

# The Museum Impact and Evaluation Study: A Study of Relationships

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## Overview

The Museum Impact and Evaluation Study is a research collaborative, originated by the Museum of Science and Industry in Chicago, and made up of nine museums from across the country: Museum of Science and Industry (Chicago); Carnegie Science Center (Pittsburgh); Chicago Academy of Sciences; Children's Museum (Indianapolis); Discovery Place (Charlotte, NC); Field Museum (Chicago); Franklin Institute Science Museum (Philadelphia); New York Hall of Science (Corona, NY); Reuben Fleet Science Center (San Diego). It is funded by the Joyce Foundation of Chicago and began in January, 1990. The study will be completed in June of 1992.

The intent of the study from the start was to reach toward understanding the long-term outcomes of museum visits. While our primary interest was "latent" cognitive learning (i.e., the learning that is assimilated by visitors and used later in ways not planned for or suspected by either museum educators or the visitors themselves), we felt that the gateway to understanding latency was to first understand the long-term affective relationships which are evident in some of our museums. The intent of the study was to be largely exploratory in nature.

Although originally we were interested in the "impacts" that museums have on their visitors, through our discussions we soon came to the conclusion that we were interested in more than just what museums do to people. We were really interested in the relationships that develop *between* visitors and museums and exhibits within museums over time. We turned our attention to the many and varied outcomes of museum visits including the two-way communication and relationships that develop over time, among and between museums, exhibits and visitors.

## The Scope of This Study

We can describe many different types of effects museums have on their visitors including acquisition of facts, development of attitudes, sensory experiences, latent learning, and the formation of relationships. Some of these (such as sensory experiences or the acquisition of facts) are more

immediate in nature, while others take a longer period of time to develop. These longer-term effects tend to also remain with the individual for a longer time (such as latent learning, attitude development, or the formation of relationships). One way to think about museum outcomes is demonstrated in Figure 1.

The Museum Impact and Evaluation Study is examining the cell labeled "long-term affective." Our interest in this particular cell is that by understanding the relationships people develop over time, we begin to develop the conceptual framework for understanding the cell labeled "long-term cognitive."

Through our discussions, we identified four questions to form the framework for our study:

1. What kinds of relationships are formed?
2. How do they form?
3. How are relationships remembered, represented, stored, described?
4. How are they sustained, maintained?

The other main thrust of this study was to examine ways of *measuring* the impacts museums have on their visitors. We soon discovered that this approach was somewhat limiting for some of the types of results we were seeking. With this study we were interested in the nature or quality of the visitor experience. We opted for developing ways of "assessing" or "understanding" the effects museums have on their visitors.

In exploring ways of assessing museum outcomes, we were interested in some specific criteria:

1. Variety was important. In order to make some statements about techniques that work and those that don't, it was important that a number of different types of methodologies were employed.
2. We wanted to stay away from "achievement test" type of measurement. We believe that achievement tests do an excellent job of measuring the more immediate cognitive outcomes of a museum visit. This study however is interested in long-term outcomes, such as latent learning, and (more directly) long-term affective outcomes. It became clear that achievement test methodologies were not appropriate for studying long-term affective relationships.
3. We wanted to use a range of at least three types of data collection techniques to include: (a) fairly traditional and well-established evaluation methods (such as paper-and-pencil attitude surveys). We felt these methodologies were important for validating other parts of the study; (b) narrative methods which have been used elsewhere. We wanted insight into their

- applicability to our questions; and (c) innovative evaluation methods (such as having visitors photograph exhibits that were particularly interesting to them). Exploring new evaluation options was an important goal of the study.
4. We were also interested in using a variety of analysis techniques, some quantitative (for example, the Rasch probabilistic model and content analysis), some qualitative (inductive constant comparative categorization), and some, a combination of both.
  5. Finally, we wanted to explore a variety of experimental designs and paradigms (e.g., large-sample generalizable studies and small sample more in-depth studies that yield richer understandings of specific phenomenon.)

### The Research Process

The general process that we used to investigate the issue of long-term relationships was to form a research collaborative with the nine participating museums identified above. We agreed early on that the most useful way of proceeding would be to develop a common theme or focus for the project, but that each institution would propose a separate research study to address the issue in a way that would prove useful for that institution. This was important to us because we wanted the results to be practical and applied rather than purely academic. While we saw the strength of this approach to conducting research, we were also concerned that we not end up with nine separate and independent studies that solved or addressed local concerns but did little to address the central theme as a whole. For this reason, a significant amount of energy was spent establishing and maintaining "cross-links" between the various institutions. This was achieved in a number of different ways:

1. A full-time project manager was hired to coordinate the various research agendas and travel among the sites as appropriate.
2. Institutions were encouraged to work in sub-groups formed by the sharing of a common interest.
3. There were a series of intense two- and three-day conferences throughout the length of the study where representatives and researchers from all the sites were brought together in a central location to discuss their studies and debate important issues. Although the original plan called for four such conferences, this was increased to seven because of the importance of cross-linking.
4. A pool of researchers was hired to work among the various sites and help shape the research directions and methodologies.

5. All institutions were encouraged to communicate via telephone, fax, and mail, and to visit one another's sites when possible. An electronic mail network was also established to aid communication.

## **The Project Plan**

At the beginning of the project a Project Plan was developed which specified four phases (see Figure 2). Although the phases overlapped significantly, each one had a specific purpose and specified outcome. A description of each of these phases follows:

### **Phase One - Definition**

January, 1990 to October, 1990

During this phase the participants developed the research agenda, defined the research questions and developed preliminary research designs.

### **Phase Two - Pilot Studies**

September, 1990 to February, 1991

Pilot studies were conducted to test out the research concepts and methodologies.

### **Phase Three - Full Studies**

November, 1990 - November, 1991

The complete research studies were conducted based on the results of the pilot studies.

### **Phase Four - Reporting**

August, 1990 - June, 1992

The results of the study are to be shared with the museum community.

## **The Current Status**

At present we are in the process of examining the data and writing the preliminary reports. At a recent conference in September, 1991 each site presented the first reports of their data. Over the next few months we will further refine the conceptual links and collect more data as appropriate. A sixth conference will be held in Indianapolis in February for each site to present their final analyses. Write-up of the complete study will occur during the spring of 1992. In the meantime publication and presentation of the study is on-going.

## **In Conclusion**

With this study we are particularly excited about the new areas that we are exploring. We anticipate that the results will begin to lay a foundation

for understanding in more depth the long-term outcomes of museum visits. Already we appear to be uncovering new and exciting areas as well as confirming some things that have (up until now) been assumptions among the museum community. We hope that this study will open up new areas for understanding and investigating the museum experience.

Figure 1

**Outcomes of Museum Visits**

	COGNITIVE	AFFECTIVE
Short-term	Facts Information Misconceptions Etc.	Interests Fun Frustration Etc.
Long-term	Latency Motivation Mis-learning Etc.	Beliefs Attitudes Relationships Etc.

Figure 2  
Museum Impact and Evaluation Study  
Project Plan

