

Following Families: From Tracking to Transformations

by Robert Kiihne

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They [the sailors] then come on deck again, pull off their shoes and stockings, turn up their trowsers to above their knees, and commence holy-stoning the deck...Here the men suffer from being obliged to kneel down on the wetted deck, and a gravelly sort of sand strewn over it. To perform this work they kneel with their bare knees, rubbing the deck with a stone and the sand, the grit of which is often very injurious. (Robinson, 1983)

Sailors constantly holystoned *USS Constitution's* deck. Doesn't this sailor's account from 1836 do an excellent job of communicating the drudgery of this chore? Just put it up on the wall in 4 inch type and museum visitors will have a richer understanding of daily life aboard *USS Constitution* in 1812—right?

The USS Constitution Museum began developing the *Sailors Speak* exhibition in 2000. We imagined a show of powerful quotes, meaningful text, computer interactives and important artifacts. The exhibition would be a permanent installation with comprehensive humanities themes based on new research into the lives of *USS Constitution's* War of 1812 crew.

Early Exhibition Planning

We began with grand planning sessions. At these large meetings of scholars, educators, trustees and staff, discussions ranged from conveying the social status of sailors in 1812 society to experiencing the physicality of life at sea working on a wooden ship with 450 other men. We talked about visitors standing on a footrope, reading detailed personal narratives, learning celestial navigation, and firing a cannon. At the same time our content outline became increasingly complex with multiple themes and sub themes. The list of possible exhibit elements grew dizzyingly long. As the Director of Exhibits, I wondered

at the time if we would be able to keep labels to 125 words or less. The Museum needed to decide what the goals were for the exhibition.

On the content side of things we decided it was all about the people. Our exhibition theme became: *USS Constitution's* diverse crew, separated from family and friends, lived disciplined lives in a shipboard world at war threatened by nature and man. What they did together changed the nation, themselves as individuals and contributed to a sense of national identity.

The 1200 seamen who served aboard during the course of her three biggest battles left very little written record. Researchers scoured sources including the pension records at the National Archives and early city directories in maritime communities to uncover the stories of seamen like David Debias, an African American. David joined the ship in Boston at the age of 9. In later life while serving as a merchant sailor Debias visited a southern port and was captured as a runaway slave. Debias requested his navy record in order to prove he was a free Black man. We do not know if the navy responded nor if the letter freed David Debias. The theme did not include the technical aspects of sailing a square-rigged ship or battle strategy at sea. It did include reasons for joining the Navy in 1812, the richness of a community at sea, and the emotional arc of battle for sailors.

The exhibition team used the theme to compare the relative worth of competing interactive ideas. We decided not to include a navigation interactive, though I knew how popular it could be. We did develop a sail handling activity that requires multiple visitors working together. The footrope interactive addresses the themes of discipline and teamwork.



The footrope interactive quickly shows families how important teamwork was aboard USS Constitution. Photo courtesy of the USS Constitution Museum.

The Audience

The USS Constitution Museum is located on Boston's Freedom Trail and does not charge admission (how a non-profit can be successful by not charging admission is a story for another day). This year we expect to see 340,000 visitors. In 2000 we knew very little about our audience, so we started collecting visitor data. The Museum knew that while history buffs and school groups were important, most of our visitors came as families looking for an enjoyable and educational vacation experience. This realization was a watershed moment for the institution. We needed the exhibition to work well for a family audience.

How Would We Serve a Family Audience?

The development team began to look into how best to serve a family audience. At the time children's museums and science museums had written a fair amount about what we came to know as Family Learning. We wondered if the same guidelines would be effective in history museums. The Museum looked to the Institute of Museum and Library Services for help and received a National Leadership Grant in 2004. We would study how to encourage Family Learning through hands-on, minds-on, exhibit elements in an unfacilitated test tube exhibition. The exhibition, *A Sailor's Life For Me?* would be based on Family Learning guidelines.

In particular, we would investigate effective label techniques to encourage conversations in family groups.

