30th Annual Visitor Studies Association Conference

July 18-22, 2017
Columbus, Ohio

New Pathways in Visitor Studies

Abstracts

Visitor Studies Association

Visitor Studies Association | 2017 Conference Abstracts

Introduction

Welcome to the 2017 Visitor Studies Association Annual Conference Abstracts! The Abstracts serve as a preview of the vibrant conversations that will take place this year in Columbus as we explore future pathways in visitors studies. The Abstracts also serve an important role in recording the conversations for the future and pervious Conference Abstracts are available online at http://www.visitorstudies.org/past-conferences.

The 2017 VSA Conference Abstracts were compiled by Valerie Grabski.

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Concurrent Sessions | 10:15-11:30 AM

Exploring and Examining Art Museum Multi-visit Program Evaluation

Elizabeth Bolander, *Director of Research and Evaluation, Cleveland Museum of Art*
Michelle Grohe, *Assistant Curator of Education and School Programs, Isabella Stewart Gardner Museum*

Purpose

This panel presentation will provide an in-depth look at two art museum case studies of multi-visit programs representing different ends of the Pre-K to high school spectrum and focus on how project-specific research can spark broader conversations about evaluation institution-wide.

Abstract

The first evaluation project focuses on the results of a longitudinal case study of the Isabella Stewart Gardner Museum's School Partnership Program with Edward M. Kennedy Academy for Health Careers. Over four years, high school teachers in English, History and World Languages were trained to lead regular open-ended group discussions with works of art in their classroom using the Visual Thinking Strategies (VTS) method. Classes visited the Gardner 2-4 times a year, resulting in 35 lessons with works of art over 4 years. Gardner educators collaborated with a research consultant to measure the program impact on students' aesthetic development, critical thinking skills, and comfort with visual art and art museums over time by collecting baseline pre-Partnership interviews, writing samples, and questionnaires, as well as repeating the data collection annually for post-data analysis. Colleagues also worked collaboratively to design an interactive retrospective pretest for students to reflect on the changes in their learning, comfort in art museums, and interest in visual art. Insights from this rare longitudinal study of in-school learning with high schoolers through a multiple-visit art museum program will be shared, including how the annual data collection and analysis, as well as reflective practice impacted the program design and refinement over time, and how the Gardner is now applying this research to a museum-wide evaluation plan to study the visitor experience.

The second evaluation project highlights the results of an evaluation of the Cleveland Museum of Art's PNC Grow Up Great StART SmART early childhood learning program. Over the course of a year, preschool classes visit the museum four times and teachers participate in in-depth professional development. Each field trip focused on a specific word or concept (i.e. sculpture, portrait, etc.) and incorporated different activities. Working in partnership with the museum's Education and Academic Affairs team, the Research and Evaluation staff developed a study to examine the effects of this program through a combination of pre- and post-surveys and video analysis. The strengths and challenges of this kind of large-scale study – the first of its kind attempted by the institution to date – will be discussed as well as how this project has sparked other discussions about evaluating school and family programs.

Thursday, July 20, 2017

Importance

Multi-visit evaluations, particularly in art museums, are not as commonly done due to the fact that they are very time and resource intensive. Seeing two projects with different types of students and methodologies provides a robust lens upon which to examine these types of programs in art museums and other informal learning environments. Most importantly, each project has sparked changes in practice that affected both museums and their approaches to evaluation.

Beyond Excellent: The Overall Experience Rating

Panelists

Andrew Pekarik, *Freer|Sackler Gallery, Smithsonian Institution*
Kerry DiGiacomo, *Director of Audience Research, Philadelphia Museum of Art*
Hannah Ridenour, Research *Specialist, Cleveland Museum of Art*
Nick Visscher, *Audience Research & Evaluation Manager, Denver Zoo*

Purpose

Audience will be introduced to the Overall Experience Rating (OER), a question for museums that may be used as a key performance indicator to assess visitor satisfaction and experience. The measure has distinct differences from other commonly used satisfaction measures. Advantages of using the Overall Experience Rating will be discussed along with case studies from institutions that have found OER to be useful in practice.

Abstract

For some time now museums have been concerned with the need to establish reliable and useful performance indicators, especially to measure the responses of audiences. Such performance measures are part of a research domain generally referred to as Customer Satisfaction. This session discusses one measure of satisfaction that has been used by the Smithsonian for over 13 years, the Overall Experience Rating (OER).

OER is one simple question: “Please rate your overall experience at this [program/exhibition/museum] today.” The response scale is: Poor Fair Good Excellent Superior.

OER has two main advantages over other such indicators. First, the question captures unconscious, spontaneous value from the visitor perspective, because it asks about overall experience and provides a fully labeled scale on which respondents can accurately map their feelings. Second, the response scale identifies the respondents who are most excited, because there is a rating above Excellent. Analysis can then explore how these most enthusiastic individuals differ from other respondents in background or behavior. In this way the organization can not only know how it is doing on average, but can also gain valuable information about how to do better. Data from experiments with the scale at the Denver Zoo will be used to clarify how the scale works and why it is particularly useful. This panel of OER evangelists will discuss three institutional cases where the measure has been used effectively to measure varying aspects of the visitor experience.

Institutional Case Studies:

In FY13, the Philadelphia Museum of Art initiated an online post-visit experience survey to gather feedback about visitor services, member services, security, facilities, retail, and dining. Items were designed around a 5-point scale: poor, fair, good, very good, and excellent. Excellent ratings proved too common to spur staff and departments to experiment, innovate, or strive for improvement. OER was added in FY15 and the scale was applied to all elements of service. Quarterly meetings now include constructive discussions about areas for improvement (less than excellent) and recent changes contributing to increased superior ratings

The Cleveland Museum of Art uses OER to evaluate various aspects of the museum visitor experience. Since 2014, the CMA has used the OER scale to measure expected and realized experiences of several major special exhibitions. Including OER on both entrance and exit surveys allows the CMA to understand the baseline expectations of its visitors as well as how those expectations compare to the actual experiences of its exhibition visitors. Through comparing these ratings with other survey data, such as membership status and visitation frequency, OER reveals significant insights regarding the mindset of the CMA's visitors

In 2016, Denver Zoo began to use OER. across many evaluation efforts (including ongoing exit surveys, programs/events, exhibits). The Zoo has also adopted the OER response scale as a measure of visitor perception of quality for animal care (Perceived Animal Care Rating). The experiences for which this measure has been used, including a pre and post exhibit renovation will be shared.

Importance

For the museum, visitors are a key stakeholder group and their quality of experience is likely to influence their willingness to provide support. At the industry level, all museums benefit when customers find their museum experiences meaningful and enjoyable. From an individual perspective, high quality museum experiences are likely to support better life outcomes and a feeling of personal enrichment. Using useful, and accessible, measures of experience quality is imperative to understanding the visitor experience and allowing institutions to set performance goals and make decisions.

Multi-Site Evaluations: Evaluation Capacity Building and Mutually Beneficial Partnerships

Ryan Auster, *Museum of Science Boston*
Sarah Cohn, *Aurora Consulting*
Jen Gathings, *Karen Peterman Consulting*
Gretchen Haupt, *Science Museum of Minnesota*

Purpose

Panelists will offer three examples of mutually beneficial evaluations (Building with Biology, COVES, and EvalFest) that included building evaluation capacity at participating sites by training local staff and volunteers to assist with data collection. Giving partner institutions better insight into their programs and practices, along with tools for data-driven decision-making in their own organization, creates an opportunity to develop an internal evaluation culture. In creating strong communities of practice, research teams can also learn about their processes and instruments through critical feedback from partners.

Along with hearing the findings of each project, session participants can also expect to learn about different ways local staff/volunteers were supported as part of a multi-site evaluation, and how this ensures data collected were comparable across sites. Panelists will also share take-away lessons from each project and explore ways to make evaluation capacity building from a multi-site evaluation mutually beneficial for all organizations involved.

Abstract

After a short introduction of each project and presenter, panelists will summarize the multi-site project they are involved in (including methods, lessons, learned, and relevant findings). The moderator will facilitate a Q&A discussion, opening the conversation up to session participants. The session will conclude with a summary of the group's conclusions and key ideas and a formal exchange of contact information for those interested in future project collaborations or follow up conversations.

Project Presentations

Building with Biology falls under the NISE Net umbrella. It is part of a 3-year NSF AISL grant dedicated to developing resources, practices and processes to build the capacity of the field to use public engagement with science (PES) and develop a kit of hands-on activities and programs.

A subset of 2016- 2016-kit recipients were invited to participate in evaluation activities around Building with Biology events and public forums. These sites received online evaluation training and support from an Evaluation Team member, a kit of evaluation materials, and a report summarizing the data they collected. Evaluation resources were also freely available on the project's website, and training webinars and related presentations were made available via the NISE network website to provide support for sites who did not participate in the formal project evaluation.

The evaluation capacity building effort trained data collectors at 64 sites across the country and collected 1,403 paper surveys.

The Collaboration for Ongoing Visitor Experience Studies (*COVES*) unites science centers in a common effort to better understand visitors and their experiences within and across institutions. COVES is now in its third year of an IMLS grant and has connected 19 institutions across the country in systematic visitor-level data collection. To date, over 4,800 surveys have been collected representing over 15,000 museum visitors.

Recognizing that small science centers make up the majority of ASTC partners, COVES has purposefully partnered with several smaller organizations to focus explicitly on evaluation capacity building – leveraging capacity where it exists to build it where it does not – particularly in terms of expertise in designing data collection instruments, analyzing and reporting on data, and working within a multi-institutional group. Additional resources continue to be developed to support all sites.

EvalFest is a five-year project with funding from NSF AISL to explore whether and how a community-created multi-site evaluation adds value to what we can learn through science festival evaluations. The project has 24 partner festivals from around the US, and a festival director and “evaluator” from each partner site. EvalFest partners have collected data from more than 20,000 festival attendees during the first two years of the project, using a community-created intercept survey comprised of common and unique questions across festivals. Survey data are collected via the same platform and all data are stored in a common database. A data dashboard provides to festival partners. Data are collected annually from EvalFest partners to document their evaluation capacity, evaluation use, and the value of specific EvalFest methods and experiences.

Importance

Multi-Site evaluations are typically designed to best serve the needs of the individual or organization leading the evaluation, but capacity building is also important within the context of multi-site evaluation efforts in terms of drawing on different contexts and levels of expertise across institutions. By supporting and training partner sites to actively participate in data collection, projects like Building with Biology, COVES, and Evalfest secure more robust, high quality data and cultivate future partners. Without discounting the benefits of bringing more people to the table in order to collaborate, the fact that we can all get something in return from these shared endeavors is especially worth talking about as part of recognizing that a “rising tide lifts all boats.”

Additional Links

Building with Biology: http://www.buildingwithbiology.org/home

Building with Biology Project Evaluation: http://www.buildingwithbiology.org/project-evaluation

Building with Biology, Synthetic Biology: http://nisenet.org/search/topics/synthetic-biology-2632

COVES: http://www.understandingvisitors.org/

EvalFest: http://www.evalfest.org/

Emerging Methodologies: Organizational Autoethnography and Duoethnography in Museum Evaluation

Ann Rowson Love, *Asst. Professor, Museum Education & Visitor-Centered Exhibitions/Arts Administration and Ringling Liaison, Department of Art Education, Florida State University*

Victoria Eudy, *Doctoral Candidate, Museum Education & Visitor-Centered Exhibitions, Department of Art Education, Florida State University*

John Jay Boda, *Doctoral Student, Museum Education & Visitor-Centered Exhibitions, Department of Art Education, Florida State University*

Purpose

Participants will gain insight into two autoethnography research methodological approaches – organizational autoethnography and duoethnorgraphy – both offer new ways to examine practice through in-depth investigation and storytelling. They examine power structures, the nature of collaboration, and build empathic narratives through three case studies. Supporting VSA competencies, one outcome includes adding new methodologies to expand current practices, particularly expanding upon the uses of qualitative strategies in visitor studies and program evaluation. Second, participants will engage in strategic discussion and guided activities to model methods structures, data collection, and analysis strategies. Third, participants will gain insights through discussion into how current participatory practices call for new methods of understanding the nature of collaboration and power structures in museum practices and changes in how we train future museum educators, evaluators, and curators.

Abstract

New to museum evaluation and visitor studies, organizational autoethnography and duoethnography explore power structures, collaboration, and storytelling as intrinsic components within the research methods, data collection, and analysis. Doloriert and Sambrook (2014) presented a case for using organizational autoethnography as a means to reveal the stories of the marginalized within organizations. Likewise, duoethnography first articulated by Norris and Sawyer in 2003 offer a systematic approach for analyzing power structures using a dual narrative form (Norris & Sawyer, 2012). Both offer narrative approaches to examining and evaluating collaborative work. This is timely in visitor studies in the continued effort to move beyond numbers, to better understand how we include marginalized voices, and to foster empathy—museum professionals to visitors to non-visitors and back again. These are also particularly exciting methods for better understanding and building more inclusive methods for understanding graduate student experiences during professional preparation. Organizational authoethnography, more known in the corporate sector, and duoethnography, more known in higher education, are newly applied to museum practices. There are two overarching goals during this session. The first aims to present an overview of organizational autoethnography and duoethnography methodologies. To demonstrate usefulness to the field, the presenters will introduce three case studies to offer the potential, or range of approaches for using the methods. In all three, data collection strategies and resulting

findings presentations are unique to each project and incorporate arts-based methods. During each case study, presenters will lead short, interactive data collection activities or applying data analysis strategies.

One case study focuses on an evaluator's three-year autoethographic study at one museum examining the collaborative effort to embed visitor studies. The researcher will share components of a visual journal with emerging research and evaluation questions that later assisted with visitor studies conducted at the museum. Participants will apply content analysis to a series of images.

The next case study introduces a duoethnography that explored two curatorial team members' experiences during collaborative exhibition development (Love & Boda, 2017). Participants will experience duoethnography by engaging in readers theater. Afterward, they'll discuss key points that focus on using traditional ethnographic methods like journal writing and interviewing combined with a cross-discipline storytelling framework based in screenwriting. The next case study introduces a duoethnography that explored two curatorial team members' experiences during collaborative exhibition development (Love & Boda, 2017). Participants will experience duoethnography by engaging in readers theater. Afterward, they'll discuss key points that focus on using traditional ethnographic methods like journal writing and interviewing combined with a cross-discipline storytelling framework based in screenwriting.

The third case study looks at the graduate faculty member/student mentoring relationship in a museum education and visitor-centered exhibitions program (Love & Eudy, 2016). This case study incorporated data collection through social media and findings were reported in the form of a virtual and written exhibition. Participants will engage in a short data collection activity using a social media format.

Importance

Exploring new pathways includes applying new methods for understanding museum practices including training emerging professionals. This session introduces and makes a case for using organizational autoethnography and duoethnography as evaluation methods for analyzing education and curation practices. Presenters unpack the methods and engage participants in sample data collection activities. This session will appeal to evaluators, researchers, museum practitioners, and higher education museum program administrators, who are interested in exploring new visitor studies methods and those interested in re-envisioning graduate level professional training programs interested in the blended functions of education and curation. Audience members will explore the methods through three case studies and will engage in data collection and analysis activities during the session. Although this session will focus on one university and art museum partnership, audience members will participate in strategizing directions for their own museums and programs that encourage more authentic, in-depth inquiry and practice.

References

Doloriert, C., and Sambrook, S. (2014). Organisational autoethnography. Journal of Organizational Ethnography, 1 (1), 83-95.

Norris,J. and Sawyer, R. D. (2012). Toward a Dialogic Methodology. In J. Norris, R. D. Sawyer, and D. Lund (Eds.), Duoethnography: Dialogic Methods for Social, Health, and Educational Research (9-39). Walnute Creek, CA: Left Coast Press.

Love, A. R., and Boda, J. J. (2017). Teaching visitor-centered exhibitions: A duoethnography of two team members. In P. Villeneuve and A. R. Love (Eds.) Visitor- centered exhibitions and edu-curation in art museums. New York: Rowman & Littlefield.

Love, A. R. and Eudy, E. (2016). Mentoring as a duoethnographic exhibition: Our journey as art museum researchers. Visual Inquiry: Learning & Teaching Art, 5(3), 337-351.

Applying Learning from Multi-Year Studies to Improve Zoo Experience

Dolly Hayde, *Lifelong Learning Group at COSI Center for Research and Evaluation*
Shasta Bray, *Cincinnati Zoo & Botanical Garden*
Nadya Bennett, *Columbus Zoo & Aquarium*
Manda Smith, *Lincoln Park Zoo*

Purpose

Multi-year visitor studies provide up-to-date data that can reveal patterns and trends, build on key findings and previous studies, and influence decision-making over time. During this session, speakers will share how multi-year studies conducted at three zoos informed improvements in visitor engagement through the practical application of findings to the design of exhibits, programs and general visitor experience considerations. A large group discussion on conducting and building buy-in and administrative support for multi-year studies will follow the presentations.

Abstract

Zoos recognize the importance of understanding how visitors experience their institutions, and have begun to build a body of work to that end (Luebke and Grajal, 2011). Multi-year visitor studies are particularly insightful, providing up-to-date data that can reveal patterns and trends, build on key findings and previous studies, and influence decision-making over time.

Cincinnati Zoo & Botanical Garden

Between 2012 and 2016, the Cincinnati Zoo & Botanical Garden (CZBG) worked with the Lifelong Learning Group on annual reflective tracking visitor studies. In 2012 and 2013, studies focused on the impact of the Wild Encounters program. In 2014, we expanded the focus to the whole zoo experience including Wild Encounters and beyond. In 2015, we added an examination of meaning-making and personal takeaways. In 2016, we dug deep into how visitors experienced a single exhibit, Africa. Findings from these studies have informed decision-making about both minor practicalities and big-picture strategies. For example, the success of Wild Encounters

in 2012 and 2013 led CZBG to center the Africa exhibit on those types of interactive experiences.

Lincoln Park Zoo

The Lincoln Park Zoo's Audience Research Team (ART) has been tasked with creating a Baseline Initiative to inform our new Branding Program and Strategic Plan. This zoo-wide, multi-year evaluation was developed to measure levels of awareness, affinity, and engagement throughout multiple audiences, as well as over 200 datasets from all of our internal departments. The Baseline Initiative encompasses traditional return on investment, social return on investment, and the overall impact the zoo has on our visitors to achieve a multifaceted understanding of our guests across multiple years. The ART interviewed, surveyed, or observed over 100,000 individuals in this mixed methods, on-grounds, off-grounds and online study during the first year, from which we've started to establish correlations and trends. Surprisingly, three overlapping topics kept reappearing: institutional misconceptions and perceptions, new opportunities, and long-term outcomes/goals. We'll discuss key results in relation to how they informed and shaped the Branding Program and Strategic Plan.

Columbus Zoo & Aquarium

An important focus of the Evaluation and Research Team (ERT) at the Columbus Zoo and Aquarium (CZA) is to build a knowledge base about our guests that provides feedback in the form of applicable actions that departments (zoo-wide) can put to work. These actions are often based on data collected through multi-year studies. This presentation will review multi-year guest evaluations designed for the Experiential Marketing Department. They are the masterminds behind annual zoo events such as the FairyTale Luncheon, Boo At The Zoo, Wildlights, and more. Relying on direct guest feedback in order to make appropriate changes from year to year, they have worked closely with the ERT to develop surveys in which the results can be tracked, crossed, and put into action. To date, thousands of guests have participated in this effort and positive changes, as shown by subsequent surveys, have been made.

The session will wrap up with audience discussion on viewpoints and ideas for multi-year studies they could initiate at their own institutions.

Importance

Multi-year visitor studies are particularly insightful, providing up-to-date data that can reveal patterns and trends, build on key findings and previous studies, and influence decision-making over time. We encourage others to consider how multi-year studies can be employed at their institutions to increase their capacity to track change over time and strengthen their mission-based programming.

References

Falk, J. H., Reinhard, E. M., Vernon, C., Bronnenkant, K., Heimlich, J. E., & Deans, N. L. (2007). Why zoos & aquariums matter: Assessing the impact of a visit to a zoo or aquarium. Silver Spring, MD: Association of Zoos & Aquariums.

Luebke, J. F., and A. Grajal. (2011). Assessing mission-related learning outcomes at zoos and aquaria: prevalence, barriers, and needs. Visitor Studies 14:195–208.

Thursday, July 20, 2017

Concurrent Sessions | 1:15-2:30 PM

PAPERS: Methods and Methodologies

What to Do After Piloting Has Yielded a Null Result

Gloria Segovia
Aaron Price, *Museum of Science and Industry*

Purpose

The goal of this session is to help people who have dealt with projects that have yielded no results. Participants will learn how to plan the next possible steps in their project and what to do with a null result. We will discuss what steps we took to find an alternative plan for our research project and how to make the best decision for that project. Our talk will focus on the methodological questions we encountered, our process of continuously revising the study, communicating this with staff, and practices we used to minimize conscious bias and cherry picking of data.

Abstract

Our Museum opened a new Lego-based exhibit to educate guests about architectural design and traits of successful architects and engineers. The Research and Evaluation team worked with exhibit planners to develop this research question: “What is the impact of visiting the *Brick by Brick* exhibit on guest awareness of the roles and identities of engineers, designers, architects and builders?” Initially, we ran a pilot study with children using an experimental design. The instrument consisted of open ended questions and an engineering attitudinal scale. Results of the analysis yielded no significant differences between control and treatment groups. However, there were themes present in the data suggesting new methods that may be more fruitful.

We regrouped and ran a second pilot using a instrument taken from literature asking children to draw and describe an engineer at work. The data was too broad to find consistent themes, but we felt was rich enough to be useful with if used with more structure. We added another segment asking participants to choose what kinds of work an engineer does from a list of jobs presented visually. Early results show that children were more likely to accurate describe engineers after having gone through the exhibit, when presented with options visually. Combined with the drawing data and guest participation patterns, we were able to answer the research question in a more in depth manner. At each stage, we had to be cognizant of the original research question and learning goals of the exhibit and resist artificially biasing our instruments with minor changes that focused on differences while not aligning with the research question.

During this session we plan to discuss in detail the different plans we created during this study, as well as conversing about what types of strategies we can make use of for future studies and how we communicated this with stakeholders.

Importance

Participants will learnways to plan the next possible steps in their project and what to do with a null result. Our session will discuss decisions that worked and failed as we attempted to remain faithful to the research questions while not cherry picking results. We will describe how a study about a LEGO-based engineering exhibit dealt with a failed pilot study and the negotiations and iterations needed to redesign the methodology. Each of these steps described will provide opportunities for audience members to ask questions to the presenters and other audience members. The space will be a good conduit for open discussion and sharing of ideas amongst the audience members. Discussing null results is generally a platform that is not addressed often and it would be a great opportunity for those early in their career to be able to talk more about.

