

Transforming Object-Based Learning Experiences

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At The Children’s Museum of Indianapolis, we have been experimenting with and implementing various strategies to encourage family learning. Our goals are to encourage adults and children to participate together in conversations about museum exhibitions; to connect those ideas and objects to past experiences; and to spark or inspire ongoing interest in the content. Towards that end, staff members have developed goals for each area of practice in exhibitions, programs, and even collections to integrate these family-learning objectives.¹

In 2013 we introduced the Family Learning Object Rating Evaluation System (FLORES). Developed at The Children’s Museum of Indianapolis, it is part of our ongoing effort to determine the best strategies for selecting, displaying, and interpreting a museum’s collection for family audiences. In this article, we describe how FLORES is used by designers, curators, and exhibit developers when planning exhibitions to create a more compelling experience for everyone. We also provide examples of its application in three very different temporary exhibitions: *Pirates and Princesses: Storybook Adventures!*, *National Geographic Sacred Journeys*, and *Terra Cotta Warriors: The Emperor’s Painted Army*.

1 Susan Foutz and Claire Thoma Emmons, “Application and Adaptation of an Institutional Learning Framework,” *Journal of Museum Education* 42, no. 2 (2017): 179–189.

Using FLORES has proven useful in helping us face the challenge of connecting family audiences to a very broad collection that includes natural history, American history, popular culture, art, and world cultures objects (and certainly not a typical collection for a children’s museum). The biggest question we face is figuring out what makes these objects important for the audience and which ones will bring about the greatest opportunities for family learning. These goals in turn support the museum’s overall mission to create extraordinary experiences that have the power to transform the lives of families. In order for our team to create these deeper family-learning opportunities with our collections, we had to transform both what we saw as the role of objects in the exhibition and how to get our visitors talking about and become more involved with the objects on display.

Creating a Process to Rate Objects

We built FLORES as a collaboration between the museum’s collections, exhibit development, and audience research departments and the museum studies program at Indiana University-Purdue University Indianapolis. The tool allows staff to rate artifacts across a wide range of criteria. Our early work clarified how objects and environments interact within an exhibition

The Family Learning Object Rating Evaluation System (FLORES) Rating Categories and Factors