A Little Advice Can Go a Long Way

We put together what turned out to be an extraordinary steering committee. Minda Borun, whose past work we leaned on heavily, helped the exhibition team develop an evaluation and research plan. Lynn Dierking, with her comprehensive life long learning perspective, allowed us to put what we were doing into a wider context for ourselves and for the museum community. Cathy Donnelly and Gail Ringel from the Children's Museum of Indianapolis and the Boston Children's Museum respectively brought their Family Learning experiences and creative energy. Dan Freas inspired everyone with stories about Family Learning successes from Conner Prairie's Opening Doors project. Other committee members brought expertise in history content and learning theory.

Building a test tube exhibition freed the Museum up in many ways. Sarah Watkins, our Curator, experimented with writing all the text in 50 word pieces. I could build a footrope interactive that took up a lot of precious floor space without a long-term commitment to an element that, I worried, few would use. Scholars, trustees, and other stakeholders were

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willing to put their concerns on hold since this would not be the final exhibition. In order to create a prototype that would be as effective as possible with families, we also looked to the experiences of others.

Family Friendly Exhibition Guidelines

The exhibition team, with the help of our new Evaluation Coordinator, Marilyn Solvay, began to read everything we could find related to Family Learning in museums. We had just 6 months to develop a family friendly exhibition and research platform. With the help of our steering committee the team decided to implement the following guidelines:

- Make it fun!—when appropriate
- All text elements would be limited to 50 words or less
- Whenever possible text would be in the first person
- We would actively address a broad range of learning styles in the entire exhibition
- We would actively research how effective quotes and questions could be at encouraging conversation between family members
- We would create exhibit pods where text, images, artifacts, interactives, and other different kinds of exhibit elements in close proximity address one idea
- All interactives would conform as much as possible to the PISEC principles (See Minda Borun's article in this issue)

Build It Fast and Cheap

Argyle Design brought great children's museum experience to the table and worked with the Museum on a very aggressive timeline. I kept most of the production in-house so that changes could be made easily and economically.

We printed all labels on vinyl with an older Designjet 3000. A 2ft X 2ft label can be changed out for under \$5 in materials. Local reenactors provided period clothing and we photographed staff, volunteers, and Navy sailors to make fifteen full-sized cutouts bringing the historic sailors to life. Details of the real sailor or family member left behind are on a card that hangs from each cutout. We were able to build the exhibition, which includes a significant amount of scenery for under \$50 a square foot.

Testing Begins—Hey, That Wasn't So Hard!

As we finished building version 1.0 of the prototype exhibition, our fresh summer researchers tested the first interactive with family visitors. Families did not like it. The recruiting station is a simple two-sided tabletop interactive with questions on one side and a related image on the other. We wanted family members to take turns asking each other recruiting questions like, "Have you ever swung in a hammock? Are you willing to do it next to 200 of your closest friends who haven't taken a bath in awhile?" We hoped to encourage conversation about joining the ship's crew in 1812. The interactive met the PISEC criteria: it was multi-sided, multi-outcome, contained no pieces of text longer than 50 words, and had fun content. The problem? For starters families didn't know what to do – even when the researchers tried to explain the interactive.

In just a few days a procedure emerged. Our two researchers asked 10 or so families to try the interactive and recorded their feedback. We made changes on paper and taped them to the interactive. The next day we repeated the process. In less than two weeks the team significantly changed family satisfaction. In

the beginning half of the families surveyed rated the activity a 3 or less out of 5 stars. We decided to stop prototyping when families rated the activity an average of 4.5 out of 5. The recruiting interactive is now very popular with our visitors. The process was so painless and successful that asking a few families for feedback on labels, programming, instructions, and just about anything the Museum produces is now standard operating procedure for the entire institution.

Research and Evaluation in the Exhibition

Over the next three summers researchers tracked, observed or interviewed over 2400 families in the prototype exhibition. We looked at each of the exhibition's interactives in detail. We identified where conversations happened throughout the exhibition by tracking visitor behaviors on a floorplan. In exit interviews we tried to find out if families understood the content of the exhibition. The evaluation identified both strengths and weaknesses in the exhibition. We have incorporated many modifications, additions, and finally subtractions. The staff began to see family visitors as partners in exhibition development. We also identified trends within the Museum that may be helpful to other museums.

