## THE BIG IMPACT OF BIG JOHN: Measuring Family Engagement in Exhibit Design Pam Hillestad, Nina Dreiling, Megan Kirby, PhD, Lauren Colombo A GLAZER CHILDREN'S MUSEUM STUDY

## INTRODUCTION

During the COVID-19 pandemic, Team GCM centered its focus on family learning and engagement, a focus that seemed particularly timely, both for the new way we saw families experiencing the museum and the new ways in which we wanted to support them.

As part of a partnership with the University of South Florida's Department of Child and Family Studies, we began the development of a Museum Family Engagement Tool in the spring of 2022. By the fall of 2022, when the opportunity presented itself to create a dinosaur exhibit centered on Big John, the largest Triceratops yet discovered, we felt prepared to ask ourselves:



Can we design an exhibit that intentionally encourages family engagement more than the existing style of exhibits in children's museums encourages family engagement?

## PURPOSE OF STUDY

As an institution that centers and understands play & learning for children, we feel we are uniquely positioned to build exhibits that take into account the different ways that both adults and children learn and find the areas that bring the two together. If we can show a connection between design and extending family engagement, we feel that future work in this area will allow us to pinpoint and share methods for designing exhibits that center intergenerational learning.



Hypothesis: If we intentionally design the Big John exhibit to foster family engagement and measure the level of family engagement in both Big John and another exhibit created to foster family engagement in traditional ways, we will find that our more intentional design practices in Big John will yield higher family engagement scores.

## EXHIBIT DESIGN PROCESS



### **Opened January 2023**

The Pop Up Play exhibit was designed using universal design principles to encourage play and provide opportunities for caregivers to observe and interact with children in a setting designed for high-quality educational play. It includes:

- Playful, intuitive elements without a need for signage
- Child-sized seating areas where adults may sit to join in play and adult-sized seating set apart where adults still observe and interact with their children
- Interactives designed to stimulate the innate play of an individual child or children
- Nonlinear design of the space, no organized method for experiencing the exhibit
- Exhibit elements designed for the self-directed play of children



**Opened May 2023** 

These areas include:

- Playful elements near reader rails that encourage children to play while giving caregivers time to stop and read Adult seating areas that immerse caregivers
- from the play
- Playful elements designed to be more enjoyable if engaged in by the family unit Linear experience – entrance and exit so guests move through the space in a specific manner,
- encouraging families to stay together Exhibit elements designed for multigenerational learning – interesting material and play for all ages



# Glazer Children's MISEIIM

- The design process of the Big John the Triceratops exhibit included multiple discussions about creating focus areas particularly designed to encourage family engagement.
- in play rather than creating a space apart

## located at the Glazer Children's Museum in Downtown Tampa.



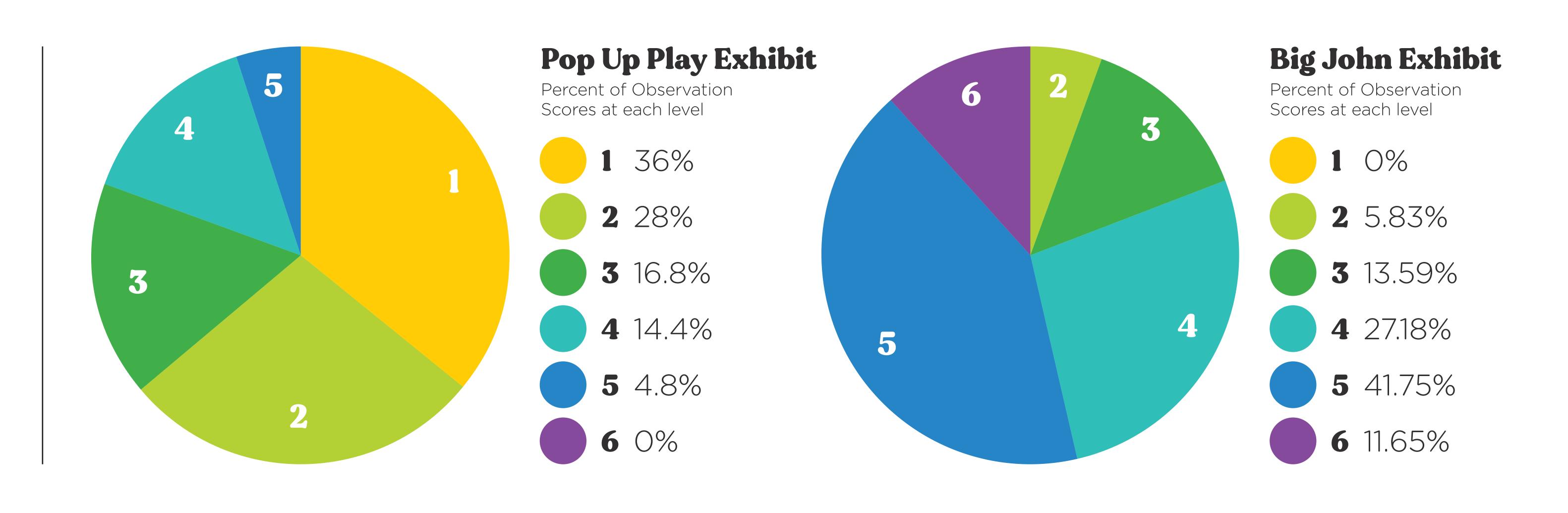
Random dyads were selected upon entering each exhibit. Observers recorded basic demographic information and then collected a time sample observation using 30-second timers. Four trained Museum staff collected 228 observations across both settings (reliability collected across 13% of all observations; item-by-item inter-rater reliability: 74.5% agreement; avg. difference: 0.97 points). Data was collected between February 14-September 19, **2023**. Overall, observations included a total of 228 adults and 228 children; Pop Up Play participants: 17 adult males, 108 adult females | Big John the Triceratops: 20 adult males, 83 adult females.

### **Observations:**

At 30 second intervals, observers recorded what each child and caregiver were actively engaged in. Scores ranged from 1-6, with 6 being the highest level of play and learning, one in which the caregiver and child are actively engaged together.

### **Observation Scores:**

- 1 does not attend to child 2 separate but observing
- **3** follows child around
- **4** gives directions to child (close or far)
- **5** models, points, or explains to initiate
- **6** plays with child (back and forth)





In this study, we discovered that the family engagement scores in Big John the Triceratops were much higher overall. A comparison of family engagement scores shows that Big John the Triceratops fostered a higher level of family engagement than Pop Up Play. While 53% of families observed in Big John the Triceratops scored in the top third of the family engagement scale, only 5% of families observed in Pop Up Play scored in the top third of the family engagement scale.

Additionally, the average engagement score in Big John the Triceratops was 4.39, while the average engagement score in Pop Up Play was 2.26. Our preliminary results do show that there were higher family engagement scores but do not necessarily show that it was our exhibit design process that contributed to the scores. There are other possibilities, like *Dinosaurs! Cool!* 





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## METHOD

Using version 3 of our Museum Family Engagement Tool (Kirby, Hillestad, & Spencer, 2023), we measured family engagement in two recently opened exhibits: Pop Up Play, located at the Children's Board Family Resource Center in Plant City & Big John the Triceratops,

## RESULTS

## DISCUSSION

## **Future Research**

Conduct a component analysis for the Big John exhibit to identify features and activities correlated with the highest engagement scores and intentionally generalize such effects to other Museum exhibits.

Interested in helping us develop this tool? Visit GlazerMuseum.org/ASTCBigJohn