The Power of Mixed Methods: An Assessment of Visitor Emotions

Jana Greenslit, *Museum of Science and Industry*

Purpose

It is intuitive to assume that emotion has an impact on the visitor experience, but in what ways, and how do we measure it? This session presents an assessment of visitor emotion within a multi-cultural Christmas exhibition at the Museum of Science and Industry, Chicago. I will describe how emotion was defined and measured in this study, through the use of both a quantitative self-assessment tool and qualitative interviews. In addition, there will be a brief discussion of whether or not emotional affect can be linked to learning outcomes within an exhibit. Attendees will leave this session with a greater consideration for the ways in which emotion can be defined and assessed within an informal learning space, as well as how it may impact the visitor experience.

Abstract

Christmas Around the World recently completed its 74th year at the Museum of Science and Industry, Chicago. The exhibition consists of over 50 Christmas trees spread across a central area of the museum - each adorned with lights and decorated by a local community group in tribute to a specific country.

A study of visitor motivations for coming to the exhibit was conducted in 1993 and replicated in 2014. While most responses vary little between the two iterations, visitors reported greater interest in connecting to their own heritage or learning about other cultures, as well as responses indicating that visitors are motivated by the emotional aspect of the experience. The current study addresses these facets of the visitor experience: emotion and learning about the cultures or countries represented within the exhibit. While the body of research connecting emotion and learning in museums is not extensive, prior studies support a relationship between the two (Falk, 2009) and indicate a need to replicate and expand upon the assessment tools evaluators can use to begin to study emotion. Emotion in itself is a complex topic, and could be defined and assessed a number of ways. This session will largely focus on how to assess emotional affect using a modified version of the Russell Affect Grid (RAG) (Russell, 1989), a quantitative assessment tool borrowed from psychology. This tool allows participants to rate their level of arousal, or alertness, as well as the valence of their current emotional state. In December 2015, 38 guests filled out the RAG and were subsequently interviewed after visiting the exhibit.

The session will briefly summarize the 1993 and 2014 studies, discuss the origins of the RAG, how it has been adapted to a museum setting, and how visitors responded to this particular self-assessment. Furthermore, an analysis will be drawn between the ratings that visitors provided using the Russell Affect Grid and their answers to open-ended interview questions about how attending the exhibit makes them feel. This portion of the presentation will focus on the pros and cons of capturing emotion through the quantitative and qualitative instruments of this study. Lastly, this presentation will address the extent to which emotion measured in this fashion correlated with visitors' ability to retain exhibit content. Attendees of this session will have the opportunity to consider the ways in which emotion can impact the visitor experience, as well as how it can be defined and assessed within an informal learning space.

Importance

In terms of its relevance to the conference theme, New Pathways in Visitor Studies, this session discusses a topic that is not typically included in museum evaluation and research: personal emotion. It is relevant not only to evaluation and research practitioners who wish to incorporate assessments of emotion within their own work, but also to museum professionals in general, who may wish to re-conceptualize how the emotional state of a visitor may impact their learning. This study presents a jumping off point to continue to explore how to measure visitor emotion in a way that can be linked meaningfully to other aspects of the visitor experience.

References

Falk, J. H., & Gillespie, K. L. (2009). Investigating the Role of Emotion in Science Center Visitor Learning, *Visitor Studies,* 12(2), 112-13.

Russell, J. A., Weiss, A., & Mendelsohn, G. A. (1989). Affect Grid: A single-item scale of pleasure and arousal. *Journal of Personality and Social Psychology*, 57, 493-502.

Shaping Visitor Experience Using Confessional-Booth-Style Video at Expo Events

Kelley Staab, *Saint Louis Science Center*

Purpose

The purpose of this study was to evaluate First Friday, a monthly expo-style evening event. Though staff had received anecdotal feedback on activities and lectures, there was a need to better understand the program and the audience that it brought in. Targeted at adults, but open to families and children, First Friday is an event where innovation is encouraged and failure is accepted by visitors. As such, we decided to pair a conventional method of data collection – a paper survey – with one that was new – a confessional-style video booth. This session will look at the methodology and results of this study, particularly focusing on the video booth.

Abstract

First Friday is the Saint Louis Science Center's monthly expo-style evening event that integrates science content with a pop culture or sci-fi theme [i.e. Harry Potter, Star Trek, Doctor Who]. This free event, though targeted at adults, is open to children and families. Activities at a First Friday range from trivia to lectures to building-wide scavenger-hunt-like games. Staples at each event include episode or movie screenings, science demonstrations, a Planetarium star show, table-top activities, and vendors selling their wares.

Over the course of six months, visitors were invited to "Help shape the future of First Friday" by filling out a survey of potential topics. Participants were then asked to enter a Video Booth to respond to four questions on camera – three about the event and one focused on the theme of the month. Staff were not present during the interview, giving the participants a solo or group confessional-booth-style experience and the freedom to forget they were being recorded while talking about the event or the fandom of the month.

Survey data were analyzed throughout the data collection process and were used to help inform 2017 First Friday topics. Videos, which ranged from 1:23 to 13:41 in length, were transcribed and analyzed for content, gestures, and geeky clothing/costume references. Overall, the video data showed that people come to First Friday to have fun, spend time with friends and family, and to celebrate a fandom they love. Visitors enjoy the movie/episode screenings, lectures and talks themed around the event, and seeing staff and other visitors dressed in costumes. The cross-departmental First Friday team has begun to implement this feedback into the planning and operation of the event.

Importance

This session highlights a data collection method that was new for the Saint Louis Science Center – the confessional-style video booth. This method used simple materials, a video camera and a white board, to get a whole new type of data. While most visitors were cognizant of the camera while they were speaking, others got swept up in group conversation or in talking about a subject they loved that they forgot (or seemed to forget) the camera was there. By not having a data collector in the room, we were able to capture the unbridled excitement and occasional disappointments of First Friday. Visitor anecdotes and feedback were so rich that we will likely use this method for other studies in the future.

Beyond Our Walls: Museum Evaluation Providing Voice for Civic Changes

Shana Hawrylchak, Manager *of Exhibits and Collections, EcoTarium, Worcester, MA (Session Chair)*
Betsy Loring, *Director of Exhibits, EcoTarium, Worcester, MA*
Emmy Hahn, *Program Coordinator, Massachusetts Downtown Initiative, Commonwealth of Massachusetts Department of Housing and Community Development*
Robert L. Ryan, *FASLA, Professor Landscape Architecture and Regional Planning, University of Massachusetts Amherst*

Purpose

Presenters will discuss two evaluations of the EcoTarium's City Science exhibit that provided opportunity for broader civic collaborations. The first, an embedded evaluation tool, led to collaboration with urban planners at UMass Amherst. The second, a more traditional front-end evaluation, provided implications towards use by state and city planning agencies. The embedded evaluation tool allowed visitors to create and photograph their ideal neighborhood for researchers. The initial study focused on identifying differences in the neighborhoods designed by visitors who used specific exhibit components when compared to a control group. We will also discuss uses of this technique in alternative applications. The more traditional front-end evaluation inadvertently revealed deep civic discussions and gave voice to underserved communities. This talk will explore ways in which traditional museum evaluation tools can position museums as places of civic forum and will also explore community connections which can help broaden the reach of this research.

Abstract

Session chair will give a brief overview of the EcoTarium and our evaluation team as well as a project overview of the new City Science exhibit. City Science is an interactive exhibit that teaches visitors about how they can investigate the science that is involved in planning and designing cities and neighborhoods. As a small to midsized museum our evaluation team is comprised of staff whose primary function is outside of evaluation, so special emphasis will be given to describing how the team meshes evaluation with their other responsibilities. The panel will then describe two City Science evaluation tools that have the potential to be adapted to other projects within and outside of museums. During the course of the presentation, attendees will be split into two groups, each group will be given the opportunity to engage with one of the presented evaluation tools with presenters.

The first tool is the Magnetic Neighborhood exhibit, an embedded evaluation tool created through a National Science Foundation grant entitled Pathways: From the Lab to the Neighborhood (DRL-1323168). In this exhibit component visitors design their ideal neighborhood using a custom set of magnetic pieces. A secondary station allows visitors to answer a few short questions, capture a picture of their neighborhood and look at how their neighborhood compares to those of other visitors. As an exhibit, Magnetic Neighborhood has had great results in helping visitors understand that their ideals may differ from those of their neighbors, but it has also created a window into the urban planning preferences and values of our visitors for outside researchers. EcoTarium staff Shana Hawrylchak and University of Massachusetts Professor Robert Ryan will discuss how the joint

development of this tool led to interesting insights in the fields of social science and urban planning including the initial results from this study.

The second tool is a free-form prompt card evaluation conducted as a warm-up activity during front-end evaluation of City Science. During these sessions, the staff inadvertently sparked a mass of civic discussions from several underrepresented portions of the City's population. Many of these residents voiced an interest in having their viewpoints represented beyond the exhibit, asking, "Are you going to tell 'the City?'" This activity, together with several of the City Science prototypes, prompted the museum staff to realize that visitors readily engage – in their own words - with urban planning topics. The museum floor is not a planning board hearing but families were discussing such topics as urban greening, infrastructure management, housing density and mixed-use zoning. Could a museum help government planners bring such voices to the municipal planning process? EcoTarium staff Betsy Loring and State Planner Emmy Hahn will discuss the structure of this original visitor feedback model, and the areas of value from the standpoint of a government official including areas they are currently exploring for future collaboration.

Importance

Data collection is a time consuming process. In a field where many practitioners are part-time evaluators it is important to make sure that we develop our studies in ways to make them manageable, but also to make sure that our studies have maximum impact. This session will focus on two ways in which the EcoTarium, a small to midsized museum was able to increase their capacity and reach through nontraditional evaluation partnerships. Although evaluators of a variety of experience levels will benefit from this session, it is primarily targeted to the part-time evaluator who wears many hats. Through the course of this session participants will have the opportunity to practice these two techniques as used at the EcoTarium and explore the broader implications and alternative applications of these techniques.

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Chen, M., Deng, Z., Duym, E., Hisle, M., Keskula, L., Larico, J., Liu, B., Liu, S., Liu, W., Nein-Large, T., and Zhang, J. (2014). *Greening Worcester: Planning and Designing Green Infrastructure Networks for Habitat, Recreation, and Landscape Interpretation*. Graduate Planning Studio LA 607, Fall 2014. Instructor/Co-editor: R.L. Ryan, FASLA. Amherst, MA: University of Massachusetts, Department of Landscape Architecture and Regional Planning. 261pp. Available digitally at http://scholarworks.umass.edu.silk.library.umass.edu/larp_grad_research/41/

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Loring, B. (2016, June). *What does your community want to be when it grows up?* Conference Session at at the Massachusetts Smart Growth Conference, in Worcester, MA.

Loring, B. (2016, November). *Catalyst for Community: Overcoming Divisive Issues*. Conference Session at the New England Museum Association, Mystic, CT

Loring, B., Promisel, A., Hawrylchak, S. (2014, March). *Apps & Maps Workshop Clark University.* Breakout Session at the Apps & Maps Project, Temple University Philadelphia, PA.

Ryan, R. L. (2014). *City Science – Pathways: From the lab to the neighborhood, an interactive living exhibit for advancing STEM engagement with urban systems in science museums.* Poster presented at the AISL PI Meeting. Washington, DC.

Additional Links

EcoTraium: http://www.ecotarium.org/

Found in Translation: Building Capacity for Multilingual Data Collection & Analysis

Smirla Ramos-Montañez, *Research and Evaluation Associate, Oregon Museum of Science & Industry*
Cecilia Garibay, *Principal, Garibay Group*
Verónica Betancourt, *Manager of Gallery Learning, Walters Art Museum*

Purpose

Collecting data and analyzing it in multiple languages is a complex and nuanced endeavor. Researchers and evaluators should be aware of the methodological, theoretical, and cultural implications and considerations when engaging in a study that involves multiple languages. Presenters will share how linguistic diversity influenced their process and experience designing data collection and analysis methods. Session participants will learn

about current issues relating to collecting and analyzing data in multiple languages, share their own experiences in developing and implementing research studies with multilingual audiences, and learn strategies and approaches that help build capacity to more successfully conduct research and evaluation with multilingual communities.

Abstract

Language is one of the many manifestations of culture and visitors are as varied as the languages they speak. Increasingly, research plans in visitor studies have to account for these differences. Panel presenters offer different perspectives on multilingual data collection and analysis, as well as the cultural considerations that presenters included in their planning. This session focuses on linguistic considerations, as one element of culturally competent research and evaluation.

As institutions, we strive to create experiences that are welcoming, relevant, and inclusive for visitors. Culturally responsive research recognizes that “The significance and implications of research results can be fully understood only if/when the physical, sociocultural, and historical contexts of the researchers and the participants frame the work” (Trainor, 2012, p. 204). Research and evaluation findings have to be relevant and reflective of our surroundings in order to foster and sustain genuine relationships with our communities and learn from them. Presenters in this panel have considered the role of language in designing their studies. Some strategies used include collecting data in participants’ preferred language(s), transcribing collected data using language(s) used by visitors, and incorporating member-checks with participant(s) to ensure the credibility of the transcription (Temple, et. al. 2006) as well as considering the use of language in participants’ experiences and in the interpretation of results.

Ramos-Montañez will present on Designing Our World, a National Science Foundation funded project that included a research study with Latina Spanish-speaking girls as a major focus. The presenter will share how bilingual/bicultural researchers’ experiences influenced the understanding of the data, including cultural perspectives on integrity and the importance of language in interpretation. They will share concrete examples of how expectations and study design were influenced by multiple collaborations. The presenter will also share tools and protocols developed that the research team found especially helpful. Betancourt will discuss inclusive research design in a study on the experiences of subjectivity among Latina/o visitors to art museums. Because the experience of Latina/o subjectivity was at the core of this study, the researcher sought to create a translanguaging space (Li, 2011), which would include both Spanish and English in interview conversation. Thus, participants expressed their ideas and sense of self using their full linguistic repertoire (García & Baetens, 2009). The presentation will define the key features of a translanguaging space; how to create it; and its impact on the study methodology, validity, and findings.

Garibay will describe the research approach for the NSF-funded Bilingual Exhibits Research Initiative (BERI), which studied the experiences of Latino families at bilingual exhibitions. To be responsive to the range of participating groups’ diverse linguistic practices, researchers used “language hybridity” perspectives to inform the study design (Tejeda and Espinoza, 2002) where no single language is privileged. This design ensured that families maintained their linguistic norms both as they engaged with exhibits and during follow-up interviews,

which was critical to understanding their experiences and examining the affordances of bilingual exhibit interpretation. Garibay will describe key aspects of this approach that are necessary to achieve socio-linguistic competence.

Importance

This session highlights the importance of inclusion and equity in research and evaluation by closely considering one aspect of culture: language. In an increasingly multilingual and multicultural society, authentic evaluation and research that conveys the experiences of participants must be responsive to linguistic diversity. In the discipline of visitor studies, we recognize that both cultures and the contexts of our evaluation and research studies are ever changing; failure to respond to these changes will result in studies that lack validity and relevancy. Understanding the role of linguistic preference and acknowledging the role that preference plays in planning a study is a part of cultivating culturally responsive/contextually relevant practice. The overarching goal is to cultivate thoughtful practice that is inclusive of multiple perspectives from the communities we inhabit. As visitor studies professionals, presenters recognize the power of a bilingual/bicultural perspective in increasing our capacity to conduct culturally responsive research.

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Key Social Science Messages for Understanding Visitor Studies

Deborah Wasserman, *Lifelong Learning Group at COSI Center for Research and Evaluation*
Dolly Hayde*, Lifelong Learning Group at COSI Center for Research and Evaluation*
Joe Heimlich, *Lifelong Learning Group at COSI Center for Research and Evaluation*
Elaine Horr, *Lifelong Learning Group at COSI Center for Research and Evaluation*

Purpose

How do you describe what you do and why it's important? This working group session seeks to advance communication about visitor studies by using a pathway forged by the creation of ten key messages to help informal learners understand the scientific nature of social science. Like other social scientists visitor studies professionals can find themselves faced with the challenge of describing the scientific nature and value of their profession. With these key social science messages, social scientists have situated themselves in the science world.

In this session, visitor studies scientists, i.e., the participants, explore the utility of those messages for communicating about visitor studies' place in the social science world and in the science world more generally.

Abstract

These key messages have emerged from an IMLS-funded project, "Social Science Under the Microscope." This project derived from the recognition that there is a surprising lack of general public awareness of the nature of social science and what it contributes to our understanding of ourselves and our world (Bransford, Brown, & Cocking, 1999; Flyvbjerg, 2001; Guillén, 2001; Sjöström, Sowka, Gollwitzer, Klimmt, & Rothmund, 2013; Sovacol, 2014). As an extension, we recognize there is a similar lack of awareness of visitor studies and the social sciences it comprises, including evaluation, educational research, environmental design, psychology, anthropology, communication theory, leisure studies, and market research. Thus we ask, how do we visitor studies professionals communicate about what we do and the systematic science behind how we do it?

During the first IMLS project year, our social science resource panel--comprised of experts in social science and the integration of social science with other sciences --is engaging in an iterative message construction process. This process begins by brainstorming components and messages related to a set of four questions (What is social science? How do you do social science? What can social science tell us? And why does social science matter?) and three cross-cutting ideas (understanding human relationships, thinking, and action; respect for people; and applying knowledge to support human endeavor). Through iterative feedback, review, and prioritization, the initial brainstorm list will have been reduced to ten key messages. In the subsequent project year, this list will then be used as a basis for designers to create and test exhibit prototypes.

Importance

Because visitor studies involves such a wide array of social sciences, the social science messages will function as a powerful springboard for discussing the messaging necessary for focused, effective communication about the work of visitor studies scholars and practitioners. The session will produce a list of messages specific to

visitor studies, as well as ideas for communicating them, with mechanisms and outlets for dissemination to be determined by session participants.

References

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Children's Museum Research Network: A Case Study in Collaborative Research

Sarah May, *Museum of Science, Boston*
Nicole Rivera, *North Central College and DuPage Children's Museum*
Kari Nelson, *Thanksgiving Point*
Susan Foutz, *The Children's Museum of Indianapolis*

Purpose

How do research networks leverage their strength in numbers and diversity of perspectives to engage in research that has practical implications for a broader field? Four members of the IMLS-funded Children's Museum Research Network (CMRN) will describe how they conduct collaborative research - from shared responsibility in data collection to group data analysis. Panelists will engage audience members in collaborative meaning-making practices and analysis that will simultaneously reflect on the challenges and benefits of collaborative research. Audience members will: 1) Gain understanding of how a collaborative research network like this can take shape, and what concrete strategies they might implement if they are interested in developing or strengthening professional networks related to their own work; 2) Practice skills related to group data analysis and meaning-making; and 3) Learn about the potential impacts of the Children's Museum Research Network on individuals, institutions, children's museums, and the broader visitor studies field.

Abstract

Overview This interactive panel session will introduce audience members to the CMRN through a discussion designed to model our approach to research. Representatives from four CMRN institutions will engage audience members in discussion about the Network's research methods, focusing on describing collaborative practices and unique impacts on individuals, institutions, and the field.

Introduction to the CMRN and its Research Methods Since its formation in 2015, the CMRN has conducted research exploring questions posed by the IMLS-funded The Learning Value of Children's Museum Research Agenda (Association of Children's Museums). As an emerging network of research and evaluation practitioners, the Network has taken cues from similarly structured research and informal education networks (e.g. NISE Net; Denver Evaluation Network; Building Informal Science Education), and has created a model of collaborative research that leverages the expertise and resources of multiple institutions to collect data, analyze results, and disseminate findings efficiently (Maher, 2016).

Using the research agenda as a platform for formulating research questions, the Network members conduct studies with facilitation from Jessica Luke, PhD, of the University of Washington's Museology Graduate Program, and Jennifer Rehkamp, Director, Field Services at ACM. The first study conducted by the Network was an analysis of five institutional learning frameworks (Foutz et al., 2016; Luke et al., 2017). The second study was driven by compelling findings from this first study around the topic of play and included semi-structured interviews with 48 children's museums around the United States. While the research questions and methods from these first two studies differed, the processes developed and implemented within the CMRN to facilitate data collection, analysis, and dissemination have become integral characteristics of the CMRN. These processes include ongoing input and feedback on research questions and study design from all network members; shared responsibility for collecting and analyzing data dependent on each team member's interests, time, and expertise; expert facilitation of group meaning-making of data; and dissemination of research results. Methods of communication include monthly conference calls, semi-annual in-person meetings, and resource sharing and communication through the Network's online Groupsite community. Limitations of these collaborative research projects include threats to study validity (e.g. inconsistencies across multiple interview styles) and time constraints.

Connections to Practice: Individual, Institutional, and the Field While the CMRN's studies have the potential to shape future research and practice in the children's museum field, broader implications for the field of informal education research and evaluation are also emerging. For example, other institutions (not just children's museums) have expressed interest in learning more about the CMRN's model of leveraging many individuals' resources and expertise to complete studies that have impacts beyond one institution. Similarly, the Network has fostered active conversations and collaborations across institutions that may be doing similar work. On an individual level, CMRN participants have experienced impacts related to feeling more connected with the children's museum field, and being able to bring their strengthened research skills back into their own institutions.

Importance

Informal learning institutions, faced with potential funding cuts and the pressing need to demonstrate their value, must seek new pathways to understand and communicate the worth of their work. Through collaborative research networks, such as the Children's Museum Research Network, museum professionals can leverage diverse perspectives, maximize resources, and strengthen their research capacity. Methods practiced by CMRN participants related to group meaning-making and collaborative qualitative analysis have been particularly effective at integrating multiple voices, an increasingly valuable skill at a time when the decisions of a few can have deep impacts on broader communities. Findings emerging from the CMRN have the potential to change the discourse related to the value of children's museums specifically, and the network itself can serve as a model for other institutions or groups looking to collaborate to improve research and evaluation skills, share expertise, or answer crucial research questions that may shape future practice.

References

Association of Children's Museums (2017). *The Learning Value of Children's Museums*. http://childrensmuseums.org/members/community-conversations/the-learning-value-of-childrens-museums

Foutz, S., Martin, J., Rehkamp, J., & Swank, M. (September 2016). Analyzing learning frameworks in children's museums. *Informal Science Project Spotlight*. http://www.informalscience.org/news-views/analyzing-learning-frameworks-childrens-museums

Luke, J. J., Letourneau, S. M., Rivera, N. R., Brahms, L., & May, S. (2017). Play and children's museums: A path forward or a point of tension? *Curator*, 60 (1), 37-46.

