have little access to or interest in high technology, the hesitation is increased. This seems especially to be the case if the interaction is public or performative in some way, and the visitor perceives that his or her actions might lead to a potentially embarrassing or awkward experience in front of others in the gallery.

Expanding Visitors’ Understanding of Interactive Art

The intuitive and seemingly unmediated nature of our interaction with Utterback’s works is one of their most compelling features. Moreover—and important to the educational mission of Kidspace—these video works are as much about communicating ideas as they are about eliciting physical interaction. Since participation is a condition of interactive art, physical engagement is usually one of the first steps we take into works of this kind. We desire to know what we are supposed to do in relation to interactive art, much in the same way that we might desire to know what we are supposed to understand or contemplate as we look at a painting.

With interactive art, however, visitors may get that it is interactive, but forget or miss that it is also a work of art. In developing teaching strategies for school groups visiting Kidspace, therefore, a question we addressed was how to inspire students to connect mind with body when engaging with interactive art. In other words, how can we harness the pleasure we derive from movement and participation to help guide our exploration and consideration of a work's content and meaning?

We have always aimed to foster visitor-driven investigation of Kidspace by students, but there is specific content that we want students to consider and critical thinking skills that we want them to use in the interpretation and articulation of their ideas about works of art. The fundamentally experiential nature of interactive art does not always lend itself to some of the strategies we use to generate group discussion about paintings or sculptures, such as gathering together and sitting down in front of an object to discuss what students see and what they think the artist is trying to communicate. Utterback’s art takes its full form only when we are moving, engaging with it physically; otherwise, we may see only a blank or static screen. There were simple adjustments we made on our tours—having one or two students interact with the work while others commented, for example, or going back and forth between pieces several times during a class visit and taking turns with the interactions—but these strategies do not always work smoothly and can sometimes create a learning environment that feels forced rather than fluid.

Aside from the logistics of working with groups with interactive art, we are also challenged as educators to develop a dynamic language with which students can discuss and interpret works that require their participation. As mentioned earlier, many visitors want to learn how interactive art works, especially those pieces that involve technology. Explaining the mechanics of complex technology-based work can be too abstract for those who are not familiar with the technology. Nevertheless, fostering an understanding of the medium is important to developing a nuanced appreciation of interactive video.

Moving from discussions of the medium to questions of content and meaning is central to Kidspace’s program goals, and we discovered that many of the features that we talk about with students when looking at paintings or sculptures can be discussed in relation to interactive art as well, including color, composition, metaphor, space, and scale, leading to such questions as “Does this work remind you of anything?”, “What do you think the artist is trying to say?”, and “What in the artwork supports your ideas?”
Establishing this connection with works of art in other media seems to be as crucial in developing students' abilities to interpret interactive art as establishing connections with other kinds of interactive experiences, such as video games and virtual reality systems.

If interactive art can involve participants in a "process of transformative action," to borrow a phrase from Roy Ascott (1999), then the work of Camille Utterback proves just how powerful the transformation can be. In engaging with her videos, we are struck first by our ability to alter the very composition of the image. We then find through our sustained physical and mental interactions that these works equally affect and transform us. Our aim in presenting interactive art in Kidspace has been to engage with questions of interpretation at the same time as we take pleasure in all the fun these works offer. In this respect, it is worth considering how building strategies for teaching and learning about interactive art can inform our teaching and learning about works of art of every media.1

Art Gallery or Playground at the UnMuseum®?

Lisa Buck, Curator of Education
Contemporary Arts Center
Cincinnati, OH

The Contemporary Arts Center (CAC), a 63-year-old institution dedicated to showing the most recent developments in the visual art of its time, opened its first freestanding building in Spring 2003. The new 84,000-square-foot Lois & Richard Rosenthal Center for Contemporary Art stands six stories tall on the busiest street corner in Cincinnati. The Center's broad educational objective is to cultivate an appreciation for contemporary art in all its inventive, creative, and sometimes baffling forms. To this end, the entire sixth floor of the new building is devoted to the Sara M. & Patricia A. Vance Education Center called the UnMuseum®, where leading contemporary artists are commissioned to create interactive works for children.

The guiding idea behind the UnMuseum® is to make contemporary art accessible to children and parents by presenting works of art that fascinate and engage—physically and intellectually—audiences of the widest possible age range. It is also meant to attract families to the Center by giving them a space where it is okay to be loud and touch the art (which is why it is called the UnMuseum®) and where family programming, such as hands-on art activities, can take place. As part of the research and development for the UnMuseum®, and to test ideas for interactive works of art for children, the CAC commissioned three UnMuseum® prototypes for exhibition in the current space.