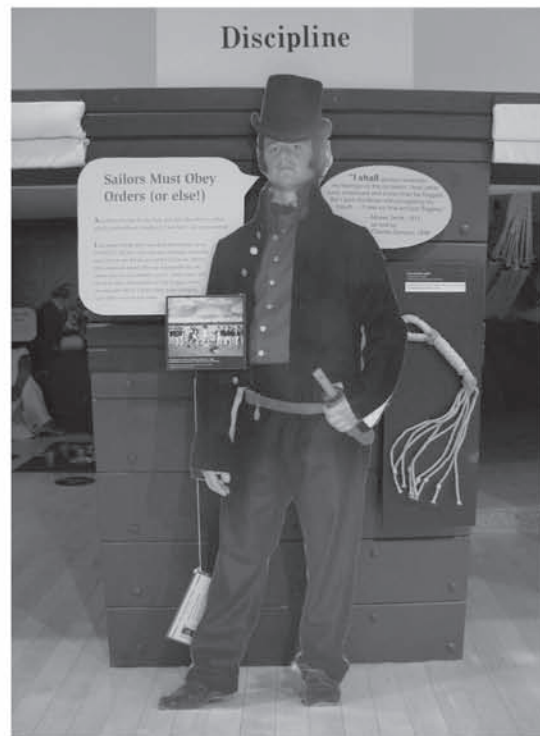
Children of Different Ages have Different Needs

I believe that we often learn the most from exhibits that were not as successful as we had hoped. In the mess area families can sit on the floor, use tin plates with questions and answers printed on them, and play with fake maritime food. It is a free play space, which works well for children under 7. While most of the Museum's audience is made up of families it turns out a relatively small number include

children under 7. In the final exhibition we will still have a mess area, which could be used as a free play space, but there will also be game activities that appeal to older children. We will do testing on the final area to make sure it works with a broader audience.

Variety Increases Effectiveness

One of our own museum learning theories that the evaluation supports is our "pod" theory. If you want visitors to understand an idea communicate the idea with a number of exhibits, in as many formats as possible, in a small area, or pod. The discipline pod is my favorite example.



The small period watercolor installed just in front of the figure turned out to be the most important element for visitors. Photo courtesy of the USS Constitution Museum.



The recruiting activity became the most successful in the exhibition only because of visitor testing. Photo courtesy of the USS Constitution Museum.

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With 450 men aboard *USS Constitution* discipline was very important, though viewed quite differently by officers and crewmembers. The discipline pod (area of related exhibits) originally included a life-sized cutout, a first person text panel, an excellent quote, and a reproduction cat-o-nine tails that visitors could touch. When we sat down with visitors and had them read the quote it got high marks, but when we tracked families few visitors even stopped at the display much less had a conversation about it. We added an 8in X 10in graphic of a period watercolor depicting the whipping of a bare-backed sailor with a cat-o-nine tails. Families stopped and had conversations. The discipline pod became a successful and important piece of the entire exhibition, mentioned many times in exit interviews.

Our Research Results: The Right Questions Encourage Conversations

The research we embarked on attempted to find out how the use of quotes or questions with labels affected visitor engagement. We tested the same idea with different information to make sure our results were not content specific. We interviewed 300 families and observed more than 500 families to find out whether quotes or different kinds of questions do a better job of encouraging conversations in an exhibition. Before the prototype exhibition opened we

taped three paper cutouts of crew members on the wall along with their first person context label. Researchers carried the three additional labels (a historic quote, contemporary question, and historic question) to test with visitors. Once the prototype opened we installed the same elements and observed the behaviors of families who read the quote or question.

Samples Used For Holystoning

Historic quote: "The most disagreeable duty in the ship was that of holy-stoning the decks on cold, frosty mornings." Samuel Leech, 1810

Contemporary question: What is the chore you dread the most? How often do you have to do it?