Maher, M. (Ed.). (Spring 2016). Building **a** children's museum research network. *Hand to Hand* 30 (1).

Additional Links

Association of Children's Museums (2017). Children's Museum Research Network. http://childrensmuseums.org/childrens-museum-research-network

Thursday, July 20, 2017

Roundtables and Fireside Chats |4:00 PM-5:15 PM

Nurturing School Partnerships through Exhibit Evaluation

Session chair: *Julia McAllister, Evaluation Manager, Roto*

Joseph Wisne, *President/CEO, Roto*

Courtney Heppner, former *Chief Innovation Officer, Dublin City Schools*

Purpose

During this roundtable discussion, attendees will be invited to join the discussion lead by two institutions who formed a partnership. Participants will hear case studies of the evaluations that Roto has completed in conjunction with Dublin City Schools. Participants will learn how the exhibit evaluation can be tied into a school district's STEM curriculum.

Abstract

For the last three years, Roto and Dublin City Schools have partnered for a field trip program which combines exhibit evaluation and an introduction to design process. Students are encouraged to think like designers and provide honest feedback when they visit Roto. Evaluation can occur at all stages of the design process, from concept to production. The evaluation techniques used by Roto include, focus groups, software testing and mechanical and durability evaluation. In this roundtable discussion, representatives from Roto and Dublin City Schools will share outcomes, case studies, other benefits and challenges of this partnership. Session attendees will learn how partnerships like these can benefit both institutions and school districts. Audience members will be encouraged to share examples of their evaluation strategies used with schools and ask questions of the presenters and other participants.

Importance

The partnership developed between Roto and Dublin allows students the opportunity to exercise creative problem-solving skills in a real-world context, while giving Roto an opportunity to see kids interacting with exhibits at all stages of development while asking students for feedback along the way. This partnership between an exhibit company and a school district can serve as a model for other institutions that are looking for ways to partner with schools in their area.

Playing with History: Evaluating Historical Thinking in Young Children

Allison Cosbey, *Conner Prairie*

Purpose

While some believe young children are not developmentally ready to have meaningful experiences with history, others argue that their experiences can lay the foundation for future history learning. The purpose of this session is to use existing frameworks of children's cognitive development and historical thinking as a jumping-off point for

discussing what children's interactions with history might look like in a museum setting. The session leader will share her experiences and observations of children's behaviors in museum exhibitions, and attendees can discuss and debate the extent to which these behaviors might be indicative of an emerging historical consciousness. One goal of this session is to identify and discuss potential data collection or analysis methods, as well as to identify what further work needs to be done to better understand children's interactions with history. Attendees will also learn about existing frameworks of historical thinking and cognitive development.

Abstract

As an institution that serves primarily a family audience, Conner Prairie often explores how families and children learn about history and the past by interacting with exhibitions and programs. Historical thinking concepts were used in the evaluation of a recent history and STEM exhibition. While the concepts proved useful, evaluators also noted that children engaged in other behaviors that could be considered historical thinking as well, but are not included in existing frameworks. Most definitions and frameworks of historical thinking are not intended to account for young children, many of whom are still learning concepts like the sequencing of time. Frameworks of historical thinking are often based on the cognitive abilities of adolescents and adults or activities that make more sense in a classroom environment (Seixas et al., 2013; Gosselin, 2011). Developmental frameworks are helpful in defining reasonable expectations of children's historical thinking , but further discussion could help translate these frameworks into evaluation tools and protocols. Recently, evaluators at Conner Prairie have begun to explore parents' motivations in using conversation strategies such as drawing connections between an object or experience and an older family member like a grandparent. Activities like dressing up or playing pretend in historical environments can act as important introductions to historical concepts for children (Dyson, 2010), but there is little consensus on the value of these behaviors as indicators of learning. The merits of using these kinds of emergent behaviors in evaluation can be discussed and debated. The roundtable discussion format will allow participants to share their experiences with evaluating history-focused learning environments or programs that are intended for children and families, or their experiences with conducting evaluations with children in general. The discussion could also take into account the ways we define history, and if defining historical thinking more broadly- for instance, to include events of the recent past- might help us to better make sense of the ways children make meaning from the past.

Other potential topics to consider include:

- What behaviors or conversations might indicate that children are practicing historical thinking- particularly those that are not currently accounted for in historical thinking frameworks?
- At what point does play within a historical environment become "historical thinking?"
- How can exhibitions and interpretation support historical thinking at an age-appropriate level for a target audience of children and families?

Importance

This opportunity to discuss what history learning might look like for this unique audience could help evaluators determine best practices for evaluating the family experience history exhibitions and programs, or to identify future directions for informal and family learning research in the history field. Evaluation is not as common at history museums as in some other types of museums. Sharing our experiences, as well as helpful resources and practices, can help build evaluation capacity in the history museum field. History museums are not typically well-represented among the sessions at VSA. It is important for history-related topics to be present at VSA to encourage others in the field to conduct visitor studies at their institutions and share their findings with the field.

References

Dyson, J. C. (2010). Playing with the past. In D. L. McRainey & J. Russick (Eds.), *Connecting kids to history with museum exhibitions* (pp. 137-154). Walnut Creek, CA: Left Coast Press.

Gosselin, V. (2011). *Open to interpretation: mobilizing historical thinking in the museum* (Doctoral dissertation, University of British Columbia).

Reich Rawson, E. (2010) It's about them: Using developmental frameworks to create exhibitions for children (and their grown-ups). In D. L. McRainey & J. Russick (Eds.*), Connecting kids to history with museum exhibitions* (pp. 49-73). Walnut Creek, CA: Left Coast Press.

Seixas, P., Morton, T., Colyer, J., & Fornazzari, S. (2013). *The big six: Historical thinking concepts*. Nelson Education.

Additional Links

Create.Connect www.createconnect.org

Conner Prairie: www.connerprairie.org

Making Sense of Evaluation and Visitor Studies: An Emerging Conversation

Kathy Kiser, *Lincoln Park Zoo*
Erin Shoffstall, *Lincoln Park Zoo*
Manda Smith, *Lincoln Park Zoo*

Purpose

Participants will gain an understanding of the interdisciplinary nature of visitor studies and what that can mean for their work and the field. (Competency A), Participants will become familiar with the varying approaches, tools, and methodologies within visitor studies. (Competency C). This session will benefit those new to the field as well as experienced researchers and evaluators interested in gaining a better understanding of the wide scope of research and evaluation work being done in informal learning environments. This could also be beneficial for administrators who may be considering building a new or restructuring an existing evaluation and research team. Visitor studies, evaluation, learning research, audience research. What do these terms mean? How are they similar? How are they different? Why does it matter? The presenters work in informal learning organizations with multiple research and evaluation teams. Learn about their experience and join the discussion to further examine this topic.

Abstract

Participants will gain an understanding of the interdisciplinary nature of visitor studies and what that can mean for their work and the field. (Competency A), Participants will become familiar with the varying approaches, tools, and methodologies within visitor studies. (Competency C). This session will benefit those new to the field as well as experienced researchers and evaluators interested in gaining a better understanding of the wide scope of research and evaluation work being done in informal learning environments. This could also be beneficial for administrators who may be considering building a new or restructuring an existing evaluation and research team. Visitor studies, evaluation, learning research, audience research. What do these terms mean? How are they similar? How are they different? Why does it matter? The presenters work in informal learning organizations with multiple research and evaluation teams. Learn about their experience and join the discussion to further examine this topic.

Importance

In a world where the relevance of informal learning organizations is regularly being called into question, it is important for us to be able to demonstrate the impact of the work we do on our visitors, local communities and the world beyond. This is why many informal learning institutions have dedicated resources to evaluation and research work, resulting in a great deal of growth in the field. With this growth and the interdisciplinary nature of visitor studies come questions and varying schools of thought on what work should be done and by whom. Some organizations even have multiple teams, housed in different departments to conduct this work. In the field as a whole, there are various groups that exist or are emerging representing different specialties within the field.

Each team brings their own perspective, background and experience to the work being done. This diversity can be beneficial in measuring and sharing the impact of informal learning organizations, but it can also present challenges. The presenters all have experience working in informal learning organizations that have multiple teams conducting research and evaluation work and represent the different areas. In each organization there have been successes and challenges in navigating how these teams work within the organization, with each other and with the field as a whole. What are the various teams trying to achieve? What does each team bring to the table, and how are each advancing tools, methodology, and the field of evaluation and research as a whole? Where in an organization should evaluation and visitor studies be located? Should there be multiple teams or one team? If there are separate teams, what opportunities exist for collaboration? A roundtable discussion can bring about a better understanding of the differences, strengths and limitations of the varying areas within our field, helping to foster collaboration and reinforce the work being done in all areas of research and evaluation in zoos, aquariums and museums. The presenters will share their experiences working in Learning Evaluation and Research and Audience Research and Evaluation departments with two different informal learning organizations. To set up the topic presenters will share successes, challenges, examples of the scope of work for the individual teams at each organization as well as opportunities for collaboration. Next, presenters will review definitions of visitor studies, audience research and evaluation found in the literature.

The session will then be opened for questions, comments and discussion. The direction of the discussion may be guided by participant questions or the presenters will be prepared to guide the conversation through the introduction of questions relevant to the topic. The last few minutes of the session will be reserved for participants to exchange contact information and think about future opportunities to continue this discussion.

References

This session will benefit those new to the field as well as experienced researchers and evaluators interested in gaining a better understanding of the wide scope of research and evaluation work being done in informal learning environments. This could also be beneficial for administrators who may be considering building a new or restructuring an existing evaluation and research team. A roundtable discussion can help us as we think about new pathways in visitor studies to discover new opportunities for growth and collaboration between different specialties within the field.

Examining Cultural Assumptions: Implications for Equity in Museums

Lindsay Maldonado, M.S.*, Director of Audience Research and Evaluation, John G. Shedd Aquarium*
Nicole Rivera, Ed.D., *Assistant Professor of Psychology, North Central College*

Purpose

This session will explore cultural assumptions inherent to museums. Literature will be used to present alternative perspectives and challenge our ideas about culture and learning. Discussion will address the role of research in identifying and addressing cultural assumptions in museums and how researchers can work to create equity. The goal of this session is to foster conversation among attendees to examine cultural assumptions and how

they shape current practices in visitor studies.

1) What cultural assumptions do museums have about visitors? How can research help identify and address them?
2) What are our roles as researchers in creating equity?
3) What does culturally responsive evaluation look like?

Abstract

Visitor studies professionals are tasked with understanding the needs and motivations of our visitors. A 2010 report issued by The Center for the Future of Museums presented data about shifting demographics in the U.S., as well as trends for museum attendance. Shifts in U.S. demographics include a growing Hispanic/Latino population and more nuanced labels for race/ethnicity. Research shows that visitor engagement and learning vary across different groups. The report suggests that the disconnect between a growing population and lower visitorship may be tied to cultural and social barriers that require more intentional efforts and practices by museums. Efforts to understand and address potential barriers must begin with a discussion related to the impact of culture on learning and engagement. There needs to be a recognition that "all people engage in sophisticated learning shaped by the cultural and contextual conditions in which they live" (National Research Council, 2009, p. 210). Not only are visitors' experiences shaped by their cultural context, but the institution is also shaped by its own museum culture. These two contexts can be at odds with one another, and understanding cultural context can be challenging because culture is often based on implicit knowledge. When functioning from a dominant lens, as museums often do, it is easy to perceive that a set of practices or beliefs is the "right way," dismissing cultural variation in learning and engagement. Unpacking the complexity of cultural context takes intentional efforts to interrogate one's assumptions and understandings about one's own beliefs and practices as well as those from other groups. Rogoff (2003) advocates for "systematically and open-mindedly revising our inevitably local understandings so that they become more encompassing" (p. 12). This session will offer a forum for unpacking cultural assumptions and how such assumptions shape existing practices in our field.

Importance

Acknowledging cultural assumptions is important for personal and professional growth. During this session, participants will reflect on their own cultural assumptions and their role in creating more equitable experiences for visitors. Aligned with competency B, participants will understand the ways in which culture influences the principles and practices of informal learning environments. Furthermore, participants will unpack field-wide cultural assumptions and begin to assess ways to improve cultural understanding in museums.

Thursday, July 20, 2017

Concurrent Sessions | 4:00-5:15 PM

PAPERS: Understanding and Measuring Our Impact

Measuring Our Social Impact

Stephen Ashton, Ph.D., *Thanksgiving Point Institute*

Purpose

Thanksgiving Point recently successfully measured the social impact they have on visiting families. The results of this study were used to garner support from policymakers and other key community stakeholders. In this session, Dr. Ashton will share how they conducted the study, the results of the study, and how other museums can implement similar studies.

Abstract

Thanksgiving Point conducted a rigorous study to explore the social impacts they have on the surrounding community. Researchers invited families along the Wasatch Front who had never visited Thanksgiving Point to visit all four of their museum venue experiences free of charge during the summer of 2016 and to participate in an extensive evaluation.

The evaluation revealed short-term indicators of long-term outcomes known to positively impact the quality of communities. Of the 95 short-term indicators measured, 67 (71%) of them showed a statistically significant positive change. These indicators were in the following categories:

- Strengthened families
- Increased personal health and well-being
- Increased educational attainment
- Enhanced content and process knowledge

Method:

153 families that had never been to Thanksgiving Point before were recruited to participate. They had three months to visit all venues. 60 families visited all four venues and completed the end-of-experience survey. Post-then-Pre survey design as well as open-ended responses were used in the survey. 95 indicators were measured and analyzed using two-tailed, paired t-tests.

Result Highlights:

- The study showed incredibly positive results.
- 67 of the 95 indicators showed statistically significant positive change (71%).
- Most meaningful aspect of participants' experiences was spending quality time with their family.
- Participants were surprised at Thanksgiving Point's quality, size, beauty, and variety of experiences.
- The results were shared with policymakers and other key stakeholders to garner more support for Thanksgiving Point.

Importance

With competition for outside support on the rise, it is increasingly important for informal learning institutions to demonstrate their value. They can do this by measuring and reporting on their impact. This session will show how others can conduct similar studies, and we will discuss the implications of conducting these types of studies in support of our organizations.

Alan Brown's Paper

Alan Brown, *WolfBrown*

Purpose

Drawing from a published paper, "Measuring the intrinsic impacts of arts attendance" (*Cultural Trends*, 2013) and other more recent impact studies, Alan Brown will share insights on frameworks for intrinsic impact in the performing arts sector in order to explore intersections with informal learning outcomes in the museum context.

Abstract

WolfBrown has published extensively on approaches to impact measurement in the performing arts, but tools for effectively measuring how museum experiences affects audiences are just being explored. Anecdotal stories of impact provide helpful information, but as arts groups are called upon to provide more rigorous evidence of the impacts of their artistic programmes, a more systematic measurement approach is needed to convey the intrinsic value of their work.

Importance

While evaluators have been measuring a range of visitor impacts for many years, we are still searching for better frameworks. This segment will open a window into recent work in the performing arts sector to see what frameworks and/or methodological approaches might be transferable.

References

Brown, A., Novak-Leonard, J. L. (2013). Measuring the intrinsic impacts of arts attendance. *Cultural Trends* 22(3). 223-233.

Spotlights on Learning

Kimberlin Sturgis, Children's Museum of Houston

Importance

The Children's Museum of Houston developed three scales to measure parent perception of their children's learning related to exhibit interactions. This research enables the comparison of parental perceptions across exhibits/programs. Additionally, it enables the aggregation of data to permit an understanding of the Museum's broad-scale impacts.

Look Back and Look Ahead to Track Changes and Measure Impact

Lei Zhao Ph.D. *Data Analyst Shedd Aquarium*

Purpose

This presentation will first provide audience an overview on the changes of visitor demographics over the past 10 years at the Shedd Aquarium, and how this information has been informing Shedd's next ten-year strategic planning. As this institutional mega plan being developed and new mission and initiatives being created, a measure of success and the long-term impact of every aspect of this plan calls for appropriate research and evaluation methods, tools and measurable key performance parameters. In light of this context, the second part of this presentation will address Shedd's recent efforts on developing a tool to measure and track visitors' conservation science learning and advocating the importance of using consistent methodology and standardized measures within an institution.

Abstract

Shedd Aquarium has recently finished drafting a strategic plan for the next 10 years, focusing on increasing its visitor diversity, broadening its impact on the communities, and becoming a more influential advocate for conservation research and learning. As we think about what we would like the institution to be in the next 10 years and what we should do in order to achieve our goals, we are also reflecting on how the aquarium has changed in the past 10 years and continues to change in responsive and responsible ways to the needs of society. We believe a better understanding of the changes in our visitor population will help us better strategize the ten-year plan and develop more rigorous methods to measure the impact of the aquarium on visitors, the surrounding community, and society. A series of trend analyses was conducted to reveal the changes of Shedd's audience from the past 10 years including the type of visitor group, ethnicity, age of visitors, visit history, and where visitors originate etc. This information informs the development for new initiatives in order to increase attendance as well as improve the quality of visitor experience onsite at Shedd. A comparison of this information to the regional demographics will provide evidences on how Shedd has been serving the community and what kind of community outposts and programs that Shedd needs to continuously work on in order to fulfill the mission of a long-term impact on the society. In the same vein, this strategic planning also addresses that Shedd will need identify effective tools and parameters to gather evidences in order to prove the existence of its long-term impact. Just like many other zoos and aquariums, Shedd operates in an era of increasing public scrutiny and criticism. Despite educational and conservation focused missions, most zoos and aquariums are often perceived as places for entertainment and lesser so destinations of learning or providing positive impact on conservation education (Clayton, Fraser, & Saunders, 2008; Falk, 2009; Ballantyne, Packer, & Falk, 2011; Ballantyne & Packer, 2016). Shedd along with other zoos and aquariums across the nation are working together now on developing an instrument aiming to understand how visitors are connecting to animals and the natural world, through which to further demonstrate the relevance and effectiveness of visitor experience living up to their

institutional missions. In addition, this work will eventually manifest how zoos and aquariums can bring positive impact to visitors, increase their knowledge, heighten their appreciation and concern, and even support their development of pro-environmental behaviors.

Importance

Nowadays, visitor population of zoos and aquariums is constantly changing as it is more culturally and ethnically diverse. In order to be successful at catering this diversity and to make a meaningful impact on the society, zoos and aquariums must know and understand their visitors. Meanwhile, it is critical to address the role of zoos and aquariums as a conduit for their visitors to connect with animals and nature which may ultimately cultivate greater support and adoption of pro-environmental behaviors. Since there is generally less known and lack of strong evidences about how visit experiences impact conservation learning, specifically conservation affect, zoos and aquariums need to put more efforts in establishing a rigorous research system with appropriate tools and methods in place to measure long-term impact. This section will present what Shedd has done so far in terms of creating its own research system to understand and measure institutional impact.

References

Ballantyne, R., & Packer, J. (2016, 07). Visitors' Perceptions of the Conservation Education Role of Zoos and Aquariums: Implications for the Provision of Learning Experiences. *Visitor Studies*, 19(2), 193-210.

Ballantyne, R., Packer, J., & Falk, J. (2011, 12). Visitors' learning for environmental sustainability: Testing short- and long-term impacts of wildlife tourism experiences using structural equation modelling. *Tourism Management*, 32(6), 1243-1252.

Clayton, S., Fraser, J., & Saunders, C. D. (2008, 09). Zoo experiences: Conversations, connections, and concern for animals. *Zoo Biology*, 28(5), 377-397.

Falk, J. H. (2009). *Identity and the museum visitor experience*. Walnut Creek, CA: Left Coast Press.

Absent Visitors: New Approaches to Researching and Implementing Social Inclusion

Sarah Lee, *Slover Linett Audience Research*

Naomi Haywood, *University College London*

Purpose

Visitors to museums, and cultural and heritage settings come from a narrow demographic profile, with, for example, people from minority ethnic backgrounds and from low socio-economic statuses consistently being under-represented. This session attends to the need for these settings to become more inclusive by discussing in-depth, ethnographic approaches to capture and honor the authentic, lived experiences of under-represented visitors. In doing so the session critiques approaches that focus on 'deficits' of such visitors, and instead promotes capturing their wide-ranging resources and ambitions. The session invites conference delegates to critically reflect on the use of ethnographic approaches, and get hands-on in thinking about how such approaches could be adapted in their own institutions and practices. Delegates will explore new ways to

research and implement social inclusion in museums, and cultural and heritage settings, thus supporting the sector's commitment to provide advocacy for under-represented visitors and offer greater community value.

Abstract

Background of the Session

There is increasing awareness across the visitor studies sector concerning the importance of museums, and cultural and heritage settings becoming more inclusive (Sandell & Nightingale, 2013). The limited previous research on under-represented visitors has often focused on what they lack and the 'barriers' they face (Dawson, 2014). This conference session showcases the value of moving away from such a 'deficit model' to explore the activities that under-represented visitors do participate in, what networks of support they draw on in their every-day lives, and what interests and aspirations they have.

Using Ethnographic Approaches at the Science Museum in London

The session will first present a study based at the Science Museum in London (UK), during which ethnographic approaches were used to gain insights into under-represented family visitors. It will discuss what ethnographic approaches are and how they were adapted to suit the museum setting. For example, 'being part' of families' everyday activities provided insights that are of great relevant and importance to the Science Museum. The session will outline how analysis and interpretation was carried out, and how the findings support on-going practice and strategic directions at the Science Museum. Overall, it is argued that it can be overly simplistic to focus on the 'barriers' that some visitors face as this deflects from inherent complexities, and disregards people's values and existing resources. The session highlights the importance of in-depth research that establishes longer-term relationships with communities, attends to lived experiences, and builds empathy.

Using Ethnographic Approaches in Other Settings

The session will discuss how ethnographic approaches can be adapted to a variety of museums, and cultural and heritage settings, such as art galleries and live music performances, as well as different kinds of under-represented audiences. It will outline that ethnographic approaches take a different starting point than 'measuring' visitors or 'evaluating' specific interventions. Ethnographic approaches can also inform quantitative or more structured qualitative work, and can be a valuable lens through which to interpret findings gained from other approaches. This account will inspire new ways to research and implement social inclusion in various settings, providing food for thought during the subsequent group discussions.

Group Discussions

Conference delegates will be asked to get hands-on in thinking about how ethnographic approaches could be adapted to their own institutions, research and evaluation practices. In small groups delegates will discuss the process of designing an ethnographic approach that is relevant to their institutions, including how to recruit research participants, and drawing lessons from the findings. Delegates will also reflect on the potential challenges and drawbacks of ethnographic approaches, such as the necessary time commitment.