For the past 20 years, groups of school children have been taking tours of CAC exhibitions with trained docents. From this experience, the CAC has learned that children love contemporary art and are capable of enjoying and understanding it in ways that many adults cannot. So the question arose: Why not just show art that is made for kids? If the young people like it, maybe the adults will too, and the CAC will become a family destination. And since everybody knows that children learn by touching and playing, why not make interactive art that children can touch? Certainly, a place where children could play would make a more enjoyable experience for adults as well.

UnMuseum® Prototype 1—
Finding Deeper Meaning

The first experiment in creating a work of art for children was in the fall of 1999, when the CAC hosted a mid-career survey exhibition of the work of Allan Wexler. In complement to this exhibition, the CAC asked him to create the first UnMuseum® interactive work of art for children.

_Above and Below: The Hypar Room_ occupied an entire 1,000-square-foot gallery, bisecting the space horizontally with a hyperbolic paraboloid or "hypar." Visitors entered the "above" space, with its dramatically warped floor, via a ramp. Entering through a second door on the other side of the gallery, visitors found themselves in the "below" space—a forest of floor supports—and could observe how the curves of the hyperbolic paraboloid were constructed from straight boards.

Because this UnMuseum® prototype corresponded and was physically adjacent to the main exhibition of Wexler's work, there was a seamless connection between the exhibition and the interactive space. On guided docent tours, children sat down for a discussion about the work and, especially, its connection to the issues raised by the exhibition. They were well-behaved in the exhibition and then, given the license, let loose with all the kid energy imaginable.

For children visiting with their parents, The Hypar Room became a playground, and the space was filled with childish shrieking and laughing. A survey of families indicated that 93% of the visitors really liked The Hypar Room and thought interactive art was a great idea. Some visitors said they expected something more entertaining, however, and others had issues with safety, indicating that they thought of the work as kind of playground rather than a work of art.

UnMuseum® Prototype 2—
Tempering Over-Enthusiastic Play

Kim Abeles created Leaf Leap, 460 gigantic quilted, stuffed, and embroidered leaves that were tossed on a bed of bouncy foam. To complete the project, Abeles undertook a thorough study of trees of the world. Each leaf was meticulously copied from a scientific illustration, interpreted in the fabric that most closely resembled the leaf's color and texture, and enlarged to exactly five times the size of the actual leaf. Each handmade leaf was different, embroidered with the common name of the tree and the geographical area in which it originally grew.

Leaves are studied in the fourth-grade science curriculum, and Leaf Leap broke all records for attendance by school groups. Docents were able to sit with school groups in the middle of the installation and discuss leaves, the artist's creative process, and students' feelings for nature and trees. It was, in all ways,
Site-specific installation with lumber, linoleum tiles, and commercially-available tables and chairs comprised Allan Wexler’s *Above and Below: The Hypar Room*, 1999. 1,000 sq. ft. Commissioned by the Contemporary Arts Center, Cincinnati, Ohio.

The invitation to take off one’s shoes and romp in the leaves became an invitation to unbridled rowdiness, however, which resulted in leaves constantly needing repair. Perhaps the title gave the wrong signal as to the appropriate behavior.

Children contemplate leaves in Kim Abeles’ *Leaf Leap (All the World’s Leaves)*, 2000. 1,000 sq. ft. Commissioned by the Contemporary Arts Center.
the perfect exhibition for this kind of
docent-mediated experience, followed by
a spirited pillow fight.

For the family visitors, it was most
popular with mothers with preschool-age
children. When asked what they learned,
visitors responded with variations of
"museums can be fun" and "art doesn't
have to be a picture on the wall" followed
by things about leaves, like "leaves come
different shapes" and "pine needles
make funny sculpture." The invitation to
take off one's shoes and romp in the
leaves became an invitation to unbridled
rowdiness, however, which resulted in
leaves constantly needing repair. Perhaps
the title gave the wrong signal as to the
appropriate behavior. When it is
reinstalled in the new UnMuseum®, it will
be called Leaf Lounge: A Place for Quiet
Contemplation.

UnMuseum® Prototype 3—
Does an Education Focus
Preclude Enjoyment?

Commissioning works of art from
living artists presents an opportunity to
have the work, in addition to its
aesthetic and interactive qualities, tie
into specific subjects from the school
curriculum. Color Complex by Paul
Tzanetopoulos, was divided into five
small, darkened rooms. Moving through
the exhibition, visitors could flip
switches to turn on different colors of
lights and watch what happened when
different colors of light mixed.

