

**Aquarium of the Pacific
Ocean Science Center Remedial Evaluation**

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Center for Research, Evaluation, & Assessment
The Lawrence Hall of Science
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Introduction

A remedial evaluation of the Aquarium of the Pacific's Ocean Science Center was conducted the weekend of May 7th and 8th. The Ocean Science Center is slated to open to the public May 20th. The space houses a Science on a Sphere with integrated flat screens; the weekend of the data collection, the Sea Level Rise program was being presented. The goal of the evaluation was to gather preliminary data on the public's reaction to the globe, the effectiveness of the program to communicate intended messages and to identify any potential issues that could be remedied prior to the public opening.

Data Collection

Data was collected during 18 presentations of the Sea Level Rise Program over the course of two days. Half of these were facilitated, where an aquarium staff person provided an introduction and closing discussion. The other half were not facilitated; visitors were welcomed to the space, but given no additional information. Participants were recruited from the Great Hall; groups were asked if they would like to preview a new program being presented on the Sphere and told that they would be asked to complete a short survey following the program. For most of the presentations, a target of 3 to 5 family groups was sought. For one presentation, a general announcement was made in the Great Hall inviting everyone to join; for that presentation, there were 17 groups with a total of 45 individuals. During the presentations, observations were conducted of the group in general as well as of one focal group per presentation. Following the presentation, each group was given a paper survey to complete. Over 300 individuals attended the programs and a total of 92 surveys were collected.

Findings

General Experience

Observed behavior of the visitors was very consistent across all of the presentations. Most groups focused their attention on the globe or flat screens throughout the presentation. Only two groups were observed being distracted (texting, talking about un-related topics, etc.) during the presentation; none of the groups left during the presentation. Audiences were observed shifting their attention from the globe to the flat screens when interview or other clips were shown suggesting that the flat screens were well integrated with the globe and that visitors transitioned their attention between the two at appropriate times. Visitors typically aligned themselves with the flat screens upon entry, though two different patterns of positioning were noted. Most groups would cluster around the rail close to the globe, while others would line the walls. Which pattern occurred depending greatly on what the first groups entering the space did. Groups entering later followed the example of the early groups. This was also true for groups sitting on the floor. Groups who started close to the rail were almost always seen backing away as the program went on to a distance two to three meters away. The experience for visitors was a standard transmission model where information was provided with little input or interaction from the audience. Three groups were observed discussing images or topics on the globe during the presentation. Visitors rated their overall experience

very highly with a mean of 8.7 out of 10. Rating scores were similar across the different conditions. There were no significant differences between facilitated and unaffiliated or between the large and small groups.

The majority of visitors felt that the atmosphere in the space was good; that light and sound levels were appropriate. Three mentioned needing blinds or shades on the front windows to block light from the Great Hall. Two commented that the space was not appropriate for kids (“too dark for kids, kids were scared”) while one said the space was “not inviting”.

Approximately 36% of respondents stated that they spoke Spanish; of these, 31% said that the Spanish captioning was important to their group, 25% said the captioning was not important and the remaining did not comment. Several commented that the captions needed to be larger, while one saw only the English captioning and stated that there was no Spanish captioning.

Communicating Key Ideas

Visitors rated the presentation as very informative giving it a mean score of 8.8 out of 10. Like the overall rating, there were no significant differences across the different conditions. Most groups (73%) were able to identify at least one of the main messages of the program. Examples include: Sea Level Rise, Global Warming, Climate Change and the need to reduce dependence on fossil fuels. Of the remaining groups, 12 (13%) named a related, but often more general topic such as environmental awareness or energy conservation. Six of the groups (7%) listed something unrelated and seven groups left the answer blank. Disaggregating by presence of facilitator showed no difference between groups.

Overwhelmingly, visitors wanted to learn what they could do to help prevent or prepare for sea level rise. Of the 61 responses to the question “What else would you like to learn about this topic,” 29 (48%) wanted to know what they could do. Other responses included: what are the impacts on animals, when will the sea level rise occur, what will happen specifically to the local (Southern California) area, and what specifically will the impacts be (what does a 55 inch increase look like, how far will the water come in, what would the flooding look like). None of the visitors commented on any content-based aspect of the program that was confusing or frustrating. Most comments received in response to this prompt concerned issues that will be discussed later under Suggestions for Improvement. The two responses that were relevant to content stated that the program was “one-sided” and that there was too much “political preaching”.

