

28th Annual Visitor Studies Association Conference

July 14-17, 2015
Indianapolis, Indiana

**Where Innovation Meets Rigor: Shaping
the Next Decade of Visitor Studies
Abstracts**

Abstracts



Visitor Studies Association 2015 Conference Abstracts

Introduction

Welcome to the Visitor Studies Association 2015 Conference Abstracts! The Abstracts are designed to provide both a thorough overview of what to expect from each presentation (panel, paper, and roundtable), as well as create a record of what was discussed in Indianapolis for future use. In order to better capture the dynamic conversations that are the hallmark of the Conference, this year's Abstracts are being published later than they have been previously. Doing so allows for more thorough Abstracts, especially in cases where the work is still ongoing and discussions are still taking place. Previous Conference Abstracts are available online at <http://visitorstudies.org/conferenceoverview/past-conferences>.

The 2015 VSA Conference Abstracts were compiled by Valerie Grabski.

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THURSDAY, JULY 14

Session One, 11:00 AM-12:15 PM

Learning beyond the Walls: Evaluating Informal Education Experiences in Public Spaces

Panelists

Chris Cardiel, OMSI

Kevin Crowley, UPCLOSE

Toni Dancu, Exploratorium

Purpose

In this session, we will begin a conversation regarding the evaluation of exhibits in nontraditional spaces intended to reach underserved audiences. As a result of involvement in this session, participants will (a) possess increased awareness of the challenges and opportunities involved in studying audience learning in public settings; (b) gain access to and familiarity with a range of research and evaluation approaches which have been employed in public settings, with the opportunity to discuss potential strengths and weaknesses of these techniques; and (c) identify and establish connections with others active in the field of visitor studies who are grappling with these questions and who can serve as resources and collaborators in their own efforts. Bring an evaluation plan, a data collection instrument, or another resource you'd like to share and join us to discuss current projects and explore the opportunities and challenges involved in evaluating such exhibits!

Abstract

In this session, a diverse panel of presenters will discuss their experiences researching and evaluating interactive, unfacilitated exhibits outside institution walls, especially in public spaces. By exploring the unique opportunities and challenges involved in the development of appropriate evaluation and research plans, metrics, instruments, and protocols for the assessment of such exhibits, we hope to advance the field's knowledge and capacity related to this exciting and promising trend. Intended outcomes for session participants include (a) an introduction to innovative approaches to incorporating feedback from visitors in public spaces, (b) an increased awareness of creative ways to involve and learn from underserved audiences who may be reached through exhibits in public spaces, and (c) a better understanding of the potential challenges and opportunities involved in planning and creating these exhibits.

The session will begin with a brief introductory activity intended to solicit participant questions and encourage active engagement, followed by presentations from professionals highlighting projects which have involved the assessment and improvement of interactive, unfacilitated exhibits in nontraditional spaces. Through the discussion of these diverse projects, panelists will use their own experiences, successes, and struggles to frame key issues for consideration and discussion.

Toni Dancu, Exploratorium, will discuss the Outdoor Exploratorium: Experiments in Noticing and Ciencia Pública projects which bring science content to public spaces; the former to a national park, and the latter to a public street in a predominately Latino/a neighborhood in San Francisco. Toni will discuss the pros and cons of three approaches to improving the feedback mechanism beyond the walls: flyers inviting a broader group of visitors, pop-up events that feature multiple prototypes, and co-developing exhibits with the community.

Chris Cardiel, OMSI, will bring his own experience as the lead researcher on the NSF-funded Pathways project, Science on the Move. This ongoing project was designed to test and refine a model to promote STEM relevance and appreciation by engaging transit riders with location-relevant STEM content through unfacilitated, interactive science exhibits in everyday places. The exhibit prototypes were tested at transit nodes to reach adults, specifically targeting those without college degrees.

Kevin Crowley will discuss lessons learned from three separate explorations conducted in Pittsburgh over the past ten years which have been intended to encourage conversation and engagement through signage and interactives in parks, stadiums, festivals, and other everyday settings. These projects represent a range of education and engagement objectives, and have consequently required an innovative evaluation approach.

Following these presentations, participants will engage in small group roundtable discussions where they can share examples and stories and grapple with key questions. The panelists will bring at least one example of an evaluation or research plan, data collection instrument, or other resource used during the assessment of exhibits in public spaces as “seeds” for discussion, and session participants are also encouraged to bring examples from their own work. The session will end with a large group discussion open to all participants; panelists will also offer a few closing thoughts synthesizing the key points raised during the roundtables.

Importance

As we search for new avenues to reach underserved and underrepresented audiences, creative and nontraditional exhibit placement holds significant promise for the informal learning field. Projects which “take learning to the streets” by bringing the museum or science center experience outside institution walls provide valuable opportunities to introduce content to audience members who might otherwise not have access. However, there are also challenges to be overcome, including the development and implementation of creative evaluation approaches to explore engagement patterns and educational outcomes while remaining responsive to the dynamics of interaction and learning in public spaces. Through participation in the session, it is hoped that participants will build their capacity to explore the nuances of informal learning in public spaces by gaining a stronger understanding of the potential opportunities and challenges involved, and that they leave inspired to explore creative evaluation techniques with the potential to involve often-underrepresented visitor voices.

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Evaluators and Non-Evaluators: Shades of Grey Matter

Chair

Elee Wood, IUPUI Museum Studies Program

Panelists

Susan Foutz, The Children's Museum of Indianapolis

Amanda Krantz, Randi Korn & Associates, Inc.

Purpose

This conversation is geared toward active dialogue for both full time evaluators and those who are involved in evaluation work but may not necessarily be focused on this as their primary work function and may not be formally trained. It provides the opportunity for participants to consider their knowledge of visitor studies practices on a continuum and use that information to make informed decisions about their own capacity to carry

out evaluation. Equally valuable is the ability to know the limits and best practices for supporting and coaching non-evaluators as part of professional practice.

Abstract

The purpose of this hands-on session is to invite dialogue, discussion (and possibly dissent) around the question, “who can do evaluation work”? As the expectations around accountability, performance, impact, and measurement increase, more and more professionals are faced with the need to evaluate. Regardless of size, scale or focus all informal learning institutions ultimately need to conduct visitor studies and evaluation of some kind. Who will do that work varies. Across informal learning environments full-time evaluation positions are growing, but not consistently represented across institutions. Many museums and related organizations may have one evaluator on site, and on the extreme ends of the spectrum an institution may have a full department, or may have no possibilities for a full time position. As a field, visitor studies further encompasses a wide spectrum of roles, from full-time, trained professional on-site evaluators, to non-full time, not formally trained evaluators, to consultants with varying years of experience and expertise, some formally trained and some not. With such a wide range of skills and knowledge it becomes increasingly important to support the full spectrum. For example, the Visitor Studies Association developed a set of competencies for professional development as “an appropriate step in the evolution of visitor studies as a profession” (Visitor Studies Association, 2008 p.1). At the same time, a number of evaluation capacity-building efforts have been underway to support non-evaluators in carrying out their own visitor studies work. Collaborative projects like the Denver Evaluation Network, websites like informal.science.org or shapingoutcomes.org, and institutional groups and committees are all working to develop skills and capacity to understand and conduct evaluation for the non-evaluator. Efforts to build skills in non-evaluators may be seen as a threat to some, and to others a boon in the spread of evaluation thinking. Several studies over time have addressed the professionalization of the evaluation field (House, 1993; Jacob & Boisvert, 2010; Patton, 1990; Picotto, 2011; Rossi, Lipsey & Freeman, 2004) each arriving at a variety of conclusions, but all establishing general criteria: accountability, dissemination of results, and an effort to strengthen programs.

Where does all this put VSA? At present, and certainly within this year’s conference theme, an action-oriented view toward improvement and accountability seems ever-present. Clearly there are unified goals and expectations from all those who work in visitor studies. The higher level goals for supporting change and improvement are well-founded, but at a more granular level, it is important to investigate the dynamics and roles of non-evaluators conducting evaluation and visitor studies. Hand-in-hand with this is thinking about the role of evaluators in working with non-evaluators. From a position of “professional” evaluators, what are the most comfortable parameters for non-evaluators doing evaluation work? How can non-evaluators know and respect the limits of their own capacity?

Importance

Asking “who can evaluate” results in even more questions. Among the key features defining an identity for the field include understanding the roles of prestige and status, ethical disposition, the role of expertise, autonomy,

and even the role of credentialing (Picotto, 2011). The goal of this session is to actively discuss these issues and to highlight in particular the role and value of the VSA competencies in supporting overall practice. In particular, individuals will be asked to consider their place on the visitor studies continuum and how they use that information to make informed decisions about their capacity to carry out evaluation. Our intent is not to arrive an answer to the question who can evaluate, but rather to think more carefully and critically on why we do what we do and how we can continue to improve our efforts, wherever we are on the spectrum of practice.

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Method to the Madness: Where Methods Meet the Real World

How Evaluation Changed a History & Science Exhibition

Presenters

Catherine Hughes, Conner Prairie

Marjorie Bequette, Science Museum of Minnesota

Purpose

This session will explain how evaluators from a history museum and a science museum formed a productive partnership that helped shape the development of a model initiative to marry history and science in an exhibition with staff facilitation at the history center. The exhibition incorporates STEM interactives into historical settings, and aims to support visitors who engage in science, wonder about history, and consider the role that STEM has played in the past and present. We will highlight the ways in which the two very different organizations worked together to plan, carry out, analyze, report, and utilize formative, remedial and summative evaluations. Various phases of the evaluation informed changes to exhibition and interpretation development, and each phase was influenced by having teams with different institutional and disciplinary perspectives.

Project overview

In 2012, Conner Prairie and the Science Museum of Minnesota embarked on an NSF-funded project collaborating on how best to integrate science and history learning. In order to produce an integrated history and STEM experience that allowed for multiple entry points and the opportunity to explore STEM methods and historical thinking, the project team developed an exhibition (approximately 3000 square feet) with live facilitation. Create.Connect opened in March 2014 at Conner Prairie; this evaluation shared here is focused on this exhibition. This initiative also included the development of smaller exhibits at four other history sites in Connecticut, Indiana, Minnesota, and California, and is meant to serve as a model for an interdisciplinary science/history exhibition.

The evaluation collaboration

The entire initiative was a collaboration, including the evaluation of the project. Staff at SMM and CP shared responsibility for data gathering, decision making, and more. At the project's genesis, SMM provided primary leadership for the evaluation, but as it progressed and new staff were introduced to the team, Conner Prairie increased its capacity.

It was necessary to create ways of working together while keeping travel for face-to-face meetings to a minimum. Weekly phone calls, shared data and documents in Google Drives, Basecamp, and emails provided sufficient communication and opportunity to collaborate. These ways of working together extended to the entire cross-institutional project team, which maintained a parallel set of phone call meetings and shared documents.

We also needed both teams to learn each other's institutional language or needs, in areas ranging from schedules and work styles to best ways to report and bring background knowledge into discussions.

Overview of findings and resulting changes

This was a multi-stage, triangulated study, including observations, timing and tracking, surveys and interviews, and recordings of family conversations. Final analysis of the summative findings continues. Overall, we have seen improvement over time, and signs of success in visitor engagement and visitor learning. We will share highlights of results during the session to provide context.

As a result of the evaluation, Create.Connect, and plans for the exhibitions at additional sites, changed in specific ways. For example:

- The more history/context built into the exhibition, the longer the stay times.
- Snoopable objects and text developed out of the finding that if you put text in front of visitors they won't read it. However, if you hide it, they will find and read it.

How did the evaluators and developers learn through this project?

- The remedial evaluation allowed Conner Prairie to foster a prototyping culture that was essential to the success of the project.

- This project has required a deepening level of commitment from CP to evaluation, which moved from ad hoc to permanent over time.
- SMM evaluators saw different behavior in Conner Prairie's visitors to their standard science activities. Witnessing the increased stay times with their own science activities suggested that adding narrative or context could increase stay times in science centers.
- Coding led both teams to refine and negotiate definitions for high quality history and STEM talk.

Importance

This project illustrates how it is possible when teams with different institutional and disciplinary perspectives collaborate to effect greater change and capacity and enable more learning in both teams. Our conversations and negotiations challenged us to make our perspectives explicit and clear, and in doing so, extended our knowledge. The addition of an external partner with evaluation expertise to oversee these negotiations further complicated and elucidated what success looked like in this project.

Possibilities for future research included looking at the impact of gender on history/science activities and at how young people make meaning from the past.

Additional Links

Create.Connect – Conner Prairie Interactive History Park

<http://www.connerprairie.org/Places-To-Explore/Create-Connect>

Implementing Collaborative Exhibition Development in an Art Museum

Presenter

Tiffany Leason, Indianapolis Museum of Art

Purpose

How can we make our exhibitions more accessible to a wider audience, increase visitor engagement with art and their understanding of it, and encourage visitor creativity and connection to the museum? The Indianapolis Museum of Art (IMA) approached these issues by re-examining how we develop exhibitions. By looking at other museums' models for exhibition development and integrating formative testing of concepts and prototypes including a Design Thinking approach, the IMA has been able to employ a more visitor-centered and collaborative approach to exhibition development. We have implemented this new model for five featured exhibitions thus far. Participants will gain a better understanding of the benefits of having an evaluator as part of the core exhibition team and how a team-based and evaluation-driven approach creates a better exhibition experience. This significant institutional change has not been without its challenges and we will cover successes as well as lessons learned.

Abstract

Over the past several years the IMA has made great strides in becoming a more visitor-centric institution. This has been accomplished through creating a culture of evaluation, providing new experiences for audiences through non-traditional programming, implementing a new exhibition development model producing exhibitions that cater to different learning styles, and through participatory projects that allow visitors to create and share their own content. This paradigm shift in museum operation was made possible by support from new leadership that wanted to put the visitor at the center of what we do by engaging the community more, attracting more visitors, and encouraging them to support the museum.

After a restructuring of the museum, a new department of Interpretation, Media, and Evaluation was created and this department along with Curatorial and Design were placed under the umbrella of Audience Engagement. This new department had two main objectives: to create a culture of evaluation and to help create and implement a new model for exhibition development.

Inspired by other museums' more visitor-oriented models (e.g., Brooklyn Museum, Detroit Institute of Arts, Nelson-Atkins Museum of Art, and Oakland Museum of California), our model consists of a core team which includes staff with different perspectives and competencies (i.e., curator, interpretive specialist, evaluator, designer, and a project manager). We develop a big idea and learning outcomes along with an interpretive plan to guide the process with evaluation occurring throughout. Among the various tools that we use, we have also experimented with the Design Thinking approach and staff from various departments participated in a workshop that enabled those who do not normally interact with visitors to conduct interviews and get feedback on rough prototyped activities for an upcoming exhibition. Also, having staff involved who actively advocate for the visitor throughout the process has greatly enhanced the exhibition experience and this has been evidenced through summative evaluations which typically consist of surveys, observations, and interviews.

We have realized many benefits from adopting this new approach such as better integration and usage of interpretive tools in exhibitions, successful implementation of participatory projects within or related to exhibitions, increased attendance and membership, higher visitor satisfaction levels, and better communication of key messages.

This institutional change has also had its challenges. Being able to get all team members' input on various topics during development provides a richer palette of perspectives, but also requires more time to review and weigh in on different aspects of the exhibition. There has been some resistance to the change due to perceived loss of control from those who have traditionally organized the exhibition and created content, as well as experiencing conflict of visions among the interested parties.

As for next steps, we plan to: apply this model to the permanent collection galleries where interpretive tools can have a longer life span; offer workshops to staff to get them more comfortable with the new label writing process and with collecting feedback from our visitors; continue to identify ways to work collaboratively.

Importance

Including an evaluator and interpretive staff on the core team for exhibition planning ensures that the visitor voice is part of the conversation. Having staff involved who actively advocate for the visitor throughout the process has greatly enhanced the exhibition experience and this has been evidenced through the summative evaluations, which usually consists of surveys, observations, and interviews. We have realized many benefits from adopting this new approach such as better integration and usage of interpretive tools in exhibitions, successful implementation of participatory projects within or related to exhibitions, increased attendance, higher visitor satisfaction levels, and better communication of key messages. Our next steps are to further refine the process and apply it to the permanent collection galleries as well as identify strategies for better working together. Topics of discussion with the audience will include successes, challenges, results, and how elements of this approach can be used by other institutions.

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Additional Links

Audience Research & Evaluation Page: <http://www.imamuseum.org/research/audience-research-evaluation>

Playful culture: B-movie bingo at the Indianapolis Museum of Art:

<http://www.theguardian.com/culture-professionals-network/2015/apr/16/playful-culture-b-movie-bingo-indianapolis-museum-of-art>

Leisure & Practice: How Museum Visits Impact Your Work

Presenter

Taline A. Kuyumjian, Oregon Museum of Science and Industry

Purpose

The purpose of this exploratory research study was to understand how museum professionals experienced being a visitor in museums and how their experiences may or may not have influenced their museum practice. Findings from this study were intended to start conversations about how professionals conceive the museum experience and the assumptions they bring to it based on personal museum-going experiences. The following research questions guided this study:

- During recreational visits to museums, what does the visitor experience look like for museum professionals?
- In what ways are a museum professional's recreational visits to museums, and their visitor experience, impacted by their work?
- What assumptions, if any, are museum professionals bringing to their work based on their own visitor experiences?