Historic question: Can you imagine being a sailor in 1812 and starting your day off with a cold saltwater scrub rather than a hot shower?

What we found was both complex and enlightening. Families (especially men) liked quotes better than questions when asked to read two questions and one quote about the same subject.

Quote (89M/52F)

Contemporary Question (24M/23F)

Historical Question (28M/74F)

Total Averages 47% 19% 34%

The contemporary questions scored so badly that we decided not to even try them in the exhibition. Unprompted family behaviors showed a different picture. We conducted Tracking and Timing Behavioral Studies that revealed visitors engaged more with the

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historical question labels than with the quote labels. The researchers recorded reading silently or out loud, calling others over, commenting, asking and/or answering questions, and sharing personal experiences. The quote label at Boy Blanchard, a life-sized photograph of a kneeling sailor scrubbing the deck, engaged 15% of family members while the historical question label at Boy Blanchard engaged 57% of the family members. We tested a similar set of labels at two other locations and found that the historic question was 3 times more likely to cause conversation than the historic quote. We concluded that questions help encourage conversations, but history museum visitors needed some content embedded within the

questions. To learn more about our research project visit familylearningforum.org.

If You Want Conversations Get Visitors to Face Each Other, and Let Them Sit!

After the first year of evaluation we found the recruiting area to be very successful. Families spent an average of 7 minutes in the 11ft X 14ft space, and they engaged in significant numbers of conversations. The interactive requires visitors to sit across from each other and work together at one of two tables. The second summer we added a board game based on exhibition content at the end of the show. Though fewer families used the board game than the recruiting activity, once hooked



The prototype holystoning activity is successful, but will need to create less dust in the final exhibition. Photo courtesy of the USS Constitution Museum.

It turns out that many of the characteristics that work well for families work well for adult audiences.

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Reference:

Robinson, W.(1983). *Jack Nastyface: memoirs of a seaman*. Annapolis: Naval Institute Press.

they had conversations and spent a significant amount of time at the interactive. We feel that these interactives illustrate the success of using PISEC characteristics in a history museum setting.

The Big Picture

Families spend an average of almost 22 minutes in *A Sailor's Life For Me?* as opposed to 7 minutes in our larger traditional history exhibition, *Old Ironsides in War and Peace*, on the floor below. More importantly families have significantly more conversations in the prototype show. In the past year I have had a number of opportunities to take elder hostel groups through the exhibition. It turns out that many of the characteristics that work well for families work well for adult audiences. In the last two years visitation increased by 18% annually and voluntary donations per visitor are up 58%! Other Museum efforts may affect these achievements, but there is no doubt family learning is a rousing success for The USS Constitution Museum.

The ultimate *Sailors Speak* exhibition will be installed in 2009. It will be an NEH-funded permanent installation with broad humanities themes based on new research into the lives of *USS Constitution's* 1812 crew. It will also be a show designed to engage families in conversation, featuring 50-word labels written in the first person voice, family-tested interactives, and evaluation-based modifications after installation. All of the stakeholders have expressed their support for the present

exhibition plan, including scholars and trustees.

I still appreciate William Robinson's quote about holystoning, but families enjoy, use, and understand the simple interactive that lets them scrub the deck with a piece of sandstone and some sand. The holystoning pod in the prototype exhibition consists of an interactive, a cutout figure, a text panel, a quote bubble, and a wheel with three small pieces of text. All I have to figure out for the final installation is how to control the dust.

Testing Everything: A New Way of Doing Business

This past summer staff spoke to families outside the Museum to get a handle on family expectations and to look for opportunities to better serve families in the entire institution. Testing and evaluation continues in the galleries and beyond with volunteers and floor staff. We are taking another look at every aspect of our operation from restrooms, to gallery signage, to our Museum programs. The Family Learning Project changed the way we do business. Evaluation, testing, and serving a family audience are now part of the USS Constitution Museum's identity. Recently the Museum board approved a new strategy statement:

"The Museum will provide a hands-on, minds-on environment where inter-generational groups seeking an enjoyable, educational experience can have fun and learn as they explore history together." 