Families with Children

Over half of the groups (58%) had children with them – consistent with information previously gathered by the Aquarium. Approximately 30% of groups had children under 7. Although in most cases children under 7 were observed getting restless or looking bored, none of them became disruptive during the presentation. Conversations with these families suggest that although the kids were not getting much from the presentation, that it was short and was stimulating enough to hold their interest for the time. Five respondents to the survey commented that the programming was not appropriate for kids, or suggested creating a program that was.

Suggestions for Improvement

The final question on the survey asked visitors to suggest ways to improve their experience; 58 responses were given. Overwhelmingly, visitors requested seating (38 of 58 responses, 66% of those who made suggestions, 42% of all groups). Other frequent responses included fixing the mismatch between the audio and video (7 responses), Bigger flat screens (8 responses) and positioning the screens/globe lower (5 responses). For the first three programs on the second day of observations, 20 seats were brought into the space; the remaining programs that day had 8 seats in two groups of four against the walls. None of the groups who attended presentations with 20 seats mentioned seating as an issue. The percentage of groups suggesting more seats was nearly the same for presentations with no seats and those with 8 seats.

Conclusions and Recommendations

Data collected suggest that the Ocean Science Center in general and the Sea Level Rise program in particular are functioning successfully and as designed. Visitors are very engaged in viewing the program and are able to identify the key messages. The flat screen and the clips shown on them are well integrated and visitors appear to have no problem transitioning their attention between the two at appropriate times. Light and sound levels are appropriate though blinds or curtains over the front windows would improve the situation (it is my understanding that this is already planned). Although most groups had no problem engaging with the program as a multi-media presentation, the space seemed unfamiliar to most visitors; they were not certain whether they should stand close or far away, to stand or to sit. Most groups were drawn to the globe and started near the rail, but backed away as it is difficult (and uncomfortable) to view the flat screens from the rail; likewise, the video segments on the globe are easier to view from a distance. The fact that many visitors stood close to the globe the whole time probably accounts for comments about lowering the globe or screens. Spanish captioning was important to about 10% of the groups; this percentage will likely increase when the space is open to the public as the method of recruitment may have favored English speaking audiences. Larger captions, and larger flat screens if possible, should be considered as should some indication of where Spanish captions will appear.

The Sea Level Rise program did an excellent job at helping people understand the importance and almost certain inevitability of rising water levels due to human influenced climate change. Nearly half wanted to know what they could do to help the situation. This sets the audience up for programming throughout the Aquarium designed to address actions people can take. More detailed information about Southern California and connections to wildlife would be prime topics for extension.

It is assumed that the discrepancy between the audio and video timing will be corrected. Also recommended would be to have the exact same images and clips showing on all of the screens. At several points during the program, different clips are visible on the English and Spanish captioned versions. This was distracting to some visitors and two mentioned that they moved around to see what they were missing. Another consideration regarding the video is alignment of the flat screens with the “seams” of the images projected onto the globe. It was observed early in the testing that people often positioned themselves under the flat screens, but that when the program was running, the “seams” between the globe quadrants appeared directly under the screens. Although the “seams” rotated slightly, they seemed to be under the flat screens more often than not. It is recommended that this be examined more closely to determine if indeed the “seams” are under the screens more than they are not, and whether a re-alignment could be made.

Seating was obviously an issue. On more than one occasion on the first day, elderly visitors were observed to be shifting around and visibly uncomfortable from standing. It is recommended that a small number of benches be installed for those who cannot stand for long periods of time (again, it is my understanding that this is planned).

There were no significant differences seen in any aspect of the survey or visitor behavior between the facilitated and non-facilitated versions of the show. Comments specific to the facilitated shows included: “there should be more than one speaker”, “less talking and more visuals” and “material was repetitive”. Although these comments are few and rather vague, it is recommended that the format for the facilitation be revised. Visitors did not appear to gain anything from the introduction to the technology of the Sphere, and the reiteration of concepts in the “outro” did not increase the numbers of groups who went away with key ideas. It is acknowledged that a more rigorous method of data collection and opportunities to probe visitors’ understanding of key ideas might reveal that there is a real difference between the groups and their levels of understanding. However, it is recommended that a less didactic approach be used to inspire

audiences to engage more deeply with the material, make it more relevant for them and serve as a conversation starter as opposed to a “lesson”.

I Although minor changes to the Ocean Science Center space could serve to improve the visitor experience and comfort, it is apparent from the data collected that the Ocean Science Center and Sea Level Rise program (both facilitated and non-facilitated) are well positioned to be successful and effective at the goal of helping visitors understand the very real threat of sea level rise and inspiring them to take action.