Abstract

Museums are multifaceted institutions that service a variety of needs within a community. On any given day, a museum functions as a tourist destination, offers a place to enjoy a leisurely day with friends and family of all ages, provides readily accessible educational resources and serves as a hub for community programming. In addition, a museum can also be a very overwhelming space for many visitors. Existing research has documented the nature of the museum experience for a wide range of visitors, but there is very little research that has focused on museum staff as visitors. Specifically, the relationship between museum professionals' leisure-time use of museums and how, if at all, it influences their assumptions about, and perceptions of, the visitor experience merits further exploration.

This exploratory research study sought to understand how museum professionals experienced being a visitor in museums and how their experiences may or may not influence their museum practice. Findings from this study were intended to start conversations about how professionals conceive the museum experience and the assumptions they bring to it based on their personal museum-going experiences. As a qualifier to participate in this research study, participants needed to have a leisurely museum visit scheduled, be a current museum employee and have at least five years paid experience working in museums. Data were collected through a two-part web-based reflective questionnaire administered to 25 individuals.

Findings revealed that participating museum professionals are a unique visitor group which had a hard time separating leisurely visits to museums from their professional practice; experiences in both environments were continually contributing to and shaping the way the other was understood. Participants were not fully aware of the bias they brought to their practice from their leisurely visits. Further, affirmative experiences during leisurely

visits and through subsequent conversations regarding the leisurely visit appeared to be of great personal value to the sample in regards to their professional confidence.

It was evident that these leisurely visits contributed to participating museum professionals' understanding of the visitor experience and are informing how the visitor experience is shaped in a myriad of ways. Participating museum professionals thought deeply and critically about their leisurely museum visits, and took these experiences with them into their practice. This analysis on how museum professionals leisurely visit museums, how their practice is impacting their visits and how their visits are impacting their work serves as a foundation for further conversations surrounding this phenomenon.

Importance

Professionals with strong connections to visitors (e.g., program planning, exhibition design) likely have the most to gain from this research. In recent decades the field has built networks and communities of interest/practice within specific discipline areas to support these professionals. This study is situated within this realm of professional development and extends it further.

It was evident that leisurely visits contributed to participants' understanding of the visitor experience and informed how it is shaped. Falk (2009) states: "For those who have worked in museums for years, it's difficult to appreciate just how overwhelming and novel these settings can be for most people" (p. 96). Understanding how professionals partake in leisurely museum-going activity will help the field better understand the viewpoint of visitors, who are ultimately the true beneficiaries of this study. All individuals, including museum professionals, become visitors when they walk through a museum's doors.

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Session Two, 2:00-3:15 PM

Point of No Arrival; Cultivating Culturally Responsive/Contextually Relevant Research & Evaluation Practices

Panelists

Cecilia Garibay, Garibay Group,

Veronica Garcia- Luis, Exploratorium

Ivel Gontan, Oregon Museum of Science and Industry

Purpose

Within the last decade, there has been increased awareness and discussion of the importance of culture and context in evaluation and research practices. Several sessions at the VSA conference, for example, have discussed the theoretical aspects and principles of culturally responsive/contextually relevant research and evaluation. This session attempts to move the discussion further by reflecting on what it looks like to apply these approaches in informal learning settings. Through the lens of researchers/evaluators, this session examines successes, challenges, and lessons learned that can inform our practice as visitor studies professionals. More specifically, this session explores the following:

- What are the tensions that arise when attempting to apply culturally responsive research and evaluation approaches in informal settings?
- What lessons are we learning?
- How do we know when we have veered off course?
- How can our experiences in applying culturally responsive/contextually relevant tenets in evaluation and research inform and transform our practice?

Abstract

Evaluation and research exist in the human sphere, which is to say that they are not free of culture or differing perspectives (Hood, Hopson, and Frierson, 2005). Kirkhart (2013, 1995) in fact, has argued that failure to address culture and context threatens the validity of our studies.

While “culture” is often equated with race or ethnic background, it actually encompasses any group that has some shared affiliation (e.g., teenagers, people with disabilities, LGBT communities, evaluators). Traditional research/evaluation practices have tended to minimize the role of culture, largely ignoring the significant degree to which culture shapes how one sees and interprets the world. Fitzpatrick (2012) notes that while importance of context has been broadly discussed in the evaluation literature, the range of contextual factors that can influence evaluation are rarely considered in depth.

In culturally responsive/contextually relevant research and evaluation approaches, one considers both culture and context as critical factors of the process and adopts strategies that are consistent with the culture and

context(s) under examination. These strategies ultimately influence the research or evaluation design, data collection, analysis, and even dissemination of findings (Obamehinti, 2010; Frierson, Hood and Hughes, 2010).

Putting culturally responsive/contextually relevant principles into practice however, is not without its challenges. Interestingly, while much has been written about responsive approaches, much of the literature is theoretical, making it difficult to fully understand what it actually looks like when attempting to apply these concepts in our studies.

In this panel discussion three researchers/evaluators share their experiences in using culturally responsive/contextually relevant approaches and lessons learned. They will draw on a number of projects from a broad range of content foci and with varied communities, including projects having community collaboration and/or co-development dimensions, some that include a professional development component, and still others that included a range of audiences. For example:

- The Ciencia Pública project at the Exploratorium used a co-development process with the Boys and Girls Club San Francisco (BGCSF) and the local Latino community to convert parking spaces into transformative public places called "parklets." The project team adopted principles of culturally responsive/contextually relevant approaches when working with the BGCSF youth and the school site partner community as well as in its evaluation.
- The REVEAL (Researching the Value of Educator Actions for Learning) project at OMSI, is researching the impact of science center staff facilitation in mathematics learning in a museum exhibit using a culturally responsive lens in their practice. The project also aims to increase the capacity of ISE professionals in conducting culturally congruent and inclusive research with a broad range of families in ISE settings. The project involved working with external consultants to develop the team's cultural competency and examine the extent to which the research applied culturally congruent practices.

The focus of this session, however, is not about presenting specific project findings. Rather, we will use varied examples to help tease out and examine the complexities, nuances, challenges, and lessons learned in applying culturally responsive/contextually relevant approaches. We envision an interactive session, including opportunities for group discussion.

Importance

Culturally responsive/contextually relevant research and evaluation play important roles in creating relevant programs, exhibits, and research studies. We argue that understanding learning experiences in informal environments and measuring impact for broader audiences necessitates us, as research and evaluators, to examine issues of culture and context more deeply. We assert that reflecting on these issues--examining success, challenges, tensions, and opportunities--are critical in developing our cultural competence and transforming our practice

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Visitor Photography: Engagement, Empowerment, Education

Presenters

Theopisti Stylianou-Lambert

Visual Sociology and Museum Studies Lab, Cyprus University of Technology, Cyprus

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Divya Rao Heffley

Hillman Photography Initiative, Carnegie Museum of Art, Pittsburgh, PA, USA

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Kaeleigh Herstad

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Kristin Bayans & Justin Meyer

Portland Art Museum, University of Michigan, USA

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Purpose

Photography in museums has become a major part of the museum experience and many museums have, or are, reevaluating their policies regarding photography. This panel presentation focuses on research and practice

that supports visitor photography's capacity to enhance informal learning opportunities, empower visitors, and encourage civic conversations and democratic participation.

This panel presentation raises questions about the use of visitor photography by visitors and museum professionals. The four presentations deal with real case studies as well as theory/ research results. The discussion will be useful for evaluators, educators, academics, interpreters, exhibition designers and other museum professionals.

Participants will:

1. Be able to understand how visitor photography can support informal learning opportunities as well as provide entry points to exhibitions
2. Be exposed to real case studies where visitor photography was employed to encourage civic conversation and democratic participation.
3. Be able to question and re-evaluate photographic policies in museums

1: Photography in museums: visitors' attitudes, behaviors & motivations, Theopisti Stylianou-Lambert

This presentation presents the results of a research project conducted at the Smithsonian Institute in 2014 that examined visitor's motivations for using (and not using) photography. The research results argue that the majority of visitors use photography as a tool that can enhance certain aspects of their museum experience, promote further education, extend and expand the museum experience beyond the museums' walls, and provide entry points to exhibitions. Even though a small number of visitors reported that photography interferes with their aesthetic experience, most feel that the future benefits of photography compensate for this interference.

2: A People's History of Pittsburgh: A collective photo album by and for the people of Pittsburgh, Divya Rao Heffley

This presentation examines one of the projects of the Hillman Photography Initiative at Carnegie Museum of Art, titled A People's History of Pittsburgh, which invites users and visitors to submit photographs that tell their own personal histories of Pittsburgh, and asks them to share the stories behind those pictures. This presentation includes photographs submitted by users and visitors as well as their attendant stories, which exhibit the full range from historic to contemporary and humorous to profound. It also explores the in-depth internal evaluation of the project that has contributed to increased online submissions, higher onsite participation in scanning days, and significant attention from local media.

3: #MuseumSelfies and the Policing of Heritage, Kaeleigh Herstad

This presentation considers how the museum selfie, though often viewed in a negative light by various sectors of the public and museum and heritage professionals, can provide valuable insight into the variety of ways in which

people experience and engage with the museums and heritage sites they visit. Using data from interviews with museum visitors and employees in the cultural heritage sector in Greece and an analysis of mass media coverage of the museum selfie phenomenon, I explore how different policies regarding photography impact visitor experience, and vice-versa, how our understandings of cultural heritage are shaped by and negotiated through social media. This presentation questions what heritage is and who has the right to interpret and interact with it in certain ways.

4: #captureParklandia: an experiment with place-based, crowd-sourced Instagram photography at the Portland Art Museum, Kristin Bayans & Justin Meyer

This presentation discusses Portland Art Museum's online digital photography project, #captureParklandia. The project invited anyone with Instagram to share photographs of their Portland park experiences using the hashtag "#captureParklandia." Photos were then displayed on the Portland Art Museum and Portland Park Foundation's online feeds, as well as curated for presentation on a digital display inside the Portland Art Museum's special exhibition gallery. With the partnership of the Portland Parks Foundation and Portland Parks and Recreation, #captureParklandia has contributed to the conversation in Portland, Oregon about the civic value of Portland's public parks. Further, the project enabled a type of democratic participation in this conversation and has reached communities beyond the museum's or the Portland Parks Foundation's traditional constituencies.

Importance

This session focus on research and practice that supports visitor photography's capacity to enhance informal learning opportunities, empower visitors, and encourage civic conversations and democratic participation. The presentations complement each other (a mixture of theory and practice) and the presenters bring to the discussion diverse perspectives from the museum world and outside it. The studies and practices discussed in this session can have implications on the photography policies of museums as wells as the way visitor photography is understood and used by museum professionals.

Roundtables

Studying Young Children's Engineering & Design-Based Experiences

Presenter

Lisa Newton, Lawrence Hall of Science

Purpose

1. Discuss different instrument/protocol design ideas for studying engineering and design-based experiences for young children to inform future work (VSA Competency C: Knowledge of and Practices with Social Science Research and Evaluation Methods and Analysis)
2. Discuss age-appropriate engineering experiences for young children (Pre-K through early elementary) in

informal learning environments to support background knowledge about area of study (VSA Competency B: Principals and Practices of Informal Learning Environments)

Background

The Lawrence Hall of Science (the Hall) has engaged in work studying children's engineering design experiences through two projects – Fostering Early Learners' Design Thinking through Play and evaluation of the Jr. FIRST LEGO League. We have theorized knowledge, skills, and experiences that are important for children's success in engineering and STEM; considered how different experiences might foster these skills; and developed evaluation tools to explore indicators for measuring children's learning in engineering and STEM.

Observation tool for children ages 3-6

Early evaluations of the Hall's engineering design exhibits showed that the stations did not work as well for young children under the age of 7 (Werner-Avidon et al., 2011). To better serve a large proportion of our audience, we proposed an IMLS Museums for America project titled Fostering Early Learners' Design Thinking through Play. Through this project, the Hall is synthesizing expertise in early childhood and engineering education to improve our existing engineering design experiences for early learners (ages 3-6).

In our observation tool for evaluation of this project, we outlined a scheme of behaviors that are indicators of a developmentally appropriate design process. These include behaviors related to problem scoping, planning, use of materials, evaluating designs, iterating on designs, and making age-appropriate real world connections.

Survey for children ages 6-9

The Hall recently completed an evaluation of the Jr. FIRST LEGO League (Jr.FLL) program. Jr.FLL serves FIRST's youngest audience, children ages 6 to 9, as they create LEGO models to address a real-world "Annual Challenge." In Jr.FLL, youth work in teams with at least one adult coach to conduct research on the challenge topic and build a LEGO model to represent what they have learned.

The Hall developed a youth survey to measure the level of STEM learning activation in 6-9 year old children. STEM learning activation (Dorph, Cannady, Schunn, Crowley, and Shields, 2013 & in submission) is defined as the combination of dispositions, practices, and knowledge that enable success in STEM learning experiences. The dimensions of this construct include: fascination with natural and physical phenomena, valuing STEM for self and society, competency beliefs in STEM, engaging in scientific sensemaking, and innovation stance.

Discussion

Colleagues will have opportunities to review observation and survey tools used in these studies, discuss methods for studying early learners' engineering experiences more generally, and pose any questions they have for discussion among the group. Some specific topics that may emerge include characterizing engineering experiences for young children, additional methods for studying children's engineering experiences, and the

opportunities and limitations of using various methods.

Importance

Engineering and design-based experiences offer an opportunity for informal education settings to foster key engineering practices, cross-cutting concepts, and disciplinary core ideas as defined in the Next Generation Science Standards. In addition, they promote the 21st Century skills of critical thinking, problem solving, creativity, innovation, communication, and collaboration that are valued by the museum field (IMLS, 2009).

How can these experiences be effectively extended to young children, including 3-6 and 6-9 year olds? What strategies can researchers and evaluators use to study the engineering and design-based experiences of young

children? How can research and evaluation support the development of more inclusive, impactful, and age-appropriate engineering experiences for young learners?

References

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Beyond Capacity Building: Taking Action Through Evaluation

Presenter

Kathy Kiser, Manager of Evaluation, Learning, Planning and Evaluation Department, Shedd Aquarium

Purpose

The goal of this roundtable discussion is to help participants understand how to increase utilization of evaluation. Participants will have the opportunity to learn how stakeholders are engaged in the evaluation process, findings are communicated with different audiences and how evaluations are being utilized in other organizations. Through discussion of what successful evaluation use looks like participants will be able to move forward beyond capacity building and utilize evaluation to strengthen the work being done within the organization and the community.

Abstract

Too often, organizations dedicate resources to conducting evaluation work only to have a final report viewed by a few people and then filed away. There is a misconception that evaluation use happens after the evaluation takes place and the submission of a formal report completes the process. The reality is that advancing evaluation use starts in the early stages of evaluation development and involves more than simply completing a formal report. This discussion will focus on evaluation utilization including engaging stakeholders in the evaluation process from planning to reporting, specific ways to reflect on and apply evaluation findings and the importance of communicating results in different ways based on the needs of the audience.

Shedd Aquarium has been dedicated to building evaluation capacity for some time and recognizes that evaluation utilization is an integral component to evaluation capacity. The Learning, Planning and Evaluation Department, leading this effort, follows specific strategies in order to sustain and increase the capacity to carry

out and utilize evaluation and to develop evaluative thinking. These strategies include collaborating with program stakeholders in the development of the evaluation plan, holding data interpretation meetings to receive feedback from different stakeholder perspectives, including tools for evaluation use in the evaluation toolkit, and providing varying report formats in consideration of who the audience is and what their needs are. At Shedd, evaluation is valued beyond simply providing accountability to funders. Evaluation is utilized for program improvement, increasing public awareness and interest, increasing new donors, contributing to knowledge in the field, and more.

The presenter will discuss and provide examples of how Shedd Aquarium plans for and implements evaluation utilization. Next, discussion among participants will be encouraged through the introduction of questions focusing on engaging stakeholders, communicating evaluation findings and what successful evaluation use looks like in different organizations.

Importance

Over the last several years, there has been a focus on evaluation capacity building, especially within non-profit organizations. This is important because “evaluation capacity used well, supports programs, strategies, and initiatives that in turn lead organizations to better deliver on their missions and better meet the needs of those they serve” (Baker & Bruner, 2014). As organizations continue to dedicate resources to building capacity for evaluation, it is imperative that evaluative thinking and the capacity to utilize results from these efforts in a meaningful way is also developed.

