

Celebrating the Diversity of Maize (v.2): Formative Evaluation

Sylvia de la Piedra
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THIS IS **NOT** A DEFINITIVE FINAL REPORT

FORMATIVE evaluation studies like this one often:

- **are conducted quickly**, which may mean
 - small sample sizes
 - expedited analysis
 - brief reports
- **look at an earlier version** of the exhibit, which may mean
 - a focus on problems and solutions, rather than successes
 - a change in form or title of the final exhibit

Purpose

- To gauge visitors' interest in the exhibit
- To identify unanswered questions visitors may still have after using the exhibit
- To identify any potential usability issues

Exhibit description

- Table with four dry corncobs visitors can touch and a rotating wheel of compartments containing varieties of corn kernels visitors can view through a microEye microscope
- Label explaining Peruvian products made from corn, as well as the evolutionary history of corn

Photos



Methods

- Exhibit was evaluated on Latinx Engineering Day 2022 (September 25, 2022)
- Visitors were asked to participate using uncued recruitment after they had engaged with the exhibit
- Those who agreed to participate were led through a short series of interview questions about their experience

Selection criteria

- Visitor had not been recruited for another evaluation earlier that day (i.e. not wearing a sticker)
- If part of a group, the person recruited was the individual primarily interacting with the exhibit
- All participants had to be at least 8 years old
- Every participant had to be fluent in English and/or Spanish

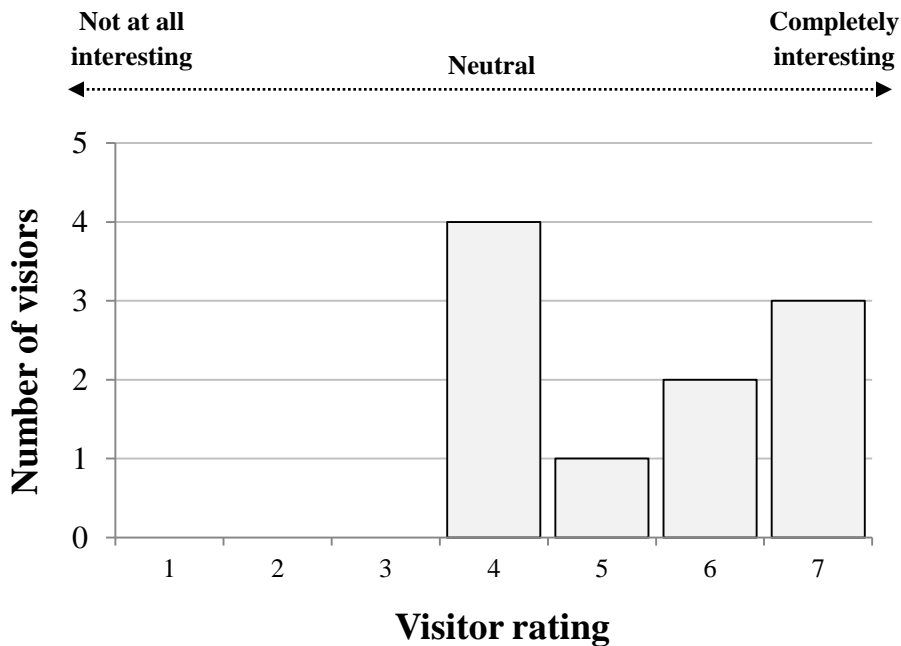
Results

Breakdown

- 10 visitors were interviewed
 - 1 of them came to the museum specifically for Latinx Engineering Day
- The median holding time was **1 minute and 33 seconds**

How interesting was it?

- Average interest rating: **5.4**



What worked well

4 visitors liked being able to touch the corn

- V01: I could touch to see how it feels.
- V06: These are cool, also (points at the touching cobs)
- V07: I like that we can touch (points at the cobs).
- V09: You can have a real feel (touches corn).

4 visitors liked seeing the corn kernels up close

- V01: I liked to look at the microscope on the screen, it looks much bigger.
- V04: I like the zoom and to see all the corns. I can't focus very well (Zoom is at max) not so easy to use.
- V09: Very good for y child he can interact and look at the corns in the microscope.
- V10: I like the Focus/Zoom, is good that we can change it and see it bigger.

4 visitors liked learning about the wide variety of corn that exists

- V05: Different corn types, that they are not all the same. There are 3 types for popcorn and other for tortillas.
- V06: Interesting to see the diversity of corn... in colors and shapes.
- V07: I liked the variety of corn. I didn't realized that there are so many. [...] I like how is organized by colors (points at the wheel) depending if it is for popcorn, flour...
- V08: I am a biologist, you should put the corn next to a potato, because both are from Peru. Very interesting to compare, it's amazing how different these varieties are (points at the wheel).