These group discussions will provide opportunities to consider how the visitor studies sector can shift from understanding existing visitors and their needs to also focus on 'absent' visitors and how they can be included.

Importance

There is a growing demand among visitor studies professionals for insights on how to reach beyond current visitors, particularly with respect to communities that are under-represented. In addition, most museums, and cultural and heritage settings aim to actively aspire towards being recognised as welcoming and relevant settings for a diverse range of visitors to enjoy themselves and to learn. The session sparks reflection on using overly simplistic approaches to understand under-represented visitors, and critiques the value judgements that underpin these approaches. It offers delegates opportunities to consider and start developing ideas to using ethnographic approaches in their institutions. Collaboratively, delegates and presenters will discuss how such approaches can build empathy and provide insights into people's everyday lives and associated resources rather than focusing on their 'deficits'. The session offers new pathways towards inclusive practice, and can shape strategic directions and future research in the visitor studies field.

References

Lawson, E. (2014). "Not Designed for Us": How Science Museums and Science Centers Socially Exclude Low-Income, Minority Ethnic Groups. Science education, 98(6), 981-1008.

Sandell, R., & Nightingale, E. (Eds.). (2013). Museums, equality and social justice. Routledge.

The Path to Assessing Student Learning Requires Planning and Perseverance

Amanda Krantz, RK&A

Emily Holtrop, *Cincinnati Art Museum*

Melissa Higgins-Linder, *National Art Education Association*

Purpose

Fieldtrip programs are the primary ways museums serve students (and in great numbers!), but assessment of student outcomes is often cursory because students are difficult to access. In this session, we will share lessons learned in studying fieldtrips for a national study, the NAEA/AAMD Impact of Art Museum Programs on Students research initiative. We hope attendees will leave the session with a solid understanding of challenges to accessing students and strategies for successfully working with schools for research and evaluation.

Abstract

Fieldtrip programs are the primary ways museums serve students (and in great numbers!), but assessment of student outcomes is often cursory, in some part because students are difficult to access. Our goals are to raise awareness of challenges of working with students and to present strategies used to successfully gain access to students for the National Art Education Association (NAEA) and Association of Art Museum Directors (AAMD) Impact of Art Museum Programs on Students research study. In this study, we are working with six museums

and 37 schools in seven school districts across the country, with a total of 4200 students currently enrolled in the study, contingent on parent consent.

While the scale of this study is not something that most researchers or evaluators are likely to undertake, the lessons we learned in the process of working with a variety of districts across the country can speak to a host of participants interested in conducting research with students at their museum or institution. For instance, while each school district has had very different policies (and some no policies at all) for doing research with students and teachers, we found some trends and common stumbling points that researchers and evaluators can consider when thinking about working with students.

Some points that we want to emphasize:

CLEARLY SHOW THE BENEFIT — You must be crystal clear in articulating to the school district how the benefits of this work outweigh any risks to students as well as the expenditure of classroom time for the study. Also, schools need to see a benefit to them; the more direct the benefit, the better. For instance, the benefit of growing knowledge is not sufficient. You may need to offer something extra to them, such as free bussing, teacher professional development, or even school-level analysis for them to use.

PLANNING— Take planning time seriously. You need a clearly thought-out and well-articulated plan to take to schools. You will also need plenty of time to work through the IRB and school district reviews.

CLARITY— Clarity of communication with schools is essential and may take work. There is no one-size-fits all communication style that works for every school district (and school or teacher), so be perceptive to schools' needs and respond to them.

PERSEVERANCE — Teachers and administrators are busy. You must walk a fine line of being persistent, but not a nag. Be attentive to schools schedules, with particular regard to breaks and testing. In concluding the session, we would also like to generate dialogue around studying school fieldtrips, posing questions such as:

1. For the needs of our study, we felt it was crucial that we access students for observations, interviews, and questionnaires to triangulate data and feel confident in the results. Are there alternative ways to assess learning outcomes that are less invasive but still rigorous?
2. Are there ways we can partner with schools earlier in the process so that the benefits of the research and evaluation truly benefit both parties?

Importance

In the past five years (based on the evaluator's experience), research and evaluation involving students has become more difficult as school districts have unrolled guidelines that make accessing students (and teachers) through district-approved protocols challenging. Even as the IRB has (depending on interpretation) relaxed guidelines about the IRB requirements for social science research (Murphy, 2017), we do not perceive the barriers to working with schools going away anytime soon. Therefore, researchers and evaluators who might want to include students (or teachers) in their study must learn to navigate the system to secure appropriate approvals.

References

Murphy, K. (2017, May 22). Some Social Scientists Are Tired of Asking for Permission. The New York Times. Retrieved May 30, 2017 from https://www.nytimes.com/2017/05/22/science/social-science-research-institutional-review-boards-common-rule.html?_r=0

Additional Links

National Art Education Association, Museum Education Division, white paper about the NAEA/AAMD Impact of Art Museum Programs on Students Research Initiative: http://bit.ly/ArtImpactWhitePaper

"Science Identity" in Exhibitions, Evaluation, and Visitor Experience

Erin Milbeck Wilcox Research, *Associate, RK&A*

Gemma Mangione Lecturer, *Arts Administration, Columbia University Teachers College*

Consulting Analyst, RK&A

Erica Kelly, *Senior Exhibit Developer San Diego Natural History Museum*

Purpose

How do science identities—the socially structured meanings different people make from science experiences—impact museum visitors? More broadly: How can professionals use theories of inequality to diversify exhibition design, evaluation, and visitor experience? We'll explore these questions discussing a citizen science exhibition at the San Diego Natural History Museum.

This session is geared toward active dialogue for museum staff and more experienced professional or freelance evaluators who are interested in a) diversity issues and b) research-based exhibition development and assessment.

By the end of the session, participants should be able to:

1. Define the concept of "science identity" and understand how it impacts visitor experience in science and natural history museums
2. Appreciate how practices in evaluation, exhibition, and research design can broaden understanding of diversity and diversity issues in visitor studies
3. Learn different strategies for incorporating social scientific theory into evaluation design and assessment

Abstract

By focusing specifically on the evaluation of San Diego Natural History Museum's (theNAT) "Extraordinary Ideas" exhibition, this panel provides broader information on a) the concept of "science identity" and its utility for understanding visitor experience in science and natural history museums; b) how evaluation, exhibition, and research design can bring issues of diversity into visitor studies; and c) different strategies for incorporating social scientific theory into evaluation design and assessment. It will do so through three 10-minute presentations addressing the development of theNAT's "Extraordinary Ideas" evaluation from different perspectives.

A first presentation will give an overview of the exhibition and how its design and interpretive approach supported its communication goals, and will introduce the core questions that drove theNAT's evaluation objectives. To clarify high-level learning goals and objectives for visitors in a citizen science exhibition at theNAT, the exhibition team used a model developed by the National Research Council (2009) Committee on Learning Science in Informal Environments to articulate the hope that visitors would "experience excitement, interest, and motivation to learn about the natural world and the history of science" (National Research Council, 2009, 58). Acknowledging that many of the museum's visitors self-identify as people who love science, the museum set out to engage and learn about, through the exhibition, those who may not have previously felt there was something for them at theNAT. In its focus on citizen scientists, the exhibition aims to explore how people without professional training in science have contributed to scientific research. The exhibition strives to provide a broad definition of what it means to participate in science, thereby creating a more inclusive face for "science people."

A second presentation will briefly review social scientific research on "science identity" and discuss its opportunities and challenges for informal learning environments, including difficulty in measuring and evaluating it. As a concept, "science identity" explains how people make meaning from science experiences, and how society structures possible meanings for those people. According to one model (Carlone and Johnson, 2007, 1190), the concept consists of three overlapping dimensions: the performance of expertise (ways of talking; using tools); recognition (recognizing one's self, or being recognized by others, as a "science person"); and competence (having knowledge or familiarity with science content). Within higher education, research often focuses on social barriers mediating how members of particular groups (such as women and people of color) may be less likely to perceive themselves as scientists. These barriers shape the underrepresentation of particular groups within scientific education and industries.

The third presentation will conclude with details of how this research background informed development of the evaluation plan and interview instrument and give a brief overview of relevant findings from the study. Following the presentations the audience will be encouraged to participate with the panel in a discussion focused on personal reflections on science identity; the role of science identity in their work; the role of theoretical or scholarly research in their work; and challenges and opportunities for combining research studies and exhibition evaluation.

Importance

The session will explore the concept of science identity by discussing its utility and applications in exhibition development, evaluation design, visitor experience, and participants' work and organizations. It does so acknowledging that a) while science identity has been explored extensively in research on formal learning environments and the professions, it has been less frequently applied to informal learning environments like museums; and b) the incorporation of a research-based framework into exhibition evaluation is often accompanied by practical challenges. We will provide a case study of how to incorporate scholarly research into museum practice in ways that advance museums' goals to diversify their audience and promote more inclusive content and visitor experiences. Facilitated group discussion will allow attendees to connect the study with their

own work; to discuss opportunities and challenges for similar projects; and to reflect on the role of academic research and theories of inequality in broader museum practice.

References

Carlone, Heidi B. and Angela Johnson. (2007). Understanding the Science Experiences of Successful Women of Color: Science Identity as an Analytic Lens. Journal of Research in Science Teaching 44(8), 1187-1218.

National Research Council. (2009). Learning Science in Informal Environments: People, Places, and Pursuits. Committee on Learning Science in Informal Environments. Bell, P., et al (Eds.). Washington, D.C.: The National Academies Press.

Additional Links

Extraordinary Ideas: http://www.sdnhm.org/exhibitions/extraordinary-ideas/

Promoting Conversation Learning and Behavior in Zoos and Aquariums

Roy Ballantyne, *University of Queensland*

Jan Packer, *University of Queensland*

Karen Hughes, *University of Queensland*

Judy Mann, *South African Association for Marine Biological Research*

Purpose

This session will draw on the presenters' published work and work-in-progress, covering over 10 years of research in zoos, aquariums and other wildlife tourism sites, all with the aim of improving the capacity to positively impact visitors' conservation learning and environmental behavior. Based on these research findings, suggestions for the design of effective learning experiences that have a positive impact on visitors' environmental understanding, attitudes and behavior, will be presented and discussed.

Abstract

The session will cover the following topics:

1. An empirical model of conservation behavior and behavior change
2. Designing effective learning experiences that impact visitors' environmental behavior
    a. Personalizing the experience using a knowledge of visitor characteristics
    b. Personalizing the experience using a knowledge of visitor values
    c. Incorporating opportunities for reflective engagement
    d. Reinforcing on-site messages with post-visit materials
3. Measuring impact
    a. Advantages and disadvantages of various measurement techniques
    b. Implications of culturally specific response styles
    c. Summary of findings about the extent and nature of the impact of zoos, aquariums and other wildlife tourism experiences on visitors' conservation behavior

Importance

This session summarizes research findings from a wide range of research projects in zoos, aquariums and other wildlife tourism sites in Australia, Canada, New Zealand, South Africa, and USA. The major findings will be presented, and suggestions for applying the findings to improve the design of conservation education and interpretive experiences will be discussed. Lessons learned from past research will be useful in shaping and informing future research programs, as well as underpinning the design of evidence-based conservation education initiatives. This session is thus of interest to both researchers and practitioners working in zoos, aquariums and other wildlife tourism sites.

References

Ballantyne, R. and Packer, J. (2011). Using tourism free-choice learning experiences to promote environmentally sustainable behaviour: the role of post-visit 'action resources'. *Environmental Education Research*, 17 (2), 201-215.

Ballantyne, R. and Packer, J. (2016). Visitors' perceptions of the conservation education roles of zoos and aquariums: implications for the provision of learning experiences. Visitor Studies, 19, 2, 193-210.

Ballantyne, R., Packer, J. and Falk, J. (2011) Visitors' learning for environmental sustainability: testing short- and long-term impacts of wildlife tourism experiences using structural equation modelling. *Tourism Management, 32,* 6, 1243-1252.

Hughes, K. (2011). Designing post-visit 'action resources' for families visiting wildlife tourism sites. *Visitor Studies*, 14(1), 66-83.

Concurrent Sessions | 10:15-11:30 AM

PAPERS: Institutional Change

Examining Program Evaluation Practice and Capacity in Museums: A New Conceptual Framework

Agnieszka Chalas, *Queen's University*

Purpose

In this paper presentation, I elaborate on a new conceptual framework that, while building on existing conceptualizations of evaluation capacity, is uniquely suited to describing evaluation practice and diagnosing capacity for evaluation in the museum sector. I conclude my presentation with a discussion of the contributions of the framework for ongoing theory, research, and practice.

Abstract

In recent years, museums have increasingly been called upon to engage in comprehensive evaluations of their educational programs in response to funders' increasing accountability demands. Despite this trend, program evaluation has not received much attention in the museum literature. As a result, little is known about what museums are doing to evaluate their educational program offerings, what their evaluation capacity (EC) looks like, what efforts they engage in to build this capacity (if any), or the challenges they face when responding to increased calls for measurable outcomes of programs. Moreover, a conceptual framework to guide future research on evaluation practice and capacity in the museum sector has yet to be delineated. Thus, the development and explication of a framework that conceptualizes the dimensions that comprise EC in museums represents the main contribution of this paper.

Methods

The Conceptual Framework of Program Evaluation Capacity in Museums was developed through a two-phase process. The first phase involved a systematic review of the EC, visitor studies, and museum education literature. This included both identifying the key characteristics or 'dimensions' of EC present in the conceptual frameworks published to date (e.g., Bourgeois & Cousins, 2013; Cousins et al., 2008; Nielsen, Lemire, & Skov, 2011; Suarez-Balcazar et al., 2010) as well as the challenges associated with evaluating educational programs in the museum context. The second phase of framework development focused on confirming the dimensions of EC derived from phase 1. Specifically, key informants who have a broad view of educational program evaluation in museums (i.e., museum educators with responsibility for evaluation, internal evaluators, external evaluation consultants, and university professors working in museum studies and education faculties with program evaluation expertise) reviewed the draft framework and provided feedback on its clarity and contents.

Results

Emerging from the literature review and validation exercise described above, the proposed framework consists of two main categories and seven sub-divided dimensions. The first category describes the factors that influence evaluation practice and capacity in museums in addition to the extent to which museums are likely to engage in evaluation capacity building (ECB) efforts. This category comprises the following four dimensions: context, culture, demand for evaluation, and resources and supports. The second category in the framework consists of three dimensions conceptualized as interrelated capacity indicators—capacity to do and use, evaluation practice, and ECB activity. A detailed description of each of the framework's seven dimensions and the hypothesized relationships among them is presented in the paper. While the framework includes certain dimensions found in other conceptualizations of EC, it can be distinguished from existing EC frameworks by the purposeful embeddedness of its constructs in the museum sector in addition to the prioritization of a museum's capacity to evaluate its educational programs. As such, the framework is uniquely suited to describing program evaluation practice and diagnosing program evaluation capacity in museums.

Importance

While the framework that I elaborate on in this paper is currently in the process of being validated, its implications are three-fold. First, the framework provides a conceptual foundation for understanding program evaluation practice and capacity in museums. This is an important and original contribution to evaluation theory because the EC frameworks published to date bear little relevance to the study of program evaluation in museums. Second, beginning with a Pan-Canadian study, it will serve to guide research on EC in the museum sector; filling the previously identified gap in the literature. Third, the framework will offer museums a tool for its practitioners to reflect on their current levels of EC and identify professional development activities aimed at building it. Such a framework is likely to be useful to those museums interested in making evidence-informed decisions about how to improve their programs to better meet the needs of diverse participants.

References

Bourgeois, I., & Cousins, B. J. (2013). Understanding dimensions of organizational evaluation capacity. American Journal of Evaluation, 34(3), 299–319.

Chalas, A. (2016). Toward evaluating art museum education at the Art Gallery of Ontario. Canadian Review of Art Education: Research and Issues, 43(1), 60–69.

Cousins, J. B., Elliott, C., Amo, C., Bourgeois, I., Chouinard, J., Goh, S. C., & Lahey, R. (2008). Organizational capacity to do and use evaluation: Results of a pan-Canadian survey of evaluators. The Canadian Journal of Program Evaluation, 23(3), 1–35.

Nielsen, S. B., Lemire, S., & Skov, M. (2011). Measuring evaluation capacity—Results and implications of a Danish study. American Journal of Evaluation, 32(3), 324–344.

Taylor-Ritzler, T., Suarez-Balcazar, Y., García-Iriarte, E., Henry, D. B., & Balcazar, F. E. (2013). Understanding and measuring evaluation capacity: A model and instrument validation study. American Journal of Evaluation, 34(2), 190–206.

Additional Links

Agnieszka Chalas' Queen's University profile: http://educ.queensu.ca/students/profiles/chalas

Visitor Motivation as Roadmap to Creating and Marketing Experiences

Tiffany Leason*, Assistant Director of Audience Research and Evaluation, Indianapolis Museum of Art*,
Mindy Cultra, *Managing Director, Halverson Group*

Purpose

To better understand its audiences, stay relevant in people's lives and compete against other leisure activities, in 2016, the Indianapolis Museum of Art (IMA) partnered with Halverson Group, a Chicago-based strategic research firm, to dig into visitors' motivations. This presentation will show how the insights gleaned from this study were deployed across multiple departments to unify museum initiatives around visitors' lives, enabling staff to re-think experiences, employment positions, allocation of resources, and tracking of success. Part of this study included a rigorous audience segmentation that resulted in a three-part strategy designed to protect and nurture the IMA's core audience; attract new visitors; and drive awareness and consideration of the IMA among more people. This presentation will also discuss the successes and challenges of further integrating this approach to segmentation into existing studies, allowing attendees to envision how the IMA's approach might apply to their own institutional needs.

Abstract

For the past several years, IMA staff had been using John Falk's model of visitor motivation to better understand visitors attending different locations, exhibitions, programs, etc. In partnering with Halverson Group, the IMA applied some of Falk's work to a theory called "Jobs to Be Done," which is often used by innovators in business and beyond to help them design products that fulfill the "jobs to be done" in people's lives. This approach would help the IMA to think of itself in an expanded way beyond just competing with other cultural institutions for people's leisure time.

Through understanding the broader "jobs of leisure" the IMA would be able to answer some key questions. Why are people choosing to participate in certain leisure activities? Was the IMA being part of as many people's lives as it could be? What needs or jobs was the IMA fulfilling for current members? Finally, what jobs could the IMA seek to fill to increase its reach?

Halverson Group interviewed more than 1,000 people in the Indianapolis area and adjacent states to find out what situations lead them to seek leisure, what they hope to get out of it, and the activities and destinations they turn to. The stories they collected allowed Halverson Group to identify eight core jobs of leisure, ranging from providing an "Outdoor Escape" to offering a "Mental Reboot" (the presentation will provide an overview of all of them). Halverson Group found that the job the IMA was most often "hired" for only made up 10 percent of all leisure activities in which people engaged in a year. The goal was to satisfy more people's leisure needs, on more occasions, by a larger segment of the Indianapolis community.

Halverson Group used the Jobs of Leisure framework to help the IMA develop a three-part growth strategy:

Protect and Nurture its Base (adding programming that would appeal to current members and visitors in more life situations); Attract New Audiences (while protecting the IMA's core audience) and Drive Awareness and Consideration (create large-scale events that would lead to dramatic increases in visits for non-core programming, while introducing the IMA to a vast new audience).

Used as a planning tool, the segmentation resulted in a renewed focus on the gardens, expanded and new program offerings, as well as an emphasis on the seasons. A calendar of exhibitions, programs, and experiences has been created to satisfy the core audience while building relationships with those who do not have an affinity for the IMA or hold a current membership. This presentation will cover examples of how this approach to segmentation was integrated into paper-based and online surveys for exhibitions, programs, and seasonal experiences; how attendees are segmented to measure whether specific experiences drew the defined target audiences as well as the benefits and challenges of implementing the jobs approach across the organization.

Importance

When it comes to declining attendance to cultural institutions, expanding ideas of what constitutes culture, as well as increased competition with other activities (e.g., outdoor recreation, going to a movie in a theater, visiting outdoor public spaces) (LaPlaca Cohen, 2014), it is important to consider that cultural institutions are also competing with people's busy everyday lives that can get in the way of a visit. Organizations that help people make progress in their lives are frequented more often than those that remain focused on their own offerings. With the aim of becoming a more sustainable institution, understanding audiences' motivations for seeking leisure activities provides a visitor-centered blueprint for short- and long-term growth strategies. Staff museum-wide can leverage an understanding of the jobs of leisure to create programs, exhibitions, and other experiences, and to market those experiences. These insights can also help teams make decisions regarding employment positions and resource allocation.

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Look at Art. Get Paid: Accessibility and Cultural Critique

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Purpose

Look at Art. Get Paid (LAAGP) is an independent, artist-research program that paid people who rarely, if ever, visit art museums to come to the Museum of Art, Rhode Island School of Design (RISD Museum), look at art, and share their thoughts on the museum, its collections, and its visitors. LAAGP used a blended art-research approach to foreground participants' cultural capital and answer the question "What does an art museum look and feel like to someone who doesn't see themselves as the kind of person who would normally visit one?" This paper will detail LAAGP's approach to recruiting and forming relationships with participants and will explore how these individuals thought about art and museums before and after visiting the RISD Museum. This project centered on accountability: on museums being accountable to their audiences, especially those who have been traditionally underrepresented, and on artist-researchers being accountable to study participants.

Abstract

While people with lower SES participate less frequently in a range of art activities, cost is not the only barrier (Moss et. al, 2015). Other barriers include geographic distance and lack of interest, but overall the barriers model is assimilationist, requiring potential visitors to change to fit institutions (Dawson, 2014). In response to these approaches and the historical ways in which museums have sought to enlighten, the independent program Look at Art. Get Paid. (LAAGP) asked how the museum could be enlightened by those that are not presently served by it. LAAGP paid people who rarely, if ever, visit art museums to come to the RISD Museum, look at art, and share their thoughts. Participants were paid $75 for five hours of work. LAAGP took place over five days in November 2016 with 41 participants, including 7 Spanish speakers.

Recruitment and Participant Selection

A bus ad directed interested individuals to complete a survey about their patterns of art museum attendance. The survey also collected demographics including age, employment status, ZIP code, gender, and race/ethnicity. Individuals who indicated that they would not be likely to visit the RISD Museum on their own were given preference and the team worked to create a participant pool that included diverse backgrounds.