References

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Citizen Science Commitment: The Relationship between Scientific and Educational Goals

Presenters

Jessica Sickler, Lifelong Learning Group
Tammy M. Cherry, TMCherry Consulting

Purpose

This session will facilitate a roundtable discussion about citizen science programs, specifically the desire of citizen scientists to contribute value to research and their persistence in participation in these programs over time. The goal of the discussion is to foreground thinking about the complementary and contradictory needs of a project’s scientific priorities and its educational priorities, and how those relate to the design of the user

experience. A takeaway of the session will be a shared list of strategies or concrete considerations that are successful for increasing depth of participation by citizen scientists in large-scale, contributory citizen science programs.

Abstract

This roundtable discussion will center on the idea of deepening participant commitment and engagement in citizen science projects, particularly large-scale contributory projects. A hallmark of this type of citizen science project is its use of large numbers of geographically dispersed participants, often interacting with the program online, and who are presented with minimal requirements, barriers, or conditions in order to contribute to the project (e.g., requiring formal training in order to submit data). This approach tends to focus on breadth of participation, rather than depth. To frame this discussion, facilitators will share brief highlights and questions that have emerged from evaluation of the Lost Ladybug Project, a citizen science project which has been active for seven years and engaged thousands of citizen scientists in North America, as well as incorporate the wide range of citizen science projects with similar designs.

We will frame the discussion with two interrelated issues, including evaluation results and examples as provocation. The first issue will focus on evidence about driving motivations that underlie citizen scientists 1) initially getting involved in a project, 2) dropping out, and 3) “leveling-up” to become a more deeply engaged and committed participant over time. We will share evidence that suggests citizen scientists have a desire to participate as a form of low-commitment social action; they carry a belief that they can make a valued contribution to a critical scientific and societal need. However, findings also suggest that the degree to which participants feel their goal was realized through the project has a strong relationship with whether they sustain participation or drop out over time. Discussion may consider proven strategies and limiting factors to encouraging citizen scientists to “level-up” in these types of projects, as well as discussing whether deepening of participation should be a goal.

The second issue relates to design choices for design, recruitment, and participant interactions with a citizen science project, particularly as they relate to balancing a project’s scientific potential and its educational potential. In the Lost Ladybug Project, we have found that scientific and educational goals can be complementary (i.e., the greater the scientific achievements, the more motivating the project may be to citizen scientists). However, the project has also revealed areas of tension between the two goals, such as a scientific priority to focus on increasing quantity of submissions, while more ambitious science education goals require deeper time- and energy-investment by staff and participants. Data indicate that programmatic experiences that offer the most learner engagement in scientific practices and contextualization are not successful at creating self-directed data-submitting participants. In contrast, while the broad-based, low-barrier participation continues at a large scale, there is a high degree of attrition after a one-time submission, as well as evidence that participation is generally more casual than engaging in a scientific process. While educational and scientific goals are by no means mutually exclusive, the discussion at this roundtable hopes to wrestle with the types of purposeful decisions that projects can and have made to strike an “ideal” balance.

Importance

The field of citizen science has grown rapidly in recent decades, including the emergence in the past two years of a new professional organization and publication dedicated solely to this field. Related to the theme, these projects can be conduits for the public to take action in contributing to society and scientific research. But as the number of these projects increases, there is substantial value in spurring more discussion about how citizen science projects can maximize both scientific and educational potential, and how to create a purposefully-designed program that articulates its core goals and is structured toward achieving those priorities.

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Additional Links

The Lost Ladybug: <http://www.lostladybug.org/>

Broad Implementation Of The Lost Ladybug Project: Integrating New Places and New Faces into a National Lifelong Learning Opportunity:

[http://informalscience.org/projects/ic-000-000-001-](http://informalscience.org/projects/ic-000-000-001-826/Broad_Implementation_Of_The_Lost_Ladybug_Project:_Integrating_New_Places_And_New_Faces_Into_A_National_Lifelong_Learning_Opportunity)

[826/Broad Implementation Of The Lost Ladybug Project: Integrating New Places And New Faces Into A National Lifelong Learning Opportunity](http://informalscience.org/projects/ic-000-000-001-826/Broad_Implementation_Of_The_Lost_Ladybug_Project:_Integrating_New_Places_And_New_Faces_Into_A_National_Lifelong_Learning_Opportunity)

Session Three, 4:00 AM-5:15 PM

Embrace the Complexity! Building Evaluation Capacity within a Complex System

Panelists

Liz Kollmann, Museum of Science

Sarah Cohn, Science Museum of Minnesota

Anika Taylor, The Bakken Museum

Amy Grack Nelson, Science Museum of Minnesota

Purpose

Educational organizations, from small institutions to large networks, are complex systems. This session is guided by two questions about evaluation capacity building (ECB) within such systems: (a) How can ECB address evaluation needs at different levels of these systems? (b) What aspects of these systems help foster ECB? We will answer these questions through four perspectives of ECB efforts within the complex adaptive system of the Nanoscale Informal Science Education Network (NISE Net). Presenters will discuss: (a) characteristics of complex adaptive systems within educational organizations; (b) ECB efforts of the NISE Net; (c) personalization of the NISE Net's ECB effort to one organization; and (d) findings from research to study ECB within the NISE Net. Although examples will focus on NISE Net, presenters will share implications of their work to the evaluation field and provide ideas of how evaluators can take what they've learned and apply it to their work.

Background on NISE Net

The Nanoscale Informal Science Education Network (NISE Net) is a national community of researchers and informal science educators dedicated to fostering public awareness, engagement, and understanding of nanoscale science, engineering, and technology. Instituted in 2005, the NISE Net has expanded and is currently comprised of almost 400 science museum and university partners across the nation and the world. Liz Kollmann, leader of the NISE Net evaluation team, will describe this system, characteristics of the system that make it a complex adaptive system, and the evolving role of evaluation within the Network to address the evaluation needs of stakeholders at different levels of the system.

Team-Based Inquiry within the NISE Net

To attend to all of the evaluation needs within the system, the leaders of the NISE Net evaluation team designed an evaluation system, called Team-Based Inquiry (TBI). TBI is an iterative reflective process that highlights four stages: question, investigate, reflect, and improve. The TBI approach draws from a diversity of theoretical perspectives, including action research (Herr & Anderson, 2005; Loucks-Horsley et al., 2010), practitioner inquiry (Cochran-Smith & Lytle, 2009), learning-focused and participatory evaluation (King, 1998; Preskill & Torres, 1999), and evaluation capacity building (ECB) (Stockdill et al., 2002), all of which share a common focus on empowering practitioners and creating opportunities for learning and reflection. Following the TBI model, non-evaluation professionals drive the inquiry questions, data collection methods, data analysis, and interpretation.

Sarah Cohn, leader of the NISE Network's TBI work group, will describe this approach and how it can be used by evaluators to train practitioners and by practitioners to improve their practice.

Museum practitioners throughout the NISE Network received training and resources to conduct TBI in their own organizations. To illustrate the use of TBI to build evaluation capacity within a smaller system, Anika Taylor, a museum practitioner, will provide a case study of the implementation of TBI in one department at the Bakken Museum. She will describe the Bakken's reason for implementing TBI, the TBI projects they carried out, benefits of the process, and how that process contributed to the changing role of evaluation in the organization.

CASNET Research Project and Results

The implementation of TBI within the NISE Net is the basis for a research study called Complex Adaptive Systems as a Model for Network Evaluations (CASNET). The CASNET project employs a multiple case study approach (Stake, 2006) to examine ECB within one overarching case, the NISE Net. The intent of the CASNET project is to provide new insights on the implications of complexity theory for designing evaluation systems that promote widespread and systemic use of evaluation within the NISE Net. Amy Grack Nelson, a researcher on the CASNET team, will share findings from this study, focusing on the complex system conditions that foster or impede ECB within a network.

Importance

The CASNET research project is meant to further our understanding of the potential impact of complexity theory on evaluation systems to foster both widespread and systemic use of evaluation, specifically within the NISE Net. On a larger scale, the project is also meant to further our understanding of complex system conditions that promote or impede ECB within networks of various sizes. In this way, the session links to the conference theme of Taking Action for Improvement, Growth, and Social Change.

Participants will benefit from this session in various ways. First, they will understand characteristics of complex adaptive systems and how complexity theory might apply to the organizations they work with. Second, they will know what TBI is and how to implement it in their own setting. Third, they will understand what aspects of a complex system help to foster evaluation capacity building.

References

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Preskill, H., & Torres, R. T. (1999). *Evaluative inquiry for learning in organizations*. Thousand Oaks, CA: SAGE Publications.

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Stockdill, S.H., Baizerman, M. & Compton, D.W. (2002). Toward a definition of the ECB process: A conversation with the ECB literature. *New Directions for Evaluation*, 93, 7-25.

Additional Links

NISE Net Website: <http://www.nisenet.org/>

Team-Based Inquiry Guide: http://www.nisenet.org/catalog/tools_guides/team-based_inquiry_guide

Visual Communication in Evaluation: The Leading Edge of Awesome

Panelists

Claire Thoma, The Children's Museum of Indianapolis

Kate Livingston (formerly Tinworth), ExposeYourMuseum, LLC

Kate Haley Goldman, Audience Viewpoints Consulting

Purpose

All those who conduct visitor research share the goal of stakeholders taking action on findings. There is nothing more professionally discouraging than reports that gather dust on a shelf. The growing emphasis on visual design in the wider evaluation field has highlighted an opportunity for evaluators in visitor studies to improve our communication skills at all phases of the evaluation process, especially when reporting findings to stakeholders. Through this panel presentation, attendees will learn about ideas, resources, and practical strategies for adopting visual thinking and incorporating best practices in data visualization and visual design into all aspects of their work.

Body of Abstract

Throughout the visitor research field, professionals share the goal that stakeholders will take informed action on their findings. But in order for stakeholders to take action, they must first understand the data presented. The growing emphasis on visual design in the wider evaluation field has highlighted an opportunity for evaluators in visitor studies to improve our communication skills at all phases of the evaluation process, especially when reporting findings to stakeholders. Through incorporating best practices in visual design into written reports, data visualizations, and visual presentations, we can help stakeholders quickly and accurately digest information and increase the recall of that information later on when making decisions (Evergreen, 2014).

In this session, three presenters will speak about what drove them to dedicate time and energy to thinking about visual design in their work. Each presenter will also provide examples from her own work and reference resources that attendees can access.

Kate Livingston will speak about keeping creative, visual communication top-of-mind throughout all phases of the evaluation process—from planning and methodology to analysis and reporting. She will share tips for embedding visual practices into everyday activities so that one’s repertoire of visual tools and skills is ever expanding. Finally, she will present several case studies to illustrate the utility of visual communication for evaluators, including how such techniques have contributed directly to greater stakeholder use of evaluation findings.

Claire Thoma will discuss her department’s efforts to deliver findings in a clear and concise manner to support evaluation use. She will share examples of data visualizations and explain some of the strategies she has adopted to create visuals with clear interpretation embedded within the visual rather than relying on the surrounding text. The staff members with whom she works have responded very positively to these changes and have reported greater understanding of information in reports. She will also provide examples of visual elements she and her colleagues have been incorporating into executive summaries, including sidebars, icons, and infographics.

Kate Haley Goldman will discuss how her evaluation group has been incorporating data visualization development, iteration, and critique into their workflow. Use of better visualizations has at times increased analysis and writing time, yet their group has seen a number of benefits to the added effort. Kate will also describe her efforts to deliver “potent presentations” and will discuss both the importance of imagery and strategies for thinking through the display of data during a live presentation. Finally, she will address how to adapt the concepts of potent presentations to a range of audiences and contexts.

The three presenters will provide ideas, strategies, and resources that will be valuable to attendees seeking to improve their own visual communication skills. Their hope is that seeing the progress they have made will inspire attendees to try implementing these strategies themselves, thereby increasing the visual communication capacity of the field. Following the presentation of examples and strategies, attendees will be invited to ask questions and discuss their own experiences with incorporating better visual communication into their work.

Importance

Visual design is a current hot topic, but the underlying goals of clear communication and improved evaluation use are no passing fad. This session provides attendees with examples of ways in which colleagues within the museum evaluation field have incorporated better visual communication into their work. Examples will cover written reports, visual presentations, data visualization, and other points in between. Improving visual communication is a key to growing the capacity of the field to advocate for evaluation use that will lead to improvement, growth, and social change.

References

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- American Evaluation Association. (n.d.). *Potent Presentations*. Available online at <http://p2i.eval.org/>

Additional Links

The following websites provide ideas and tutorials focused on visual communication:

Stephanie Evergreen: <http://stephanieevergreen.com/blog/>

Ann Emery: <http://annkemery.com/>

Dan Roam: <http://www.danroam.com/>

Dave Gray: <http://www.davegrayinfo.com/visual-thinking-school/>

Mike Rohde: <http://rohdesign.com/>

Chris Chopyak: <http://pictureyourstrategy.com/>

Chris Lysy: <http://freshspectrum.com/>

International Forum of Visual Practitioners (IFVP): <http://ifvpcommunity.ning.com/>

Neuland Visual Dictionary: <http://us.neuland.com/literature/specialist-books/bikablo.html>

"Adult coloring books topping bestseller lists" (CNN online; April 24, 2015):

<http://www.cnn.com/2015/04/21/living/feat-adult-coloring-books/>

Papers

Using an Evaluation Tool across Programs and Institutions

Presenter

Sara Martinez Davis, Saint Louis Science Center

Purpose

How do we talk about the impact of a program? As a move towards measuring the impact of its staff-led programs, the Saint Louis Science Center undertook a challenge in 2005 to measure the immediate impact of its programs across the institution. The System for Assessing Mission Impact (SAMI), which debuted in 2009, has been used internally as both a tracking system and method to quantify short-term impact of Science Center programs. As part of an IMLS-funded project, a version of the SAMI tool was used to gather feedback from adult caregivers attending early childhood programs. The tool was used to collect comparable data across a wide geographical distribution of institutions. This session focuses on the lessons learned from the Science Center's efforts to assess and track audience program data across the institution's diverse programs and subsequently adapt the tool for use across programs at diverse institutions.

Background

The Saint Louis Science Center's program evaluation tool, SAMI (the System for Assessing Mission Impact), has been used across Science Center programs since 2009 and was built on an existing system that was originally implemented in 1997. As a survey-based system, SAMI has allowed for Science Center staff to continually get quick, non-verbal feedback from participants in programmatic offerings and has served as a way to communicate aspects of the participants' experiences to colleagues and external stakeholders. The system has undergone structural changes several times and will continue to grow and change with the programs it assesses. Beginning in 2013, the Science Center's Research & Evaluation department adapted the survey tool for use by adult caregivers in 20 institutions' various early childhood programming as part of the evaluation for the Early Learners Collaborative (ELC), a three-year IMLS-funded grant project. This experience allowed the evaluators to gain another perspective on SAMI.

Methods

Methods include surveys (with open-ended and closed-ended questions), as well as interviews. Program participants at the Saint Louis Science Center educational programs complete one of three versions of an experience survey based on their age: one for literate-age children (between 6 and 17); one for adults; and another for caregivers/teachers on behalf of their Pre-K child(ren). At the other ELC institutions, program participants used the caregiver/teacher version to evaluate their programs. In addition, ELC educators reflected on their overall experience in the Collaborative through interviews and additional surveys.

Data and Analysis

Data collection and analysis of related to the Saint Louis Science Center is an ongoing process. The SAMI survey tool consists of four rating questions, each on a 4-point scale, along with two open-ended questions; the first of which asks participants about their experience and the second asks about how the offering could be improved. Demographic items such as visitation frequency and membership status are also included in the survey instrument. As part of ELC, data collection was completed in May 2015 and analysis will be finalized by September 2015. In the adapted survey, two other open-ended questions were added to gather feedback about the high and low points of caregivers' experiences in the program. Data from ELC educators were coded for trends and comparisons to the feedback gathered from participants in their programs.

Importance

A survey tool designed to paint a broad picture of multiple programs cannot provide a complete picture of any one particular program; it can, however, provide insights for its users into participants' experiences that they would not necessarily have gathered anecdotally. For the Saint Louis Science Center, SAMI has been a massive undertaking; thus, reflection on the process and outcomes is essential in understanding its usefulness to its stakeholders as well as its limitations. The ELC was an opportunity for SAMI to go beyond the walls of the Science Center and into the programs of 19 other institutions, thereby gaining a broader perspective of the tool. Session attendees will come away with ways they might adapt this tool for use in their own programming to gain a broad understanding of the impact of their offerings, as well as how they can approach evaluation on a broad scale.

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Fine-Tuning a Family Learning Object Rating System

Presenters

Elee Wood, Indiana University Purdue University Indianapolis Museum Studies Program

Alysha Zemanek, Indiana University Purdue University Indianapolis Public History Program

Laura Weiss, Philadelphia Museum of Art

Purpose

This project is part of on-going effort to determine the best strategies for selecting, displaying and interpreting a museum's collection for family audiences. While objects presented in exhibit spaces are certainly inextricably linked to their context, few scholars have considered the inherent properties of objects and how curatorial staff might consider the likelihood of an object's successful attracting power in an exhibition. Early work clarified how objects and environment interact within an exhibit space by discussing characteristics that contribute to their success in communicating messages to visitors (Bitgood, 1992). The "FLORES" project asked the question: How can we identify artifacts that best support the museum's family learning mission? The research team developed and field-tested a rating system that scored objects on six criteria. The paper will present the development of the rating instrument and strategies the team took to fine-tune its use through input from visitor preferences and discussion.