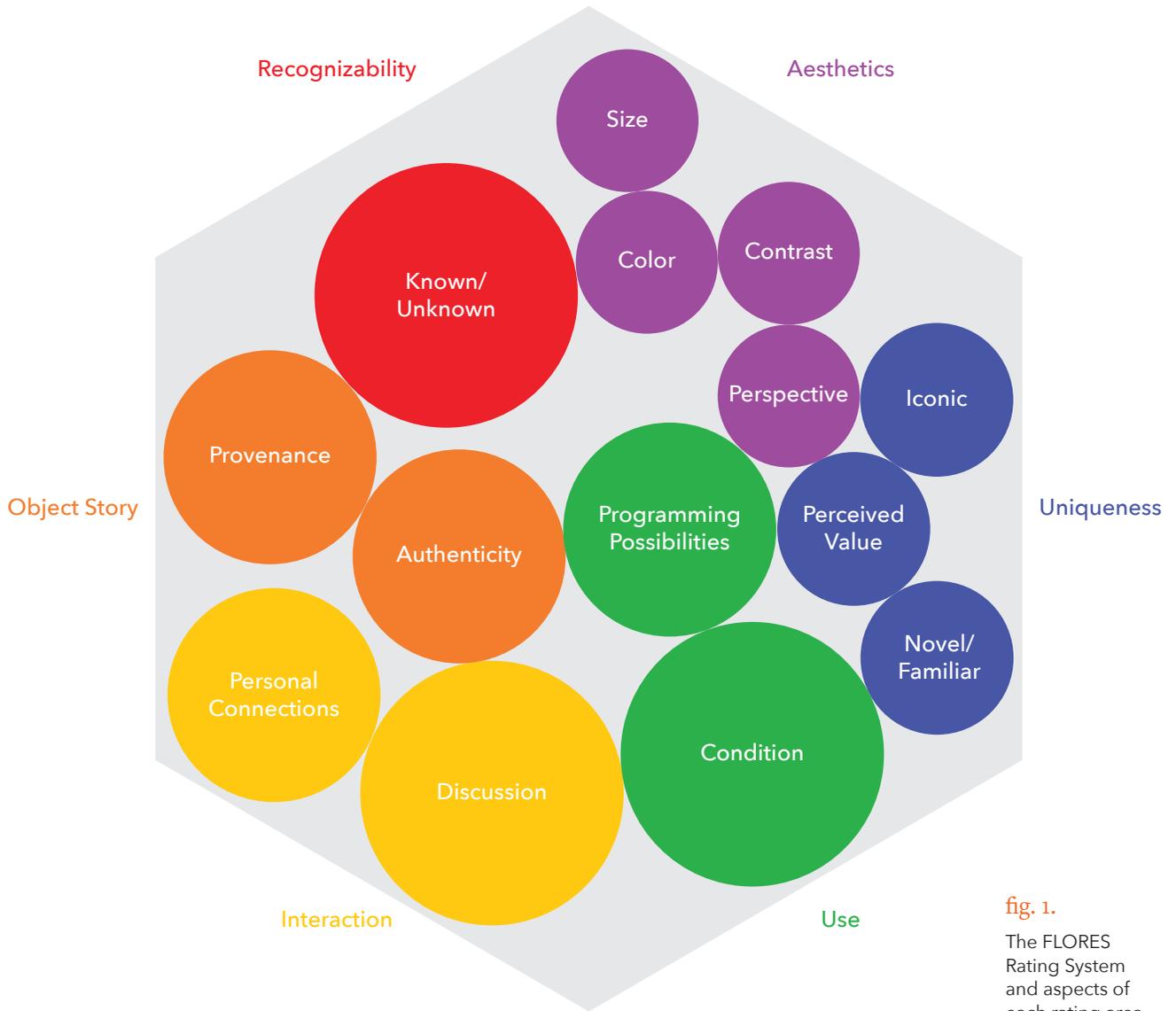


fig. 1.
The FLORES Rating System and aspects of each rating area.

space by discussing characteristics that successfully communicate messages to visitors. FLORES goes one step further. It draws upon a wide range of literature, including information on exhibition design, features of objects, attracting power, and psychosocial perspectives. It comprises six measures, each rated on a seven-point scale of object qualities, including

aesthetics, condition, provenance, and ease of identification (fig. 1).

The scale includes a series of transactive qualities, such as the potential for generating discussion, a compelling story, and generational appeal. We developed the tool by prototyping and pilot testing objects and rating categories with our audiences. By

working collaboratively and across many perspectives, we refined the six measures to weigh both object qualities and visitor behaviors, creating a score that can determine the extent to which visitors might be attracted to an object. When we start new projects, members of the team review object lists together to be sure that scoring and interpretation of the measures are consistent. Ultimately, though, we use the tool to stimulate conversation for the team to determine what is included in an exhibition.

The six measures of FLORES include:

- *Recognizable.* The object is something that we believe a family audience (e.g. an adult and at least one child under the age of 12) would be familiar with, or is readily identifiable by its basic size and shape, and that does not require specific expertise in a content area.
- *Compelling.* The object has a unique story or personal connection that gives it a sense of credibility or authenticity, or has a cultural or historic significance.

fig. 2.
Crosley television set, 1940s.



- *Promotes discussion.* Visitors are able to make a personal or social connection with the object that elicits conversation.
- *Is viable for display.* While more of an internal measure, this factor is important for object selection by collections staff. Is it stable and safe for display in an exhibit context?
- *Unique or rare.* The notion that the object is special enough to be on display in a museum, i.e., it is not something that you would readily see every day.
- *Aesthetics.* The object has a high degree of sensory elements, such as color, texture, smell, or has design elements that draw the eye.

When compiled, the final “score” for each object guides the exhibition team in their use and treatment of the objects in the collection within the overall design and interpretation. The FLORES system has also been used by curators to evaluate potential acquisitions, as a predictive measure of how successful an object might be for family learning. As a result of using this system, we have been able to increase the time that visitors spend looking at and discussing objects on display.² We have been experimenting with how to use the object ratings to track visitor attention and interest with different objects in the exhibition. As timing and tracking of visitors through exhibitions is a primary way of measuring interest we have begun to match time spent at an object display with the strength of an object score to see if higher

² For the full explanation of our testing and prototyping process, see Elizabeth Wood, Alysha Zemanek, Laura Weiss, and Christian G. Carron, “Growing FLORES for the Museum,” *Collections: A Journal for Museums and Archives Professionals* 12, no. 1 (2016): 7–22.

rated items also relate to more time spent at an exhibit display.

