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ABSTRACT

This paper asserts that interactive exhibits are more than just hands-on activities but utilize a range of techniques. The variety of techniques is explained with examples of various types of exhibits to involve the visitor in learning more about the exhibit. The paper presents several examples that strike a balance between educating in history museums and preserving collections. Topics addressed include different learning styles, multicultural education, John Dewey's ideas of building on previous learning, social history, hands-on exhibits and the question of preservation of artifacts, multisensory exhibits and living history exhibits, participatory exhibits, interactive computers, and response books. (Contains 21 references.) (EH)

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Hands-on History

Rachel M. Eldridge

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Interactive exhibits are more than just hands-on activities but utilize a range of techniques. This diversity of technique is essential in allaying the preservation and conservation fears of curators. The most notable feature of history museums is often their collections of unique and irreplaceable artifacts, be they tools, papers, houses, furnishings or even ships and bridges. The term hands-on then, implying the handling of these valuable objects, is a difficult one for curators and other museum personnel, who wish to preserve those objects, while at the same time educating the visiting public. This paper will present several examples that strike a balance between educating in history museums and preserving collections.

Education, while a concern of American museums almost from their beginnings, has grown in significance in recent years. Museums have needed to demonstrate their worth to the public and have done this by emphasizing their educational role. The publication of Excellence and Equity: Education and the Public Dimension of Museums in 1992 by the American Association of Museums demonstrates this shift toward education in the attention of museums. The current movement however focuses on just education but education for whom. The public that Excellence and Equity is reaching out to is not just one of diverse ethnic, racial and class backgrounds but also one of diverse educational backgrounds (p. 25). One of the recommendations in the learning section of the document states, "Develop educational experiences for schoolchildren, families, and adults that reflect a knowledge of the different learning styles visitors bring to museums (p. 17)." Interactive or participatory exhibits are an important means of accommodating those different learning styles.

The development of interactive exhibits has paralleled in part the contemporary emphasis on museum education. Participatory museums have been a growing trend since the

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1960's. The timing is significant since participatory museums came out of the same impulse as the participatory politics of that era. This coincides with the steady democratization of Western society described by Edward P. Alexander in Museums in Motion (1979, p. 175). Indeed, participatory museums are seen as more democratic and appealing to people, who are no longer content to have their lives "run for them dictatorially by a few powerful and privileged people" in the words of Kenneth Hudson (1977, p. 3). Additionally, hands-on museums resulted from the disenchantment with traditional curricula in the sixties and the lack of motivation found in media-saturated children, a problem I imagine that is even more pronounced nowadays (Educational Facilities Laboratories, 1975, p. 6).

This political implication of interactive exhibits can be found in the work of the pioneers of hands-on museums. Elaine Heumann Gurian (1991) in her essay, "Noodling Around with Exhibition Opportunities," in Exhibiting Cultures explains that Michael Spock and Frank Oppenheimer wanted to give power to the people through interactive exhibits (p. 179). Rob Semper, considered the Exploratorium in San Francisco, which Oppenheimer headed for many years, to be an environment, "where the visitor was truly in control of his or her own learning rather than being manipulated by a process or design or structure (qtd. in Oppenheimer, 1986, p. 2)." Spock at the Boston Children's Museum hoped "to give confidence to the learner in order to enable him or her to cope with the world outside of the museum. The subject was not his primary interest -- enfranchising the learner was (Gurian pp. 179-180)." Spock was particularly interested in encouraging people who did not learn in conventional ways. Oppenheimer wanted exhibits that could be enjoyed on a variety of levels to accommodate the diversity of visitors (p. 8). Both Spock and Oppenheimer wanted

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visitors to feel comfortable using the exhibits. Oppenheimer believed that unfinished or inexpensive exhibits reinforced the message that anyone could perform the experiment because anyone could have the materials. He considered slick looking exhibits to be exclusionary (p. 22). It is important to note that Spock and Oppenheimer did their pioneering work at a children's museum and science museum respectively. These types of museums have become the home of interactive and hands-on exhibits. History museums have begun recently to incorporate some of their ideas.

Aside from political inclusion, what benefit do interactive exhibits have? It is believed by many that interactive learning in museums is more effective than traditional techniques. First, it is hoped that interactive exhibits will catch the visitor's eye and hold his or her attention. "Research shows that the average person touring a museum on his own will glance at an exhibit for about forty-five seconds before moving on unless something catches his attention (p. 43)," according to Jeanette Hauck Booth and her co-authors. Interaction allows for a greater amount of time to convey information and instruction (Schoener, 1968, p. 378). Second, there is the belief that participation fosters better learning. What some people, using John Dewey's ideas of education, experience and social context, call learning by doing (Gurian, 1991, p. 178). Dewey thought seeing, touching and doing produced meaning (1966, p. 142). This school of thought is influenced by the work of Jean Piaget, who developed a model of different stages of learning. He stated "that a child learns very little when experiments are performed for him. He must do them himself rather than sit and watch them done (qtd. in Booth etal 81)."