6 visitors liked learning about a plant with which they have a connection

- V01: I like to eat corn, that's what interested me.
- V02: I was looking at the flour corn, I recently learned that not all corn is gluten free. Yesterday I was cooking for a friend who eats gluten free and she told me that not all corn is gluten free.
- V03: I know it, but many people doesn't know that corn comes from Mexico. It originated in Michoacan, by a river. But is interesting to see that in Peru there is also corn. I was there and it has a different flavor is also a bigger corn. To see the structure of the seeds is very interesting.
- V08: The seed evolution: from the wild type (points at the wheel at the yellow group) to so many different varieties. This one is so big (points at the Peruvian Giant Corn) and these one so tiny (points to smallest ones).
- V09: I didn't know there are so many corns.
- V10: The diversity of corn, the different type. [...] I like how it's presented: the pictures and the ancestors of corn. The color wheel is very nice too

What needs improvement

3 visitors wanted more information about the corn varieties' countries of origin

- V03: No, but should compare corn in different countries. For example, some people think potatoes come from Europe, but not, or once someone talk about corn in Japan. We should spread the knowledge to

make understand what products come from where. So that people who don't have money can access the knowledge. Sometimes I feel there is an intention to confuse.

- V05: Would be good to know what countries all these corns come from because only in this one (points at Peruvian giant corn) it says that it comes from Peru. For the other ones, nothing.
- V06: I appreciate the names in different languages (points at the grain names in Maya, Nahuatl)

1 visitor was not sure whether they were allowed touch the corn

- V02: The touch of the different textures. I didn't know if I am supposed to touch this (points at the cobs) ... put my fingers here inside (points at the smaller cob).

1 visitor was frustrated by the usability of the MicroEye

- V05: The zoom/focus of the microscope. First, I thought it was not working because I could not see well (zoom or focus was not sharp).

1 visitor expressed some of the corn categories had names that were unclear

- V10: No. I don't know what "Dent Corn" means and also "Flint Corn" would be good to know what it means.

1 visitor thought the label included too much text

- V10: No time to read all the text, but is good that is bilingual.

What visitors thought the exhibit was about

8 visitors felt it was clear what the exhibit was about

6 visitors interpreted the exhibit was about the vast variety of corn and corn products

- V01: Different types of corn from different countries to make different foods.
- V05: The different varieties and what they do with them, like tamales. But the most obvious, like tortilla is not here. I didn't know they also do drinks with it.
- V06: all the different variations of a type of food and all the different foods you can make with it.
- V07: Diversity of corn. Different uses show there is a lot more.
- V08: I mean, it's a staple food. And there are so many varieties.
- V09: Nature, intuitive experience, different varieties of corn.

2 visitors interpreted the exhibit was about the ancestry and evolution of corn

- V04: I think it tries to show the corn. I learned that the ancestor was... "I can't read this name" (points at Teosinte) and what it says here (points at the exhibit text).
- V10: Evolution of corn. The ancestor that is called "Teosinte" and how is it used in South America. The colors are nice, I like the wheel with so many colors.

2 visitors felt it was not clear what the exhibit was about

- V02: I didn't totally understand the goal of the exhibit. I only see the different corns, that's it.
- V03: For me it's only information about corn but focused only on one country. Which doesn't feel right in my opinion. I think it should compare different corn from different countries. I am from El Salvador.

Questions that remained for visitors

2 visitors wondered where the different types of corn are found

- V07: Yes, where can you find all these types of corn, in what countries can you find it.
- V08: corn is originally from Mexico, how come you put Peru here? This is my question.

2 visitors were curious about the taste of the different corn varieties and corn products

- V06: No, I wonder how it tastes. It all looks so good.
- V07: Makes you want to try all these types of foods (points at the pictures).

1 visitor wanted to know whether the corn kernels displayed would actually grow if planted

- V08: Are these viable? (points at some seeds) can I cultivate them? They are dry now but could I cultivate them?

Visitors' familiarity with the exhibit content

6 visitors stated they felt a sense of familiarity with the exhibit content

4 mentioned eating corn in general

- V03: Yes, we eat corn in El Salvador, also Loroco, is a flower. Many people only know the bad things about a country but not their contribution.
- V05: Maiz, si, porque utilizamos en casa.
- V06: Yes, some look like things I had before, some are really different.
- V07: Growing up at the Bay Area, I ate Tamales sometimes. It reminds me of that.

4 mentioned eating popcorn

- V04: popcorn, is the only one.
- V09: Popcorn is familiar. Black Dakota is a new one for me. The ancestor of corn (reads Teosinte).

Takeaways

- Visitors liked learning about a wide variety of corn eaten around the world
- Most visitors already had some connection with corn in their lives
- Visitors enjoyed seeing the corn up close under the microEye
- Visitors were curious to try some of the corn products mentioned in the label
- Visitors liked being able to touch some of the corn
 - But some visitors could not reach into the bottom hole in the Plexiglas to touch the corn
- Visitors liked spinning the wheel but some had too much fun with it but without otherwise engaging with the exhibit
- Some visitors found some of the category names confusing (e.g. flint corn, dent corn)
- Some visitors were confused why Peru in particular was highlighted

Future design considerations

- Continue to offer visitors the opportunity to touch the corn, but consider widening the smallest hole
- Consider slowing down the turn speed of the corn wheel or having it stop at each compartment
- If possible, diversify which countries the corn is sourced from and include those countries in the label
- Consider elaborating on and/or clarifying the names of some of the corn categories (e.g. flint corn, dent corn, flour corn), including what they mean, what those corn types are used for, and where the names come from
- Consider adding photos of products produce from the corn in each of the compartments (e.g. Dakota black popcorn, products made from flour corn, etc.)
- On occasion, consider having tastings of some of the corn products mentioned in the label