



Creating Nimble Exhibits through Visitor Input

by Mary Olson

Mary Olson is the Current Science Project Manager at Pacific Science Center in Seattle, Washington. She may be contacted at Molson@pacsci.org.

If you would like to comment on this article or others in this issue, please go to the NAME page on Facebook or send us a tweet @NAMEExhibitions.

Flexibility and rigorous evaluation have enabled us to be increasingly nimble and responsive to current issues and our visitors' interests.

Pacific Science Center has long had a strong set of programs connecting scientists and current science content with the public, including “Research Weekends,” “Science Cafés,” and the monthly “Scientist Spotlight.” Beginning in 2007 with a grant from the National Science Foundation, the Portal to the Public program started training scientists to communicate their research to the public.¹ After years of training scientists and hosting programs, we saw the need to create a permanent home for current science on our exhibit floor in order to maximize exposure to current science content. “The Studio” (fig. 1) is a rapid-change, reconfigurable, hybrid program/exhibition space (fig. 2) that features current health science research from the Pacific Northwest. This project uses a consistent group of audience participants (our “cohort”) and puts our audience at the center of the process. Flexibility and rigorous evaluation have enabled us to be increasingly nimble and responsive to current issues and our visitors' interests.



Fig. 1. The Studio is a small, change-ready exhibit space. Courtesy of Pacific Science Center



Fig. 2. Science Interpretation staff present programs in the space every day, with cart activities specific to each exhibition. On the first Saturday of each month, scientists present in the exhibition space and throughout the museum. Courtesy of Pacific Science Center

Launched in 2012, and changing every six months, The Studio serves as a way to integrate current science into a larger permanent health and wellness exhibition, *Professor Wellbody's Academy of Health and Wellness*. The Studio is a 500-square-foot exhibition space that was designed to be change-ready in the sense that graphics, monitors, and cases can be reconfigured easily and quickly. The walls are covered in a matrix of equidistant metal pegs (fig. 3), and every wall-mounted component is outfitted with corresponding cleats. Graphics are printed on magnetic vinyl (fig. 4) and placed in presized metal frames. Featuring removable tops, the kiosks have been used to mount touchscreens and hands-on interactives as well as to display models.

In a little over two years, our team has installed five exhibitions addressing a variety of health topics—*Global Health*, *Next Generation Genetics*, *Minds and Machines*, *Disease Detectives: West Nile Virus in Washington*, *Building a New*



Fig. 3. Fixed metal pegs cover the walls, allowing for quick installation. Courtesy of Pacific Science Center

You? Harnessing the Power of Stem Cells, and the recently opened *Food Allergies: Game On*. Content for each of these exhibitions is developed by collaborating with active researchers from the Seattle-area medical community and educational institutions, such as the Benaroya Research Institute and the University of Washington. These professionals form an advisory committee that helps guide the exhibition team—directing us to exciting local research and helping us craft the story. Often they lend us laboratory tools and videos or help us brainstorm interactives that showcase their work. When the exhibition is deinstalled, some scientists borrow exhibit components for display in their own labs or research institutions.

The Studio was developed with the help of an Institute of Museum and Library Services (IMLS) National Leadership Grant (NLG) and is still supported by a National Institutes of Health (NIH) Science Education Partnership Award (SEPA).² The IMLS NLG grant was proposed to create a model for a change-ready current science space. The NIH SEPA grant’s purpose was to promote local health research through a current science exhibition and to support a number of other programs. Because of these funding sources, The Studio has

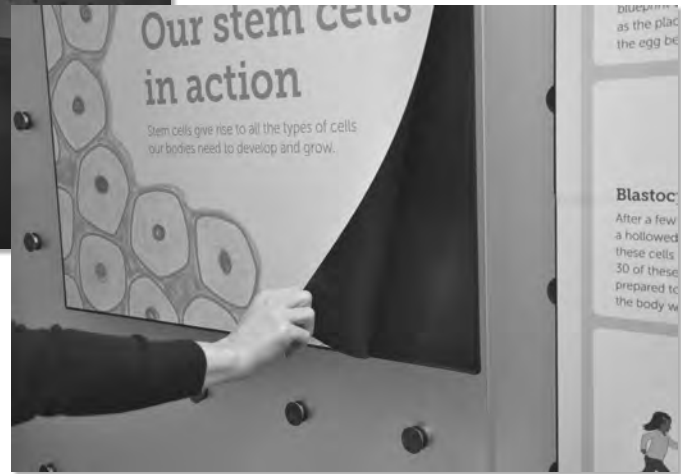


Fig. 4. Graphics are printed on magnetic vinyl and stick to standard-sized metal frames. Courtesy of Pacific Science Center

been able to incorporate much more extensive evaluation than we are normally capable of performing, which has helped us to refine the exhibitions we create and to incorporate visitor feedback.