Additionally, there are different styles of learning. Howard Gardner (1983) in his

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influential book, Frames of Mind: The Theory of Multiple Intelligences, presents an investigation of intelligence and intelligence testing that builds on the work of Jean Piaget among others. In Gardner's words,

> Intelligences should be thought of as entities at a certain level of generality, broader than highly specific computational mechanisms (like line detection) while narrower than the most general capacities, like analysis, synthesis, or a sense of self . . . (p. 68).

He thinks of each intelligence having its own system with its own rules and symbols (p. 68). At the end of his work, he suggests that one symbolic system or an intelligence such as tactile-kinesthetic can be used to teach another system such as reading (p. 391). This idea has been very influential among museum educators as well as the implication that not all visitors learn from the same type of exhibits. Another scholar, Susan Sternberg (1989), divides people into visual learners, who can gather information from appearances, and haptic learners, who learn best from hands-on, by responding to physical experiences involving the senses (p. 155). Haptic learners are also called sensors, people who learn by experience and stimulation. Sternberg estimates 65 to 75 percent of the population belongs to this category. Jeanette Hauck Booth and her co-authors expand on this point saying "All visitors respond positively to situations that allow them the opportunity for touching, but for some visitors, touching is an essential part of the learning process (p. 58)."

Being able to relate new information to one's previous experience and daily life are thought to be crucial to effective learning. Once again, the ideas of John Dewey are key. Dewey believed that education needed to start with learners' experiences and capacities (1966, p. 194). He thought there was "the organic connection between education and personal experience (1938, p. 12)." Adult learners, in particular, learn better if they can

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draw upon their experiences and knowledge in order to make connections with new ideas (Knowles, 1981, p. 55). As Sternberg says "unless ideas and objects are related to the visitor's experiences, feelings and imaginative skills, the objects and ideas alone will have little meaning for the museum visitor (pp. 154-155).' Considering these different styles of learning, "It follows then that should we wish all visitors to learn and understand, we must construct a wide palette of exhibition opportunities that utilize all the senses (p. 184)," in the words of Elaine Heumann Gurian. Here then is the connection between the democratization of the museums, education and interaction. For, if museums as democratic institutions really want to serve the whole public as expressed in Excellence and Equity, they must aim their exhibits along with the rest of their programming to all different kinds of museum-goers, not just in terms of multiculturalism but also in terms of learning orientations.

Multiculturalism aside from affecting museums' idea of whom their public is has changed the subject matter of history. I mentioned earlier the development of social history with its roots in the sixties. Social history has shifted the focus of history away from august political figures, elite groups and such. Instead, social historians have begun to focus on more common people and on more common activities. This shift reflects in part the influence of anthropology and folklore on history. Social historians have included a wider range of historical participants by broadening their sources -- incorporating letters, diaries, and journals of common people as well as oral histories and material culture. The participants within historical debate have thus widened as more people have a voice rather than just the elite groups of the past. This trend has affected the objects and the sites that are preserved by museums. No longer are just places such as Mount Vernon or the objects

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owned by the famous and renown considered worth saving; history museums have broadened their collecting scope.

Greater diversity of subject and historical participation has created a need for different exhibit approaches. As I mentioned when explaining the title of this paper, there is more to interactive exhibits than just hands-on. Hands-on is one of the important categories as seen in the discussion of touching being able to enhance learning. Particularly in the study of history, hands-on exhibits are a valuable means of providing context. Hands-on exhibits though present a problem, as mentioned earlier, for history museums with their collections of unique and authentic objects. One of the most significant functions of the museum is providing the visitor with a direct experience with artifacts. Preserving these artifacts not just for current visitors to learn from but for future generations is considered the essential part of any museum's mission. Thus, while history museums recognize the value of learning by touching, they must balance that value against conservation concerns. Some museums address this issue by using reproductions. In fact, Plimouth Plantation as a notable example uses reproductions throughout its village. However, not everyone is comfortable with this approach, since the uniqueness of the objects can be lost. Another option is for history museums to decide that certain pieces in their collections that are duplicate, inferior or undocumented could be used for hands-on exhibits. Additionally, two-dimensional maps can be made into tactile ones, and posted documents can be reproduced so visitors can examine them through handling.

Hands-on exhibits present another potential problem. The National Museum of American History at the Smithsonian mixes hands on activities with traditional exhibits.

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Visitors can put together a wooden piggin, try on reproductions of 18th Century clothes or gin their own cotton with a mobile reproduction. These activities are in special areas, and the moving carts such as the gin have accompanying demonstrators, so the hands-on exhibits are clearly marked (Park, 1993, pp. 16, 18). It is important to mark what is touchable and what is not in an exhibit. John Falk and Lynn Dierking (1992) contend that "When museums mix hands-on and hands-off settings, they risk causing considerable confusion in the visiting public (p. 65)." Such confusion can inhibit visitors. Mystic Seaport Museum created an exhibit around their whaleship, **The Charles W. Morgan**, that had primarily non touchable displays. However, one part of the exhibit was a whalesman's bunk. Exhibit designers expected visitors to lay down in the bunk, but visitors seldom did since that part was not labeled as touchable nor differentiated from the rest of the exhibit.