Rating System Development

Drawing on a wide range of literature, including information on exhibition design, features of objects, attracting power, and psychosocial perspectives, the Family Learning Object Rating and Evaluation System (FLORES) includes six measures on a 7-point scale that rate inherent object qualities like aesthetics, condition, provenance, and ease of identification, and a series of transactive qualities such as potential for generating discussion, personal interest, and generational appeal. Through prototyping and pilot testing, we refined the six measures that weighs both object qualities and visitor behaviors to create a score that can determine the extent to which visitors might be attracted to an object.

Testing and Refining

Testing and refining the FLORES system is on-going. To date, three phases of work have been completed. In Phase 1 the research team tested 100 randomly selected and staff selected objects from the museum's collection. During Phase 1 visitors reviewed photographs of a sub-set of objects, sorted them into categories of memorable/forgettable, familiar/unfamiliar, and ranked them in order of perceived importance. In Phase 2, visitors were asked to look at the same set of objects along with interpretive labels, this time on display in an empty exhibit gallery.

Data analysis during Phases 1 and 2 included comparison of rankings; content analysis of the observation and interview data; and comparison of visitor preferences with the rating system results. In all, 156 family groups (256 adults, 287 children) participated in the first two testing sessions. Based on testing, the first iteration of the rating system accurately predicted visitor responses at least half the time, but 25% of the time objects rated higher than visitor preferences. Qualitative analysis revealed that visitors preferred objects that were unique or rare, highly colorful, perceived to be "old", and related to family memories or stories. An object was less preferred if the visitor had "seen too many before" or if they had difficulty determining the object's purpose even with a label. This, along with review of the rating scale revealed that the object aesthetic qualities were an essential feature of conversation and preference, and there was a clear need to separate various aspects rating measures of personal connection and intergenerational appeal of the objects. This led to a more refined series of measures. The final iteration of the tool includes weighted measures more strongly on the inherent object qualities and less on the visitor-centered responses.

During Phase 3 the research team rated objects already on display in the museum and compared the ratings with existing timing and tracking data. These data provided the team with a first-hand account of the relationship between the object score and amount of time spent by visitors at the object. Using 146 objects for comparison, the average time spent by visitors at each object or case of objects was 39.63 seconds (n=1308 object views). This phase is on-going and will examine more closely the relationships between object score and time spent, particularly within the exhibit context.

Importance

This study provides insight on visitor responses to objects in a museum setting and the different perspectives they have on those objects. By drawing on inherent object qualities as well as visitor preferences, museums can find ways to better understand the visitor-object relationship and in turn move toward more intentional selection and inclusion of objects in exhibition planning.

Development of an object-rating system contributes to a broader view of the complexities of visitor-object relationships. Current research centers on the personal and psychosocial connection to objects (Froggett & Trustam, 2014; Wood & Latham, 2014) which builds on past knowledge of the environmental and intellectual influences on visitor behavior and learning (Bitgood et. al, 1988; Bitgood & Patterson, 1993; Johnston, 1998). By identifying the object-based features or characteristics that best support dialogue and interaction of visitors, there is greater the potential to increase the learning value and meaning of the museum visit.

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Observing Visitors and Creating Control Groups on a Shoestring Budget: Chicago Children's Museum Case Study

Presenters

Tania Rempert, Ph.D., Planning, Implementation, and Evaluation Consulting

Nancy Plasket, Chicago Children's Museum

Lauren Putze, Chicago Children's Museum

Purpose

This session will describe how a model for comparison group questionnaires and field trip observations was created by the Chicago Children's Museum working with an evaluation coach. This study was designed on a shoestring budget with the purpose of measuring the efficacy of a teacher professional development program on improved math instructional strategies and fieldtrip interactions with their Kindergarten and first grade students. Three teacher groups completed a pre/post questionnaire and were observed by program staff using a rubric during field trips to determine if those who participated in the full program implemented more research-based instructional strategies than the two comparison groups of their peers. In addition to the evaluation findings, we will discuss the need that instigated the creation of the comparison groups for visitors as well as the lessons learned during implementation as they relate to internal issues, such as staff training, and evaluation utilization.

Abstract

Chicago Children's Museum (CCM) has long been recognized for its comprehensive programs for students, teachers and families. CCM's Playing with Numbers (PWN) program offered teachers an intensive professional development and in-school collaboration to help them build and learn new skills for better math instruction, as well free passes for students' families to visit the museum, and providing museum field trips for their students.

The museum has constantly questioned what layers and additional supports fieldtrip visitors need to benefit from their trip to CCM. Over the years, CCM has developed discussion questions to post on walls, maps, chaperone instructions, and lesson plans for teachers to prepare their students. But CCM asked, "Are these resources worth the time we take to develop? Will these resources enhance the experience that visitors are already having?"

Although the evaluation of the PWN program was a comprehensive mixed-methods pre-post quasi-experimental design, this paper focuses on the pre-post questionnaire and post observation tool administered to three groups: (1) full implementation, who completed the year-long Playing with Numbers professional development program, (2) medium implementation, which was a comparison group that completed the lessons plans and participated in the field trip, and a (3) no program comparison group, including teachers who only participated in the field trip.

CCM leveraged the evaluation money made available to evaluate the PWN program to answer this larger museum question to determine, “Do the tools and resources we make, have any impact on the quality of the field trip?” Further, due to the shoestring evaluation budget, CCM decided to use the evaluation coach to design the evaluation, but they conducted the comparison observations in house.

A comparison of questionnaire data from and observation of three distinct groups of teachers provides evidence as to the effectiveness of the Playing with Numbers program. Approximately 120 teachers participated in the evaluation to some extent. Of these, 89 (74.2%) completed both pre- and post- program questionnaires about various aspects of their related experiences both in and out of the classroom. 34 (38.2%) full implementation, 12 (13.5%) medium implementation, and 43 (48.3%) no program comparison group. The Fieldtrip Observation Rubric was administered with 119 teacher-student groups from approximately 69 different schools in 90-minute snapshots of regularly scheduled classroom fieldtrips to CCM rating 13 items as “Present = 2,” “Emergent = 1,” or “Absent = 0.” Each of these fieldtrips fell into one of three groups: 39 (32.7%) full implementation, 40 (33.6%) medium implementation, and 40 (33.6%) no program comparison group. ANOVA analysis was used to measure significant differences between responses of these three groups. Future evaluation plans that include a similar observation would benefit from more training for observers and perhaps recording a “consensus score” of paired observers.

In addition to discussing the challenges and cost-cutting of this shoestring evaluation project, we will present the evaluation findings, which demonstrate that the PWN participating teachers have stronger outcomes than their peers. These analyses indicated that field trips are enhanced by preparing a lesson to guide museum visits.

Importance

CCM creatively leveraged the evaluation budget for a particular program to conduct action research that would benefit the whole organization. CCM used in-house staff to conduct questionnaires and observations of how different levels of field trip preparation would enhance the field trip experience. Using resources that were already allocated, CCM collected information to inform the long-standing questions they had about the supports necessary to support field trips. Further, CCM learned that future efforts at conducting observations will require more training of in-house staff and consensus scores, because it was difficult to achieve inter-rater reliability. Other organizations may benefit from the study findings, as well as the lessons learned while scheduling and implementing the observations.

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Additional Links

Planning, Implementation, and Evaluation Consulting: www.pieconsulting.com

FRIDAY, JULY 15

Session Four, 10:30-11:45 AM

From Questions to Results: The Research Road Map

Panelists

Elizabeth Bolander, Director of Research and Evaluation, Cleveland Museum of Art

Meghan Stockdale, Research Analyst, Cleveland Museum of Art

Purpose

This beginner-level session gives a broad overview of many of the key steps in the study design process, from determining the key research questions and methodological approaches through communicating the results. Panelists will share tips and tricks learned through different projects conducted at the Cleveland Museum of Art as well as project management tools that have aided them in managing internal leadership and staff expectations as well as time and budget resources. Participants will walk away with an understanding of the necessary steps to take along the research project development pipeline as well as how to implement these types of processes at their own institution.

Abstract

Over the last five years, the Cleveland Museum of Art's audience research program has grown exponentially, from a few projects a year to a dedicated department regularly conducting twenty to thirty projects annually. Along the way, the team has developed many different tools to aid them in managing all aspects of the project from the first initial inquiry through presenting the results. This session will focus on the various steps taken along the research project development pipeline and provide participants with tips and tricks that can apply to many different institution types.

Panelists will begin with a broad overview of the different front-end, formative, remedial, and summative projects undertaken at CMA before diving in to the process of executing a research project. The first phase is an initial consultation meeting with any practitioners with a vested stake in the research project. This is followed up with the development of a research proposal outlining the key research questions, methodology, data collection schedule, and budgetary impacts. Panelists will discuss how they distill down the consultation conversation into two to three research questions for each project and how they determine the appropriate methodology, be it quantitative, qualitative, or mixed-methods. Next, panelists will broadly discuss different ways they manage data collection and basic analysis.

During the final portion of the presentation, panelists will focus on different ways of reporting results and customizing their approach based on their audience, whether it be leadership, other internal staff, or others. Throughout the presentation, panelists will also ask audience members to share their own insights, case studies, and tips and tricks for project management and reporting. A longer question and answer session will conclude the presentation.

Importance

This session will embolden evaluators by providing a step-by-step overview of the broad life cycle of a typical research project that can easily be applied in a multitude of situations and scaled to the available resources and staff. By following some of these project management techniques, participants will be able to streamline their project management processes to ensure projects are as efficient and effective as possible.

The Unlikely Evaluator: Taking Action to Foster Allies and Advocates

Chair

Kate Livingston (formerly Tinworth), ExposeYourMuseum LLC, Durham, NC

Panelists

Betsy Martinson, Buffalo Bill Museum and Grave, Golden, CO

Nambii Mangun, SCIENCES Community Ambassador, Chicago, IL

Elizabeth Fleming, Museum of Life and Science, Durham, NC

Jim Kisiel, California State University, Long Beach, CA

Purpose

Many of our roads to visitor studies have been riddled with twists and turns, bridges and barriers. This panel features the stories of four “unlikely evaluators” and also invites VSA attendees reflect on their own journeys, as the session explores how action (and inaction) by audience evaluators and learning researchers can either cultivate or curtail potential allies and advocates. Attendees will: 1) gain insight into how their own path contributed to their current approaches and practices in the field; 2) identify concrete and actionable opportunities to positively reinforce visitor studies and/or audience research and evaluation in their approaches and practices; 3) support the continued development of visitor research and evaluation via critical reflection on their own approaches and practices and through learning and borrowing from successful approaches and practices employed by their peers and colleagues.

Abstract

This panel was inspired by VSA 2015’s conference theme of “Taking Action for Improvement, Growth, and Social Change,” specifically the idea that “to take action, we need to develop ourselves as creative and dynamic leaders... this is the key to fulfilling our potential for public service.”

This idea led us to consider:

1. What happened along our journeys that got us excited about evaluation—the tipping points that showed us the possibility and potential in this field?
2. How might we welcome and incorporate alternative paths, outsiders, alternative perspectives and voices?
3. How can we be the creative and dynamic leaders we want to be, expanding the value and use of evaluation, rather than guarding it or hindering it from evolving?

The proposed panel is made up of four individuals who do not have “evaluation” or “visitor studies” on their business cards: 1) a jack-of-all-trades museum professional at a tiny museum in the foothills of Colorado, 2) a science education professor at a California university, 3) an exhibit developer at a science center in North Carolina, and 4) a working mom from the Southside of Chicago. These four individuals didn’t intend to stumble into evaluation, but now find they deeply value it, vehemently advocate for it, and explore ways to use evaluation in their own contexts. What happened to each of them along their journeys that tipped them into becoming an evaluation proponent instead of an evaluation disdainer? What can we learn from their stories to help us become better, more creative leaders, open to change?

A former internal museum evaluator who transitioned into consulting will chair the panel. She is passionate about evaluation capacity building and the notion that there are untapped evaluation resources and advocates in every environment. Recently she cultivated a team of six “unlikely evaluators” from an under-resourced neighborhood on the Southside of Chicago—community members with no prior evaluation experience. They are currently leading data collection for a large-scale NSF grant, collecting deep, rich, valuable information that likely could never have been collected by someone external to the community. This is just one example of taking action for improvement, growth, and social change. (One of these community members is a panelist on this session.)

There are many incredible stories in our field of how each of us “found our way.” There are even more compelling stories about why we stayed. What can we learn from these stories to help move our field forward and compel us to commit as agents of social betterment?

Importance

Using journey mapping and four “unlikely evaluator” stories as a catalyst, this session captures the many diverse paths to evaluation as a way to accentuate our own roles and responsibilities in achieving greater levels of evaluation support and capacity building across jobs, sectors, and fields. Can we be creative and dynamic leaders, take action, and cultivate evaluation where it may be least expected? This panel promotes that we can— and we must.

Additional Links

Please use #unlikelyeval as a hashtag for this session.

Twitter handles:

Kate Livingston: @exposyourmuseum

Jim Kiesel: @jimkiesel

Elizabeth Fleming: @elizabef

For resources and follow-up after the conference, please visit:

<http://exposeyourmuseum.com/vsa15unlikelyevaluator/>

From Field to Institution: Putting Research Agendas into Action

Panelists

Jessica Luke, University of Washington

Stephen Ashton, Thanksgiving Point Institute

Mary Nucci, Rutgers University

Danielle Ross, Columbus Zoo and Aquarium/Association of Zoos and Aquariums

Purpose

This session is a follow up to last year's research agenda panel session where field-wide research agendas were discussed. This panel discussion will take the conversation one step further as panelists share how individual institutions are applying field-wide research agendas in their own practice. Session participants will be introduced to four different field-wide research agendas developed within the last 3 years; understand how practitioners at three different institutions have operationalized these research agendas to inform their own day-to-day practice; and engage in active conversation about alternative strategies for making use of field-wide research agendas.

Background

At the 2014 VSA Annual Conference in Albuquerque, NM, Jamie Bell (CAISE), Joseph Heimlich (COSI/OSU), and Jessica Luke (UW Museology Graduate Program) co-facilitated a session discussing three different field-wide research agendas, including research agendas for CAISE, children's museums, and zoos and aquariums. More information about these field-wide research agendas can be found at <http://informalscience.org/research/research-agendas>. Last year's session was about research agendas generally, introducing participants to the history and context of the agendas, and discussing affordances and constraints around them. This panel session is designed to extend last year's session, taking the conversation one step further.

Session Conversations

The session is divided into three sections. In the first section, moderator Jessica Luke will briefly describe some of the key field-wide research agendas being developed and implemented in the museum field right now, including CAISE's Road Map, the Association of Children's Museums Research Agenda, the Association of Zoos and Aquarium's Research Agenda, National Art Education Association's Research Agenda, and the Giant Screen Cinema's Research Agenda. The focus of this section is not on describing each of these agendas, but rather on identifying commonalities across them.

In the second section of the session, three practitioners will share the ways in which their individual institutions are applying various field-wide research agendas locally, and one professor/researcher will share how the research agendas are being incorporated into graduate student research. All the panelists will share their findings, successes, and challenges. Stephen Ashton will discuss how Thanksgiving Point is using the Association of Children's Museum's Research Agenda as well as the Natural History Museums' research agenda to inform practice in his institution. Mary Nucci will discuss how she drew upon the Giant Screen Cinema's research agenda to inform her work with the Amazon Adventure: A Giant Screen Film project. Danielle Ross will discuss the work that is being done at the institution level within the field of zoos and aquariums as it relates to the Association of Zoos and Aquarium's research agenda. Lastly, Jessica Luke will briefly discuss ways in which she uses these research agendas to inform her work with Museology Master's students, especially within their master's theses.

In the third and final section of the session, Jessica Luke will moderate an active discussion about the application of research agendas to practice.

Issues to be Raised

The group will wrestle with questions such as but not limited to:

- How are individual institutions applying the field-wide research agendas into their own work?
- How can large-scale agendas drive field-wide inquiry at the institutional level?
- How can "theory heavy" research be merged with practice-based research?

Notes will be taken, and shared with all session participants.

Importance

This session will introduce participants to field-wide research agendas in development, and more specifically share how individual institutions are applying field-wide research agendas in their own practice.

Papers

Exploring How Visitors Find Relevance within an Exhibition

Presenter

Stephanie Iacovelli, Museum of Science, Boston

Purpose

This research study builds on results of a summative evaluation of the NISE Net mini-exhibition (Svarovsky et al., 2013), which found that visitors learned about connections between nanotechnology and their lives through the exhibition. Though the evaluation found that visitors were learning about these connections, it did not explore how or why. The research question for this study is “How do visitors use, interact with, and talk about the exhibit components within the Nano mini-exhibition to learn about the relevance of nano to their lives?” Along with looking at how visitors use the exhibition to make connections between nano and their lives, this study also explores the features of the exhibit design and content presentation that are leading visitors to find relevance within the exhibition.

