

LOOKING CLOSELY: A VISITOR BEHAVIOR RESEARCH PROGRAM

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One facet of the Kellogg Demonstration Project conducted at the Children's Museum of Indianapolis was the direct involvement of museum staff in the instrument design and data collection for evaluation of the Museum's new "Mysteries in History" exhibit. The vast amount of data collected by staff tracking several hundred visitors through an exhibit with 58 different elements demanded an efficient means of collapsing and summarizing data. So, a second facet of the project was to develop a computer software package to assist with data collection and analysis.

Dr. Barbara Wolf, as project consultant for research/evaluation, worked with Linda (Nikki) Black, Exhibits Planning Director at the Museum, and Scott Mantie, Micro Systems Analysis in Bloomington, Indiana, to develop the content and format of the program. As Wolf noted in her final project report, "The rationale for [the program] was based on the common reality that, for data to be collected by staff in a museum context, it is usually necessary for persons to take time from their assigned responsibilities in order to observe, record and summarize their individual findings. The development of a software program was seen as a potentially viable tool for a cost-effective and time-saving strategy that would have utility for any museum desirous of expanding its evaluation activities with the most effective use of personnel possible."

Questions which guided the initial software development included:

- How many stops occur during a visit in the gallery?
- What is the relationship between the length of visit and the number of stops?
- Where do visitors stop and how long do they spend at each stop?
- How do different categories of visitors spend their time in the gallery?
- Which are the most and least frequently visited exhibit elements?
- Are there correlations between age and length of time spent in the gallery?

- What are visitors doing when they stop at an exhibit element? Button pushing? Engaged with the exhibit? Other?
- Do visitors tend to complete the exhibit activities they begin?

By developing a prototype program and using it with actual visitor tracking data, staff were able to suggest modifications and additions. One important factor which emerged during the modification stage was recording whether visitors were first-time or repeat visitors to the gallery. Other changes were made as the "Mysteries in History" evaluation progressed.

The present version of Looking Closely is designed to be used in any type of museum, as well as in zoos and similar settings. Generic data collection forms have been developed for use in any context where people move from one object or activity to another, either randomly or sequentially. The program records data for up to sixty-four elements within an exhibit, can categorize visitors into six different groups, and can record information for 25 subjects within each of the six groups. The program is designed for use on IBM personal computers.

Specific data recorded included:

- Area of the museum
- Observer and observation number
- Repeat or first-time visitor
- Day of week; entry and exit time from gallery; length of visit
- Category of visitor observed
- Exhibit elements looked at or stopped at (for each element where visitors stop, the information recorded is: total time stopped; activity abandoned of own volition; activity abandoned because of someone else; button pushing behavior)

Looking Closely has been used at the Children's Museum since 1986 in the evaluation of major exhibit halls. It provides the first open-ended look at visitor behavior during each major evaluation project by documenting where visitors are going and what they are doing. Rank ordering of exhibit elements by time spent and by number of people stopped shows both gallery focal points and underutilized elements. Identification of button-pushing behavior alerts staff to potential design problems as does knowing that many visitors abandon an element of their own volition. Looking at the order in which visitors look and stop at exhibit elements provides information about flow patterns. Combining this information with some of the rank ordering information indicates whether

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certain parts of an exhibit are habitually missed.

This open-ended look at visitor behavior is followed by other strategies developed during the "Mysteries in History" evaluation project. These include in-depth interviews to determine whether visitors perceive the overall gallery concepts, observations and interviews focused on the behavioral objectives for each exhibit activity, documentation of adult-child and child-child interactions, label reading behavior, and finally, more open-ended tracking to confirm the validity of the initial tracking data.

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USING CHILDREN IN EXHIBIT EVALUATION

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Although our institute grew out of the Nashville Children's Museum, the Cumberland Science Museum is technically not a children's museum; it is a family science museum, with something for every age. However, the majority of visitors are families with young children, so when the Museum decided to embark upon an evaluation of its "Brain" exhibit, staff chose to interview children as well as adults.

METHOD

For purposes of evaluation, staff selected children ages eight to thirteen because children of this age group were assumed to be old enough to investigate the exhibits on their own. The purpose of the evaluation was to determine whether or not the "Brain" exhibit was communicating its objectives; that is, were visitors understanding what the exhibit was trying to explain? Briefly, the process was this: the exhibit was made up of sixteen components and as each of the components was studied, staff wrote a measureable objective for it. (Ideally, this is done before any design work is started, but staff did not have that advantage in this case). Staff then wrote one or two questions that might elicit the objective as answer, if a visitor used the

whole exhibit (i.e., read the labels and engaged in the activity correctly). Staff asked visitors the questions before they looked at the exhibit, to get an idea of how much information about the subject visitors already had and asked them again, after looking at the exhibit, to see if viewing the exhibit changed the original answer.

After determining how many visitors improved their answers following contact with the exhibit, the evaluation team (which consisted of the exhibit curator, graphic artist, health educator, and evaluator) analyzed weaknesses suggested by the brief study and thought of ways to strengthen the exhibit's power of communication. Changes to copy and graphics were made and the exhibit was re-tested. Thirty visitors were interviewed per test (15 adults and 15 children) with an objective of 70% of visitors reporting each of the components of the exhibit to be clear.

For the most part, staff did not make any special concessions to the children interviewed. Often, they were asked the same questions as adults. The evaluator would, however, embellish a question by explaining more, going more slowly or repeat herself before a child would answer. The use of open-ended questions in interview was found to not be very effective because many children were shy when asked to participate. For this reason, staff moved to multiple choice questions for children. While these choices relegated visitors to certain specific answers, they could still be an effective measure of what a child knows. Staff have also considered multiple choice questions in the form of pictures for use with children under age eight.

After the initial interview, staff observed whether or not visitors were using the exhibit correctly. School groups were good for observing children's reactions to and use of exhibits, but staff found it difficult to conduct even brief interviews with children on field trips. They were excited to have a day away from school and were generally less cooperative than children on the weekends who were visiting with their parents. Other tips for interviewing children fell into the realm of common sense: putting oneself physically on the child's level, acting friendly and non-threatening, thanking them genuinely for their assistance. Staff usually got the children to participate by asking them if they wanted to help for a minute by testing an exhibit. Staff did not give any gifts to the children who helped because the interviews were short (no longer than five

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