Evaluation—and Our “Cohort”—Are Key

Each Studio exhibition is evaluated three times—before it is installed (front-end), during its development (formative), and after its run (summative).

After surveying visitors about potential topics, staff members choose the three most popular and then ensure that the topics are locally relevant. Once we find the best fit, we create an online survey for front-end evaluation. Using the web-based tool SurveyMonkey, we determine our past and current museum guests’ levels of literacy and curiosity about the topic as well as any preconceived notions they might bring to bear on it. The survey links are included in our free, weekly e-newsletter and shared on all our social media outlets. We start with demographic data and then ask, “What is the most recent thing you remember



Fig. 5. Our visitors help us refine each subsequent exhibition and exhibit component. The cohort has the added advantage of having seen past exhibitions and exhibit components. Courtesy of Pacific Science Center

reading or hearing about this topic?” and “What are the first two or three words that come to mind when you hear about this topic?” Then we ask respondents how curious they are about a topic, and, if they are curious, what questions they have about it. These findings help us design a space that quickly addresses what visitors already think and know so we can dedicate more space to explaining basic concepts and local research.

Once the exhibition has opened to the public, we conduct in-person interviews with visitors; we also track visitors’ movements and time spent in the exhibition. The most fruitful form of evaluation, however, is our quasi-longitudinal cohort study, which collects in-depth quantitative and qualitative

feedback from a small group of regularly visiting members.³ Working with this group allows us to garner a more consistent level of feedback and enables us to make concrete comparisons across specific exhibitions. Individuals and families that visit every exhibition can tell us exactly what has improved and what components still need work. This insight allows us to refine this exhibition model further, the ultimate goal of the grants funding this space.

To assemble this group, we created a detailed application, which we distributed through our e-newsletters and social media. To our great surprise, more than 300 family groups applied. We invited 50 groups to participate, and in the end 43 signed up. In exchange for volunteering a

Collectively called “the cohort,” these family groups visit the museum every six months—shortly after each exhibition opens.

considerable amount of time and travel, all participants were given complimentary museum memberships or renewals. Losing a few to nonparticipation or changing family priorities, we currently have 38 active member groups.

Collectively called “the cohort,” these family groups visit the museum every six months—shortly after each exhibition opens. They generally spend 20 to 25 minutes investigating The Studio and then meet with our in-house evaluator. Everyone in the group is invited to answer questions about their general level of satisfaction with and knowledge of the exhibition (such as, “What were the best parts of the exhibit for you?” and “What do you think the main take-away messages of this exhibit are?”) as well as more focused queries about specific elements (fig. 5). As we adapt and refine exhibit features in response to the cohort’s answers, we then ask if the changes have improved our exhibition. To be clear, this is not a focus group—evaluators meet with family groups for individual discussions. Cohort members take this job seriously, and both adults and children are genuine and candid with their critiques. These critiques inform the exhibition team during the next development process.

This ongoing experimentation helps us create better exhibitions and maximize the use of every component. For example, during the first few exhibitions, cohort members asked for something simple for their younger children to do in order to buy themselves a few minutes to explore the gallery. For *Building a New You?* we added a nine-piece puzzle on a low wooden stand. A narrow label on one side of the stand explained that the curious

image on the puzzle was an axolotl. When we asked the families about the puzzle, many were grateful for the addition but did not understand why an axolotl was in an exhibition about stem cells. They had missed the label explaining how axolotls can regrow their limbs with stem cells. During their interviews, when the evaluator drew attention to the label, the cohort offered suggestions for label placement that we hadn’t thought of; in the current exhibition, the label is embedded in the puzzle itself.