Abstract

A research study was conducted on the Nanoscale Informal Science Education Network’s Nano mini-exhibition looking at how visitors make connections between the exhibition and their lives. There are many references within educational literature about the importance of relevance to learning (Assor, Kaplan, & Roth, 2002; Chang & Lehman, 2002; Frymier & Shulman, 1995; Keller, 1987; Kember, Hong, & Ho 2008), and relevance appears to be especially important as a method of enhancing the intrinsic motivation of learners (Chang & Lehman, 2002). This research also builds on results of the summative evaluation of the mini-exhibition, which found that visitors learned about connections between nano and their lives through the exhibition. This finding, along with the educational importance of relevance found in the literature, led us to explore how the mini-exhibition is leading visitors to find relevance and which elements of the exhibition design are facilitating this learning.

To explore how visitor groups develop a sense of relevance in Nano, a qualitative, exploratory study was designed to capture visitor discussion within the mini-exhibition as well as visitors’ own reflections upon their experience. Methods included video and audio recordings, direct observations, surveys, and reflective interviews. A total of 33 groups participated in the study.

The video and audio recordings were first broadly coded for instances of relevance, which was coded any time visitors made a connection between the exhibition and their lives. The next round of coding used the a priori framework created by Kember, Ho, and Hong (2008), which defined four types of content relevance: 1) applying theory to practice, where visitors use theory to explain something in their lives, 2) local issues, where visitors make a connection between the exhibit and a local context, 3) current topics, where visitors connect the exhibit to current news or societal issues, and 4) everyday applications, where visitors make a connection to their

everyday life or experiences. Three codes also emerged from the first round of coding that describe whether visitors are making connections based on their own experiences or examples within the exhibition: 1.) exhibit relevance, where visitors relate what they are seeing or doing to something familiar, 2.) internal relevance, where visitors find relevance using an example that is found directly in the exhibition, and 3.) external relevance, where visitors bring up something that is not found within the exhibition.

All groups in our sample made some connection between the exhibition and their everyday lives. All groups also showed “internal relevance,” making a connection to something found directly in the exhibition. These relevance connections occurred mostly at the panels in the exhibition as well as at one of the interactive components which contained content about the societal implications of nanotechnology. Most groups also showed “external relevance,” extending their conversation beyond something found directly in the exhibition. This tended to occur at three of the exhibit panels. Additional analysis will explore how the design elements and content presented in the exhibition connect to the areas where visitors are finding relevance in the exhibition.

Importance

There are many references within educational literature about the importance of relevance to learning (Assor, Kaplan, & Roth, 2002; Frymier & Shulman, 1995; Keller, 1987). Educational research indicates that relevance, along with other factors, can be incorporated into the design of a learning experience in order to motivate people to learn about a topic (Chang & Lehman, 2002; Keller, 1987). However, relevance appears to be especially important as a method of enhancing the intrinsic motivation of learners (Chang & Lehman, 2002). Therefore, relevance can be used to motivate learners to continue learning about content on their own, without the influence of outside factors. This kind of motivation is especially important in museums, where visitors have the ability to decide which content to acknowledge or ignore. Our work, exploring the exhibition design elements that lead visitors to find the content relevant, can be used when creating future un-facilitated exhibit spaces.

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A Kids-Eye View of the Zoo

Presenter

Alexandra Burris, Indiana University

Purpose

The purpose of this study was to explore the use of new technology to understand the activities of visitors to informal science institutions. In this pilot study, visitors to a zoo were recruited to wear POV cameras. The long battery life and high-quality audio allowed me to acquire very detailed data and it is suggested that the cameras be explored further as a tool in research and evaluation. In particular, the research objective for the current study is to examine the ways that zoos create environments for sparking and nurturing an interest in animals and science among youth visitors. During their visit, families often discussed prior experiences and attempted to engage to varying extents with the interests of their family members. The ability to see and hear discussions/interactions throughout the visit provided an extensive amount of information about the experiences of the youth.

Background

It is hypothesized that zoos may impact the development of interest for a visitor by acting on any of the four phases of interest development posited by Renninger and Hidi (2011) and within any of the three learning contexts proposed by Falk and Dierking (2000). For example, a particular exhibit or animal (physical context) may act as a trigger of situational interest and/or prolonged exposure to the zoo setting and conversations with family members (sociocultural context) may catalyze a shift to individual interest. Conversely, the current interest phases of visitors (personal context) likely influences how they experience the zoo.

Methods

Families were recruited as they approached the entrance to a large Mid-Western zoo and asked if their child would be willing wear a GoPro® camera throughout their visit (the camera could be turned off at any time for privacy/discomfort). Families who agreed completed written consent forms. Cameras were mounted to the child using a chest harness that allowed for both video/audio recording. Ten families with children between the ages of 6 and 13 years (6 boys, 4 girls) participated.

Analysis

The videos were coded openly using ELAN software for themes in a similar manner to Kisiel et al (2011), sticking close to the data to generate descriptive categories. In particular, interactions among children and

parents were examined for the purpose of the interaction (i.e. observation, pointing out, etc.) and who was responsible for generating the interaction. Codes were compiled and compared among the participants using a case study approach. Background information from the surveys was used qualitatively to add detail to each case.

Results

The use of POV cameras represents a largely unstudied method. They provide a unique benefit when compared to studies of single exhibits by allowing me to examine participants' behavior across different exhibits and during travel between exhibits. They also allow for a unique "participant-centered" view. However, it is possible that the camera may affect the behavior/comfort of the visitor. Through the analysis, it was apparent that some youth were more cognizant of the technology than others, but most references to the camera's presence across the participants decreased throughout their visit. Additionally, the recorders captured many "off-topic" conversations which suggests that participants either forgot about the camera or were comfortable enough to act normally.

In analyzing the case studies, it appeared that the ratio of displayed behaviors differed among the families with each family taking up a certain pattern of behavior that stayed consistent throughout the visit. Some families interacted in ways that were mostly driven by the child. For example, Jack led his family through the zoo while telling animal facts and initiating most of the observations about animal behavior. In other cases, the zoo experience appeared to be more parent-driven such as the case with Kate and Claire, where the parents asked questions and provided facts to their children. It is possible that these different patterns could be related to interest, however direct input from parents and children would help illuminate this hypothesis.

Importance

The findings in the case studies were similar to those found by previous studies on parent-child interactions in informal settings. However, the scope of this study extended beyond a single exhibit in order to examine patterns of behavior throughout the zoo. Even so, much more research is needed to determine the relationship between interest and behavior patterns within a zoo visit. A logical next step will include in-depth interviews to examine prior experiences and thought processes of the visitors. As such, this study is a pilot study which provides many future directions for research. In a practical sense, this study also helps to show that the use of POV cameras may provide a fruitful means of studying these questions and they may also provide an avenue for other data collection such as in the evaluation of informal education experiences.

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Session Five, 1:45-3:00 PM

Try It Out! Using Collaborative Evaluation Spaces for Capacity Building

Chair

Charity Counts, Session Chair, Associate VP, Exhibits, The Children's Museum of Indianapolis

Panelists

Chris Carron, Director of Collections, The Children's Museum of Indianapolis

Susan Foutz, Director of Research and Evaluation, The Children's Museum of Indianapolis

Cathy Hamaker, Exhibit Developer, The Children's Museum of Indianapolis

Rachael Mathews, Program Developer/Evaluator, The Children's Museum of Indianapolis

Lisa Townsend, Vice President, Marketing and External Relations, The Children's Museum of Indianapolis

Purpose

To satisfy a growing list of evaluation needs and build capacity for evaluation overall, The Children's Museum of Indianapolis created a pop-up evaluation space called "Try It Out!" This space has been used for three consecutive years (2013-2015) and has hosted more than 30 evaluation and research studies from a diverse cross-section of museum departments. In this rapid-fire panel presentation, presenters will provide an overview of the creation and implementation of "Try It Out!" As a result of this session, attendees will:

- Gain an understanding of how dedicated evaluation spaces can grow the capacity of informal learning organization staff, by provide opportunities for evaluation experience and training, as well as provide a positive experience for visitors.
- Be able to identify positive outcomes that can help them building a case for pop-up evaluation spaces in their own organizations.
- Learn about the process behind implementing and managing a pop-up evaluation space.

Abstract

In this rapid-fire panel presentation, presenters from departments throughout the museum will provide an overview of the creation and implementation of the "Try It Out!" space at The Children's Museum of Indianapolis. The museum has a long history of evaluation, having had internal evaluators on staff for the past two decades. In the past five years, the museum has made a greater effort to support staff professional development around evaluation, including trying to meet the needs of departments which have various levels of evaluation experience and expertise. Session Chair and Associate VP of Exhibits, Charity Counts, will provide a brief overview of the history of the "Try It Out!" space. As a pop-up venue for visitor studies, the space provides a dedicated location for collecting data and serves as a way to increase the capacity of staff through coaching and hands-on evaluation projects. Panelist Susan Foutz, Director of Research and Evaluation, will highlight the role of her department in coaching staff and overseeing the logistics of the space. She also will share how "Try It Out!" fits into the museum's larger evaluation capacity-building efforts.

Four panelists who represent departments which have used the space will provide: 1) brief overviews of studies conducted in the space, 2) insights into how and why the space has provided a welcomed change to their process of research and evaluation, and 3) ways in which the experience has increased the evaluation capacity of staff. The focus of each panelist's presentation is summarized below:

- Chris Carron, Director of Collections, will describe his department's object research project developed in conjunction with Dr. Elee Wood, and explain how using this space has provided opportunities for his team to be in direct contact with visitors, boosting confidence.
- Cathy Hamaker, Exhibit Developer, will share how she has used the space for exhibit prototyping and how "Try It Out!" evaluation projects differ from her other prototyping experiences. Cathy will also speak to how the Museum has tried to create an "experience" out of evaluation projects (such as prototype-a-palooza) with spaces such as "Try It Out!"
- Rachel Mathews, Program Developer/Evaluator, will share an example of a study conducted by the Interpretation department and will describe how a pop-up evaluation space provides floor staff an opportunity to speak with visitors, outside of the context of exhibits.
- Lisa Townsend, VP of Marketing and Communications, will discuss how the space was used to test content for a new commercial and how the findings influenced the marketing approach. She also will compare the benefits of having the space to conduct smaller studies in comparison with other forms of market research including the larger online visitation surveys which the Marketing department initiates twice a year.

Importance

Building the evaluation capacity of non-evaluators is a hot topic for the Visitor Studies Association (VSA) and the American Evaluation Association (AEA). It is continually a topic on the AEA365 tip-a-day blog, and numerous articles on the subject have been published in recent years, including a special issue of *New Directions for Evaluation* in 2014. Museum Studies departments now regularly require courses on evaluation to encourage evaluative thinking and train savvy consumers of evaluation. Promoting these skills as well as the ability to conduct small-scale evaluations is thought to increase buy-in for the evaluation process and promote the use of evaluation studies by non-evaluators.

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Additional Links

Informing Change has created a free diagnostic tool to “help organizations assess their readiness to take on many types of evaluation activities.” The process can help you start a conversation on the role of evaluation within an organization and determine areas for growth. Available at <http://informingchange.com/resources>.

The University of Wisconsin-Extension offers a range of evaluation resources available for free download at <http://www.uwex.edu/ces/pdande/evaluation/> The Children’s Museum of Indianapolis uses a modified version of the UW-E’s “Planning a Program Evaluation” worksheet as part of the planning process for all “Try It Out!” space projects.

Zoos and Aquariums as Agents for Social Change and Betterment

Chair

Kathryn Owen, Audience Research Manager, Woodland Park Zoo

Panelists

Rebecca Coon, Audience Research and Evaluation Manager, Denver Zoo

Kathy Kiser, Manager of Evaluation, Shedd Aquarium

Jerry Luebke, Senior Manager, Audience Research, Chicago Zoological Society/Brookfield Zoo

Purpose

The goal of this panel is to provide participants with a sense of how zoos/aquariums are challenged by—and responding to—the complexities of engaging the public in conservation and sustainability behaviors. By presenting concrete examples of how three AZA (Association of Zoos and Aquariums) institutions are grappling with the question of engaging audiences in saving wildlife, we hope to further the wider conversation about the issues facing free-choice learning institutions in our work to effect social change and the role of evaluation within that effort

Abstract

Today’s zoos and aquariums share a common mission: to contribute to the survival of our planet’s threatened and endangered animals and habitats. In light of the current extinction crisis—fueled by climate change, poaching, habitat loss and related threats—the relevance of this mission to society is clear. What has not been clear, however, is the role that zoos and aquariums are best equipped to play when it comes to engaging the public in action aimed at saving wildlife and creating a sustainable planet.

Over the past decade, there has been substantial progress towards gaining a clearer understanding of the motivations, perceptions and interests of zoo and aquarium audiences. Recently, audience research within AZA institutions has begun to focus on the implications of these diverse audience needs and interests and the goal of engaging the public in behaviors and actions to build a sustainable world.

Panelist perspectives

The moderator will frame the conversation by providing brief contextual background for audience members unfamiliar to the discussion of behavior change efforts within zoos and aquariums. The three panelists will then outline their institution's contribution to the discussion of motivating conservation behaviors among zoo and aquarium visitors, highlighting key research findings and discussing the methods used to contribute data to inform this conversation.

Coon will describe a study conducted at Denver Zoo to assess audiences' and non-audiences' baseline perceptions about and awareness of conservation in general, as well as conservation efforts at Denver Zoo. Results indicate that people consider the zoo's purpose to be education; few were aware of its role in conservation research. Audiences overestimated their own knowledge of Denver Zoo's conservation work, although awareness did increase with repeat visitation. Results also show that the language used to talk about conservation is critical and contextual. Audiences interpreted—and used—conservation terms differently than anticipated.

Kiser will discuss Shedd Aquarium's efforts to begin measuring program impact on participants' behavior. Currently, programs are evaluated based on knowledge, skills and attitudes within predetermined learning framework outcomes. The institution has recently begun to move towards targeting and measuring learner engagement in conservation behavior, raising questions about which behaviors to target, and how those behaviors may be affected through the achievement of program outcomes. Evaluation data collected using mixed methods in programs as well as with volunteers on the floor has provided a starting point for that discussion.

Given the range of interests, expectations, and reasons why people visit a zoo, a key evaluation question in assessing visitors' behavioral changes is whether the expected quantity and quality of change should be the same for all visitors. Luebke will discuss the approach Brookfield Zoo has taken to identify desired impacts based on audience segmentation. Exit survey results have enabled the zoo to identify distinct audience segments that can be characterized as highly, moderately, or not at all engaged with the zoo's conservation mission. Identifying these audience segments has provided insight into the impact zoo experiences are having on visitors' self-reported behavioral and attitudinal changes.

Importance

There is increased understanding that within the context of the current ecological crisis, the relevance of modern zoos and aquariums is tied to their efforts to save wildlife and wild places—and to engage the public in this effort in meaningful ways. Of course, institutions with living collections aren't the only ones considering their role in advancing social change. Natural history museums are highlighting the impacts of climate change, science centers are engaging the public in cataloging the earth's shrinking biodiversity, and institutions such as the Tolerance Museum are challenging visitors to confront prejudice and discrimination in today's world. Evaluators

can play a critical role in helping these institutions engage the public in the movement to build a more just, equitable and sustainable world.

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Roundtables

Evaluating the Visitor Experience: Effective Measures for Live Cultural Programming

Presenters

Betty J. Belanus, Smithsonian Institution Center for Folklife and Cultural Heritage

Jon Kay, Indiana Traditional Arts

Purpose

1. Engage in an immersive experience, meeting and interacting with expert folk artists in an informal setting similar to a program at an Indiana State Park.
2. Contribute to ideas for effective evaluation for this type of live cultural programming, toward a development of measures for visitor engagement at such programs (Competency C: Knowledge and Practices with Social Science Research and Evaluation Methods and Evaluation).
3. Begin a dialogue between folklorists and visitor studies professionals which will benefit both groups.

Abstracts

While a fair amount of work has been done in the field of visitor studies related to live programming by scientists, educators, and living history professionals, much less has been explored in folk arts programming (during which non-professional community-based artists engage with a broad public).

Folklorists have been presenting live cultural programming with folk artists for many years: for example, the Smithsonian Folklife Festival is approaching its 50th anniversary, and the Indiana Arts Commission's Folk Arts Program was begun in the early 1980s.

The goal of live folk arts programming is to allow visitors to meet and learn from the artists themselves, creating

an appreciation for the traditional arts more immediate and meaningful than viewing exhibitions or reading about these skills. Qualitative evaluation methods aimed at gauging the visitor experience at this type of live event are lacking. How effective is visitor engagement with folk artists? Are we able to record or measure this engagement?