Using FLORES in Planning

As we worked through multiple iterations of testing and prototyping, we came to learn that using these criteria for object selection allowed us to better understand how to think differently about and integrate the objects into the overall design and interpretation of an exhibition. We noticed that the interplay between different criteria affected how visitors might interpret an object. For example, something like a 1940s television set (fig. 2) was equally as recognizable to visitors as a cute animal-shaped cookie jar, but the cookie jar was far too ordinary to be remarkable to visitors and didn't generate much interest. The TV set fared much better because the opportunities for visitors to make a personal connection (or share a memory) and generating group conversation were much higher due to the age of the object or its perceived uniqueness.

Similarly, aesthetics almost always helped an object score higher, which suggested a better overall attraction for visitors. However, a shiny red turtle pull toy (fig. 3) ultimately fared less well than an intricate folk art sculpture about a family's history. Here, the nature of the sculpture provided significant opportunities for discussion, was unique, and was clear to families what it represented. The turtle toy, on the other hand, proved to be hard to recognize beyond its turtle shape. There was limited opportunity for it to start a conversation.

As we built our experience in using the tool for different purposes, we began to experiment with how we designed and



developed exhibitions. We looked at the inherent strengths and the potential gaps that each object presented in terms of family learning potential. In several instances, we changed a plan for an exhibit component based on how well an object scored and tested with visitors.

Pirates and Princesses: Context Matters

The exhibition *Pirates and Princesses: Storybook Adventures!* included immersive environments that promoted role-playing and storytelling around pirates and fairy tales.³ It was more typical of non-collecting children's museum exhibitions, in that it was focused on experiences rather than on object displays. Throughout the exhibition, the team included objects from our world cultures collection along with examples from popular culture to augment the storytelling and interpretation of pirates and princesses in literature and movies. Early visitor testing of proposed objects using FLORES revealed that several lower scoring items were found to be less compelling on their own and need to be placed into greater context with other like items to tell a story.

For example, many of our visitors were unfamiliar with one object in particular, a silver ingot. For it to be effective, instead of displaying it as a stand-alone object in the case as originally planned, the exhibition

fig. 3.
Turtle pull toy.

3 A temporary exhibition open from January 2016 to February 2017.

fig. 4.

Silver ingot on display in *Pirates and Princesses*.



team developed a model around the ingot to help visitors make sense of what it was. Inside the display case, the team placed the ingot on one side of a mock scale, and balanced it on the other side by bags containing more than 1,000 replica pieces of eight (Spanish coins). This display helped to convey the ingot’s weight and value at a glance (fig. 4). Visitors most surely would have overlooked the ingot alone, and its significance, without the surrounding content providing contextual value.

Terra Cotta Warriors: The Wow Factor

In presenting *Terra Cotta Warriors: The Emperor’s Painted Army*, we faced the challenge of creating a family-friendly exhibition of world-renowned and conceptually complicated cultural objects.⁴ While the life sized Terra Cotta Warrior figures from Xi’an, China already offered a compelling story and reflected a significant “unique” quality, we were faced with how to generate conversation between adults and children regarding the objects. Since early market testing had shown that many potential visitors were unfamiliar with the Terra Cotta Warriors, we knew that we could not rely upon familiarity with the

4 A temporary exhibition open from May to November 2014.

story to stimulate meaningful discussion. With few interactive experiences planned, the exhibition focused visitor attention on the objects. To build opportunities for discussion, we turned to the notion of the gateway or “wow” object to carefully choose objects that would score high on our FLORES measures including strong aesthetic elements and easily recognizable objects for children.⁵ We selected the most recognizable objects and those that visitors might have seen through *National Geographic* or *Smithsonian Magazine* – human-sized figures, faces, and animals – to aid in recognition for children. We then built on the objects’ aesthetic qualities to draw attention to their uniqueness.

Our exhibition evaluation demonstrated that we were able to compel visitors to stay longer with objects as compared to previous object displays (from 51 to 61 seconds per object, nearly double that of our baseline measures in other object-specific displays in other exhibitions at our museum). When observing visitor groups (both those with children and adult-only) at these objects, 89 percent demonstrated a behavior indicative of “close looking,” such as leaning in to get a closer look, looking at the object from multiple sides of the case, and pointing at the object; 60 percent had at least one person read the label; and 50 percent had a conversation. Furthermore, groups with children talked to each other significantly more often than groups without children (fig. 5). The team was surprised and excited by the findings that indicated that visitors were engaging with objects in more in-depth ways than just time spent in the exhibition.

