Sky Mosaic – Matching Task

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June 2004

THIS IS NOT A DEFINITIVE FINAL REPORT

FORMATIVE evaluation studies like this one often:

● are conducted quickly, which may mean
  ○ small sample sizes
  ○ expedited analyses
  ○ brief reports

● look at an earlier version of the exhibit/program, which may mean
  ○ a focus on problems and solutions, rather than successes
  ○ a change in form or title of the final exhibit/program
Outdoor Exploratorium – Formative Evaluation
Sky Mosaic – Matching Task

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PURPOSE
This study is the first of a set of ‘quick and dirty’ evaluation studies to test the concept and inform the development of a Sky Mosaic exhibit. The Sky Mosaic exhibit involves two activities:

• Matching – Visitors try to find the best color match for a patch of sky, choosing from a set of color swatches. The matching activity is meant to encourage visitors to notice the colors of the sky, more specifically that the sky is not just blue or grey and there are subtle differences in its shades and hues. We hope that this activity will help visitors see the sky differently.
• Building a shared mosaic – Visitors contribute their colors to a sky mosaic that is created by visitors over time throughout the day and throughout the year.

This study looks at only the first of the two activities. In particular, it gauges:

• Do visitors find the activity interesting? What about it is interesting?
• Do visitors find the activity frustrating? What about it is frustrating?
• Can visitors match the sky to the swatches of color and how do they do so?
• What questions do they have about this activity?

METHOD
• Visitors were recruited at the entrance of the museum, next to the Holes in a Wall exhibit.
• An evaluator asked visitors to pick the best match for the color of a patch of sky (shown in Figure 1) from a set of paint samples and to describe what they were doing.
• After the color matching exercise, visitors were asked a set of questions, given in Appendix A.
Figure 1. Patch of Sky

DATA
- N=14
- Adults
- 8 individuals, 5 adult pairs, 1 family

RESULTS
The following include examples of different types of comments visitors gave during their interviews to better illustrate the variety of visitor responses.

Interest
How interesting was the activity to visitors?

<table>
<thead>
<tr>
<th>Interest Rating</th>
<th>Count (out of 14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interesting</td>
<td>9</td>
</tr>
<tr>
<td>Somewhat interesting</td>
<td>2</td>
</tr>
<tr>
<td>Neutral</td>
<td>2</td>
</tr>
<tr>
<td>Somewhat not interesting</td>
<td>1</td>
</tr>
<tr>
<td>Not interesting</td>
<td>0</td>
</tr>
</tbody>
</table>
What did visitors find interesting

- It made them stop and think – 4 visitors (29%)
  
  Visitor2: It's challenging. A person could probably sit out here for hours. It's pretty neat, not super exciting. It makes you think, that's always a neat thing.
  
  Visitor1: What I learned is that there's nothing that matches nature. A lot come close, but none work. It's as if someone is going to put something - the idea that there's some things (colors) that evokes a response, Am I picking what I like versus what comes close. I could have picked one in 10 seconds and walked away if it was just which comes close. I think it's interesting that the picked something totally different. Are our eyes different? Was it because of where we're standing?

- It made them see things differently – 4 visitors (29%)
  
  Visitor11: It's very simple. It takes an element around was all the time, the sky, and asks the most simple question about it. But if you wanted to paint your wall the color of the sky you would have to do this with the paint chips.
  
  Visitor12: ... it makes me see all the colors of the sky different because you didn’t’ see them before. [Were you surprised at the color you chose?] Yes because I’d look at them and think they were right, but they were way off. If I was in the shade, my cones could be different if I was in the sun- everything would look bleached out (then).

- They enjoyed picking different colors – 2 visitors (14%)
  
  Visitor9: We’re so into color. We’ve been spending a lot of time painting the interior of our house. We spent oodles and oodles of time looking at cards like this. We comment on color combinations for hours. I think we’re unique in that respect. Color captures our attention. I think it’d be funny to see how widely varied the results are, the breakdown between people, like the difference between men and women and kids and adults.

- They love color - 2 visitors (14%)
  
  Visitor8: because I love color and she does too (talking about the young female).

- They liked participating and giving feedback – 1 visitor (7%)
  
  Visitor5: It’s always interesting to have someone ask for your opinion. Certainly being invited to participate in something [is nice].

What made the experience not interesting?

- A few (2, 14%) visitors indicated that the matching task was not interesting because they did not understand or appreciate the larger context.
  
  Visitor14: I don’t know why I was doing it.
What was frustrating

No right match - 4 visitors (29%)

Visitor7: The only frustration was really wanting to find an exact match.
Visitor14: I think there’s a wide range of colors but nothing really matched it [sky] exactly.