Another example of this collaboration involves the use of a 70-inch monitor in the space. For *Disease Detectives: West Nile Virus in Washington*, we created a show of six slides to serve as our exhibition introduction section—explaining the who, what, how, and why of West Nile Virus—instead of tying the monitor to an interactive or using it to play videos, which had been unsuccessful in the past. The changing slides attracted visitors to the space and were often the first thing people looked at, solving our “where to put the introductory text” debate. When they visited, cohort members told us that the slide show did catch their eye and attracted them to the space but that it was too long. With *Building a New You?* we tried using only three slides that introduced the three different content areas, but the cohort still felt the slides offered too much text. For *Food Allergies: Game On* we did not use the monitor, and we are excited to see how this changes how people move through the space.

A month after their visit to each exhibition, the cohort receives a follow-up survey. We ask the groups which aspects

This ongoing experimentation helps us create better exhibitions and maximize the use of every component.



Fig. 6. In our Portal to Current Research exhibition space, we experiment with what we have learned from the cohort. Courtesy of Pacific Science Center

of the exhibition were most important, whether they discussed the content after leaving, or if they did something to follow up on what they learned, such as seek more information online or watch a documentary. Posing broader questions than the in-person surveys, the postvisit surveys are used to gather feedback about the impact individual exhibitions are having on people. We ask the cohort, “Are there still elements that are particularly memorable?,” “How important were each of these exhibit elements?,” “Has anyone in your group talked about the theme or content presented in The Studio with friends, coworkers or amongst yourselves?” Their answers have given us a good sense of what information resonates with families and, upon reflection, which exhibit elements made their visit meaningful.

This comprehensive study enables us to create a space that not only changes every six months but also directly responds to the latest visitor feedback about that

space. During the run of *Building a New You?* cohort members stated that Pacific Science Center is “getting there.” While we still have tweaking to do, collaborating with our visitors in this manner has been invaluable. The visitors are teaching us what they want to know about, how they want to learn it, and how to invite them in so that they have an active opportunity to explore.

Applying Findings across the Museum

We have been able to apply what we have learned in our other rotating exhibition gallery, Portal to Current Research (P2CR). Another 500-square-foot current research exhibition space, content changes every six months, and it involves the same project team as The Studio. Using one team for both spaces makes it easy to discuss past successes, failures, and the best way to apply what we have learned (fig. 6). Some cohort recommendations, such as the preference for mechanical interactives over digital ones and an interest in videos that show scientists

We recognized that it was okay to stumble in these spaces—if something looked fabulous on paper but did not work in practice, it would be deinstalled in six months.

doing their work rather than talking about it, have been easy to address. Though P2CR is a classic gallery space without the change-ready hardware of The Studio, it is another stage where cohort feedback can be vetted yet again before it is filtered out to the main exhibit floor.

The next step for Pacific Science Center is to apply this visitor-centered approach to current science in our larger exhibition projects. There is a deep interest and commitment to include current science throughout our exhibition halls. It is our top priority as space becomes available.

Since its inception, The Studio has taken on a life of its own, functioning as a low-risk space for our exhibit developers to experiment with the complete exhibit process, not just prototyping parts—to stretch themselves and play with components in order to understand how to engage our visitors more effectively with often challenging topics. It is with this sense of experimentation in mind that we continue to revise both the physical layout of the exhibition as well as address cutting-edge exhibit topics. We recognized that it was okay to stumble in these spaces—if something looked fabulous on paper but did not work in practice, it would be deinstalled in six months. The nimble nature of The Studio has truly allowed us to address what our

visitors want from their museum exhibition—a relevant, interactive experience for them or their entire group. With our infinitely modular space and trusty cohort we are continuing to refine, to experiment, and to strive for an ever more engaging and informative exhibition. ✨

Endnotes:

¹Dennis Schatz, Senior Advisor at Pacific Science Center, was the Principle Investigator (PI) on this award.

²Both of these proposals were developed by Dr. Meena Selvakumar, former Acting Vice President for Strategic Programs at Pacific Science Center. Dr. Selvakumar wrote the proposals and served as PI on the IMLS NLG grant and the original PI on the NIH SEPA grant.

³Angie Ong of Spotlight Impact, formerly our in-house evaluation manager, and Scott Randol PhD, Informal STEM Strategist at the Oregon Museum of Science and Industry, formerly our external evaluator, developed the strategy for a quasi-longitudinal cohort project. It was then implemented by our in-house evaluator, Christina Cadenhead.