5 David Francis, Steve Slack, and Claire Edwards, “An Evaluation of Object-Centered Approaches to Interpretation at the British Museum,” in *Museum Gallery Interpretation and Material Culture*, ed. Juliette Fritsch (New York: Routledge, 2011), 153–164.



fig. 5. Families demonstrating close-looking behaviors at kneeling archer in Terra Cotta Warriors: The Emperor's Painted Army.

Each of the warriors has a unique face
Look at the stern expression of the Kneeling Archer.

**National Geographic Sacred Journeys:
Up Close and Personal**

Most recently, we experimented with FLORES for *National Geographic Sacred Journeys*.⁶ This traveling exhibition, created in-house and drawing on object loans from around the world, explored world religions with the goal of fostering awareness of cultural diversity and respect for religious traditions. Using the lens of pilgrimage and travel to sacred places, it focused on five historic sites and the “extraordinary artifacts” that connect people to religious experiences. It was more adult focused and had few interactive components, not unlike the Terra Cotta Warriors exhibition.

Based on our initial rating process of the objects using FLORES (fig. 6), we developed strategies to build stronger connections between the objects and the visitor through specific design-based choices.⁷ For example, with a replica Shroud of Turin, we placed the artifact at eye level and labeled key features for visitors to investigate. Observations as

part of the exhibition evaluation found that the Shroud had an extremely long stay time compared to other objects in the exhibition and in the museum (87 seconds on average) and also sparked conversations between visitors. We obtained an authentic touchable portion of the Western Wall from Jerusalem (fig. 7) and as hoped, visitors took the opportunity to physically connect with this object; 94 percent of groups who stopped at the Western Wall block were observed touching it.

As part of our mission to support and create opportunities for family learning, we want to encourage more visitors to talk about, and become involved with, the objects featured in our exhibitions. As an institution, we had experience evaluating our success in exhibitions by measuring awareness of content and messages, observations of family behaviors at interactive exhibits, and the meaning made from the experience. However, our existing evaluation did not measure family learning with regard to the objects on exhibit. When it came to developing strategies for family learning as part of collections and object displays, we sought to build our own understanding of the meaning and potential that each object has to contribute to that overall learning objective. In each of the examples above, our goal was

6 On display at The Children’s Museum of Indianapolis from August 2015 to February 2016.

7 See Christian G. Carron, Susan Foutz, and Melissa Pederson, “Religion in Museums for Families with Children,” in *Religion in Museums: Global and Interdisciplinary Perspectives*, ed. Gretchen Buggeln, Crispin Paine, and S. Brent Plate (London: Bloomsbury Publishing, 2017), 197–204.

fig. 6.

An example of the FLORES rating for some of the objects used in *Sacred Journeys*.

FLORES Testing-Sacred Journeys							
Object	1-recognizeable	2-object story	3- interaction	4-display	5-unique	6-aesthetic	Score
Dead Sea Scroll-Deut	2	7	4	5	7	1	62.84
Q’uran	7	4	4	7	4	3	68.54
Shroud of Turin	3	7	7	7	4	3	73.9
Ganesh	5	4	4	7	4	7	74.26
Potato Planting	4	5	5	7	4	7	76.76
Mezuzah	4	7	4	7	6	4	77.12
Western Wall	4	7	4	7	6	4	77.12
Kiswah/Mecca	4	7	4	7	5	6	79.62
Gutenberg Bible	5	7	5	7	6	4	81.4
Dalai Lama Throne	4	7	6	7	4	7	83.9



fig. 7.
Families interacting with a reproduction segment of the Western Wall in *National Geographic Sacred Journeys*.

to use the FLORES system to help planning teams understand more fully how visitors would react to certain objects and their potential to spark conversations about the objects. Using the tool also helped teams to think about the degree to which they felt the object worked to tell the story of each exhibition.

Our work has led designers and exhibit developers to look carefully at each object and consider how it could be used within the context of the exhibition beyond a simple case display. Thinking carefully about visitor interaction with objects in an exhibition has helped us increase the potential connections and learning value of those objects. Building on this knowledge ultimately enhances the meaning of the visitor's overall museum experience.

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