Too many choices - 2 visitors (14%)

Visitor1: I would limit the number of colors, but some of these. There are too many choices. Well none of these ranges (are usable), maybe around sunset, but. I would limit it.

Too many things to hold - 1 visitor (7%)

Visitor5: Just trying to hold too many things.

Visitors’ Questions

Purpose/Context - 5 visitors (36%)

Visitor1: What’s the purpose of this?
Visitor13: Why am I doing this? Are we trying to see whether the air is polluted or testing my color matching abilities?

Finding a match – why it’s difficult (Perception) - 6 visitors (43%)

Visitor1: What I learned is that there’s nothing that matches nature. A lot come close, but none work. It’s as if someone is going to put something - the idea that there’s some things (colors) that evokes a response, Am I picking what I like versus what comes close. I could have picked one in 10 seconds and walked away if it was just which comes close. I think it’s interesting that the picked something totally different. Are our eyes different? Was it because of where we’re standing?
Visitor4: I was wondering - the goal would be to find an exact match, if you held it up you wouldn’t be able to see it [the chip would disappear into the background of the sky]. Maybe this is some camouflage exhibit?
Visitor7: What the real color of the sky is.
Visitor8: How do other things surrounding where we are affect color?
Visitor11: Wondering if it is possible to match the sky. Its [color] depends on so many variables. That [sky] is light, and this is something flat. You realize that color is just your assumption.
Visitor9: I think it’d be funny to see how widely varied the results are, the breakdown between people, like the difference between men and women and kids and adults.

Physics - 2 visitors (14%)

Visitor7: Something that was going through my mind was that I was looking at something 3-D (sky) versus something flat. The sky has depth and these are flat.
Visitor9: Crossing my mind was how come the sky is blue? And questions I’ve heard on TV shows or from other people before. The physics of light is always interesting to me. It relates back to the theory of relativity and speed of light and time, the Doppler effect in sound and light. It’s an easy one to pick up on and think about—everyone’s heard horn sounds coming towards you and away.

Colors of the sky - 1 visitor (7%)

Visitor6: [Purpose] how many shades of blue are in the sky?

SUMMARY

• Most visitors (64% and 14%) found the matching exercise interesting or somewhat interesting. Their reasons for finding the experience interesting included: it made them stop and think, it encouraged them see things differently, they enjoyed looking at and picking colors, and they liked giving us feedback.

• A few (2) visitors felt that there was not enough explanation of how this exercise fits into a larger exhibit experience.

• Some visitors found the matching task challenging because they could not find the right match and because there were too many colors to pick from. At the same time, a few of these visitors mentioned that although challenging, the matching task helped them reflect on the range of colors the sky can have.

• Part of the purpose of this evaluation was to identify questions that the matching activity raised for visitors. We anticipate using these questions as starting points for developing the accompanying interpretation for this exhibit. We found that a large minority (43%) of visitors’ questions were about perception, such as: “How do other things surrounding where we are affect color?” and “I think it’d be funny to see how widely varied the results are, the breakdown between people…like the difference between men and women and kids and adults.” A smaller minority (14%) asked questions about the optics behind the color of the sky: “how come the sky is blue?”

NEXT STEPS

• The results of this study suggest that the sky matching activity can encourage visitors to stop and see something familiar differently and to reflect on the many colors of the sky and how we perceive color. At the same time, the task can be challenging and even frustrating for visitors. Although the challenge itself seems to prompt visitors to look closely at the sky, the exhibit, nonetheless, needs to both make the mechanics (e.g. holding the swatches) of matching easy but still preserve the challenge of the task.

• This study is the first of a multi-part study. The next quick-and-dirty evaluation will look at the second of the two tasks that make up the sky mosaic exhibit concept: Visitors’ adding their color swatch to a shared mosaic over the course of a day and over the course of months to generate a representation of the sky over time.
ACKNOWLEDGEMENTS
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APPENDIX A: Interview Questions

What I would like you to do is look at this patch of sky [point] and pick out the best match for the sky from these colors. And, I would like you to tell me how you are trying to match the color of the sky. So, pretend you’re describing what you’re doing to a friend of yours who has never done this before.

Remarks they made:

So, which did you pick as your best match? ____________________

1. In general, how interesting would you say that activity was to you? Would you say it was ...
   Uninteresting       Somewhat       Neutral       Somewhat       Interesting
   uninteresting       interesting

2. What made it ____________ for you?

3. Was there anything frustrating or difficult about matching the color of the sky?

4. Did you become curious about anything while you were matching the color of the sky? Were there any questions that popped into your head during any part of this experience?

5. Do you have any suggestions for improving this activity?