Aside from hands-on exhibits, another category of interactive exhibits is multi-sensory. Just as touching enhances learning, so does the involvement of the other senses such as hearing, smelling, and tasting. Sound is perhaps easiest to include in an exhibit; the technology used can either by simple or high-tech. New multi-media computers can incorporate sounds, voices, and songs into exhibits. By the increased use of oral history, historians have created a resource for exhibit designers to add sound to exhibits. The voices in an exhibit however do not always need to be original. The Florida State Museum in Gainesville, Florida has a timeline of Florida history. The visitor may just read the text, or they may push buttons and hear actors speaking the words of important figures.

Perhaps the best multi-sensory exhibits that history museums can offer are living history or historical village museums. Warren Leon and Margaret Piatt (1989) contend that

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the power of living history is their combination of sight thoughts, feel thoughts, smell thoughts, taste thoughts and sound thoughts (p. 92). Farms such as Freeman's at Old Sturbridge Village and the variety of craft shops and households at many villages all offer environments for visitors to learn through different sounds, smells and perhaps even tastes (p. 70). This is what I term environmental learning. However, visitors must be allowed to explore these environments, choose what they want to experience, and ask their own questions. Otherwise, just traveling through environments is no different than a dark ride at a theme park.

The ability to choose is perhaps the most important element of participatory exhibits. The biggest category of participatory exhibits are those that allow visitors to choose what information they wish to gather, what we might call pursuing or pick and choose exhibits. Picking and choosing can happen through three different means objects, computers or people. The Florida State Museum has the Object Gallery. As described by Bonnie Pitman (1979),

> The gallery contains some traditional exhibit cases, as well as vertical files with exhibits on how to identify birds, snakes, and other specimens; study areas with tables and chairs; aquariums and terrariums; and over 200 drawers of objects (ie. projectile points, kachina dolls, pine cones, landsnails) (p. 167).

What I want to focus on are the drawers, which are arranged in a large open-ended oval and the nearby vertical sliding cases that contain period clothes. Both of these provide the visitor with a chance to pursue his or her own interest by examining a variety of labeled historical objects. The visitor is not confined to just what the curators have chosen to display in the exhibits but have a wealth of other objects to draw upon. A similar approach is taken at the Boston Children's Museum with their study storage. As described by Patricia Steuert who

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works at the museum,

> Visitors can look through a large window wall and see the range of the collection. They can also enter the area with a staff member and be offered significantly increased access to individual objects. All the objects are packaged so that they can be closely examined without being handled directly (45).

Interactive computers can also provide visitors with the chance to pursue an subject interest. At the United States Holocaust Memorial Museum, the Wexner Learning Center has interactive videodiscs with touch screens that allow visitors to experience texts, maps, and oral histories (http://www.ushmm.org). Museum professionals advise that computers work best as a supplement to an exhibit. The content should be appropriate to the exhibit, and the instructions for the activity must be easy to grasp for the variety of museum visitors (Mintz 1991 65, 66, 67). An advantage of computers is that they appeal to different parts of the museum population. Again at Mystic Seaport Museum, pre-teens and teenagers frequently sat at the computer while their parents went through the more traditional exhibit. Both groups learned similar information about whaling and the **Charles W. Morgan**. Lastly, interpreters and role-players, particularly in living history museums can be an information source for visitors. They help visitors who learn best verbally (Leon and Piatt 86).

Pick and choose exhibits offer visitors another means of learning by doing. While many visitors may read history, few have ever had the chance to write history. Interactive exhibits in history museums can give visitors the opportunity to play the role of historian. Through computers with touch screens and interactive videodiscs, visitors can compare documents, examine primary and secondary sources and piece together information. With similar or even less high-tech equipment, history museums can design exercises that teach

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visitors how to use material culture methods to examine objects in the exhibition. Work sheets with questions and instructions on how to use their senses or recorded cassettes with the same material can help visitors learn a new means of viewing artifacts.

The last form of interaction with an exhibit is one that can be easily incorporated in all history museums, response books. At the Children's Museum in Boston, they are called Talkback boards (Steuert 39). At the Museum of the New South's "The Most Democratic Sport," blank bound pages on a table with attached pencils were available with a request for accounts of personal experiences with basketball, the subject of the exhibit (personal observation). At the end of the traveling version of Daniel's Story, an exhibit designed for children by the United States Holocaust Memorial Museum, visitors can write down their reactions (Commentary 30). Response books create a dialogue between the visitors and the museum, allowing visitors to add information, critique, or just participate in the discussion of history.

Unlike children's and science museums where skills and processes are primarily taught, history museums have a particular subject matter to teach. Fortunately, a variety of interactive techniques -- reaction, pick and choose, multi-sensory, and hands-on -- increase the ways history can be taught. Thus, history museums can expand their audience to include the whole spectrum of learners, while at the same time maintaining and making the most of their precious collections of historical artifacts.

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