

# Imagine Children's Museum Evaluation Project

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Imagine Children's Museum Outside, photo taken by Yanyue on May 8, 2024

## Project Introduction

This evaluation project conducted a comprehensive evaluation of 3 to 12 years old children's engagement with both new and old exhibits at the museum, focused primarily on dwell time, type of activity and engagement levels.



## Goals and Outcomes

- Main Goal:** This project aimed to identify the strengths and weaknesses of exhibit design and layout, and compared the evaluation results with the museum's educational framework, and provided improvement suggestions to help the museum optimize the interactive experience of the exhibits, enhanced their educational impact, and improved exhibition planning.
- Target Audience:** The museum's exhibition planning staff.

## Project Deliverables

- Evaluation Tools and Methods:** The project developed tools for recording and assessing children's engagement.
- Engagement Analysis Report:** A detailed report analyzing children's engagement with both new and old exhibits, including data visualization. The report covered dwell time, depth of interaction, points of interest, and evaluated the strengths and weaknesses of different exhibits according to these measures.
- Exhibit Improvement Suggestions:** Compared the evaluation results with the target outcomes in the learning framework, and provided specific improvement suggestions to help the museum enhance the museum's interactive experience and exhibition effectiveness. This may include layout adjustments, optimization of interactive elements, and enhancement of educational content.

## Imagine Children's Museum

Imagine Children's Museum is a leading interactive museum dedicated to inspiring children's creativity, curiosity, and learning through play.

Located in Everett, Washington, the museum offers a variety of hands-on exhibits and educational programs that engage young learners and foster their cognitive, social, and emotional development. The museum continuously innovates to enhance visitor experiences and create an inclusive and enriching environment for children of all ages.

## Key Work Phases

### Project Planning and Design (Fall 2024)

- With the support of the thesis committee and museum stakeholders, the final evaluation plan and key assessment areas were determined.
- Five primary evaluation areas were identified: Piccolo Restaurant, Treehouse, Train, Fishing Pond, and Distribution Center.
- A combination of structured and unstructured observation methods was selected structured and unstructured observation methods to record children's engagement levels, dwell time, and activity types.
- Observation tools were designed, including an engagement evaluation form.
- A trial run was conducted of the data collection tools to refine and optimize the data collection strategy.

### Data Collection and Adjustment (Winter 2025)

- The formal data collection process was launched, conducting on-site observations and recordings in the five target exhibit areas.
- In each data collection session, 5-6 children aged 3-12 were observed per exhibit area, with a goal of collecting 50 data samples per area, totaling 250 data samples.
- Adjusted the observation plan based on initial data collection results to improve data accuracy and efficiency.
- Close communication was maintained with the museum team to ensure smooth project execution and address any challenges encountered during on-site observations.

## Conclusion and Reflection

### Key Research Findings:

- Children's engagement depends on exhibit complexity and interactivity—more engaging structures lead to longer dwell time.
- Parental involvement boosts participation, while crowded spaces may reduce engagement quality.
- Unclear instructions in some exhibits limit children's use of interactive features.
- Different exhibits support varied engagement types, such as observation, self-expression, exploration, or collaboration.

### Major Outcomes:

- Through quantitative and qualitative analysis, distinct engagement patterns of children across different exhibit areas were identified.
- Based on the research findings, practical recommendations were proposed for optimizing exhibit layouts, enhancing interactive experiences, and improving the educational value of exhibit content.
- A sustainable evaluation framework was established, enabling the museum to continuously monitor exhibit effectiveness in the future.

### Reflection:

- This project showed that on-site observation is an effective way to understand how children interact with exhibits, but it cannot fully reveal their thoughts and feelings. Adding interviews could provide deeper insights. However, due to limited human resources, interviews were not feasible for this project.
- Overall, The experience also helped me recognize the importance of collaboration between museum staff and researchers. Only by integrating scientific research with practical museum operations can we ensure that exhibits continue to enhance both interactivity and educational value.

## References

- Andre, L., Durksen, T. L., & Volman, M. L. L. (2017). Museums as avenues of learning for children: A decade of research. *Learning Environments Research*, 20(1), 47-76. <https://doi.org/10.1007/s10984-016-9222-9>
- Barriault, C. (1998). The science centre learning experience: A visitor-based framework (Unpublished master's thesis). University of Glamorgan, Cardiff, Wales.
- Barriault, C., & Pearson, D. (2010). Assessing exhibits for learning in science centers: A practical tool. *Visitor Studies*, 13(1), 90-106. <https://doi.org/10.1080/10645571003618794>
- Falk, J. H., & Dierking, L. D. (2016). *The museum experience revisited*. Routledge.

UNIVERSITY of WASHINGTON Imagine Children's Museum Observation Form Date: \_\_\_\_\_

Child No. \_\_\_\_\_ Original site:  Piccolo Restaurant  Treehouse  Train  Crowding Level \_\_\_\_\_

Observation Area:  New side  Fishing Pond  Distribution Center  Zone:  Mid  High

Child Age:  3-5  6-8  9-12 Child Gender:  Male  Female Group composition:  Adults  Children

Exit time: \_\_\_\_\_ min

Duration: \_\_\_\_\_ min

Reason to stop the activity: \_\_\_\_\_

Adult Engagement: \_\_\_\_\_

Supportive Behavior: Activity supports the child's participation through words or actions. (10分)

Assisting Behavior: Directly helps the child complete the activity (e.g. demonstrating). (10分)

Disrupting Behavior: Interrupts the child's sustained participation (distraction or age level). (1分)

Accompanying Behavior: Plays or interacts with the child without interfering. (1分)

Overall Interaction Index: 1 2 3 4 5

No.	Type of behavior	Behavior Description	(0-10)	(1-10)	Not Observed
1	Free play without completing the activity	自由玩耍，没有完成活动。			
2	Using the activity	参与/使用活动。 探索/尝试以操作该活动，应用其功能。 探索/尝试使用功能，部分探索/使用功能。			
3	Partially completing the activity	参与/使用活动/部分完成。			
4	Observing others interact	观察他人互动。 观察他人互动/观察他人互动。			
5	Reporting Activity	报告 2-3 分钟，说明所需的材料/说明该活动的功能。 报告 2-3 分钟，说明所需的材料。 报告 2-3 分钟。			
6	Expressing Positive Emotions	表达积极的情绪。 表达积极的情绪。 表达积极的情绪。			
7	Sharing/Seeking Information	与他人分享信息。 与他人分享信息/与他人分享信息。			
8	Engaging/Involved	参与/投入。 参与/投入。 参与/投入。			
9	Lack of Confidence	缺乏信心。 缺乏信心/缺乏信心。			
10	Disruptive Frustration	破坏性沮丧。 破坏性沮丧。 破坏性沮丧。			
11	Rule Deviation	规则偏离。 规则偏离。 规则偏离。			
12	Disturbed Attention	注意力分散。 注意力分散。 注意力分散。			

Observation form, created by Yanyue.