On one hand, museums say
they want to create spaces
where visitors can learn
through play and self-
discovery, yet, when children
play, we often flinch and
worry that they are "just
playing" and not learning.

The GE Fund, sponsor of the exhibi-
tion, insisted that the exhibition be
connected to promotion standards for
science—with measurable outcomes—so
the education department worked with a
group of teachers from Cincinnati Public
Schools to create teachers' packets about
light and color. In terms of connecting art
to the school curriculum, which many
museums are currently doing, Color
Complex was a successful project that
broke new records for attendance by
school groups.

In terms of the family audience,
however, "Color Complex" was less well
attended than the other projects. More-
over, the ages of the children attending
jumped from an average of 5 years old in
Leaf Leap to an average of 7 years old in
Color Complex. This finding led the CAC
staff to wonder if the more educational
the focus of an exhibition, the less inter-
esting it becomes to families.

This exhibition also raised our
concerns about what visitors understood
about the interactive experience. Despite
signs saying, "This is an interactive work
of art," and handouts explaining the
principles of mixing light, many visitors
seemed mystified about what they were
supposed to do until a gallery attendant
explained it. Then, as if on cue, children
ran around flipping light switches,
squealing and bouncing off furniture.
Most of the visitors said they liked it "very
much," and most also said they learned
something about light and color. It
seemed, however, that they were
relatively "in the dark" about what made it
a work of art.

Four years and three projects later, the
Contemporary Art Center remains excited
about the idea of commissioning interac-
tive works of art for children and
confident of the UnMuseum's® success
with both school groups and family
audiences. The criteria for "success" in
this interactive space, however, must be
clarified and must be organic to the CAC,
its mission, and its audience.

At the outset, the CAC considered the
UnMuseum® to be a "Please touch and go
wild" zone. More and more, however, it
becomes clear that the Center must
consider ways to engage a young
audience emotionally and intellectually,
as well as physically. The key may just be
in dissolving the boundaries between
the UnMuseum® and the exhibition
galleries, so that visitors understand the
UnMuseum® as a touchable art
experience, rather than as an artistic
playground.

Framing and Addressing the
Issues Raised by Interactive
Experiences in Art Museums

Marianna Adams
Institute for Learning Innovation
Annapolis, MD

Interactive spaces in art museums are
quite popular with visitors and do seem
to encourage family attendance. Yet,
museums have found that there is a price
for success in their interactive spaces.
A host of new issues face museum
educators and curators that have not
arisen before or at least not to this degree.
Some of the issues are shared by all types
of museums engaging in interactive
experiences, while other issues are
pertinent only to art museums. While all
of the issues are interrelated, there seems
to be three common themes across these
issues: institutional commitment, design
process, and visitor expectations.

Institutional Commitment

Define dimensions of “interac-
tive” learning experiences. The term
"interactive" is, on closer examination, a
concept that can mean different things to
different people in a variety of contexts.
There is a range of interactive experi-
ences in art museums, from docent tours
using inquiry-based discussions, to
activity stations where visitors physically
manipulate materials and devices, to
artist-commissioned works that invite
the visitor not only to engage physically
in some way with the work but,
sometimes, to become a co-creator.
A critical first step in developing an inter-
active space is to describe the various
dimensions of what an interactive experi-
ence in a museum can be and to come to
agreement within the institution about
the character and purpose of interactive
spaces. This is something like a mission statement for interactivity. It will set the tone for the design team and drive the development of visitor outcomes.

Another important definition process museums must come to terms with is what is meant by “play” and its relationship to learning. On one hand, museums say they want to create spaces where visitors can learn through play and self-discovery, yet, when children play, we often flinch and worry that they are “just playing” and not learning. There seems to be an inherent ambivalence toward the value of play among educators. We feel that play, as James Hans (1981) says, is a fundamental activity where one acquires a richer deeper understanding. Yet, play is so obvious and commonplace that we have trouble taking it seriously (Reilly, 1974). We worry that when children are having too much fun, perhaps engaged in raucous play, they are not learning. Certainly it is difficult to measure learning immediately after such an experience, but that does not mean learning does not occur. Surely, playing in Leaf Leap or artist Ed Tannenbaum’s Reflections III video room is a richer sensory and aesthetic experience than playing in a fast food play space or fooling around in front of a video camera focused on passing shoppers in a mall. The scant research available does suggest that children of all ages do learn from play, but the effects generally show up months, even years, after the experience (Adams, 1999; Middlebrooks, 1995).

