Visitor Studies 101: Evaluating Impact and Understanding Audiences

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Visitor Studies

Visitor studies are social science inquiries that use empirical or other **systematic** methods to collect, analyze, and interpret information about visitors to either

- 1) add to general information and theory (**research**) or
- 2) to inform decisions in specific situations (**evaluation**).
Museum Visitor Studies

- **Basic Research**
  - Generates and Tests Theories
  - Learning styles
  - Social interactions
  - Gender differences
  - Effect on community
  - Cultural differences
  - Emotive responses
  - Learning

- **Evaluation**
  - Determines Successes and Shortcomings
  - Visitor experiences
  - Visitor understanding
  - Exhibition layout
  - Interpretive method
  - Design of components
  - Effect on community
  - Learning

- **Market Research**
  - Identifies Market Segments
  - Demographics
  - Psychographics
  - Target audience
  - Community attitude
  - Non-visitors
  - Satisfaction

Graphic from Randi Korn
Basic Phases of Evaluation

Front-end: used at earliest planning stage to find out what potential audience knows about your subject and their interest level

Formative: during development phase to test ideas and prototypes with target audience

Remedial: before opening, to fix weaknesses

Summative: after opening, impact on visitors
## Evaluation for Program & Exhibition Development

### Development Phase

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- **1. Planning**:
  - Revisions
  - Goals and Objectives

- **2. Preparation**:
  - Revisions
  - Final Design

- **3. Post-Installation**:
  - Revisions
  - Responsible Program

Graphic from Randi Korn
Front-end or background study

• What does the audience bring
  – Prior knowledge to build on
  – Misconceptions to address

• Methods
  – Qualitative: group or individual depth interviews
  – Quantitative: survey, questionnaire

• Guides development of project goals and objectives
  – What you will do
  – For whom
  – Proposed impacts
ISE Audiences tend to be...

• Well educated generalists
• In a study at AMNH
  – 5% felt very well informed about new scientific discoveries
  – 55% feel moderately well informed
  – 40% feel poorly informed about new scientific discoveries
Dinosaurs Exhibition

• How interested are visitors really?
• Do they know about recent research?
  – In fossil analysis
  – In laboratory technologies
• What do teachers need to help them meet science curriculum standards?
Formative evaluation

• Most important, least formal methodology
  – Can be systematic or “quick and dirty”

• Test your assumptions: explanatory text (exhibit labels), learning technology, graphics
  – What do users think it means?
  – Do they know what to do?
  – Does it match what you intended?
  – If not, there’s still time to change it!
Remedial evaluation

• After the program is finished, tweak & improve

• Remedial evaluation requires:
  – Money set aside for evaluation and potential retrofitting
  – Ability to admit to making mistakes
Summative Evaluation: Impact

• Once the exhibition or program is up and running: has it accomplished its goals?
• What is the impact on the target audience?
• May be required by funding organizations
“Evaluation” can be threatening

- It doesn’t mean you are *judging* or being judged (is program good or bad?)
- It *does* mean you are thinking about your program’s impact on the audience/user during all phases of program development
- Front-end, formative and remedial evaluation means summative will bring few surprises
- Thinking evaluatively leads to better programs
In-House vs. External Evaluator

• In-house advantage
  – Familiar with culture of team or organization
  – Familiar with project subject

• External advantage
  – Objectivity
  – Independence from producers
  – Required by federal agencies (e.g., NSF)
Outcomes-Based Planning & Evaluation

• A systematic way to plan a program and to measure if it has achieved its goals.

• STEM impacts to measure*:
  – Awareness, knowledge, understanding
  – Engagement or interest
  – Attitude
  – Behavior
  – Skills
  – Other

* “Framework for Evaluating Impacts of Informal Science Education Projects”
Logic Model

A planning and evaluation tool that helps:

– Identify specific individuals or groups (target audience) with a defined need

– Decide on clear program benefits (outcomes) to meet that need

– Design program services to reach that audience and achieve the desired outcomes

– Develop ways to measure those program benefits (indicators)
Logic Model

- Visual representation of project rationale
- A roadmap for assessing program implementation and impact
  - Inputs
  - Activities
  - Outputs
  - Outcomes
  - Strategic impact
Example of Project Logic Model: *How Science and Engineering Drive Hybrid Vehicles*

**Inputs**
- NSF
- Grant recipient
- Collaborators and consultants
- Other stakeholders

**Activities**
- Use of podcasts in a 5-month museum exhibit entitled *How Science and Engineering Drive Hybrid Vehicles*
- Professional development seminars on how to integrate podcasts into a science museum exhibit

**Outputs**
- Number of visitors to museum exhibit on hybrid engines
- Number of treatment group visitors who report accessing the podcast
- Number of participants in professional development seminars

**Outcomes**
- Visitors will demonstrate increased knowledge about hybrid engines
- Visitors will seek out additional information about hybrid vehicles
- Visitors will share information about hybrid technology with others
- Visitors will investigate the feasibility of purchasing a car that relies on hybrid technology
- Participants will be able to describe the benefits of using podcasts to enhance the experiences of museum visitors
- Participants will incorporate podcasts into their own museum exhibits

**Strategic impacts**
- The project will document the benefits and practical issues of using podcasts to impart information
- The project will increase the number of museum exhibits nationwide that make use of podcasts
Experimental Methodology

- Randomized Control Trials (RCT)
- Randomized post-only design
- Using comparisons
- When comparison not possible:
  - Exhibit’s main idea
  - Connection between TV program and self
  - Professionals remembering an experience
  - Self-reporting new knowledge
Naturalistic Methodology

• In-depth interviews
• Focus groups
• Tracking and timing
• “Think out loud”
• Concept maps
Methods

• Quantitative
  – Surveys, questionnaires, tracking and timing
• Qualitative
  – Group or individual in-depth interviews
• Mixed method design
• Systematic samples, verifiable data
ISE Audiences Are Diverse

• Impact reports should be inclusive
  – Demographics (age, disability, language)
  – Prior knowledge and interests
  – Experiences may not be linear, predictable

• Sampling
  – Random (representing potential audience)
  – Purposive (targeting segments of public)

• Report negative findings (no impact)
Ethical Treatment of Respondents

• Purpose of study
  – How data will be used & by whom

• Anonymity & confidentiality
  – Permission to interview kids
  – Written release for photos & video

• Institutional Review Boards (IRB)
Data Analysis and Report Writing

• Statistical and database applications
• Content analysis of qualitative data
• Best if evaluator is part planning process
• Evaluation is one piece of your report to funder