Funders, partner organizations, and other stake holders wish to receive convincing qualitative evidence that cultural programs featuring live folk artists and other experts have been effective, and therefore worth the time, energy and funding to organize and present them. Folklorists and other cultural experts organizing such programs wish to know whether their goals for engaging visitors at these programs are being met, and how they could improve their practice.

Few folklorists have a knowledge of visitor studies methodology. This session is an opportunity for professionals in the visitor studies field to lend their expertise; possibly to begin a relationship that could place the field in a leadership position in the area of effective qualitative measures for this type of live cultural programming.

The session will begin with a presentation of two experienced folk artists who have participated in an Indiana Traditional Arts initiative in Indiana State Parks. For the past four years, Traditional Arts Indiana has presented folk artists in parks throughout the state, hosting demonstrations, narrative stages, and “up-close” concerts. The artists will demonstrate their skills, and session attendees will be able to interact with the artists as though the program were taking place at a parks program, or similar setting.

VSA audience members will be tasked with discussing ways to effectively evaluate visitor engagement at such a program. Questions posed will include: What are the points of access to engagement which might be evaluated? What format could such an evaluation take? How should the evaluation be effectively implemented? Is it possible to formulate a qualitative evaluation that would result in measurable data?

It is hoped that this discussion will open a dialogue between visitor studies professionals and folklorists, leading not only to more effective evaluation of live cultural programming, but to improvement of “best practices” in the presentation of live cultural programming, to be taken forward in the future. Such an exchange offers benefit to folklorists and other cultural workers, as well as folk artists and other experts engaged in live cultural programming, potential audience members, and members of the visitor studies field.

Importance

The community-based folk arts are an area of national and international cultural life that are underfunded and under-evaluated. This session will engage VSA members in a discussion aimed at improving the practice and evaluation of presenting the folk arts, and will open a dialogue for future collaboration with folklorists in bringing these important traditional arts to a broader audience in more effective ways in the future.

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Additional Links

- American Folklore Society: <http://www.afsnet.org/>
- Smithsonian Center for Folklife and Cultural Heritage: www.folklife.si.edu/
- Traditional Arts Indiana: <http://www.traditionalartsindiana.org/>

Leading, Influencing, and Advocating for Organizational Change

Session Chair

Marcie Benne; Associate Vice President of Transition for Exhibits, Oregon Museum of Science and Industry;
mbenne@omsi.edu

Session Presenters

Garcia-Luis, Veronica; Project Director/Evaluator, Exploratorium; vgarcia-luis@exploratorium.edu
Maldonado, Lindsay; Director of Audience Research and Evaluation; John G. Shedd Aquarium;
lmaldonado@sheddaquarium.org

Price, Aaron; Evaluation & Research Manager; Museum of Science and Industry, Chicago;
Aaron.Price@msichicago.org

Session Panelists

Dale McCreedy; Director of Gender, Adult Learning & Community Engagement, The Franklin Institute Science Museum; mcreedy@fi.edu
Kim Kiehl; Executive Director, Smithsonian Early Enrichment Center, Smithsonian Institute; KiehlK@si.edu

Purpose

This session is for organizational staff members, regardless of position or tenure, to discuss common challenges when trying to influence organizational change for the benefit of local communities.

As a result of this session, participants will gain the following outcomes.

Outcome 1: Appreciate that VSA is a place to cultivate connections and support among fellow organizational leaders.

Outcome 2: Recognize at least two shifts in their own perspectives on organizational leadership challenges

Outcome 3: Acquire information on leadership strategies from a relevant academic field such as organizational development, leadership, management, accountability, or civic engagement to address their own challenges (VSA Learning Competency A)

Abstract

Leading is often described as directing change. VSA attendees with an appreciation for evidence and a commitment to communities are well-equipped to influence change. While some staff members hold formal leadership positions, most organizational staff members direct change from positions without formal leadership titles. Regardless of title, all VSA attendees lead from wherever they are positioned in their organizations and all are considered fellow students of leadership.

In this 75-minute roundtable session, participants will discuss personal challenges of influencing organizations toward better serving local communities. Three storytellers listed below will share personal leadership experiences; then all participants will enter into discussions by sharing their own stories, questions, and suggestions.

Veronica Garcia-Luis has led museum efforts to engage Latino families. This entailed organizing a cross-institutional work group and implementing institution wide inclusion trainings. This leadership example has required keeping the matter urgent, building coalitions, and constantly updating shared visions of success.

Lindsay Maldonado has led her organization to further engage in data driven decision making through more thoughtful research and evaluation efforts. By learning from missteps early in her career, she grew to successfully manage relationships that afforded her opportunities to take risks that ultimately influenced organizational decision making and innovation in research.

Aaron Price has led the development of a new organizational business unit. Through this work, Aaron learned the need to shift styles for motivating others depending on whether he was working with senior leaders or business unit staff. This leadership example illustrates the benefits of broad skills including coaching, applying evidence, and storytelling.

The Noyce Leadership Institute (NLI) promotes leadership through evidence-based practice, professional networks, reflection, and coaching. Three NLI alumni and VSA board members will be available to share relevant perspectives as needed within the discussion: Kim Kiehl, Smithsonian Early Enrichment Center; Dale McCreedy, Franklin Institute Science Museum; and Marcie Benne, Oregon Museum of Science & Industry.

Importance

Agents of change often report feelings of loneliness and extreme challenge. This session supports VSA attendees taking leadership action through their work by providing a forum to share lessons learned, academic perspectives, and resources. For example, this session will draw from topics integral to the leadership work of visitor studies professionals such as: helping institutions influence societal change (McLeod Grant & Crutchfield, 2007), supporting data-informed decision making (Heath & Heath, 2013), leading institutional change (Kotter, 1995; Raelin, 2004), influencing others (Heath & Heath, 2010), personal growth and effectiveness (Goldsmith, 2004), and activities of leadership (Heifetz & Laurie, 2001).

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Telling the Story: Best Practices in Evaluation Communication and Presentation

Presenters

Kimberly Pratt, Center for Research and Evaluation, COSI

Rena Youngs, Minnesota State Arts Board

Purpose

Museum visitors respond well to clear, compelling ideas. But so do our colleagues, clients, project partners, funders, board members, and others. We will discuss some best practices, some no-cost and low-cost resources, and your favorite presentation and communication tips. Several presentation formats will be discussed. In this session, two go-to communicators will lead a round-table discussion of communication and presentation tips and tools, favorite resources and discussions of different formats and topics in order to hear everyone's good ideas. Attendees will take away a collection of new ideas and resources – or reminders of familiar ones – that are specific to their own particular needs and interests.

Abstract

At the heart of meaningful and ethical evaluation work is an imperative to make the results of any study available to and accessible by stakeholders, funders, clients, or colleagues. Many practitioners struggle with exactly how to communicate findings in a way that is clear, interesting, and applicable. And at the same time, many evaluators are exploring new ways to meet those objectives through self-study, workshops, and countless hours spent wrestling with big ideas, like, “Is anybody really listening?”

This roundtable discussion will provide a forum for interested and like-minded evaluators, communicators, and data enthusiasts at all levels to discuss a variety of innovative ways to communicate and disseminate findings to different stakeholders, curated from leaders in the field. We are inspired by Stephanie Evergreen and Ann K. Emery among others, beautiful and understandable data visualization, and powerful storytellers, and we want to hear about who and what inspires other evaluators and sharers of information.

Attendees should expect to hear about, discuss, and share creative ways to disseminate findings and share results, including strategies and tools for representing data and findings visually, verbally, and with specific audiences in mind. We encourage attendees to bring examples of different types of projects and share their ideas for how communication and dissemination of results could vary by project and stakeholder group.

Importance

Sharing information effectively is a critical skill in both the visitor studies field and the informal learning field more broadly. We all need to be pushed to think more critically and creatively about communication and presentation. When reporting the findings of a study, proposing a design, managing a project, or any number of other situations, it is necessary to be able to share ideas clearly. Yet communication and presentation skills and resources are not necessarily top-of-mind when we think about our work. By discussing best practices in communication and presentation techniques, and exploring resources for effective communication and presentation of evaluation results, we hope attendees will leave inspired and enlightened to take action on their next project.

Additional Links

AEA Potent Presentations Initiative: <http://p2i.eval.org/>

Ann Emery: <http://annkemery.com/> (check out the Essentials)

Chart Chooser: <http://labs.juiceanalytics.com/chartchooser/index.html>

Dashboards: making data accessible: <http://sparkwi.se/>

Data Visualization Table: http://www.visual-literacy.org/periodic_table/periodic_table.html

Flowing Data blog: flowingdata.com/

Stephanie Evergreen: www.StephanieEvergreen.com

Telling a Story Online: free infographic templates: <http://infoagr.am/>

Embedded Assessment: The Possibilities and Pitfalls of Making Evaluation “Fun”

Presenters

Mary Michail, Public Events and Family Programs Manager, The Children’s Museum of Indianapolis

Claire Thoma, Evaluation and Research Coordinator, The Children’s Museum of Indianapolis

Purpose

In this roundtable, participants will discuss the informal learning contexts in which they have used embedded assessments as an evaluative method with the goals of learning new strategies for designing embedded assessments as well as gaining a better understanding of the challenges and constraints associated with this method. Both those with experience using embedded assessments and those interested in learning more are invited to take part in this discussion.

Abstract

When conducting research and evaluation in informal learning settings, whether exhibits or programs, it is typically undesirable to give visitors a test-like assessment, yet finding out what visitors learned from an experience is often a top priority in measuring the success of a program or exhibit and reporting to key stakeholders. In these cases, embedded assessment can be the key to this puzzle, with the understanding that “opportunities to assess participant progress and performance are integrated into the instructional materials and are virtually indistinguishable from the day-to-day activities” (Wilson and Sloane, 2000, p. 182). An evaluator and program manager at the Children’s Museum of Indianapolis have worked together over the past three years to embed assessments of youth content understanding within a summer camp program. They have worked toward the shared goal of capturing information about what campers are learning in a natural, interesting, and even fun way, rather than a way that feels “like school.” This has required close coordination between the evaluator and the staff planning the camp curriculum, and the team has encountered its share of successes and challenges. This session leaders will begin this roundtable discussion by sharing their respective experiences with planning, implementing, and analyzing embedded assessments as parts of a multi-method evaluation. All roundtable attendees will be invited to contribute their own experiences as well, including the contexts for which they designed embedded assessments and examples of both successes and failures. Discussion will continue among all attendees using the following guiding questions:

- In what contexts have you used embedded assessments?
- What strategies for embedded assessments have you found successful/unsuccessful?
- What are the challenges you have encountered while planning and implementing embedded assessments?
- Has an embedded assessment you planned ever failed, and how did you handle it?
- Do you consider embedded assessment a useful tool for programs that do not have dedicated evaluation staff?
- Are there differences in planning embedded assessments for long-term versus short-term or one-time programs?
- What are strategies for piloting an embedded assessment to ensure that it will successfully collect the desired information?
- Have you ever tried embedding assessments of program quality?

Importance

Embedded assessments create opportunities for program facilitators, teachers, evaluators, and researchers to integrate data collection within an experience, making it less onerous, or even invisible, to visitors and program participants. Although these attributes strongly recommend this method for informal learning environments, it takes careful planning and implementation to work successfully. Just this year, NSF funded a project to develop and research the use of embedded assessments within citizen science projects, demonstrating belief in this method as appropriate and useful for informal learning experiences (see additional links below). As understanding and use of embedded assessments continues to evolve, this discussion will provide an important opportunity for attendees to learn from the experiences of others.

References

(2014.) NSF Citizen Science Embedded Assessment Award Abstract. Retrieve from

http://www.nsf.gov/awardsearch/showAward?AWD_ID=1422099&HistoricalAwards=false

Wilson, M., & Sloane, K. (2000). From principles to practice: An embedded assessment system.

Applied Measurement in Education, 13(2), 181-208. Retrieved from

<http://www.vstate.biz/academics/general-education-council/documents/principlestoprac.pdf>

Additional Links

The following guide provides an overview of embedded assessment and presents ideas for developing integrated assessments into program activities:

Curtis, M., & Kukké, S. (2014). *Activity-based assessment: Integrating evaluation into prevention curricula*. Texas

Association Against Sexual Assault & Texas Council on Family Violence. Available online at

https://www.wcasa.org/file_open.php?id=1073

SATURDAY, JULY 18

Session Six, 9:00-10:15 AM

Exploring evaluation across multiple institutions

Panelists

Rena Youngs, Minnesota State Arts Board

Julie Scordato, Columbus Metropolitan Library

Betsy Martinson, Buffalo Bill Museum and Grave

Purpose

Partnerships, networks, and other systems of informal learning are increasingly prevalent in our field. What does evaluation look like in this emerging landscape of multiple sites, institutions, programs, and intended outcomes? This session will feature panelists sharing perspectives on multi-site evaluation from a grantmaking agency, an evaluation community of practice, and a cross-institutional youth development program. Session participants will have opportunities to reflect on and discuss the unique considerations, challenges, and opportunities of building capacity for, conducting, and integrating evaluation into these complex settings. The panelists will share their experiences, and then look forward to hearing from evaluators and non-evaluators alike who have studied, participated in, or sought funding for multi-institutional projects.

Perspectives

The panelists for this session intend to begin with short presentations of the context in which they consider this topic, then continue a discussion of topics related to multi-institution, multi-site evaluation in greater depth with session participants.

The three panelists will speak from the following perspectives:

- A member of a network of organizations focused on developing spaces and programming for youth while this network underwent evaluation planning, process evaluation, and program evaluation.
- A member of a network of individuals from many organizations that is focused on building evaluation capacity.
- A director of evaluation for a public-sector grantmaker required to document the collective impact of its funded projects over time.

Discussion

Key questions for discussion may include but will by no means be limited to: What are the particular demands of the evaluator-practitioner relationship in a multi-site evaluation project? What evaluation capacity building needs exist in such projects, and what are the best tactics to address them? How do partnerships lead to capacity building and/or project goal achievement? What are the particular demands of the evaluator-practitioner relationship in a multi-site evaluation project? How are shared outcomes and evaluation strategies developed in the context of a multi-site project or partnership? How much methodological structure can or should be imposed

on sites where the evaluated activities may vary but the evaluated outcomes are shared? How can or should evaluation that documents progress toward shared outcomes also have value for each partner internally? Do the answers to any of these questions vary between intentionally-formed partnership projects and coincidental participation in a looser network, as with a cohort of funded projects?

Importance

Three current developments in the informal learning field make this session timely and connect it to the conference theme. First, the proliferation of networks, partnerships, and other cross-institutional systems in our field are changing the ways in which experiences are developed and delivered to audiences. Second, the entities that fund informal learning institutions and projects are increasingly concerned with documenting the aggregate effect of their philanthropy, as measured by the results of their grantees' work. And finally, both grantmaking and grant-seeking organizations are increasingly seeking to have a tangible, relevant, and beneficial role in their communities. Panelists and session participants will discuss their experiences with growth, improvement, and change in terms of building evaluation capacity, developing programs, and strengthening relationships across multiple organizations.

References

Cornell Office for Research on Evaluation. (2009). *The evaluation facilitator's guide to: Systems evaluation protocol*. Ithaca, NY: Cornell Digital Print Services. Retrieved from <https://core.human.cornell.edu/research/systems/protocol/index.cfm>

Dozois, E., Langlois, M., & Blanchet-Cohen, N. (2010). *A practitioner's guide to developmental evaluation*. Montreal: The J.W. McConnell Family Foundation and the International Institute for Child Rights and Development. Retrieved from <http://www.mcconnellfoundation.ca/de/resources/publication/a-developmental-evaluation-primer>

Ito, M., Gutiérrez, K., Livingstone, S., Penuel, B., Rhodes, J., Salen, ... Watkins, S. C. (2013). *Connected learning: An agenda for research and design*. Digital Media and Learning Research Hub, Irvine, CA. Retrieved at <http://dmlhub.net/publications/connected-learning-agenda-for-research-and-design/>

Kulpinski, D. (2009). *Partnership for a nation of learners: Joining forces, creating value*. (IMLS-2009-RES-03). Washington, D.C.: Institute of Museum and Library Services. Retrieved at <http://www.imls.gov/assets/1/AssetManager/PNLReport.pdf>.

Minnesota House of Representatives. (2010). *Legislative guide: Principles for use and expected outcomes of funds from dedicated sales taxes*. St. Paul, MN. Retrieved at <http://www.legacy.leg.mn./sites/default/files/resources/HouseLegislativeGuide.pdf>

Additional Links

Surge Columbus: <http://www.surgecolumbus.org/>

Denver Evaluation Network: <http://www.denverevaluationnetwork.org/>

Minnesota State Arts Board: <http://www.arts.state.mn.us/>

Complex Studies of a Complex Subject: Data Visualization and Visitors

Panelists

Mary Ann Wojton, Lifelong Learning Group

Lisel Record, Cyberinfrastructure for Network Science Center, Indiana University

Sasha Palmquist, Sasha Palmquist and Associates

Purpose

Big data and data visualizations exist across many, if not all disciplines, including science, history, and language arts. In this project, funded by an NSF Pathways grant, evaluators, educators, and university scientists joined together to better understand visitors' awareness of and competence with the term "Big Data" as well as with data visualizations. Panelists in this session will share the complex process of combining scientific research with evaluation across five different museum sites, in order to help participants understand how professionals from different organizations and backgrounds can work together to design, conduct, and report visitor studies. Additionally, panelists will share how a series of studies, using different measurement techniques, could be used to better understand how museum visitors make meaning of a topic, data and data visualizations.