Design Process

Develop clear, reasonable, meaningful outcomes for the visitor experience. Often developers of interactive spaces operate on a tacit set of intentions that are not carefully articulated beyond a more global goal statement. It is the role of educators to clarify the expected outcomes for visitors, determine content of the interactive space, and consider how meaning can be constructed. It is also important for educators to understand how visitors engage and learn in interactive environments. This way the outcomes can align realistically with the way people learn.

Design responsible interactive experiences to effectively communicate content and meaning. The concept of responsible interactivity has two levels. First, just because children are touching or moving something does not mean that the experience is rich or meaningful. Beware of gratuitous interactivity. An interactive experience must align directly to the outcomes that, in turn, are in direct relationship to the institutional interactive mission statement. Second, responsible interactive experiences are appropriate to the mood and tenor of the situation. For example, if the art is playful in nature, then an interactive experience that stimulates visitor noise and movement is appropriate. Conversely, if the subject of the art is serious, then interactive experiences need to encourage more subdued and reflective behavior.

Mediation: Facilitate learning in a social context. Mediation in interactive spaces involves two dimensions. First, interactive spaces are usually more effective when there is some level of mediation. Science centers and children’s museums understand the importance of keeping staff on the floor of interactive exhibits, but art museums are sometimes unprepared for this necessity. Second, learning occurs in a social context (Falk & Dierking, 2000), and an interactive space is an ideal opportunity to foster social interaction between parents and children, as well as among children themselves. Basic design amenities such as adequate space and comfortable seating are essential, in addition to how the interactive experience itself stimulates visitors to learn from each other. When designing an interactive space, it is important to carefully consider the degree of mediation that is desired and needed and integrate strategies to facilitate social interaction.

Visitor Expectations

Create cues and transitions between touch & no-touch zones. Unlike other types of museums, art museums have to be concerned with the expectations of touching established by interactive spaces. If visitors have prior experience with science centers or children’s museums, they come into an art museum interactive space with preconceptions about what they can do there. When an interactive space is self-contained, and everything is touchable, there is little problem insofar as visitor expectations are concerned. As museums move interactive experiences into the main galleries, there is a potential for confusion among visitors of all ages. Museum educators need to understand and plan for inevitable human behavior. While creating effective transitions between touch and no-touch zones and providing recognizable cues that communicate appropriate behavior to visitors is not easy, it is absolutely necessary. Doing this successfully will require much experimentation and rethinking of strategies.

Respond to visitor differences in experience with and interest in technology. Despite the prevalence of technology in our culture, its presence in museums raises important issues. First, research suggests that visitors want unique and authentic experiences in museums and are not particularly interested in doing something, like using a computer, that they could do elsewhere (Adams, 2001). So use of technology in interactive spaces must be carefully considered. Second, because of the prevalence of technology in our culture, many people have negative responses to it. As contemporary artists continue in a growing trend of exploration of technology as a creative medium, museums will have to consider ways to assist visitors who are inexperienced or uninterested in technology in moving beyond their own comfort zones.

Provide accessible, self-evident, experiences for all ages, that withstand use. Accessibility issues often refer to the need to consider visitors with physical and mental impairments when designing museum experiences. This is certainly an important issue. Accessibility can also refer to the ease of access visitors have in understanding the concepts presented in an interactive experience, as well as in how to operate or engage with an interactive station. Parents, for example, have little time to read and digest operation instructions.
while supervising children. Operation of interactive experiences needs to be self-evident, that is, what to do becomes quickly apparent without the need for reading text. Again, a deeper understanding of visitors’ prior experience and expectations will assist museum educators in developing experiences that are organic to the way people learn through play. In addition, interactive experiences that are accessible to visitors of all ages will create a more family-friendly environment.

As art museums work to incorporate interactivity into their galleries and programs, it will be important to reflect continuously and seriously on the degree to which the visitors are experiencing the interactive spaces in rich and meaningful ways. To do this well requires more research, and the museum field must establish an active research agenda that will help it address the many concerns and issues that emerge as art museums venture more fully into the realm of interactivity.

Mariana Adams is Senior Associate at the Institute for Learning Innovation, a non-profit educational research and development organization in Annapolis, MD. E-mail: adams@ili.net.org
Cynthia Moreno is Curator of Education at the Speed Art Museum in Louisville, KY. E-mail: cmoreno@speedmuseum.org
Molly Polk is an Independent Art Educator and former Associate Curator of Exhibitions and Education in charge of Kidspace at MASS MoCA in North Adams, MA. E-mail: mhpolk@hotmail.com
Lisa Buck is Curator of Education at the Contemporary Arts Center in Cincinnati, OH. E-mail: curator-ed@cacmail.org

REFERENCES


NOTE
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