Participant Experience

This qualitative study involved 30-minute semi-structured pre- and post-visit phone interviews and an hour-long group discussion at the museum. Before the group discussion, participants had a 45-minute orientation and two hours to explore the museum on their own. Participants were invited to be guest critics, a role that blended the tradition of the fine arts visiting critic and the model of a focus group. During orientation, participants were given open-ended instructions about this role; their job was to observe, feel, and communicate about the museum. The project's main questions included previous experiences with art and museums and how the project impacted their opinions about these things. Using both one-on-one interviews and group discussions fostered individualized relationships with participants.

Outcomes

In the initial interviews, one of the most common responses was a lack of awareness that the RISD Museum existed or that it was free on Sundays. While many participants had visited art museums as children, they had not gone as adults primarily because it was not an activity that came to mind when thinking about how to spend their free time. A number of the participants noted enjoying looking at or creating artwork, but that this was done outside of museums. In the group discussion and post-visit interviews, a number of participants mentioned that their cultures were not represented in the museum. One participant said having more representation is important because "Art is our most intimate expression of who we are as people." While most participants enjoyed their role as guest critics and felt their voices were heard, others wondered whether their opinions were meaningful or if the conversation could have been more useful if it was held with a group of people who were familiar with art museums.

Importance

LAAGP focuses explicitly on those who have traditionally been excluded from informal learning spaces. This project illustrates how researchers and institutions can serve as advocates for audiences by facilitating a forum where individuals can hold these groups accountable, offering critical feedback on the museum and research process. LAAGP foregrounds participants' cultural capital and does not assume that the museum is a valuable experience for everyone. LAAGP's blended arts-research, qualitative approach and its focus on relationship-building will be applicable to those interested in how to gain insight from individuals who don't typically go to museums. While typical arguments about why certain groups do not visit museums have focused on barriers, which inadvertently suggests an assimilationist model where individuals have to change to fit institutions, LAAGP illustrates how art museums can be enlightened by those that are not presently served by these institutions.

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Additional Links

Look At Art. Get Paid. http://www.lookatartgetpaid.org/home/

Reassessing the Museum Experience, RISD News + Events http://www.risd.edu/about/news/2016/reassessing-the-museum-experience/

What's Holding Us Back? Rethinking Outcomes-Based Evaluation in Contents

Jill Stein, *Learning Group at COSI Center for Research and Evaluation*
Dr. Martin Storksdieck, *Center for Research on Lifelong STEM Learning, Oregon State University*
Dr. Shelly Valdez, *Native Pathways*

Purpose

The purpose of this working group is to provide an open platform for discussing outcomes-based evaluation and the cultural assumptions that underlie this practice. As we increasingly engage with diverse communities who bring a range of perspectives and values, it is important to reflect on our practices, values and norms; to explore potential new ways of defining and measuring outcomes; and to re-think the predominance of an outcomes-based framework for measuring success. Key questions include how to define the right level of outcomes (e.g. individual, institutional, community), what are practices for defining outcomes from community-based perspectives, and what are other frameworks for thinking about evaluation from a non-outcomes based perspective, such as through process or relationship. Participants will gain new ways of thinking about the role of outcomes in informal learning settings; and explore evaluation beyond outcomes alone to areas such as process, values and relationship.

Abstract

Outcomes-based evaluation has a long history in the visitor studies field, and is perhaps central to its existence. As museums and other informal learning contexts have shifted from "being about something to being for someone" (Weil, 1999), evaluation efforts have focused largely on what individuals take away from learning experiences, in the form of awareness, knowledge, skills, interest, and behavior changes (Friedman, 2008). While evaluators play an increasingly larger role in identifying, measuring, and understanding impacts of informal learning efforts on society at the broader level (broader impacts), and while we also explore social and family learning (cf. Ellenbogen, Luke, and Dierking, 2004), we are still primarily focused on documenting outcomes for individuals. The premise of our conversation is that outcomes-based evaluation is rooted in specific (western) cultural assumptions that may not capture what is most salient or relevant from a community-based perspective, particularly in non-western settings. For example, an Indigenous paradigm of outcomes emphasizes community level benefits for many generations to come ("seven generations"), rather than what an individual takes away from a single experience or set of experiences (Valdez, 2004). Indigenous perspectives also emphasize core values of relationship, reciprocity, and responsibility (Valdez, 2004; LaFrance & Nichols, 2008), which don't necessarily lend themselves to an outcomes-based evaluation. We hope to build upon the perspectives and experiences of

participants in the room in a facilitated, but emergent, discussion of outcomes-based evaluation, its assumptions and practices.

We would like to structure the discussion in a way that may inform a white paper to be developed more deeply after the conference. We intend this as an opportunity to step back as a field and think outside the box, guided by such questions as:

1. How do we define the right level of outcomes (e.g. individual, institutional, community)?
2. In what ways does the practice of focusing on individual outcomes include or exclude certain voices and perspectives?
3. What are new and emerging practices that open up space for defining outcomes from community-based perspectives, or those that reflect community values and voices rather than those of institutions?
4. What role can the evaluation / visitor studies community play in re-shaping how and by whom outcomes are defined and measured?

After framing the focus and purpose of the working group, session leaders will ask participants to divide themselves into small groups of 3-4 individuals, and will spend 30 minutes brainstorming around these questions. A notetaker will be assigned to each table in order to capture detailed notes of the conversations. A reporter from each group will share out to the larger group, and session leaders will synthesize main ideas, as well as a process for moving forward on developing the white paper.

Importance

This discussion will link to the conference theme, New Pathways in Visitor Studies, by addressing outcomes-based evaluation, a central practice in visitor studies (and the evaluation field more broadly). This active and participatory working group aims at encouraging reflective dialogue about the current value, relevance, and usefulness of outcomes-based evaluation models – particularly in light of ever more diverse and shifting contexts in which we are evaluating. This is an opportunity to examine the forces that are driving outcomes-based evaluation, how outcomes are being defined and measured, by whom, and for whom, how different cultural perspectives on outcomes might influence evaluation practices, and whether there are alternative frameworks that could inform future directions for evaluation and increase the value and relevance of our work.

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Situational Interest: What is It and How DO We Measure It?

Marcie Benne, *Director of Engagement Research & Advancement, Oregon Museum of Science and Industry*
Josh Gutwill, *Director of Visitor Research, Exploratorium*
Monae Verbeke, *Senior Research Associate, Institute for Learning Innovation*

Purpose

Despite the acknowledged importance of situational interest, the construct is notoriously difficult to measure (R. Azevedo, 2015; NRC, 2009). Scholars generally agree that situational interest is an emotional response to conditions, characteristics, or stimuli in a specific situation that motivates attention and effort (Hidi & Renninger, 2006; Renninger & Su, 2012; Silvia, 2006). It is arguably one of the most fundamental components of learning in museums and other free-choice learning environments, where individuals have the agency and control to pursue their own learning interests (Falk & Dierking, 2013; NRC, 2009; Renninger, 2007). More broadly, situational interest has repeatedly been shown to be a principal motivator for learning experiences (Kang et al., 2010; NRC, 2000, 2009) and a prerequisite for long-term engagement (Ainley & Ainley, 2011; Renninger et al., 2015). This session will review recent approaches to studying situational interest and explore challenges, successes, and future directions for the field.

Abstract

To catalyze discussions, presenters will share examples from three different projects of how situational interest has been operationalized and measured and the challenges associated with these approaches.

Interpreters and Scientists Working on Our Parks (iSWOOP)
Monae Verbeke and Scott Pattison

As part of the TERC-led iSWOOP project to help interpreters engage visitors in national park science, the Institute for Learning Innovation is leading research to understand how visitor interests are sparked or reinforced during interactions with park interpreters (Hidi & Renninger, 2006) and how these interactions influence visitor interest pathways (F. S. Azevedo, 2011, 2013). Collecting data through videotaped observations and post-interaction surveys, the team is initially investigating: (a) behavioral indicators of visitor situational interest, (b)

interpreter strategies that spark interest, and (c) visitor interpretations of how the interactions sparked or reinforced their own interests. Preliminary findings suggest that distinguishing between more passive expressions of situational interest, such as exclamations of positive emotion, and more active expressions that influence the flow and content of the conversations, such as asking questions, may be important for understanding the dynamics of situational interest in these settings.

Science on the Move (SOTM)
Marcie Benne and Chris Cardiel

SOTM was an NSF-funded design-based research study led by OMSI and designed to: (a) engage adults with unexpected STEM exhibits in outdoor public transit stations and (b) develop a context-specific framework of factors that afforded or constrained participant behavior. From the onset, situational interest was an intended outcome at SOTM exhibits. By observing and interviewing participants with exhibit prototypes in two locations, the team tested and refined conjectures about relationships between participant outcomes and design and environmental factors. Since no consistent operationalization of situational interest had been established (R. Azevedo, 2015; Renninger & Hidi, 2011), the team found that Bitgood's three-stage model of attention (Bitgood, 2013) offered a lens to identify distinct, observable indicators of movement through the phases of "capture, focus, and engage" and connect these to phases of triggered and maintained situational interest (Cardiel, Pattison, Benne, & Johnson, 2016).

Research on Emerging Adult Learners (REAL)
Josh Gutwill and Nina Hido

By engaging the interest of "emerging adults"—young adults in a life phase of intense identity development (Arnett, 2000; Arnett & Tanner, 2006)—museums may help to launch enduring learning patterns. The REAL team conducted interviews with 116 emerging adults (ages 18-29, no children) after visiting a science center during adult-only evenings or regular daytime hours. Participants reported having two types of science interest triggered, mainly through interacting with exhibits: situational interest (short-term heightened emotional response and shift of attention) and individual interest (prior knowledge combined with an "enduring disposition" to seek out particular content) (Hidi & Renninger, 2006). Analyses categorized the experiences that initiated interest into science content area, interest triggers (adapted from Dohn, 2011), and context of prior interest. The team will discuss the different facets of interest observed, offer examples of the kinds of museum experiences that engendered interest in science, and describe some of the challenges we faced in validly assessing interest.

Importance

Situational interest is of central importance to museum practitioners and visitor studies professionals. Although it has been suggested as a strength of informal learning environments and is often a primary learning goal for museums (Falk & Dierking, 2013; NRC, 2009), there is still much we don't know about how to define this construct, what factors spark situational interest and help visitors extend this interest beyond a single visit, and how researchers and evaluators can assess interest both in the short and long term. By synthesizing lessons learned across projects and drawing from research in other disciplines, the visitor studies field can begin to address these questions and develop more effective strategies for studying and supporting situational interest in

museums and outside of school.

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Risk and Reward: Taking Chances with Reliability

Renae Youngs, *Minnesota State Arts Board*

Elee Wood, *Indiana University Purdue University Indianapolis School of Liberal Arts*

Susan Foutz, *Indianapolis Children's Museum*

Kristi Lekies, *The Ohio State University School of Environment and Natural Resources*

Purpose

There are many decision points when designing and conducting an evaluation, including identifying instruments. We have several choices: use an existing instrument created for another context that might not be valid for the program being evaluated; modify an existing instrument, thereby increasing its content validity but decreasing external validity; or create a custom-fit instrument that is highly aligned with the program but difficult to compare across programs or institutions. In short, most decisions about instruments can pose risks to reliability and validity with which we must reckon. Together, panelists and attendees will wrestle with reliability and validity as concepts that are particularly nuanced in informal settings. As a result, attendees will develop greater appreciation for why and how to balance practices that ensure reliability and validity; consider context and constraints; and increase their comfort and confidence in weighing reliability and validity concerns when making decisions about instrumentation in their work.

Abstract

The concepts of reliability and validity are core to any evaluation process, but they are particularly complex in emerging fields like visitor studies, where both established instruments and a deep literature base can still be hard to find. Where unique projects require flexible methods, evaluators sometimes need to identify the "lesser evil" between a validated instrument that does not fit the project's context or a custom instrument that may have weaker external validity for the constructs being measured. Common evaluation tools certainly have value for advancing understanding of shared questions in the field, but those tools can also risk masking or missing some programs' effects due to poor fit to context. Instruments that are customized to a particular project risk being compromised by inadequate construct validity, particularly when evaluators lack the time, resources or expertise to pilot test and revise their tools. In short, most decisions about instruments can pose risks to reliability and validity with which we must reckon. Measures of validity and reliability also differ across qualitative and

quantitative paradigms, which further complicates the question.

What foundational assumptions and practices can we draw on to better inform the decision making process on instrument development and analysis? This panel will engage attendees in discussing the tensions between validity and reliability in visitor studies and informal learning contexts. Drawing on the panelists' different viewpoints - an evaluator working with both standard and custom instruments in a multi-disciplinary museum, a museum researcher with an expansive view of what reliability and validity look like across methods and experiences, a funder interested in the "just-right" amount of standardized evaluation, and a non-museum evaluator with measurement expertise – the session will highlight the complexity of these choices in different contexts, and how the evaluation design decisions we make can affect the value of a study for immediate stakeholders or for the field at large.

The session will look at decision points in choosing, adapting, or developing an instrument, and what parties in the informal learning field have a stake in those decisions. Panelists will briefly describe some key assumptions and factors that both support and complicate the reliability or validity of evaluation instruments, then share their professional contexts and perspectives by way of describing which factors are primary concerns in their own work. Participants and panelists will talk through a variety of example scenarios together in small groups, describing how and why they would approach each situation and what risks their respective decisions could pose to the instrument's reliability and validity. To reinforce the complex interactions between different decision points and strategies, one or more balancing toys (e.g., building blocks, Jenga games, etc.) will add a visual and kinesthetic component to group discussions: participants will literally take away or add in the different "pieces" of each decision, all while trying to keep their reliability and validity intact and different considerations in balance.

Importance

This session unpacks central concepts of social science research and evaluation, rather than breaking new pathways in the field. However, it does so by challenging us all to reflect critically on what practices may be best in the context of any given study. This approach bridges two important competency areas in visitor studies: it situates a professional's nuanced understanding of social science practices in relation to their need to be responsive to the needs of stakeholders (including both informal learning audiences and the users of studies). Session participants will consider and balance the considerations involved in ensuring the reliability, validity, feasibility, and usability of their work in visitor studies.

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The Social Side of STEM: Evaluating SciCafes and Public Forums

Jennifer Borland, *Senior Evaluator, Rockman et al*

Kathryn Rende, *Teen Science Cafe Coordinator, North Carolina Museum of Natural Sciences,*

Katie Todd*, Research and Evaluation Associate, Museum of Science, Boston*

Chris Cadenhead, *Evaluation Specialist, Pacific Science Center*

Purpose

This presentation explores SciCafes and other live, informal events where public audiences hear from and interact with scientists and have socialization opportunities. Panelists representing multiple institutions will discuss evaluative methodologies and impacts of these programs on participants' understanding of science, motivations to learn more, and resulting behavioral changes

Through a series of panelist presentations, attendees will be exposed to different types of informal STEM programs that feature live presentations from scientists and include opportunities for guests to interact with presenters as well as other guests. In addition to exploring different examples of SciCafe programing and the relative similarities and differences thereof, our panel will focus extensively on the types of research and evaluative questions that have been asked, the subsequent research and evaluation methodologies that have been selected and implemented to study SciCafes and similar programming, and will begin to explore trends and themes among formative and summative evaluation findings as well as outcomes of other research efforts.

Abstract

Public understanding of science continues to be priority for informal learning institutions. A report, just released from the National Academies of Science (2016), asserts that science literacy entails understanding of scientific practices, content knowledge, and understanding of science as a *social* process. SciCafes, and other types of programs that feature live presentations from scientists and include opportunities for guests to interact socially, constitute an interesting model for addressing our society's scientific literacy needs because they expose audiences to current science, invite them to grapple with the primary data visually and orally, and experience the social nature of the process of producing scientific knowledge. As such, more and more institutions are including this type of program and it therefore becomes critical to examine whether allocated time and funding is having the desired effect. This presentation, therefore, seeks to examine similarities and differences in SciCafe programming, and explore evaluative approaches and findings.

Jen Borland, the chair of this session, has worked closely with the American Museum of Natural History, and Preeti Gupta, AMNH's Director of Youth Learning and Research, to evaluate SciCafe programming. In addition to short surveys, AMNH's SciCafe evaluations have also included tracking of attendee's comments and questions posted on Twitter or other forms of social media, and a focus group format capable of gathering additional feedback from dozens of participants immediately following the program in only about 15-20 minutes.

Panelist Katie Todd, a Research and Evaluation Associate at the Museum of Science, Boston, will present information about and findings from evaluations of their Building with Biology project forums. These forums are focused facilitating discussions among participants about socio-scientific issues related to synthetic biology. Museums were asked to collect surveys from scientist and public participants to understand how it impacted their understanding and interest about the science topics as well as how they felt participating in the program benefitted them.

Panelist, Chris Cadenhead, will present about Science Café programming run by the Pacific Science Center at three locations in the Puget Sound region over a seven-year period. The Science Center has experimented with the format of its events: adding trivia, hosting the events in a brewery, branding the talks as PubSci, and hoping to target younger, 25-40 year old, crowds. Guest Feedback Surveys have been employed as an evaluative method for each program.

Panelist, Kathryn Rende, the Teen Science Café Coordinator for the North Carolina Museum of Natural Sciences, will present information on the museum's Open Minds Teen Science Cafés. These SciCafes bring teens together in an informal setting to learn about science and technology. In addition to onsite programming for teens, their SciCafe format extends programming into the digital realm via livestreaming of events.

Importance

Session participants will come away with greater knowledge of a variety of programs that seek to enable scientists to speak with lay audiences in a casual format. They will be able to identify different ways of collecting data with the scicafe audience--including surveys, interviews and focus groups, as well as new methodological approaches. And lastly, participants will gain a common understanding of what we have learned from and about SciCafe and similar types of programming and what we as a Informal Science Education community might seek to explore further in the years to come. This session also invites participants to contribute to the discussion by asking questions and making comments—including contributions based on their own experiences with SciCafe programming.

Additional Links

AMNH Adult SciCafes: http://www.amnh.org/learn-teach/adults/scicafe/

AMNH Teen SciCafes: http://www.amnh.org/learn-teach/grades-9-12/teen-programs/teen-scicafe/

Museum of Science Boston's Building with Biology Program: https://www.mos.org/buildingwithbiology/

North Carolina Museum of Natural Sciences Open Minds Teen Science Cafes: http://naturalsciences.org/learn/teen-science-cafes

Pacific Science Center Teen Science Cafes: https://www.pacificsciencecenter.org/teencafe/

Friday, July 21, 2017

Concurrent Sessions | 1:15-2:30 PM

PAPERS: Family Learning

Children and Adults' Interaction at a Brazilian Science Exhibition

Rosicler Neves and Luisa Massarani
Presented by Shawn Rowe, Oregon State University

Parent Roles during Mobile-Base Educational Experience on a Family Hike

Lucy R. McClain

Purpose

This research study asks: What types of parent roles can be identified that shape the overall family learning experience during a nature hike facilitated by a mobile-based e-Trailguide? How do each of these parents roles promote or inhibit children's learning experiences during the hike? Findings from work with 31 different family groups resulted in five distinct parental roles that manifested across the family groups as they used the e-Trailguide during their hike: 1) Interpreter, 2) Taskmaster, 3) Tech assistant, 4) Tech restricter, and 5) Balancer. Each of these parent roles uniquely shaped the learning experience for not only the children, but also for the family group as a whole during the nature hikes.

Abstract

In the current digital era, children and adolescents use technologies, including mobile devices, for learning purposes across socioeconomic divides (Yardi & Bruckman, 2012), providing opportunities for parents to take on new facilitation roles in their children's learning experiences (Barron, Martin, Takeuchi & Fithian, 2009).

The current research study provides a closer analysis on the learning roles of parents as they engaged with their families in a mobile-based educational program designed for a short hiking trail. Given the rise of mobile applications designed to enhance the educational experience at informal learning sites, this work is important for understanding how the social nature of learning for family groups is shaped and affected by the addition of mobile technologies to the learning activity.

This qualitative study is grounded in sociocultural learning theory with a specific lens towards the concept of guided participation (Rogoff, 2003) and learning roles that parents and children take on during informal learning activities (e.g., Crowley et al., 2001). 31 families (n = 105 individuals) participated in a short hike (0.5-mile trail) with a place-based designed e-Trailguide delivered on an iPad. Using ethnography as the guiding methodology, a thematic analytical approach was applied to the 33 hours of video data from the families' hiking experience to identify emergent themes related to the learning roles parents adopted during the hikes.

Findings resulted in five distinct parental roles that manifested across the family groups as they used the e-Trailguide during their hike: 1) Interpreter, 2) Taskmaster, 3) Tech assistant, 4) Tech restricter, and 5) Balancer.

Using video data clips to contextualize the findings, these five parental roles will be discussed in order to conceptualize the new social learning roles that parents take on during informal educational experiences involving a mobile learning tool.

Importance

Parents and guardians support and may even be the determining factor for a child's educational opportunities outside of the formal school system throughout the adolescent years. Given the rise of mobile applications designed to enhance the educational experience at informal learning sites, this work is important for understanding how the social nature of learning for family groups and parental facilitation techniques are shaped and affected by the addition of mobile technologies to the learning activity. Through a better understanding of parents' roles in their children's learning experience when mobile devices facilitate the family learning activity, researchers and practitioners in informal learning settings can be better equipped to design mobile-based programs that encourage collaborative parent-child learning experiences.

References

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Crowley, K., Callanan, M., Jipson, J. L., Galco, J., Topping, K., & Shrager, J. (2001). Shared scientific thinking in everyday parent-child activity. Science Education, 85(6), 712–732. http://doi.org/10.1002/sce.1035

Rogoff, B. (2003). Learning through guided participation in cultural endeavors. In The Cultural Nature of Human Development (pp. 282–326). Oxford: Oxford University Press.

Yardi, S., & Bruckman, A. (2012). Income, race, and class: Exploring socioeconomic Differences in Family Technology Use. In SIGCHI ACM Special Interest Group on Computer-Human Interaction (pp. 3041–3050). Austin, TX: ACM.

Additional Links

Lucy R. McClain can be contacted at: lucy@psu.edu

Finding the Gap: Museums in Service to Young Multi-Lingual Learners

Rita Deedrick*, COSI Center for Research and Evaluation*

Writers Block: When Reporting Gets in the Way of Use

Ryan Auster, *Museum of Science*
Sarah Lee, *Slover Linett Audience Research*
Lauren Wilson, *Illuminated Ideas*

Purpose

This session will present a critical examination of what is essential in research and evaluation reporting, a discussion of which elements are scalable (across projects, for example), and creative solutions for increasing our capacity as evaluators to effectively and efficiently create reports that will be well-used. The pros and cons of long-form reports will be discussed, along with strengths and weaknesses of alternatives to traditional reports. This session does not invite participants to come with a report in-hand to be "fixed." Rather, discussion will focus on current report use and future directions for increased stakeholder engagement with findings.