Abstract

The first panelist, Lisel Record, will introduce the project and explain how this project has increased our understanding of how people read big data visualizations (Borner, 2010; Wojton, Heimlich, Burris, Tramby, 2014). She will also discuss how visitors; and people in general, understand and relate to big data in their lives, how they read data charts and maps, and how understanding of big data impacts their actions. These are timely questions as the amount of data and the tools to make sense of this data continue to increase rapidly.

The second panelist, Sasha Palmquist, will discuss the conception of the study, and the first three studies implemented in museums with visitors, including methods and how this iterative study built on the findings of each study to contribute to the knowledge base and design of the next study.

Beginning with the pilot study in winter 2012, which focused on understanding visitors and their relationship to visualizing data and engaging with large data sets, visitors at one science center were invited to view data visualizations and share what they thought the data visualizations were attempting to explain. Once they completed this semi-structured interview, they were shown 16 different visuals at one time and asked to choose three that stood out and explain why.

To better understand whether some types of data visualizations were easier to understand than others, the second study, in the spring of 2013, asked visitors to look at five different data visualizations types (table, chart, graph, map, and network graph) to determine if they looked familiar and if they could explain how they would interpret the data presented.

The third study, in the summer of 2013, determined whether visitors' understanding increased if the visitor constructed or deconstructed the data visualization. Visitors were shown a visualization layer by layer and asked to describe what each layer of the visualization was communicating. For deconstruction, the visitor was shown a different visualization, and asked to describe what it was communicating. After noting what was said, the evaluator removed layers and notated comments until it was determined the individual's understanding of the visual was not changing.

The third panelist, Mary Ann Wojton, will discuss the fourth, fifth and sixth studies and the implications for the field. The fourth study, in the spring of 2014, studied visitors' understanding of the term "Big Data". Using intercept interviews, this study found that the majority of respondents did not have top of mind recall of the phrase "Big Data."

The fifth and sixth studies were conducted in the summer of 2014. One study explored whether there were different, distinct, and repeatable patterns intuited by individuals as they work with large data sets. Using a card sort and interview, participants were given 50 different data cards and asked to sort them. Individuals were observed in how they conducted the sort, and then were prompted to discuss both the approach and the final categories. The sixth study interviewed visitors as they exited a play focused on Big Data.

Importance

Through this iterative process, the series of studies found that, in general, participants were unable to accurately read and explain the meanings of most visualizations; that context and previous experience matter; a relationship exists between the complexity of data visualizations and museum visitors' ability to make meaning from those representations; that museum visitors did not have top of mind recall of the phrase "Big Data", that visitors use two main methods to sort through data, and that humor and live action were successful strategies for engaging visitors with Big Data. Panelists will also share the benefits and challenges of engaging with partners in a complex partnership.

References

Wojton, M., Heimlich, J., Burris, A, and Tramby, Z. (2014.) *Big Data Insight Needs Sort: Formative Evaluation Study*. Retrieved from http://informal-science.org/evaluation/ic-000-000-010-213/Big_Data_Insight_Needs_Sort

Additional Links

Wojton, M., Palmquist, S., Yocco, V, and Heimlich, J. (2014.) *Meaning making through data representation: Construction and Deconstruction*. Retrieved from

http://informal.science.org/evaluation/ic-000-000-010-235/Meaning_making_through_data_representation

Heimlich, J., Tramby, Z., and Wojton, M. (2014.) *Sense Making of Big Data: Front-end study on familiarity with terms*. Retrieved from

http://informal.science.org/evaluation/ic-000-000-010-234/Sense_Making_of_Big_Data

Heimlich, J., Yocco, V., and Palmquist, S. (2013.) *Sense-making of Big Data Spring Break 2013 – Visualization recognition and meaning making*. Retrieved from http://informal.science.org/research/ic-000-000-010-251/Sense_Making_of_Big_Data_Visualization_Recognition_Report

Harnessing Empathy: The Path to Inspiring Others to Take Action

Panelists

John Michael Goodson, Children’s Museum of Indianapolis

Barbara J. Soren, PhD, Independent Consultant, University of Toronto

Sharon E. Pierce, The Villages, Indianapolis – Indiana’s largest not-for-profit child and family services agency

Purpose

At The Children’s Museum of Indianapolis, The Power of Children-Take Action gallery helps children and families learn how they can make a difference in the lives of others. In this session, we will identify a community problem and ways to problem solve community issues through collaboration between a museum and a social service agency. We have pre-selected a social agency in the greater community of Indianapolis, The Villages, as the focus for taking action around a community problem (i.e. the increased number of children in foster care). We will show how The Power of Children inspires empathy through theatre and human emotional connection.

Participants will learn about a multiple methods evaluation study of the Take Action gallery. Finally, participants will brainstorm what putting together a collaborative program with community impact might entail, and consider concrete strategies for engaging museum visitors in the work of a community social service organization.

Background Information

The Power of Children tells the empowering stories of Anne Frank, Ruby Bridges, and Ryan White. A Take Action gallery at the end of the exhibition, which features the work of three social agencies, helps children and families discover how even the smallest action can make a big difference. John Goodson, Gallery Coordinator/Interpreter for the Power of Children exhibit, will begin the session with a live theatrical performance that features the story of Ryan White, who fought for his right to go to school once diagnosed with AIDS in the 1980s. Audience members will become a little community, watch a show that inspires empathy, then harness the empathy through a post-show interactive conversation to share thoughts and feelings and a key chain-making activity that demonstrates harnessing empathy and community impact.

Visitor research: Methods employed, Data collected, and Analysis

Barbara Soren will report on an evaluation she conducted with Evaluation and Research staff in the Take Action gallery in 2013. The primary objective of the evaluation was to better understand the impact the newly revised Take Action gallery had on visitors. The evaluation strategy included qualitative and quantitative methods: telephone interviews with CEOs and a Program Manager of the three social service agencies who had contributed to the Take Action panels; observations in the Take Action gallery through tracking & timing 33 families, interviews with 31 of the tracked visitors and 25 non-visitors to the Take Action gallery; and an online members' survey to which 115 members responded who had visited the Take Action gallery. Barbara will focus on her interview with the CEO of the Villages and visitors interested in fostering children. Her findings give a sense of individual visitors' interest in collaborating with a social service agency following a visit experience.

Social Service Agency Involvement in the Power of Children-Take Action

Sharon E. Pierce, President & CEO, The Villages will describe how her agency has been involved in the development of the Take Action gallery and continues to contribute to information available to families. The Villages is Indiana's largest not-for-profit child and family services agency. As one of the partners, she felt actively involved by Museum staff in the Take Action gallery development process and found staff very sensitive to making sure the interpretive materials were truthful and representative of the Villages' work as a non-profit agency. For Pierce, most important is keeping fostering top of mind amongst adults, creating empathy, sharing information, and promoting follow-up action. The Children's Museum offers free admission to foster families if they show their license, and the Villages educates families about a visit to the museum.

Important issues to be raised and considered

The session will conclude with a mini-workshop in which we will brainstorm with participants which organizations in their communities have common values with a museum exhibition or program, how to align themselves with an organization they have an interest in partnering with, what process they might take, and what challenges they might encounter.

Importance

John's initial performance/key chain activity, and Barbara's interviews with Sharon as CEO of the Villages and visitors interested in fostering children will show how to help individual visitors feel empathy during an experience in the Take Action gallery. John and his staff's post-evaluation activities will highlight how the evaluation helped to inform programming, evolve a relationship with one social service agency, and give staff at the Villages feedback about the impact of a visit experience (e.g. families taking steps towards fostering a child). Through traffic and engagement, The Children's Museum has with visitors, a visit can be a touch point with individuals, promote fostering, and result in critical PR for the social service agency. The final toolkit activity will provide session participants with concrete examples of community problems they could help to solve, and problem solving that could help museum staff with potential solutions collaborating with a community organization.

References

Diamond, J., Luke, J. J., Uttal, D. H. (2009). *Practical evaluation guide: Tools for museums & other informal educational settings* (2nd ed.). Lanham, MD: AltaMira Press.

Additional Links

Children's Museum of Indianapolis; Power of Children exhibit:

www.childrensmuseum.org; www.childrensmuseum.org/content/power-children

Barbara J. Soren, PhD, Independent Consultant/Visitor Researcher: www.barbarasoren.ca

The Villages: www.VillagesKids.org

Papers

"Making Connections": Fostering Change at the Science Museum of Minnesota

Presenters

Lauren Causey, Senior Evaluation and Research Associate, Science Museum of MN

Marjorie Bequette, Director of Evaluation and Research in Learning, Science Museum of MN

Gina Svarovsky, Center for STEM Education, University of Notre Dame

Purpose

The main goals of this session are as follows:

- Attendees will understand the complexity of conducting research around challenging topics with colleagues in various museum roles, and the need for buy-in, transparency and thoughtful dissemination of findings.
- Attendees will understand the innovation of crafting a research study in order to enact a strategic initiative of the museum.

To achieve these goals, the session will follow the below plan:

- Introduction and blueprint for change: A brief introduction to the way changed was theorized within the Making Connections project by SMM staff.
- Incremental changes: We will highlight the ripples of change across the museum that began to happen as we gathered and shared our findings. We will also highlight what strategies for sharing-out research findings were followed, and what was learned.
- Audience reflection: A short think-pair-share activity to facilitate audience reflection and action.

Background

Making Connections is a three-year, NSF-funded, museum-wide project that explores changes in thinking, understanding, and practice while engaging local American Indian, African American, Latino, and Asian American

families in a collaborative process to co-create Maker-style activities for the public. Staff from four museum work groups are collaborating on this project: Community Engagement, Marketing, Activate (Programs), and Research & Evaluation in Learning.

Guiding Questions

1. Museum level: How can the museum be more valuable to more people?
2. Family level: In what ways do family participants' perceptions and knowledge of Making, STEM, and the museum change?
3. Individual staff level: Does participating in this cross-institutional project change the thinking and practices of museum professionals?

Methods, Data, & Analysis

The research study uses a design-based research approach (Brown, 1992) and a mixed-methods approach (Teddlie & Tashakkori, 2003). Data include fieldnotes from "listening sessions" (community-led forums designed to surface participants' perceptions of SMM and Making); surveys and interviews with participants during "design workshops" (events meant to foster development of culturally-rooted Making activities for SMM use); surveys with family participants during Making "showcase" events; interviews with 10 community liaisons who recruited the family participants; interviews with project staff. Data are analyzed through inductive coding.

Findings

Presently at the mid-point, the Making Connections research project has already caused ripples of positive change within the Science Museum of Minnesota. The study population of underrepresented audiences has allowed internal teams to begin building an understanding of the nuance of new strategic planning initiatives whereby SMM seeks to engage diverse audiences. As a research study being used to enact some of those strategic plans, the experiences of and lessons learned by the project's research staff has been particularly insightful.

The project team learned to think about our study population not as a monolith, but as (nearly 150) families who have had a range of prior familiarity with SMM. We are also attuned to the precarious nature of research staff interviewing our own colleagues. Because of this, we have aimed to create an atmosphere that is sensitive to this, allowing staff to speak honestly about their new insights or quandaries about working with underrepresented audiences, and protecting them from any possible repercussions.

The project's research team has learned that sharing-out findings as we go can be tricky. For example, while we shared findings from the listening session events with others across the museum, the project's research team balanced family participants' negative perceptions that SMM "is a place for rich people" or that "it is not a place for single moms" with statements about SMM being "joyous," and other positive statements. Simultaneously sharing-out both positive and negative findings from participants allowed internal staff to view the data more objectively, and to pinpoint action steps for avoiding similar critiques in the immediate future.

The project's research team has had other experiences with sharing-out findings, such as sound-bites of data going viral across the museum, or reactions from internal staff when contradictory pieces of data are presented.

Importance

Increasingly, museum practitioners and informal education researchers have grappled with how to make their audiences more diverse so that they are reflective of the communities in which they exist (Feinstein & Meshoulam, 2014), how to measure that new participation responsibly (Werner et al., 2014), and how to ensure participation from new audiences of color does not only serve the institution's goals, but also has a sustained impact on the specific cultural groups themselves (Paris, 2012).

This session about the Making Connections project at the Science Museum of Minnesota is inherently about taking action, growing, and keeping social change at the fore, even as we iterate through the project. Our experiences with internal dissemination of emergent themes has become an important finding itself, and will become part of a much larger story about fostering change at the Science Museum of Minnesota by project end.

References

- Brown, A. L. (1992). Design experiments: Theoretical and methodological challenges in creating complex interventions in classroom settings. *Journal of the Learning Sciences*, 2(2), 141-178.
- Feinstein, N.W. & D. Meshoulam. (2014). Science for what public? Addressing equity in American science museums and science centers. *Journal of Research in Science Teaching*, 51(3), 368 – 394.
- Paris, D. (2012). Culturally sustaining pedagogy: A needed change in stance, terminology, and practice. *Educational Researcher*, 41(3), 93 – 97.
- Teddlie, C., & Tashakkori, A. (2003). *Handbook of mixed methods in social & behavioral research*. Thousand Oaks, CA: SAGE Publications.
- Werner, B.L., J. Hayward, & C. Larouch. (2014). Measuring and Understanding Diversity Is Not So Simple: How Characteristics of Personal Identity Can Improve Museum Audience Studies. *Visitor Studies*, 17(2).

Inclusive Learning Opportunities at the Zoo for Individuals with Disabilities

Presenter

Jennifer Matiassek, Chicago Zoological Society

Purpose

Guided by its learning strategy, the Chicago Zoological Society strives to provide first-hand, learner-centered, and fun experiences for all program participants. Recently we have begun working with local partners to increase inclusivity and ensure programs are welcoming for individuals with disabilities. Initial evaluation of family play classes, zoo camp, and volunteer opportunities have helped us learn about our impact and inform program improvements. We have seen participants develop social and communication skills, independence, confidence,

and interest in animals. These findings have shown that the zoo is well positioned to serve as a community resource, but also that we have room to grow in providing inclusive experiences that are physically, cognitively, and socially engaging for individuals with disabilities. During this presentation we will share lessons from our still-developing programs and invite the audience to reflect on their successes and challenges in developing and evaluating inclusive programming.

Abstract

Informal science education institutions have vast potential to provide inclusive learning experiences for individuals with disabilities (Reich et al., 2010). Since 2012 the Chicago Zoological Society has focused on increasing inclusive practices in family play classes, camps, and volunteer opportunities. Our intent is to create a model that enables participants to transition across programs over time and sustain personal growth beyond a single experience. Each program builds on our learning strategy to create first-hand, learner-centered experiences where participants of all abilities interact with each other while they explore animals and nature. There is evidence these types of experiences encourage development in communication, social interaction, positive emotion, and self-confidence among children and adults with disabilities (Miller et al., 2002; Rapp, 2005).

For our youngest audiences with Autism Spectrum Disorder, we developed a family play program in collaboration with a local Easter Seals affiliate. Families were invited to visit the zoo before it opened on a series of mornings and took part in developmentally appropriate nature play activities. For zoo camp, we worked with local advisors to identify resources, practices, and activities to help ensure the experience was physically, cognitively, and socially engaging for all campers. We also partnered with the National Inclusion Project on camp counselor training. Our Volunteers in Partnership (VIP) program was developed to support individuals with developmental disabilities in becoming part of the zoo volunteer community. VIP participants are often young adults who graduate from a vocational training program held at the zoo in partnership with area high schools. These young adults partner with trained adult volunteers to facilitate activities and aid guests throughout the zoo.

Ongoing evaluation has provided insight into our successes and challenges. For all of these programs, we invite parents to make observations and provide feedback via online forms. For camp, we also ask counselors to provide feedback through online forms and group discussions. For the VIP program, parent data is supplemented with partner and supported volunteer feedback. Partner volunteers complete online forms and supported volunteers respond to a few questions on a paper form.

Over the last two years, we have found that parents of young children report family play programs encourage their children's use of motor skills, display of positive emotion, independent play, and pretend play. They also observe increased curiosity to explore nature, ability to focus on an activity, and interest in taking care of plants and animals among their children. Parents of campers indicate that their children have fun, develop social skills, and build confidence. For volunteers transitioning from teen to adult positions, parents and mentors recognize skill development as well as gains in confidence and independence. Across programs, common suggestions

include expansion to include more animal interaction, more participants, and more partner organizations. As we continue to develop each of these innovative programs, we will use what we learn through practice and evaluation to reinforce our ability to meet participant needs and expand our ability to serve as a resource in our community.