TL;DR – Not all reports are being intentionally used! Strengthening our reporting strategies by improving quality and selecting alternative reporting formats for different audiences may help. Let's make a game plan to help us all move forward.

Abstract

A thorough and well-written evaluation report contains many elements, including context, purpose, methods, description of the sample, findings, and recommendations, and perhaps more depending on the design of the study. Despite this, many of these elements are frequently omitted: of the 520 reports posted on informalscience.org written between 1990 and 2013, only one critical element—the evaluand—was contained in all reports; other aspects were found missing in up to 41% of those reviewed (Grack Nelson & Tranby, 2015). To make matters worse, there's good reason to believe that even the best written reports aren't being read: an analysis of 1,611 World Bank policy reports from 2008 to 2012 shows that 31% were never downloaded (a proxy for intent to use), and 87% were never cited by other publications (an indicator of influence) (Doemeland & Trevino, 2014). And even though our beloved visitor studies reports aren't exactly the tomes produced by the World Bank, many of us have experienced the same trend within our industry.

Of course, one method for combatting these issues is to produce consistently high-quality reports that include all the elements our stakeholders need for use. However, thorough reports tend to be lengthy, which may deter use, particularly by C-suite level stakeholders. Another option is to consider our stakeholders carefully and purposefully select an alternative reporting strategy that will engage these audiences more effectively while still providing high-quality information. Several examples that will be highlighted in discussion are presented below.

Micro-report series offer shorter, context-specific reports that contribute to summarizing the project in full for final reporting. For a long-term project composed of multiple programs, micro-reporting unified findings while offering targeted take-aways for program staff. Evaluation findings were summarized in program-specific 3-5 page micro-reports yearly. Following a uniform format, project managers used the full series to compare across programs.

Data dashboards are visual displays of critical information that help stakeholders monitor ongoing metrics or

receive real-time data updates. While dashboards are effective at communicating data in graphical format and eliminate written context, dashboard reports limit the number of visualizations per page and include additional written information or interpretation (Smith, 2013).

Infographics summarize information using visual patterns and images, sometimes graphical, to communicate to audiences. Similar to dashboards, infographics tend to eliminate descriptions of the study or measurements used, but often include text to enhance the intended message.

Video reporting shows, rather than tells about, observed visitor behaviors. In a project-based engineering exhibition, where persistence and testing were important indicators, viewers could watch as visitors worked through challenges. Videoed interviews offered nuance often lost during transcription. On screen, visitors explain their perspectives first-hand, in their own words, giving them virtual face time with stakeholders and decision makers.

The session will break out into small groups focusing on three targeted reporting areas - small-scale or exploratory studies, larger-scale or broader context studies, and ongoing/multi-institutional visitor studies. We look forward to discussing even more reporting strategies and ideas for increasing engagement/use of findings with audience members.

Importance

In a society that has become all too familiar with getting Presidential “news” from a social media feed limited to 140 characters and all too conditioned to a culture that has normalized long work hours, attention spans are fleeting and time is precious. We, as researchers and evaluators, need to find ways of communicating our work effectively, efficiently, and engagingly. It is essential that we challenge the status quo of the long-form report and establish a common understanding of reporting procedures that emphasize utility without sacrificing quality. But it’s not just our attention spans that are dwindling: attendance at cultural institutions is also on the decline (National Endowment for the Arts, 2015). As our organizations work hard to maintain relevance and stay current for visitors, it is increasingly important that our work to understand visitors and their experiences is responsive and actionable for stakeholders.

References

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Grack Nelson, A., & Tranby, Z. (2015). Reporting with an Evaluator Audience in Mind: A BISE Synthesis Paper. Science Museum of Minnesota, St. Paul, MN. Available at https://visa.memberclicks.net/assets/docs/2015/BISE/reporting%20for%20evaluator%20audience.pdf

National Endowment for the Arts (2015). A Decade of Arts Engagement: Findings from the Survey of Public Participation in the Arts, 2002-2012. NEA Research Report #58. Washington, DC: Urban Institute. Available at https://www.arts.gov/sites/default/files/2012-sppa-jan2015-rev.pdf

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user-friendly-evaluation-report

Smith, V. (2013). Data dashboard as evaluation and research communication tool. In Azzam & Evergreen (Eds.), Data visualization, part 2. New Directions for Evaluation, 140, p. 21-45. Available through Wiley Online Library: http://www.wiley.com/WileyCDA/WileyTitle/productCd-1118833546.html

Additional Links

COVES project: http://www.understandingvisitors.org/ GLSC CCZone Highlights (video): https://www.youtube.com/watch?v=5k5MNuAxBJ8&feature=youtu.be

SCIENCES project: http://www.informalscience.org/news-views/sciences-supporting-community%E2%80%99s-informal-education-needs-confidence-and-empowerment-stem

Elevating the Value of Social Science in Science-Based Institutions

Mary Jackson, *Woodland Park Zoo*
Kathy Kiser, *Lincoln Park Zoo*
Nette Pletcher, *Pathways Collaborative*
Lisa Trahan, *Lawrence Hall of Science*

Purpose

As educators and evaluators whose work is rooted in social science, we may encounter challenges in implementing change within institutions made up of colleagues trained in different fields. The goal of this session is to encourage those who conduct educational evaluation at zoos, aquariums, science centers, and other science-oriented museums to communicate more effectively how social science contributes to the institution's mission and improving the bottom line, thereby garnering support from colleagues to engage meaningfully in the sensemaking process, take findings seriously, and apply new practices to their own work. Participants will feel equipped and empowered to talk with their colleagues about education research and evaluation as a vital part of the institution's strategic planning and growth. In particular, we discuss strategies for shifting perceptions of social science within an institutional culture framed around the physical and natural sciences.

Abstract

Through three case studies, this session will discuss how institutional change can be stimulated by using data to drive decisions and by fostering interdepartmental collaboration around data. We stipulate that leading this change requires (1) building common understanding and value of social science and visitor data; and (2) positioning that shared value of data to impact decisions. As a result of this session, we hope more of our zoo, nature center, science center, and museum colleagues will feel empowered to lead from within, inspiring changes through decision making based on social science research and evaluation.

Four panelists – three social scientists and an evaluator -- examine the challenges in communicating about their work with colleagues who have expertise in other fields and suggest strategies for changing the perception of social science within science-based informal learning institutions. We explore the intersection of social science and other areas of expertise including hard science, education, marketing, and sales. We present ideas for

challenging assumptions and shifting perceptions to build common understanding and purpose across departments around the value and use social science research and evaluation.

Case studies are drawn from science-based institutions, but are applicable also to history and art museum professionals. From the Lawrence Hall of Science, we learn the pathways that evaluation and visitor studies have taken towards building a culture of data-informed decision making about museum programs. From Lincoln Park Zoo's experience, we look at behavior change evaluation as the intersection between social science and field science. And from Woodland Park Zoo, we hear how their empathy research is bringing together colleagues from the social sciences and hard sciences. Each of these experiences illustrates an example of elevating social science or evaluation within the institution by building common understanding of its value and fostering interdepartmental collaboration around data.

An important part of this effort is becoming more effective advocates for own work within our institution. Finding occasions to discuss theories of teaching and learning, as well as sharing empirical evidence for improved results when education practices are rooted in those theories, can provide the context needed to appreciate the essential role of social science in the success of our institutions. This session empowers visitor studies professionals to advance the cause in their institution by communicating effectively with colleagues and other departments about the rigor and impact of evaluation and social science research.

Importance

As embodied by the 2017 conference theme, New Pathways in Visitor Studies, our field is challenged to respond to a rapidly changing world by thinking differently about the work that we do. In order to make organization-wide changes to meet the needs of our visitors and to grow our organizations, we will need to collaborate across departments and areas of expertise to create a culture of data-driven decision-making about how to best serve our audiences. Together we explore ways to convey the importance of visitor studies in our institutions.

References

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Wagner, K. F. (1996). Acceptance or Excuses?: The institutionalization of evaluation. Visitor Behavior, 11(2), 11. Retrieved from http://www.informalscience.org/sites/default/files/VSA-a0a1j8-a_5730.pdf

Accessing Evaluation: Creating Evaluation Instruments for Visitors with Disabilities

Mary Ann Wojton, Ph. D., *Lifelong Learning Group at COSI Center for Research and Evaluation*
Deborah Wasserman, Ph. D., *Lifelong Learning Group at COSI Center for Research and Evaluation*

Purpose

To ensure all participants have a voice in evaluation, instruments need to be accessible to all, including individuals who have physical, cognitive or developmental disabilities. Participants in this session will become familiar with factors to consider when creating instruments to measure program outcomes among people with physical, cognitive and developmental disabilities.

Abstract

Giving voice to all program participants is essential, but how do those who are blind access online surveys? How do you measure the impact of programs for participants with cognitive and developmental disabilities?

This presentation will answer these questions by sharing evaluation instruments created for participants with special needs. Panelists will present three instruments each used with a different population: The first example involves work with the National Federation of the Blind and web-based survey instruments created to gather data from participants who are blind. Blind individuals typically access the computer with a screen reader (i.e. JAWS) which provides speech and Braille output for the most popular computer applications; however, screen readers available to the blind do not read many styles of web-based questionnaires correctly. Using JAWS, participants will walk through several iterations of the same Qualtrics survey. Changes necessary to make the instrument accessible will be highlighted.

The second example involves an instrument created to gather post-program data from teens with cognitive and developmental disabilities. A validated fifteen-item questionnaire would have been too taxing for self-report from these youth, especially in the context of a last-day post-program activity. The tool shared in this session was reduced to four items and augmented with three program-specific items. Data supporting concurrent (parent-youth) validity also revealed validity of self-report from this population.

The third tool shared will be an evaluation protocol for a museum's Sensory Friendly Day, which used observation and teacher/parent interviews to determine the program's impact on participants with special needs. After small group discussions, participants will leave this session with a list of items to consider when creating instruments for those with physical, cognitive, or developmental disabilities.

Importance

This session could aid VSA members working to develop inclusive evaluations by providing evaluation protocols that can be adapted for use to measure programs that include blind individuals and those with physical, cognitive or developmental disabilities.

Collaboration as Process, Collaboration as Product—Navigating and Embracing Complexity

Jim Kisiel, *California State University, Long Beach*
Cecilia Garibay, *Garibay Group, Inc.*
Marjorie Bequette, *Science Museum Minnesota*

Purpose

Although messy and unpredictable, partnerships are critical for developing inclusive practices and building institutional capacity. In this presentation, we describe several cases involving community collaborations as either a means or end to a project goal. Such efforts, framed from both theoretical and practical perspectives, point to the shifting roles of evaluators and the importance and the unique challenges of implementing collaboration as a critical outcome or a process for facilitating visitor studies.

Abstract

More and more, engaging community partners—whether well-defined non-profits or loosely connected neighborhood groups—has become a critical objective for informal learning institutions. Such collaborations have the potential to make an exhibit or program more relevant to a particular audience, build capacity for informal education institutions, or reach entirely new audiences. Yet creating and fostering a partnership is not a simple task, as it often requires two groups to change practice, alter perspectives, and consider whether there is really a benefit to working with 'others'. As a researcher or evaluator examining the implementation of a collaboration, or perhaps using collaboration as a method for gathering data, we may also find ourselves negotiating our position between observer and participant. This session examines different cases that involve the creation of a collaboration intended as a means for studying visitors, or as a programmatic goal that enhances the visitor experience.

The first case involves the development of a collaboration between a university and several informal science institutions with the intent of building institutional capacity for visitor engagement supporting the development of novice teachers. Evaluation of the implementation of the partnership was informed by a communities of practice lens, which examines institutional culture in terms of shared activities, goals, and resources. From this perspective, a successful collaboration would involve some kind of blending or co-adoption of these different elements within each community of practice. Findings point to variations in practice and capacity across the three different informal institutions, leading to three different collaboration experiences. These variations in communities of practice among the informal learning institutions required different interactions with the University partner, despite having shared goals.

A second case involves a multi-institutional implementation of a citizen science project in which five science centers collaborate with different local community-based organizations. The research focuses on the collaboration and implementation of the project to better understand the factors that support or impede successful partnerships and how they impact the implementation of initiatives aimed at engaging diverse communities. Partnering institutions were engaged in a process of: a) identifying factors of successful collaboration; b) reflecting on

collaboration and implementation; and c) reviewing emergent findings and providing feedback. A contextual factors framework was developed to ground the study and explain the observed interactions. Four interrelated constructs: partnership dimensions, equity, cultural competence and capacity building, were identified as primary factors in developing successful collaborations. Further insights, based on study findings and research experiences with partnership will also be discussed.

A third case examines an NSF-funded research project examining making, equity, and how families of color engaged with making and with the museum. In this project, researchers worked closely with community partners to recruit over a hundred families as research informants for the project. Improving connections with families like these was a major goal of the project, making this community collaboration both a tool of the research and a goal of the project. Both partners and recruited families were essential as both participants and informants for the overall project direction. Over the course of the project, researchers learned alongside these partners and families about ways to work more collaboratively, and refined their vision of what it meant to have research “subjects" who also helped shape the project direction.

Importance

This session grew, in part, from an observation of the ongoing emphasis in creating collaborations or partnerships as recommended by numerous funding agencies and community institutions. While collaboration is inherently seen as critical for building capacity and relevance, the work needed to implement such plans often seems glossed-over and under-reported. Understanding the challenges of creating partnerships and developing models for sustaining such relationships is a critical element of our work as evaluators and researchers within a field of non-profits and informal learning institutions. Within this session, we hope to examine collaboration from both theoretical and practical perspectives, both as a system under study and as a methodology, which may be useful to both novices and experts within the field of visitor studies (and beyond.)

References

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. New York: Cambridge University Press.

Friday, July 21, 2017

Roundtables | 3:00-3:45 PM

The Polls Were Wrong: Confronting Methodological Pitfalls

Amanda Krantz, *RK&A*
Jennifer Benoit-Bryan, *Slover Linett Audience Research*
Jennifer Borland, *Rockman et al*

Purpose

Our goal is to promote self-reflection on methodological choices as well as increase dialogue and sharing among the visitors studies community around methodology, the "how" or process of our work, in support of VSA Competency C: Knowledge of and Practices with Social Science Research and Evaluation Methods and Analysis. We hope, as a result of this session, participants will: (1) Think about at least one new methodological challenge that they had not considered before. (2) Continue reflection and critical thinking about methodology after this session. (3) Feel comfortable discussing methodological challenges with their peers.

Abstract

This session was inspired after reading a reflection by polling analyst Frank Luntz (2016) about his surprise at the results of the recent US presidential election:

> While many Americans are surprised by the results, the people who populate the punditry class are truly shocked by it. I'm one of them. Many of us relied on a set of polls that were structurally off by 2 or 3 points… Trump voters weren't lying to the pollsters or afraid to be counted. On Election Day and before, they simply refused to be polled. They refused to participate in a political exercise the saw rigged against them. (p. 45)

Luntz highlights a major methodological failure pollsters encountered, but moreover, he acknowledges that the result of the polls, and the fallacy of sampling by what had been considered a tried-and-true method, had deceived us. The UK faced similar polling issues around the Brexit vote. These highly visible errors are reminders for us, as visitor studies' professionals, to be vigilant about our methodologies.

In this session, we particularly hope to channel energy similar to the AAM "Mistakes Were Made" sessions (Merritt, 2017) to promote sharing and learning from methodological failures or pitfalls encountered in our field. Additionally, we hope to promote honest conversation about the necessity of making informed tradeoffs between levels of methodological rigor, time, and budget. Our goal is to promote a community of learning within our field so that museums and other informal learning settings can reap the benefits of more reliable studies from which to make decisions.

Presenters on this panel will provide some examples of methodological pitfalls each have encountered to begin conversation, but we also hope that this session to be driven by participants with examples of the methodological challenges encountered or concerns they have had about methodological rigor. Some topics that might be covered include sampling bias, measurement errors, the candor of research participants, culturally responsive evaluation, recording demographics, and misrepresentations of findings, among other topics. Panelists are eager

to share their experiences and learn with others in the field!

Importance

Methodological integrity is critical for the professionalism of the field of visitor studies but, moreover, to ensure visitor studies research and evaluation produces reliable results for the informal education community to make decisions from. Failures happen in all fields, and it is important that we as a visitor studies community share and learn from methodological failures. As Elizabeth Merritt notes in the recent TrendsWatch (2017), "A bias against failure in research publications is holding back progress" (p. 42). But the problem exists beyond just lack of reporting of negative findings, which she specifically identifies, but a general lack of discussion around the methodology. Let's make some forward progress as a field in talking more about methodology...including pitfalls and failures in particular.

References

Luntz, F. (2016, November). What the polls refused to tell us. *Time*, 188(21), 45.

Merritt, E. (2017). *TrendsWatch*. Washington, DC: American Alliance of Museums.

You Keep Using that Word: Thematic Analysis of VSA Voices

Jeremy W. Foutz, *Principal, STEAM Workgroup*

Purpose

How do you describe the work of VSA? What do you perceive as the primary themes of VSA? Put another way, are we doing what we say we are doing? Describing (or worse, strictly defining) any field or discipline in these ways can quickly turn into a navel-gazing, esoteric exercise with little in the way of action or outcomes. Through discussing the analysis of available VSA texts using machine learning and topic modeling, participants will:

1. Develop a basic understanding of LDA (latent Dirichlet allocation) and topic modeling methodology regarding its approach, value, and limitations
2. Learn about the various themes in written VSA texts uncovered with this methodology
3. Compare the research findings with their understanding and perception of VSA and VSA themes
4. Identify areas of opportunity for/in VSA for future planning
5. Have actionable data to make decisions in determining the thematic areas of VSA

Abstract

As an association of researchers, designers, curators, programmers, and evaluators, VSA comprises diverse group of interests and issues, and members have an amazing array of collective knowledge. Many people involved in the organization have perspectives on its past, present, and future path. These valuable individual perspectives can be enhanced by a close, systematic examination of documents and presentations that are shared and produced by VSA. The number and complexity of the documents, however, makes such an examination daunting to say the least.

Using latent Dirichlet allocation (LDA) and critical discourse analysis methods, this research project examines the language and potentially latent themes used in wrestling with VSA's diverse topics and concerns. This exploratory study highlights a potentially productive avenue for exploring what VSA is "about" by analyzing written texts. The study has three goals:

- potentially latent themes we use in wrestling with the diverse themes of VSA
- examine the language we use in our written discourse
- determine if trends exist with regards to topics and themes

The source material for the analysis is three groups of texts from VSA: 1) nine years of conference abstracts, 2) listserv messages, and 3) documents, content, and newsletters hosted on the VSA website. Document analysis of the type used in this study is just one way to explore what VSA is "about". Regardless of the method chosen, reflection of this type is vital and very valuable for any group, especially one with as varied membership and subject matter as VSA.

Questions to be considered by session participants may include:

- Are the themes – and their relative prevalence - in each source type expected or potentially surprising in some way?
- How do you describe the work of VSA? Based on your experience with VSA, are certain themes missing? What do you perceive as the primary themes of VSA?
- How do we, in our multifaceted roles as the heads and hands of the organization, see and do our work together?
- How does the inherent balance/tension between research/evaluation and practice play out in the official voices of VSA?

The study was not able to gain efficient access to the journal articles or all conference abstracts in time for the 2017 conference, but this content will be included in the next phase of analysis as the study continues. Should other texts be analyzed as well?

Importance

This study is, at its core, about challenging assumptions and critically examining our collective work in the field of visitor studies. While these discussions likely occur at various levels in the organization, it is unlikely such discussions have these types of data to complement experiential and anecdotal data. Examining what primary themes and topics dominate VSA (writ large) and how they are discussed would shed light on how we - in our various shifting roles as the heads and hands of the organization - see and do our work together. The project findings and discussion are tangible ways of contributing to VSA and potentially help guide planning at all levels.

References

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Mimno, David, Wallach, Hanna M., Talley, Edmund, Leenders, Miriam, and McCallum, Andrew (2011). Optimizing Semantic Coherencein Topic Models. Paper presented at the 2011 Conference on Empirical Methods in Natural Language Processing, 27-31 July 2011, John McIntyre Conference Centre, Edinburgh, UK.

Wallach, H., Murray,I., Salakhutdinov,R., and Mimno, D (2009). Evaluation methods for topic models. Proceedings of the 26th International Conference on Machine Learning, Montreal, QC, Canada.

Wodak, Ruth., (1989). *Language, Power and Ideology. Studies in Political Discourse.* Amsterdam: Benjamins.

Additional Links

STEAM Workgroup: http://steamworkgroup.com

Teachers as Reviewers, Informants, Guests, and Guides

Alice Anderson, *Manager of Audience Research and Impact, Minneapolis Institute of Arts (formerly of the Science Museum of Minnesota)*

Purpose

The session will focus on what practical approaches museums use to collect data from schools and teachers. The session will be designed to be a lively conversation among participants addressing the following questions:

1. What is an effective way to share data from schools with your team? With museum leadership?
2. When and how do you collect data from teachers? From other school administrators?
3. What persistent challenge do you have in your work with schools?
4. What information would you like to know from schools that you haven't been able to get?

This will be a "nuts and bolts" session, as participants are likely to get into the details about how, when, where and what we ask for feedback from schools. Participants will leave with ideas for new strategies to use in their own work as well as a new network of colleagues to rely on as they conduct their school evaluations.

Abstract

Museum programs often provide a way for visitors to provide feedback, either in a survey or short interview. This data can be used for documenting how well the program is meeting the needs of the participants, to offer visitors a place to record anonymous feedback, or to ask what is valuable about the program. But when we know that educators and school administrators are chronically pressed for time, even a survey can feel burdensome. Or when an institution reaches hundreds of schools in a year, is it really possible to hear from everyone? Where do we as evaluators decide to put our energies to gather feedback from school staff? What is the most efficient method? Is that method also the most effective for getting the feedback we're looking for? What information is best collected through those short feedback surveys or interviews on the spot? How can we be listening carefully to all teachers when our own time is limited?

For the past five years the Science Museum of Minnesota has been developing systems for gathering data from schools and sharing internally more widely. We have moved towards a system of sharing data from all of our school programs – field trips, outreach programs, special partnerships, School Family Nights – with leadership from multiple departments within our Science Learning Division. In addition, we've performed cluster analyses on our school field trip schools to understand their visitation patterns and preferences. This information has been valuable for making programming decisions and documenting our impact to funders, but has also raised for us new questions about what motivates schools to seek out our programs.

We typically ask questions in one of four categories:

- Decisional questions (Why did you decide to book this program? What do you value about this program?)
- Satisfaction questions (How did you like the program? Did it meet your expectations?)
- Learning and Engagement Questions (How did you see your students learning? Was there adequate hands-on engagement?)
- Feedback and Ideas (Do you have any suggestions for how to improve this program? What about X idea?)

As we gather answers to these questions, it helps us inform:

- Audience Research
- Marketing
- Innovation
- Program delivery
- Inform programming and research directions

Always a work in progress, the Science Museum of Minnesota's School Network team has tinkered with these questions and formats to best serve the needs of program staff and other stakeholders with immediate feedback as well as provide a baseline understanding of our audiences.

Importance

Educators and students are a core audience for any museum, and honoring their diverse needs, priorities, agendas and constraints is a challenge we are share. To identify the alignment with school priorities and museum strengths, we need to listen to educators, their administrators and students through multiple points of feedback. The challenge for evaluation staff is to summarize and distill these voices and share them with stakeholders across different museum departments. While there is no perfect solution for how to approach this, the Science Museum of Museum has pursued these issues in a consistent fashion over the past five years and can share the when and why of why we made certain decisions.

Shared Language for Aligning the Visitor Experience and Design Intent

Lindsay Maldonado, M.S., *Director of Audience Research and Evaluation, John G. Shedd Aquarium, Chicago, IL*
Kris Nesbitt, *Senior Director of Exhibits and Experience Development, John G. Shedd Aquarium, Chicago, IL*

Purpose

Creating and assessing the visitor experience requires a thoughtful understanding of your audience, and the ability to reflect on your own assumptions about how visitors experience your institution. The goal of this session is to discuss how evaluators and designers can collaborate to unpack differences between the visitor experience and design intent. This session allows participants to begin to reflect on their own inherent assumptions about how visitors learn, engage, and experience our institutions. Participants will consider ways to facilitate a similar process within their own institutions. Specifically, this session addresses the following questions: What assumptions exist about visitors and their experiences? How might these assumptions influence the ways in which you think about creating and assessing experiences for visitors? In what ways, can research and evaluation help identify and address these assumptions? How can this collaborative process build appreciation for, and demonstrate the value of, evaluation within your institution?

Abstract

At Shedd Aquarium, the Dimensions of the Visitor Experience (Packer & Ballantyne, 2016), or DoVE, as we refer to it internally, has become a standard tool for exhibition evaluation. The instrument is a list of 15 dimensions (characteristics), with each of the 15 dimensions further subdivided into 75 descriptive, corresponding adjectives. When completing the instrument, visitors choose which of the adjectives best describes their experience. As a successful evaluation tool, we explored the use of DoVE as a shared language for planning and a means to check for alignment between visitor experience and design intent. We always try to put ourselves in the shoes of the visitor, and for the most part, we tend to believe we can project how a guest might feel about the experiences we plan. But is our perspective accurate? Do we really understand what it means to be a visitor? To find out, each member of our planning team explored five of our exhibits “as a visitor.” After each visit, staff independently completed the DoVE as a visitor would. The audience research team analyzed the data, providing individual and combined staff scores for each space. We then compared our aggregate staff score to visitor data. The results were startling. There were wide-ranging differences between how we perceived spaces and how our guests perceived them. Using the instrument this way helped the design team acknowledge their assumptions and reflect

on the true nature of the visitor experience. This reality check has helped us step back and consider the experience from our visitors' perspectives more accurately.

Importance

This session will encourage participants to reflect on their own assumptions about how visitors experience our institutions, assessing how these assumptions can influence the ways in which they perceive experiences for visitors. Aligned with competency B, participants will understand the ways in which personal assumptions influence the principles and practices of informal learning environments, specifically variability between the visitor experience and design intent. Furthermore, participants will unpack field-wide assumptions about visitor.

Making Observations: Identifying Evidence of Learning in Makerspaces

Lisa Brahms, Ph.D., *Children's Museum of Pittsburgh*
Peter S. Wardrip, Ph.D., *Children's Museum of Pittsburgh*
Annie McNamara*, University of Pittsburgh*

Purpose

Making Observations is a project of the Children's Museum of Pittsburgh and funded by the Institute of Museum and Library Services to develop a suite of valid and reliable evaluation tools and approaches for assessing learning through making by practitioners, evaluators and researchers in museums and libraries.

Abstract

Making and engagement in makerspaces is characterized by interest-driven engagement in creative production at the crossroads and fringes of disciplines such as science, technology, engineering, art, and math, and has developed into a recognized social, technological and economic movement (Peppler, Halverson & Kafai, 2016). Although this is a growing area of learning design and implementation in formal and informal settings (Anderson, 2012; Hatch, 2014; White House, 2014), the field does not yet have reliable and valid measures and tools for evaluating and assessing making that are usable and useful for practitioners.

This presentation will discuss the development of a suite of valid and reliable observation tools and approaches for practitioners, evaluators and researchers to formatively and summatively evaluate learning experiences through making. These tools and approaches aim to guide and support the design of facilitation, space and activity for learning.

While the primary focus on the presentation will be on the measurement tools themselves and their utility, there are aspects we will discuss that are salient to this work. First, observation tools have primarily been developed for research and then adapted for practitioners. This work shares how the tools have been developed with

practitioners, both as collaborators in development, and as users from the very beginning, as well as the cost/benefit that arises from this approach. Second, the measurement development process has served as a bridge between research and practice. We will discuss how we have negotiated this divide through the development process.

Importance

This work aims to contribute to the field in at least two ways. As one example, we introduce the measurement tool. This measurement tool seeks to further discourse around practical measurement (Yeager, Bryk, Muhich Hausman, & Morales, 2013). In addition, by involving practitioners in the measurement development process, we also provide a context for building research practice partnerships (Penuel, Coburn & Gallagher, 2013). One positive outcome of that, we argue, is an element of rigor that is connected to the relevance of the research (Gutierrez & Penuel, 2014).

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Additional Links

www.makeshoppgh.org MAKESHOP, a space for building and tinkering through hands-on experiences is located at Children's Museum of Pittsburgh. Learn more about MAKESHOP programs and platforms, including downloadable resources, professional development opportunities for educators, and tips for designing makerspaces for learning.

www.makinginmuseums.org Design-based research study of family learning in museum-based makerspaces funded through a National Leadership Grant from the Institute of Museum and Library Services. Here you will also find a white paper that provides a description and background on the development of a framework for identifying and describing learning in MAKESHOP, the makerspace at Children's Museum of Pittsburgh.

Concurrent Sessions | 9:45-11:00 AM

Investigating Pathways to STEM Identity in Free-Choice Learning Environments

John Falk, *Executive Director, Institute for Learning Innovation*
Smirla Ramos-Montañez, *Research and Evaluation Associate, Oregon Museum of Science and Industry*
Lynn Dierking, *Sea Grant Professor in Free-Choice Learning, Science & Mathematics Education, College of Science, Oregon State University*

Purpose

Although many scholars have embraced identity as an important focus for investigation, the concept remains challenging to operationalize and study. Presenters will provide an overview of research on STEM-related self/identity and highlight three recent studies with adults and youth participating in free-choice learning programs.

Abstract

Viewing self through an evolutionary-sociocultural lens: STEM-related leisure as case study
John Falk
Why do people make the leisure choices they do? Why do some people opt to visit a museum or national park and others chose not to? The answer is to satisfy self-related needs! Building on insights from current research in the social, biological, and neural sciences, Falk (2017) offers a new, evolutionarily-grounded, unified model of how and why humans make the myriad choices they do, including leisure-related choices. The model posits that choice-making is not a linear process but rather an ancient, integrated, never-ending series of feedback loops in which choices are triggered by the perception of self-related needs, with each choice designed to sustain or maximize feelings of well-being. Feelings of well-being are in turn monitored by determining whether or not self-related needs are being met. A case study of a single individual's visit to a natural area will be used to illustrate how this Choice-Self-Well-Being System works.

The Identity-Frame Model: Describing situated identity negotiation for adolescent girls participating in an informal engineering education program
Scott Pattison, Ivel Gontan, and Smirla Ramos-Montañez
In order to advance the literature on engineering identity, researchers from the NSF-funded Designing Our World project conducted a two-year qualitative investigation of adolescents in an afterschool engineering program. The study explored how participants negotiated engineering-related identities through ongoing interactions with the activities, their peers, and adults. Building on the concepts of situated identity (Gee, 2000; Penuel & Wertsch, 1995) and situation definitions (Rowe, 2005; Scollon, 1998), the team developed an Identity-Frame Model of situated identity negotiation, positing that identity negotiation is an ongoing process of performance and framing work by an individual and recognition and positioning work by other adults and peers that creates emergent, context-specific identities and activity frames that are made particularly salient during critical identity moments.

Some elements of the model appeared to be unique to the engineering context, such as activity frames about the nature and goals of the engineering process.

Traces: Emerging short-term outcomes of informal/free-choice STEM experiences among girls of color and their potential long-term influence on identity-building

Lynn Dierking, Heidi Carlone, Aerin Benavides, and Catherine Matthews Is long-term STEM identity-building observed in short-term informal experiences for diverse girls? The team investigated this question through two NSF-funded projects: a field ecology enrichment program (Herpetology Education in Rural Places & Spaces) and a retrospective study of girls participating in informal programs (Cascading Influences: Long-Term Impacts of Informal STEM Experiences for Girls). Analysis showed: (a) almost all girls did identity work, which, if supported, led to long-term impacts; (b) authentic tools and practices allowed youth to accommodate "discomfort" over the long term; and (c) narratives highlighted broadened views of science and other cognitive, social, emotional, and physical learning. The study was important because it tracked the same youth over long periods of time (5 10 years), identified moments that effectively supported identity building to inform program development, and provided a foundation for future research.

Importance

Identity, and the related concept of self, has offered researchers and educators a new lens for understanding long-term engagement with STEM (e.g., Calabrese Barton et al., 2012), the intersection of culture and STEM learning (e.g., Carlone & Johnson, 2007), teaching practices and learning designs that afford or constrain engagement (e.g., Capobianco, Yu, & French, 2015), and more. As scholars have noted, informal learning environments such as museums offer rich opportunities for youth and adults to develop and reinforce STEM identities (Calabrese Barton et al., 2012; NRC, 2009). However, the concepts of identity and self remain challenging to define and study (Falk, 2009). This session will offer participants several different views on how to conceptualize and investigate the role of identity and self in visitor studies.

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Diverse Worldviews in Museums: How Evaluation Can Open New Pathways

Jill Stein, *Lifelong Learning Group at COSI Center for Research and Evaluation*
Shelly Valdez, *Native Pathways*
Nancy Maryboy, *Indigenous Education Institute*

Purpose

The purpose of this panel presentation is to explore visitor perspectives around diverse worldviews of science and the natural world through several recent visitor studies. Participants will gain awareness of recent evaluation projects that examine how diverse worldviews influence visitor experience, explore new ways of thinking about the relationship between institutional and visitor expectations in museums, and increase understanding of the role evaluation can play in opening new pathways of inclusion to diverse worldviews.

Abstract

This panel presentation and discussion will draw from research and evaluation results from multiple National Science Foundation-funded projects that seek to bridge Indigenous ways of knowing and western science in informal learning settings (Cosmic Serpent, Native Universe, and Generations of Knowledge). While the studies differed in focus and overall evaluation question, we included measures around visitors' and staff members' openness and valuing of diverse worldviews of science, as well as their interest in seeing Indigenous knowledge featured in a science museum, or western science featured in a tribal museum. We included quantitative, scaled items focused on individuals' attitudes, perspectives, knowledge, and interest related to Indigenous ways of knowing, western science, and the relationship between the two, as well as an open-ended question related to what visitors thought about featuring Indigenous knowledge in a science museum, and science in a cultural or tribal museum.

While one might have expected museum visitors to traditional science museums/centers to expect conventional or western science, studies showed a strong openness and appreciation for learning about Indigenous perspectives and knowledge of the natural world (Stein and Valdez, 2012, 2016). Visitors came into the museum valuing both indigenous and western science, and felt both were important ways of understanding the world. For the most part, they appreciated the idea of featuring traditional Indigenous knowledge in a science center. Similarly, visitors to two tribal museums were open to exploring science topics during their visit, particularly when linked to or embedded in traditional cultural knowledge and practices.

Native Pathways and LLG have also explored institutional culture around inclusion of Indigenous voice and diverse worldviews, as part of the NSF-funded Native Universe project, which focused on three case study science/natural history museums. While staff and volunteers across the three case study museums generally expressed openness to diverse worldviews (with small groups of individuals at each site expressing a more narrow view of western science), participants in the evaluation consistently viewed their institution as less open to diverse worldviews of science than they were as individuals. While the case study museums saw many successes around increased inclusion of Indigenous voice, the study also noted challenges in shifting institutional culture around definitions of science and how it should be featured in the museum.

After a brief overview of the evaluation findings from across this set of projects, the panel will open up discussion around the ways in which institutional and visitor "agendas" may differ, and the role that evaluation can play in helping to point out these differences and move toward more alignment. The conversation may address such areas as how to engage visitors in diverse worldviews of science, institutional vs. community perspectives around diverse worldviews of science, and/or challenges and opportunities related to diverse worldviews of science. The discussion can be adapted to fit contexts other than science museums, depending on the participants' background and experiences.

Importance

The session aims to link to the conference theme, New Pathways in Visitor Studies, by exploring opportunities for visitor studies to support better understanding of the role worldview plays in the visitor experience, as well as for staff and volunteers. The studies shared will include examples of how attitudes around diverse worldviews of science were measured, interpretation of results, and discussion of implications and applications of this type of study to future work. The discussion aims to provide insights around potential tensions, differences, or overlaps in institutional vs. individual perspectives of science, and the role that evaluation can play in enlightening these perspectives.

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Additional Links

Cosmic Serpent Story Summative Evaluation Report: http://www.informalscience.org/cosmic-serpent-story-summative-evaluation-final-report

Roots of Wisdom Summative Report: https://omsi.edu/sites/default/files/Stein2016_ROW_Public_Summative_Report_With%20Supplement_FINAL_9-13-16.pdf

Cyberlab Instruments for Innovative Learning Research in Multiple Scenarios

Shawn Rowe
Susan Rowe
Mark Farley

Abstract

The Cyberlab learning research laboratory employs new technology to transform exhibits into research platforms and to provide remote data collection tools for researchers around the world. This panel will invite participants to discuss our new paradigm for informal learning research and how it can contribute to larger contemporary research agendas.

Leaving the Temple on a Hill: Evaluating Art Museum Community

Elizabeth Bolander, *Director of Research and Evaluation, Cleveland Museum of Art*
Caitlin Tracey-Miller, *Visitor Research Coordinator, Cincinnati Art Museum*
Laura Weiss, *Audience Research Associate, Philadelphia Museum of Art*

Purpose

Three art museums – the Cleveland Museum of Art, Cincinnati Art Museum, and Philadelphia Museum of Art – have undertaken evaluations to assess the impact of different community engagement activities. The session focuses on different methodological approaches to assessing these sometimes complex institutional initiatives and activities. The session will also cover how these research and evaluation projects can act as catalysts for institutions to consider how they connect with their surrounding communities by reflecting on the role evaluation can play in bringing a greater voice to non-visitors, museum partners, and other community members.

Abstract

The case studies presented during the session offer different approaches to community engagement evaluation in ways that are responsive to both the community and institution's needs.

The Cincinnati Art Museum adopted a five-year strategic plan in the spring of 2016. This plan emphasizes the Art Museum's role as a hub for community conversations and connectedness. The mission of the Cincinnati Art Museum is that "through the power of art, we contribute to a more vibrant Cincinnati by inspiring its people and connecting our communities." One way for the Art Museum to evaluate the success of this mission is by going out into communities and speaking with people about their perceptions of the Art Museum. For the evaluation, the visitor research team developed interactive survey activities and tablet surveys for use at community events and outside locations. Clipboard surveys can be an unpopular option at community festivals, so this research presents questions as quick and fun, and allows participants to see their response alongside the responses of other participants. The research also functions as a visual indicator that the Art Museum is interested in hearing from people in the city. The community voices shared through the research will inform decision-making and help measure strategic planning success.

The Philadelphia Museum of Art was one of the hosts for Inside Out, a project funded by the Knight Foundation that placed high-quality reproductions of artworks from the Museum's collection in outdoor locations. Over the course of two years, the Museum helped bring Inside Out to 22 communities in Philadelphia and the surrounding area, and partnered with nearly 50 organizations in the process. Museum staff identified this project as an opportunity to learn about building better partnerships. The evaluation consisted of pre- and post-online surveys sent to community partners that focused on their project goals and experiences working with the Museum. A series of informal interviews were also conducted with the internal project coordinator to represent both sides of the partnership. Findings from the research were applied to help the Museum better execute later cycles of Inside Out, and will also inform working practices around building, maintaining, and strengthening community partnerships going forward.

In 2012, the Cleveland Museum of Art invited 20 community members to serve on an ad hoc committee, Community Engagement 360°, to guide the museum's expanded engagement vision. The resulting community initiative focused on three nearby neighborhoods and more than 12,000 residents of these neighborhoods were served through expanded programming in 2016. To assess the impact of these programs, the research team conducted a series of in-depth interviews with neighborhood stakeholders, which asked residents how they felt the initiative benefitted them, and what they wished for the future. The findings provided key insights to improve and change the program. Coupled with an annual telephone and email survey gathering awareness and perceptions of the museum by visitors and non-visitors, ongoing investigations into non-visitors and underserved communities have sparked internal conversations about ways to incorporate community engagement strategies throughout the museum.

Importance

Evaluation is an important tool for museums to learn about changes in their communities and become more inclusive of other voices in their work. This is especially important for art museums, which often struggle with the perception of being exclusive or less accessible than other informal learning environments. By "leaving the temple on a hill" and engaging with community members, museum staff send a signal that they are interested in being more inclusive and hearing community voices. And beyond just acting as a signal, the data and findings from such research can be applied to help museums appropriately respond to the wants and needs of their community.

Dressing Up (In) the Exhibit: Impact of Costumes in Museums

Claire Thoma Emmons, *The Children's Museum of Indianapolis*
Valerie Grabski, *Peggy Notebaert Nature Museum*
Merilee Mostov, *Columbus Museum of Art*
Elee Wood, *Indiana University Purdue University Indianapolis*

Purpose

On the surface, costumes appear to be simple interactive experiences that are frequently used to make exhibit content more accessible to visitors, particularly children. Despite their widespread use, there is little to no literature addressing the value or implication of costume use in museum spaces. After noting that costumes are used in very different ways in different exhibits, staff at three different museums—a children's museum, a nature museum, and an art museum—undertook studies related to costume use and its intersections with stay time and pretend play. The findings of these studies provide evidence of several different roles costumes can play, ways that the larger environment factors into visitor use of costumes, and learning/behavioral outcomes of costume elements. After learning about the factors that influence the role of costumes in exhibits, participants will be able to more accurately plan for intentional costume use in different types of exhibits.

Abstract

The Children's Museum of Indianapolis often includes costumes in their exhibits under the assumption that they encourage pretend play. But over the last 10 years, staff noticed that in some galleries costumes were used for pretend play as intended, but in other exhibits they served mainly as a photo-op, and in yet other galleries, the costumes were being worn but did not appear to prompt imaginative pretend play. Over the past year, evaluators have carried out studies in three different galleries. Comparison of the frequency of behaviors and costume use indicate that the presence of costumes in a space is less predictive of pretend play behaviors than the presence of environmental elements to support imaginative pretend play; the studies also confirm that adults often participate in pretend play without wearing costumes themselves.

The Columbus Museum of Art has embedded costumes into formal gallery settings for more than a decade. Until recently, there has been no formal evaluation of this interpretation strategy employed to engage visitors of all ages. CMA has studied 2 different exhibitions where costumes play an integral part in the visitor experience plan. Artist-designed costumes were integral to a 2016 exhibition *Picasso and the Great War* and are currently installed in the experimental gallery*, the Wonder Room*. In both instances, costumes were included to support social, storytelling, and imaginative play. CMA evaluated the impact of costume use on visitor learning and experience *in the Wonder Room* as part of an in-depth 2015 study conducted by Dr. Jessica Luke and Jeanine Ancelet using GoPro cameras. In another evaluation of the costume project in the Picasso exhibition, CMA examined who engaged with the costumes and how they engaged with them.

At the Peggy Notebaert Nature Museum, costumes have frequently been included in exhibits as a way to make exhibits more child friendly, enhance pretend play, and have been associated with increased stay times in exhibits. In the 2016 exhibition, *Weather to Climate*, costume use was not associated with increased stay times,

but it was also noted that the exhibit's audience, style of costumes, and the exhibit element of which the costumes were a part all differed from other exhibits that have included costumes. In order to make more deliberate use of costumes in exhibit design, costume use is currently being tracked in a temporary exhibition in order to better understand what motivates visitors to use costumes and how their use shapes visitors' actions and experiences within the exhibit. This includes examining how different ages (including adults) interact with the costumes and what dynamics within the group or exhibit encourage their use.

Importance

The findings across these different institutions share similarities in the way that costumes and environments enhance visitor experiences and promote behaviors ranging from photo-ops to imaginative play in exhibits. Using this information is useful in planning for costume use among child, adult, and intergenerational audiences. Panelists will present a matrix for predicting the outcomes of costume presence in exhibits which could allow exhibit developers and educators to more intentionally and accurately plan for costume use in museum spaces.

The Discussant will invite attendees to react to the proposed matrix and share their own experiences that either support or differ from the proposed predictions.

Discussion Questions:

1. What are the learning outcomes for costumes? Are they reasonable? Romantic? Visitor-centered?
2. What design decisions are most important for costumes spaces? Do they differ based on the age of the target audience?
3. Is a costume element that is used primarily as a photo-op still valuable?
4. What are other ways we can evaluate the value of costume opportunities for our visitors?

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PAPERS: Findings from Zoos and Nature

The Role of Empathy and Curiosity in Facilitating Social Change

Jerry Luebke, *Chicago Zoological Society-Brookfield Zoo*

Purpose

Based on a collaborative project between the Shedd Aquarium and the Chicago Zoological Society-Brookfield Zoo, this presentation will share some initial findings of a multi-institutional study focused on assessing conservation science learning at zoos and aquariums. In particular, the role of empathy and curiosity will be discussed in relation to visitors' self-efficacy, or perceived confidence, in responding effectively to specific societal issues. The intended audiences for this presentation include: • Evaluators and researchers who investigate how the informal learning process can inspire people to respond to specific societal issues such as environmental degradation or cultural discrimination. • Managers and practitioners responsible for exhibit design and the development of interpretive messages within mission-driven zoos, aquariums, or museums.