Importance

We believe that zoos and aquariums are critical community resources that play an important role in connecting people with wildlife and nature. This includes the 19% of the United States population that has a disability (U.S. Census, 2012). Through social experiences, animal encounters, and active community participation, the Chicago Zoological Society hopes to enrich the lives of all program participants. As we focus on how to make experiences more welcoming and accessible, we invite participants to provide insight into the impact of our programs and areas for improvement. In the future, we intend to continue building our local partnerships and using participant feedback to better leverage our resources and expand staff training, increase educational and employment options, and transform the role that cultural organizations play in the lives of individuals with disabilities.

References

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- Rapp, W.H. (2005). Inquiry-based environments for the inclusion of students with exceptional learning needs. *Remedial and Special Education*, 26(5), 297-310.
- Reich, C., Price, J., Rubin, E., & Steiner, M. (2010). *Inclusion, disabilities, and informal science learning. A CAISE inquiry group report*. Washington, DC: Center for Advancement of Informal Science Education (CAISE).
- United States Census Bureau. (2012). *Americans with disabilities: 2010*. Washington, DC: United States Census Bureau.

Additional Links

Chicago Zoological Society Conservation Leadership Blog: National Inclusion Project and "Let's All Play":

<http://www.czs.org/Centers-of-Excellence/Blogs/Conservation-Action/February-2015>

Chicago Zoological Society Good Works Program:

<http://www.czs.org/Chicago-Zoological-Society/Community-Impact/Good-Works>

Chicago Zoological Society Autism Awareness:

<http://www.czs.org/Chicago-Zoological-Society/Community-Impact/Good-Works/Autism-Awareness>

Zoo Camp for All (Belt Magazine):

<http://beltmag.com/zoo-camp-for-all/>

Session Seven, 10:30-11:45 AM

How Orangutans Started an Evaluation Program at the Indianapolis Zoo

Panelists

Laura Weiss, Philadelphia Museum of Art

Caitlin Kegley, COSI

Anna Musun-Miller, Indianapolis Zoo

Don Reifler, Children's Museum of Indianapolis

Purpose

This panel presentation will track the growth of evaluation at the Indianapolis Zoo alongside the construction of a single exhibit, the Simon Skjodt International Orangutan Center. All four projects about the Center covered in this session were done in partnership with graduate students from the Museum Studies program at neighboring Indiana University-Purdue University Indianapolis (IUPUI). Panelists will share their studies and detail how each project demonstrated a shift in student/staff involvement, review processes, and the use of findings at the Zoo, as they moved towards embracing evaluation practices. The panel is meant to support the following learning outcomes:

- Participants will be able to conceptualize how they could build or expand an evaluation program in a short amount of time in their own institutions (as related to Competency D).
- Participants will see the mutual, real world value in building capacity for evaluation through active cooperation with university programs.

Background

This panel will cover four evaluation projects related to the Simon Skjodt International Orangutan Center at the Indianapolis Zoo. All four studies were done in partnership with graduate students from the Museum Studies program at Indiana University-Purdue University Indianapolis (IUPUI). Each demonstrated a shift in student/staff involvement, review processes, and the use of findings at the Zoo.

Front-end evaluation took place in 2011, when the Orangutan Center only existed in blueprints. It was the first time students from the IUPUI program worked with the Zoo. The project included surveys and personal meaning maps, as well as observation of a human/orangutan cooperative activity. Due to the involvement of a faculty advisor and the inclusion of both human and animal subjects, the project went through IUPUI's IRB for approval. The findings helped determine the feasibility of the activity and informed exhibit label content. Otherwise, the results were not widely shared.

When formative evaluation started in August 2012, the site had been flattened and construction was beginning on the Center. The graduate student who worked on this project was a Clowes Museum Fellow, a grant and institution funded position through IUPUI. This financial support demonstrated a greater institutional buy-in for evaluation. The study included surveys, observations, and brief interviews to review label text, visuals, and a

proposed interactive. The study was for internal use only, so there was no formal review process. Findings were used to help rework several elements, the final versions of which are present in the exhibit.

Remedial evaluation was conducted from August 2013 to May 2014, when construction of the Center was completed, but the exhibit was not open. This project was helmed by the Zoo's second Clowes Fellow, which shows the institution's continued investment in evaluation. The remedial evaluation focused on volunteer programming in the exhibit. This project used surveys to determine the effectiveness of the Zoo's volunteer training process. This project was again for internal use, so there was no formal review process. The findings were used to improve future trainings by reflecting the needs and interests of Zoo volunteers.

The Orangutan Center was open when the summative evaluation started in August 2014. The Zoo's third Clowes Fellow worked on this final project. The methods employed included timing and tracking and interviews. This was the first of the evaluation projects to go through a formal review process at the Zoo. Since the institution generally focuses on animal research, the existing review process was expanded to better serve evaluation projects. Unlike the previous projects, results from this study are used both internally and externally.

Discussion

Discussion will begin with audience members ranking the evaluation program at their institutions on a scale from minimal to fully integrated. This will lead into a brainstorming session of how they can move further along this scale, which will be guided by the three elements that benefited the development of Indianapolis Zoo's program – the partnership with IUPUI, a major exhibition project, and an award application that required evaluation.

Importance:

As the Simon Skjodt International Orangutan Center was being constructed at the Indianapolis Zoo, an evaluation program and partnership with IUPUI were also forming. This session tells the stories of the evolution of evaluation at the Zoo, and the creation of a successful partnership with Museum Studies graduate students. Those interested in starting or expanding evaluation programs or establishing long-term university-institution partnerships as ways to build capacity for evaluation may be particularly interested in this discussion. Ways familiarizing staff with the methods and benefits of evaluation can affect institutional support for such efforts and lead to concrete gains for projects, as well as shifts in organizational values, are central to this session. The panel will show that the development of the evaluation program at the Zoo took several years, and that while one exhibit was the starting point, it will certainly not be the end point.

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Additional Links:

Museum Studies at Indiana University-Purdue University Indianapolis:

<http://liberalarts.iupui.edu/mstd/index.php/graduate>

Indianapolis Zoo: <http://www.indianapoliszoo.com/SitePages/Home.aspx>

Assessing Public Impacts of Multi-Site Projects: Opportunities and Challenges

Chair

Gina Svarovsky, University of Notre Dame

Panelists

Chris Cardiel, Oregon Museum of Science and Industry

Steven Guberman, Science Museum of Minnesota

Gretchen Haupt, Science Museum of Minnesota

Eric LaPlant, Science Museum of Minnesota

David Milavetz, Science Museum of Minnesota

Purpose

Multi-site studies have the potential to provide information and insights not available from studies of single settings. At the same time, they present unique methodological and logistical challenges. By focusing on multi-site investigations, participants in the session will increase their ability to engage in research and evaluation studies, and better understand variation among informal educational settings and how visitors learn in them. Using examples from three multi-site investigations, presenters will describe the benefits and challenges of conducting evaluation and research studies across multiple sites and the practical solutions they employed in their practice. Session participants will improve their ability to engage in the appropriate practice of social science research employing rigorous evaluation methods and analysis, and will also develop a greater understanding of the opportunities and challenges accompanying the administration of studies across multiple settings and locations.

Abstract

Research and evaluation studies of informal science education (ISE) projects typically concern exhibits and programs offered in a single setting. But, as ISEs seek to expand their public impact, there is a trend toward providing opportunities for public engagement across a variety of settings and locations. These multi-site projects present new opportunities and challenges for evaluators and researchers. Opportunities of multi-site studies include the possibility of examining how similar exhibits and programs are implemented in a variety of settings and received by more than a single audience. Challenges include the need to adapt instruments and data collection methods so that they are appropriate for a variety of organizations and audiences yet still allow for the generalization of findings. In this session, presenters will use examples from their work in three multi-sited ISE projects to discuss the challenges and opportunities they encountered in their work and what they learned.

The chair and discussant, Gina Svarovsky will introduce the session by presenting a few prominent themes and questions that audience members might keep in mind during the presentations. Then, the presenters (Chris Cardiel, Gretchen Haupt, Steven Guberman, David Milavetz, and Eric LaPlant) will describe the nature of their multi-sited projects, the challenges they faced conducting their studies, the methods they ended up using in their studies, and what they learned.

Chris Cardiel will draw from his experience as the lead researcher on the NSF-funded project, Science on the Move. This ongoing project was designed to test and refine a body of theoretical conjectures pertaining to audience engagement with unexpected STEM learning experiences in public spaces. The project team sought to accomplish this by engaging transit riders with location-relevant STEM content through unfacilitated, interactive science exhibits in everyday places, specifically in multiple transit centers across the Portland Metropolitan area. Gretchen Haupt will report on the Prairie Science Network, an NSF-funded project that situates science-focused activity benches within the historical contexts of five institutions across the US in ways that optimize both science and history and encourage STEM learning among families. Steven Guberman, David Milavetz, and Eric LaPlant will discuss how they evaluated the public impacts of the NISE Network, a national community of researchers and informal science educators dedicated to fostering public awareness, engagement, and understanding of nanoscale science, engineering, and technology. They sought to characterize the public impact of more than 200 organizations participating in the NISE Network.

Following the presentations, Gina Svarovsky will briefly provide some reactions to the presentations, pose questions, and moderate a conversation with the audience. The focus of the discussion will be the unique challenges that arise when conducting multi-site studies and how they were addressed by the presenters, drawing from the experiences of the presenters and members of the audience.

Importance

Projects that take place in multiple locations present opportunities and challenges for assessing their public impacts. They allow investigators to better understand how learning and engagement may vary across multiple settings and audiences, but also present important methodological challenges. In this session, participants will hear about the advantages and difficulties of assessing the impacts of multi-site projects, the methods used to study three informal science education projects taking place at multiple sites, and the lessons that were learned. This session will help participants understand how multi-sited projects can highlight variations that have a significant impact on visitors' engagement and learning, thereby deepening our understanding of how ISEs affect the public. As ISE projects continue to expand their public reach, multi-sited projects may provide important new information not available from studies of single sites and single audiences.

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Additional Links

The NISE Net website: www.nisenet.org

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Reaching Goals: Assessing and Improving Programming for Specific Audiences

Panelists

Fran Mast, John G. Shedd Aquarium

E. Elaine T. Horr, Ph.D., COSI

Rachael Mathews, The Children's Museum of Indianapolis

Carey Meier, The Children's Museum of Indianapolis

Purpose

How do you know if you are reaching your intended goals? This session introduces case studies from three different museums on how planning and evaluation have led to more effective programs, ranging from public visitors to after-hours adult only events. Learning outcomes for attendees at this session include:

- Being presented with examples of program assessment procedures and study findings from three different institutions.
- An opportunity to ask questions and discuss as a group the ins and outs of program assessment through examples of change and improvement, focusing on how program evaluation can be used to help direct focus and growth in training, planning and execution, resulting in improvements within an institution.
- Time to examine higher level evaluation questions posed by the three presenting museums, ask questions to the larger group regarding practical application, and discuss various ways attendees can address their own evaluation needs and challenges.

Abstract

This interactive panel will be presented in three parts:

1. Individual presentations by the three representative institutions.
2. An opportunity for questions and discussion with each institution regarding their case study, outcomes, procedure, and tools.
3. A time for smaller discussions amongst fellow attendees that addresses common questions and challenges for evaluators, with time for larger group discussion for each question.

A brief description of each institutional case study as follows:

Rachael Mathews and Carey Meier of The Children's Museum of Indianapolis a case study focusing on interpretive programming from the 2014 summative evaluation of TCM's recently reimagined preschool gallery, Playscape. Their presentation will focus on three different formal programs and one new informal methodology for promoting family learning in this new exhibit with visiting families. They will share their evaluation methodology, tools used during their program planning, training, and evaluation process, results of the study, and current next steps that are being taken.

Fran Mast, John from the G. Shedd Aquarium, will share with attendees a case study involving their youngest visitors. The study was conducted at Shedd's Penguin Playscape, an area designed to connect children with penguins through imaginative play and interactions with a live animal habitat. Originally intended to be staffed by team members trained in play interpretation, budgetary restrictions lead to the space being permanently unstaffed and only minimal interpretive signage was present to scaffold caregivers and children to make connections with penguins. Thus Shedd needed a baseline understanding of the space and to test potential interventions in order to update the playscape experience to better meet the original goals of the space. The presentation will focus on the analysis and results of child drawing data collected under non-facilitated, free play conditions and a facilitated activity with a "Become a Penguin Pack", a package of props and prompts developed with the input of Shedd Exhibits team.

Elaine Horr of COSI, in Columbus, will be presenting the development and implementation of the formative evaluation plan for the COSI After Dark program – special-themed events for ages 21+ that occur after-hours at COSI the first Thursday of every month. The presentation will highlight lessons learned from previous adult-focused events at COSI, the development of a logic model to guide both the development of the program and the evaluation questions, the evaluation methodology, the results of the study and how they were disseminated and implemented for program change, and the potential future evaluation focus for this program.

Importance

This session provides opportunities for both emerging professionals and those with seasoned experience seeking new ideas and perspectives. Hard copies of evaluation tools and protocols will directly benefit anyone who is involved in program and event assessment and planning.

This session is also applicable to anyone interested in learning more about the process of evaluation and its place in museums and informal learning environments, both during and after hours. The presence of three very different institutions will provide a useful range of perspective for the various attendees of this conference.

Additional Links

Powerful Interactions: <http://www.powerfulinteractions.com/>

Center of Science and Industry: <http://www.cosi.org/>

Shedd Aquarium: <http://www.sheddaquarium.org/>

The Children's Museum of Indianapolis: <https://www.childrensmuseum.org/>

Exploring Tools for Empowering Visitors

Chair

Stephen Bitgood, Chair, Jacksonville State University

Panelists

Elizabeth Bolander, Cleveland Museum of Art

Amy Cota-McKinley, Worcester State University

Meghan Stockdale, Cleveland Museum of Art

Purpose

1. To define and discuss the parameters of visitor empowerment in museums.
2. To increase awareness of the benefits of empowering visitors in order to provide higher value to visitors.
3. To explore the varieties of museum approaches to visitor empowerment.
4. To briefly summarize a few of the museum projects that have effectively empowered visitors

Abstract

We define visitor empowerment as: the ability of visitors to apply the knowledge, skills, and strategies necessary to deeply engage with interpretive experiences thus creating the highest possible value from a museum visit (Bitgood, 2015).

Empowering tools encompass all stages of a visit (pre-visit, arrival, engagement with exhibits/programs). These tools include: a blueprint for formulating a visit agenda; visitor guides; and teaching general skills by interpretive signage, lecture/demonstration, tour, or video, on-site suggestions for engaging with museum content. While museums often use empowering tools of various kinds, evaluation of their effectiveness is less often employed. The session will be divided into three parts:

1. Introduction to Empowerment.

This section introduces the concept of empowerment, defines terms, and discuss issues associated with visitor empowerment.

- a) Visitor empowerment and issues associated with it (characteristics of empowerment, design of empowering tools, evaluation of tools, problems implementing empowering projects)
- b) The variety of tools used (e.g., books, interpretive panels, handouts/guides, tour, lectures, videos)

- c) Stages of empowerment (pre-visit, arrival, exhibit/program engagement)
- d) Information about the Special Interest Group on Visitor Empowerment

2. Application of Empowerment to Science & History Museums.

This section focuses on the development of empowering tools that encourage scientific inquiry. Scientific inquiry includes the ability to ask relevant questions and reason logically. Two examples of studies that addressed inquiry skills are from the Exploratorium and the Franklin Institute of Science.

The Exploratorium (Allen & Gutwill, 2009; Gutwill & Allen, 2012) has reported some success in teaching scientific inquiry with the use of a video. Visitors were able to generalize or transfer the skill to new exhibits.

Borun and colleagues (1998) at the Franklin Institute of Science identified key features of family-friendly interactive exhibits and found that open-ended exhibit design supported inquiry behaviors as families viewed exhibits.

3. Application of Empowerment to Art Museums:

Two programs are especially noteworthy applications of empowering tools in art museums:

- a) Denver Art Museum Project. The Denver Art Museum has a long history of developing methods for empowering visitors (McDermott, 1990). These methods have focused on teaching visitors such strategies as: seeing and perceiving art visually, reacting to art (thoughts, memories, feelings), and considering the art object in cultural context.
- b) Visual Thinking Strategies. Visual Thinking Strategies (VTS) is an inquiry-based teaching strategy based on Abigail Housen's theory of aesthetic development (DeSantis & Housen, 2000; Yenawine, 1997). An artwork serves as a stimulus and subjects (visitors/students) are asked: "what is going on here?" "What do you see that makes you say that?" and "What more can we find?"

Importance

Visitor empowering tools and strategies are important for at least three reasons:

1. Effective tools increase visitor engagement with exhibits and provide a higher value experience; these experiences are more likely to result in repeat visitation and positive word-of-mouth communication.
2. Visitors often lack the knowledge and skills to engage most effectively with exhibits. A number of studies show that when prompted, visitors willingly respond with deeper engagement.
3. Tools can be designed to have maximum transfer from one museum to another or one exhibition to another.

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