Abstract

Zoos and aquariums strive to achieve a range of conservation outcomes, including for visitors to apply their conservation science learning to modify their pro-environmental behaviors after a visit. Recent studies at zoos and aquariums have examined how visitors' positive emotional connections with animals and nature are related to their pro-environmental concern and caring behaviors (e.g., Clayton et al., 2009; Myers et al., 2004). For instance, connectedness with nature can motivate curiosity and has been shown to provide a powerful basis for empathy (Tam, 2013), a precursor to concern about issues such as the impacts of climate change on animals and ecosystems. Furthermore, empathy, defined as an understanding and sharing of another's emotional state or situation (Decety and Jackson, 2004); and curiosity, defined as a motivating factor that provokes people to take on exploratory behaviors and actions (Kashdan et al., 2004); together can facilitate and support conservation learning. From this perspective, empathy and curiosity are relevant components of the informal learning process that can motivate changes in knowledge, attitudes, and behaviors.

In 2013, the research and evaluation staff at Shedd Aquarium set out to develop and validate a questionnaire to measure conservation science learning, particularly the elements of empathy and curiosity, in their aquarium setting. The initial questionnaire was pilot tested at Shedd and findings were shared with zoo and aquarium colleagues for review and comment at the 2014 Visitor Studies Association annual conference. The Chicago Zoological Society-Brookfield Zoo provided additional feedback on item content and the questionnaire's theoretical underpinnings in 2015. After further pilot testing individual items with a small sample of zoo and aquarium visitors, a revised questionnaire was used during the 2016 summer to collect data at Shedd Aquarium, Brookfield Zoo, and four other U.S. zoos.

Data Collection Efforts

Exhibit questionnaires were randomly distributed to visitors following their viewing experience at 13 different animal exhibits across the six institutions. Exhibit animals that were observed included farm animals; wildlife from North America, South America, Africa, and Australia; and various marine animals. In total, 1,330 usable visitor questionnaires were collected. Rating items on the questionnaire represented key facets of the informal learning process including: visitor predispositions toward animals and nature, visitors' cognitive and affective/empathic responses, and visitors' responses regarding their curiosity to learn more and their intentions to act to protect and preserve the natural world.

Self-Efficacy

A basic component to people's intentions to act is their perceived self-efficacy. Self-efficacy refers to the extent of how self-confident or capable people believe they can produce desired effects by their own actions (Bandura, 1997). Perceived self-efficacy has been found to be one of several key predictors of behavior in the general framework of the theory of planned behavior (Ajzen, 2002) and to be a significant predictor of pro-environmental behavior (e.g., Clayton et al., 2017; Milfont, 2012; Tabernero and Hernández, 2011). This presentation will discuss the findings and implications from an analysis that demonstrates the role of visitors' empathy and curiosity in predicting their level of self-efficacy.

Importance

Zoos, aquariums, and other mission-driven museums all employ learning strategies focused on influencing visitors' knowledge, attitudes, and behaviors to alleviate specific societal issues. However, evaluating the impact of a visit, especially related to behavior change, is a complex and problematic task in identifying and measuring the relevant factors that may shape a person's behavior. As such, managers and practitioners at these institutions need a thorough understanding of the dynamic nature of the informal learning process. This session will help participants enhance their awareness of the cognitive, affective, and motivational dimensions of the informal learning process that may lead to behavior change.

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Evaluating NatureStart Network: How Nature Play Partnerships Benefit Urban Families

Jennifer Matiasek, *Chicago Zoological Society*

Purpose

The Chicago Zoological Society (CZS) developed NatureStart Network as a model for bringing together early childhood educators and environmental educators to support nature play, exploration, and inquiry for young children and their families within urban environments. The foundation of the Network was a series of three two-day professional learning sessions that took place over an eighteen month period. The CZS Audience Research Department evaluated NatureStart Network using a mixed methods strategy to gather information from program staff, advisors, participants, and families. Through participant evaluation forms; reports from facilitators, advisors, and families; and learning session observations we saw growth in individual knowledge and attitudes, implementation of new skills, and changes in organizational approaches to young audiences. This presentation will share our evaluation process as well as what we learned about building nature play partnerships between formal and informal educators to increase community nature play opportunities.

Abstract

Informal education institutions increasingly provide young children with opportunities to play in nature. This presentation highlights how the Chicago Zoological Society (CZS) used evaluation to assess and improve the opportunities we provide for children to experience nature and the professional development we provide for educators who facilitate these experiences. With funding from the Institute of Museum and Library Services (IMLS), CZS developed NatureStart Network and brought together environmental and early childhood educators for professional development to support nature play, exploration, and inquiry for young children and their families within urban environments. Project partners included the Forest Preserves of Cook County and two established Chicago-area Head Start programs, Mary Crane Center and El Valor. Hands-on, collaborative learning and reflection activities served as the foundation for the series of three two-day professional development sessions that took place over an eighteen month period.

Methods

The CZS Audience Research Department evaluated NatureStart Network using a mixed methods strategy to gather information from program staff, advisors, participants, and families. Protocols and instruments included participant feedback at five points over the course of the project: immediately before the first learning session, immediately after each session, and two months after the third session, learning session observations, facilitator feedback, advisor feedback, family observations, and assessment of online community development.

Data and Analysis

A total of 86 staff members from the three organizations took part in at least one NatureStart learning session between January 2015 and April 2016. A total of 50 staff members attended all three learning sessions, an additional 18 staff members attended at least two sessions, and 18 staff members attended one session. Of these participants, a total of 48 completed evaluations before their initial phase of training and after their final phase of training that could be matched to assess self-reported change in understanding and confidence over time. A total of 43 participants responded to a follow-up survey two months after their final NatureStart learning session.

Results

Participating educators reported expanding their understanding of the role nature can play in child development and improved their skills to introduce young children to nature in classroom, neighborhood, and forest preserve settings. We saw growth in individual knowledge and attitudes, implementation of new skills, and changes in organizational approaches to young audiences. Individual participants indicated that NatureStart Network helped them to better understand and appreciate the impact of nature on child development, recognize the importance of engaging entire families in nature experiences, feel more confident working with young children, feel personally more connected with nature, and recognize more opportunities to explore outdoors with young children.

Importance

NatureStart Network introduced a new model for collaborating within communities to increase the opportunities for urban families to experience nature. Individual participants indicated that the Network helped them to better understand and appreciate the impact of nature on child development, recognize the importance of engaging entire families in nature experiences, feel more confident working with young children, feel personally more connected with nature, and recognize more opportunities to explore outdoors with young children. Lessons learned throughout this project were used to improve NatureStart professional development activities and strengthen relationships between early childhood educators, forest preserve educators, and zoo educators. Moving forward, the partners all have committed to maintaining these relationships as well as identifying additional opportunities for collaboration. Additionally, from the organizational perspective, each partner is planning to continue to support their staff in expanding their awareness of nature play and their implementation of nature play skills.

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Additional Links

NatureStart: https://www.czs.org/Centers-of-Excellence/Center-for-Conservation-Leadership/NatureStart

NatureStart Network: Building Nature Play Partnerships for Urban Children and Families http://www.informalscience.org/naturestart-network-building-nature-play-partnerships-urban-children-and-families

Forest Preserves of Cook County Blog: Child Educators get a Nature Start http://fpdcc.com/child-educators-get-a-naturestart/

Polar Opposites: Video Attraction Rate at an Animal Exhibit

Erin Tate*, Audience Research Associate Saint Louis Zoo*

Purpose

The presentation will detail the collaboration between various departments of the Saint Louis Zoo and our Alaska Native partners in designing, implementing, testing, and reworking media content at McDonnell Polar Bear Point. The presentation will also walk through determining baseline attraction rates and holding power for video content that shares space near charismatic live animals and how to interpret those results to create a better visitor experience. Although a live animal will always attract more attention, video content that is easily accessible and introduced with the right context can enhance and empower the visitor's experience instead of competing for their time.

Abstract

At the Saint Louis Zoo over 2 million people visit the charismatic young polar bear (*Ursus maritimus*), Kali, at McDonnell Polar Bear Point. Polar Bear Point is a large polar bear habitat that consists of multiple outdoor viewing opportunities and one indoor viewing building with a large glass window looking into a deep pool. The exhibit, which opened in 2015, relies on interpretation staff, keeper chats, and video content (on screens in the indoor and outdoor viewing areas) to contextualize the exhibit in a way that is unlike any other at the Zoo. Featured in the indoor viewing part of the exhibit are the stories told in the first voices video journals created by the Zoo's Alaska Native village partners in Wales, Alaska. In the videos, students interview community members

from the village of Wales on their way of life, their relationship with polar bears, and how that way of life is changing. This first voices approach creates a space for Alaska Native People to tell their own stories, providing a first-hand account to visitors in St. Louis about life in Wales. This unique form of interpretation assists Zoo visitors in creating personal connections with our Alaska Native partners, our polar bear, Kali, and staff and volunteers; potentially empowering visitors to join in the conversation about climate change during their visit. These videos run approximately 5 minutes in length and were originally set up in a queue with the monitors suspended above head from the ceiling.

Methods, Analysis, and Conclusions

A camera was installed in the indoor viewing area to video visitors and study their watching habits during the sampling hours of 10:00 – 11:00 a.m and 3:00 – 4:00 p.m. Using Beverly Serrell's methods of determining Attraction Rate and Holding Power, a list of defining categories was created to determine who is watching the videos, for how long, in what crowd level. With the data gathered from the initial study (showing a 1%-4% attraction rate depending on bear visibility, well below attraction rates of video content in other institutions), cross-departmental collaboration resulted in the idea of a nook area within the indoor viewing area. This space would act as a small theater, allowing visitors to sit, remove themselves from the flow of traffic, and watch the videos at eye level. Further testing resulted in more consistent viewing per sampling hour, more families viewing, and a higher attraction rate overall. Additionally, after temporarily implementing the nook, a separate study conducted on visitor perceptions of the exhibit indicated that 31% of visitors who watched any media content at Polar Bear Point watched the videos featuring our Alaska Native partners. This is an ongoing journey for the Saint Louis Zoo and the interpretive team; new interpretive and accessibility features of Polar Bear Point will be evaluated, tweaked, and evaluated again to further our goal of interpreting climate change, educating visitors, and empowering them to action.

Importance

This session will detail the process of evaluating attraction rate and holding power for video content located near live animal habitat. This is also a story of evolving relationships: collaboration between departments at an institution, building a partnership with our Alaska Native partners that tells their stories in their own words, and how we, as a scientific institution, discuss the complexities of climate change with our visitors wherever they may be on their educational journey. This journey is a spectrum – some visitors may be on their first steps to learning about climate change, while others may be ready to take action. Polar Bear Point, and the partnerships that formed as a result, are a testimony to the courage and forward thinking needed to try novel ideas and forge new paths forward in designing exhibits and interpreting conservation concepts to our visitors.

References

Serrell, B. (2002). Are They Watching? Visitors and Videos in Exhibitions. Curator: The Museum Journal, 45(1), 50-64. doi:10.1111/j.2151-6952.2002.tb00049.

Additional Links

Saint Louis Zoo: Alaska Native People to Shape McDonnell Polar Bear Point: https://www.stlzoo.org/visit/thingstoseeanddo/thewild/mcdonnell-polar-bear-point/alaska-native-people/

Making Connections: Facilitating Learning through Making

Lisa Brahms, Ph.D., *Children's Museum of Pittsburgh*
Peter S. Wardrip Ph.D., *Children's Museum of Pittsburgh*
Annie McNamara, *University of Pittsburgh*

Purpose

Making Connections is a professional learning card game designed to encourage critical discussion about how best to facilitate maker-based learning. Derived from related empirical studies in MAKESHOP at Children's Museum of Pittsburgh, the game cards represent three areas of consideration: the learners, the learning objectives, and the facilitation strategies.

Abstract

Making Connections is a card game designed to encourage discussion about three important factors related to the facilitation of maker-based learning experiences: the learners, the learning objectives, and the strategies used to facilitate learners' engagement in or towards a particular learning objective. Making Connections was developed through the integration of three empirically based research studies conducted in collaboration with educators in MAKESHOP, at Children's Museum of Pittsburgh. Each of the core elements of the game reflects the findings from a related study.

Learner Types

Learners approach a making experience with many different motivations, interests, questions and ways of being. These cards identify a range of archetypes, or examples of the kinds of leaners who may engage in making. These types were identified through a partnership study between the Children's Museum and the Entertainment Technology Center at Carnegie Mellon University (ETC). A student design team from the ETC conducted observations of facilitated interactions between learners and educators in MAKESHOP and derived a learner behavior model that enabled the identification of the eight learner types included in the game.

Learning Practices

The Learning Practices of Making is an empirically identified framework that describes observable behaviors of learners in MAKESHOP. These practices represent the learning objectives that we value and design to support in MAKESHOP, and were identified through a comparative research study to identify, describe and support family learning in museum-based makerspaces. We use a practice-based approach, to identify and describe learning (e.g. Brown, Collins & Daguid, 1989; Lave & Wenger, 1991). In this way, we focus on the behaviors—the actions and interactions of learners as they engage in making as a learning process. This framework serves as a conceptual tool for describing, identifying and ultimately designing for making as a learning process. This framework for learning has enabled us to make empirical claims about learning through making based on the actions, interactions and work of making as it is being carried out in context. In addition, by identifying definitional practices, as learning objectives, we have developed a common language around making as a learning process among our educators that is practice-based. This common language guides ongoing discussions about design—

of space, activity and facilitation--that support learning.

Facilitation Strategies

Educators use an assortment of techniques to facilitate different types of learners' engagement in a maker-based learning experience, towards a particular learning objective. These cards include a variety of these strategies. The strategies included in the game were derived through a partnership between the research-practice team of MAKESHOP and Simple Interactions, a project of the Akiva Lab at the University of Pittsburgh. Simple Interactions (simpleinteractions.org) is a process of engaging facilitators in reflective practice by watching videos of their own interactions with visitors and using the Simple Interactions model to identify and describe strategies used in supporting interactions with individuals and groups as opportunities for learning.

Importance

Making Connections is a tangible resource for critical discussion and professional learning about a key aspect of design that supports maker-based learning: facilitation. Facilitation for learning implies using an awareness of identified learning goals to strategically move learners toward a particular learning objective. Designed to address three important factors related to the facilitation of maker-based learning experiences—the learners, the learning objectives, and the strategies used to facilitate learners' engagement in or towards a particular learning objective—Making Connections enables players to reflect on the ways in which these factors are identified, assessed, and supported in context.

References

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Lave, J., & Wenger, E. (1991). Situated *Learning: Legitimate Peripheral Participation.* New York: Cambridge University Press.

Additional Links

MAKESHOP at Children's Museum of Pittsburgh MAKESHOP, a space for building and tinkering through hands-on experiences is located at Children's Museum of Pittsburgh. Learn more about MAKESHOP programs and platforms, including downloadable resources, professional development opportunities for educators, and tips for designing makerspaces for learning. www.makeshoppgh.org

Supporting Learning in Museum-Based Makerspaces Design-based research study of family learning in museum-based makerspaces funded through a National Leadership Grant from the Institute of Museum and Library Services. Here you can also download the card game: Making Connections: Facilitating Learning Through Making. www.makinginmuseums.org

Learning Practices of Making White paper that provides a description and background on the development of a framework for identifying and describing learning in MAKESHOP, the makerspace at Children's Museum of Pittsburgh. http://makeshoppgh.com/wp-content/uploads/2015/02/MAKESHOP-Learning-Practices-formatted_FINAL_Feb-2015.pdf

Simple Interactions A model for facilitating making and a video-based professional development http://www.simpleinteractions.org/maker---si.html

Entertainment Technology Center at Carnegie Mellon University the premiere professional graduate program for interactive entertainment as it's applied across a variety of field. https://www.etc.cmu.edu/

Data Collection with Sensitive Populations

C. Aaron Price, *Chair, Presenter - Museum of Science and Industry*
Gloria Segovia, *Presenter on behalf of Faith Kares, Museum of Science and Industry*
Fran Mast, *Presenter, Shedd Aquarium*
Bryn Pernot, *Presenter, Brown University*

Purpose

This panel will discuss collecting data from nondominant populations using methods based on both latest scholarship and the personal experiences of researchers at three informal learning institutions. Topics include quantitative and qualitative methodology, accessibility and recruitment.

Abstract

Supporting equity requires striving for everyone to have an equal voice. Historically, scientific and social science data collection methods have marginalized nondominant populations either by intent or accident. One way to minimize marginalization is to be mindful of the sensitivities of these populations when designing a research study. This panel will present ways to collect data from these populations that are based both on latest scholarship and also personal experiences from researchers at three institutions - Brown University working with the Museum of Art, Rhode Island School of Design, the Museum of Science and Industry, Chicago and the Shedd Aquarium.

Panel Topics

- Qualitative research methods and ethnographic techniques (e.g., cultivating rapport and building trust, attending to power and positionality, identifying key interlocutors).
- Working with visitors who are blind or have low vision, visitors who are on the autism spectrum, and senior visitors.
- Visitors who are not familiar with the institutional space of museums
- Issues related to quantitative methodology. This includes the latest research on measuring race/ethnicity, gender identification and socio-economic status while accounting for social desirability bias, importance of diverse recruitment and using culturally validated instruments.

The primary learning goal of the session is for the audience to be aware of the types of things to consider when designing research projects that are equitable in terms of data collection procedures. While specific takeaways and practical advice will be the focus of the panel, it will also emphasize the importance of being aware of how societal changes are being reflected in the field.

Session Plan

After a 7 minute introduction and audience warm up activity, each panelist will present for 10 minutes followed by a 5-7 minute audience interaction period. After each panelist presents, questions will be solicited. If there is time, a short audience discussion will be sparked by the panelist asking for real world examples where audience members have experienced challenges associated with the topic that was just presented. A 2-page printed handout with key talking points, URLs and references will be provided to minimize the need for audience note-taking and hopefully facilitate greater engagement.

Importance

The primary learning goal of the session is for the audience to be aware of things to consider when designing research projects that are equitable in terms of data collection procedures. This mainly addresses Visitor Studies Competency C in that it is about understanding appropriate practices in social science research and evaluation. While specific takeaways and practical advice will be the focus of the panel, it will also emphasize the importance of being aware of how societal changes are being reflected in the field. This is more aligned with Visitor Studies Competency A by addressing historical and current developments in the field. Overall, our goal is for the audience to be aware of the more simple things they can do to make their overall data collection strategies more equitable and where they can go for advice when presented with more complex situations.

Sharing is C(omp)aring: The Value of Cross-Institutional Data

Alexander Lussenhop, *Museum of Science*
Elisa Israel*, Saint Louis Science Center*
Joe Heimlich, Ph.D. *Lifelong Learning Group at COSI Center for Research and Evaluation* Purpose

Purpose

This session centers on initial findings from approximately one year of data collection from the Collaboration for Ongoing Visitor Experience Studies (COVES) project. COVES is a collaboration of 13 (soon 19) science centers from across the United States that all collect visitor experience data via exit surveys using a common survey instrument, which allows for aggregation of data and comparisons of individual institutions to the whole group. The study asks the following broad questions of its institutions: who visits, why they visit, what do they do during their visit, and how do they feel about their visit. During the session, three COVES members will describe the project, present an overview of key findings from the first year of the study, and discuss the potential uses of these findings for individual institutions as well as the visitor studies and museum/science center fields.

Abstract

The COVES project arose from a mutual desire among several science centers to create an infrastructure for collaboration on visitor experience studies. COVES is currently funded by the Institute of Museum and Library Services and represents a collaboration between 13 science centers across the US, ranging in size and geographic location. Six more institutions are scheduled to join and begin data collection on July 1, 2017. The COVES Research and Administrative Teams train staff at each site to collect data and support them along the way.

Methods

The COVES study considers its population to be general public visitors at its participating institutions (school and camp groups are not included). The Research Team uses ASTC's museum size categories to group institutions into one of four groups to determine their yearly sample size target, and each institution's attendance numbers are used to determine monthly sample sizes. Data are collected using an exit survey method. Data collectors randomly sample visitor groups (including solo visitors) at the exit(s) and direct the group to have one adult fill out the survey. As of this writing, we have aggregated 10 months of data from 13 institutions, collected from July 1, 2016 through April 30, 2017. Aggregated, the sample size over 10 months is N=4,810 visitor groups representing 15,225 visitors. The sample size range among sites was wide, from 58 to 690 groups. The aggregate response rate was 46%, and the average response rate was 59% (range = 30-96%).

Data and Analysis

The aggregate Net Promoter Score for the 13 COVES institutions is a 71 (on a scale of -100 to 100), with a range of 58 to 79. (Note: the NPS of 58 is likely unstable due to small sample size.) The most common motivations for visiting the 13 science centers (from a set list) were "To spend time together as a group/family" (37%), "For fun/entertainment for my group" (25%), and "Education for my group/children" (17%). Visitors also rate their agreement with statements about aspects of their visit on a scale from 0 (strongly disagree) to 10 (strongly agree). Ratings of these statements all had medians of 10, except for two items where the medians were 9: "The exhibits were in good working order" and "I was pleased with my overall café/restaurant experience." More aggregate data and examples of comparative data will be presented at the conference session and in a forthcoming aggregate report.

Discussion/Results

Elisa Israel will discuss how her institution and others in COVES have begun to locate their own data within the context of the aggregate data. What opportunities for learning exist? What are the challenges involved in finding meaningful comparisons? She will also discuss the process of reconciling COVES data with existing institutional data. Joe Heimlich will discuss the opportunities for using the aggregate data in the visitor studies field or the museum/science center field. What challenges are there with the types of claims we can make with these data? What opportunities exist to use these data to advance the field?

Importance

There is a need within the museum field for studying visitors and their experiences across multiple institutions in ways that allow data to be shared and even compared. Developing shared definitions and methods of studying the visitor experience will allow for collective growth and improvement. COVES embodies the conference theme of “New Pathways in Visitor Studies” by representing a unique effort among science centers to create a collaborative, ongoing study. The field-wide benefits are extensive, including the ability for institutions to benchmark their visitor data against that of others that are similar and to generally broaden understanding of museum visitors and their experiences (AASLH, 2013; IMLS, 2012). There is also great value for visitor studies professionals in thinking more about collaborative, multi-institutional studies, both in terms of methodological considerations in study design and in thinking about possible uses for the data or other avenues of study.

References

American Association for State and Local History. (2013). Visitors Count: Building stronger history organizations through survey, analysis, and benchmarking.

Institute for Museum and Library Services. (2011). Museums Count Workshop: Data Definitions Expert Reviewers Group. Retrieved January 10, 2012, from http://www.imls.gov/museums_count_workshop_data_definitions_expert_reviewers_group.aspx?F_All=y

Additional Links

COVES website: www.understandingvisitors.org