31st Annual Visitor Studies Association Conference Abstracts

Joint Conference with the
Association of Midwest Museums

Fostering Transparency, Strengthening Public Trust

Chicago, Illinois
July 19-21, 2018

Introduction

Welcome to the 2018 Visitor Studies Association Annual Conference Abstracts!

The Abstracts serve as a preview of the vibrant conversations that will take place this year in Chicago as we explore transparency and public trust through visitors studies. The Abstracts also serve an important role in recording the conversations for the future. Previous Conference Abstracts are available online at http://www.visitorstudies.org/past-conferences.

The 2018 VSA Conference Abstracts were compiled by Michelle Lentzner.

Table of Contents

Thursday, July 19

10:45-12:00 PM - Concurrent Sessions

Larger Than Life: Evaluating Museum-Wide Initiatives

Gretchen Haupt, Science Museum of Minnesota
Alex Lussenhop, Museum of Science
Allison Cosbey, Conner Prairie

Purpose

This session is intended to share methods, findings, and insights from three differently scaled studies tackling questions beyond measuring the impact of a single exhibit or program. Along with different approaches and methods for evaluating museum-wide initiatives, attendees will have an opportunity to explore how evaluation can help informal learning institutions define or reshape their identity based on the perceptions of the institution by various stakeholders and consider how differing internal agendas can impact these kinds of evaluations (and how evaluators can manage these differing agendas when designing evaluations for these projects).

Abstract

Create.Connect

The development of the Create.Connect exhibition at Conner Prairie was an integral part of our initiative to integrate STEM with the history-focused experiences that we are best known for. The project team was particularly interested in exploring visitors' perceptions of the inclusion of STEM- would they find it confusing, or a poor fit with our mission or identity? Visitors overwhelmingly responded that the experience fit, and while many noticed the historical aspects of Create.Connect, others said the experience fit because it was interdisciplinary and focused on learning, broadly defined- both descriptors they would apply to Conner Prairie as a whole. Others appreciated the inclusion of new topics and acknowledged that Conner Prairie was changing to expand the types of learning offered. Beyond providing support for this particular museum-wide initiative, the evaluation of Create.Connect helped us see Conner Prairie through the guests' eyes as a place for learning about a broader set of topics, through the lens of history.

Gridiron Glory/CTE Content

In Fall 2017, the Museum of Science, Boston hosted the NFL Hall of Fame's Gridiron Glory traveling exhibit. Around that time, several news stories about chronic traumatic encephalopathy (C.T.E.) in NFL players broke, and MOS decided to create a small suite of programming about CTE to run concurrently with the exhibit. The Research and Evaluation Department at MOS conducted a study on awareness and perception of the content, and found that while there was high awareness among visitors of CTE, concussions, and their connection to the NFL, few visitors were looking for CTE or concussion information during their visits. Visitor exit surveys also showed there was low to moderate overall awareness of MOS's concussion/CTE content. These and other study findings raise more questions: who

was the audience for the CTE content? What do visitors see as the role of MOS in addressing current/controversial topics like CTE and concussions? Does that perception differ from how MOS sees its own role? Even if visitors were aware of individual content offerings, did they understand that MOS was making a coordinated effort to address CTE?

Year of the Engineer and Illumination

Since 2016, the Science Museum of Minnesota (SMM) has shifted away from mostly one-off project and exhibit evaluations to also include more integrated approaches considering questions from the visitor perspective. This is accomplished by large complex studies like our ongoing exit study utilizing the COVES protocol, but it also involves structuring smaller efforts traditionally associated with programs and exhibits to connect findings across and beyond the Museum to answer three overarching questions: "How can we understand and improve visitor experience?"; "How can we understand and improve the ways visitors relate to SMM?"; and "How can we deepen relationships with communities we have underinvested in?" SMM strives to answer these questions part by asking multiple audiences how their expectations about the experience influenced their decision to visit, and how their actual experience compared to their expectations by developing a consistent set of visitor experience and relationships questions to apply across the Museum.

Importance

Museum-wide initiatives are not new, but thinking about them holistically is often overlooked. As museums strive to broaden audiences beyond their core visiting demographics while continuing to engage those with an existing relationship, evaluation that considers the organization's intentions as a whole by reaching beyond the scope of a single exhibit or program and building connections between efforts is vital to understanding the agendas, expectations, and experiences of our visitors regardless of it is their first or fiftieth visit. Coordinating and enacting these types of studies can seem overwhelming, so beyond insights from the findings of the three studies described in this panel, importance also lies in learning about the processes the presenters used to address the challenges --both methodological and theoretical) at their own institutions.

Additional Links

About: What is COVES?. (n.d.). Retrieved from http://www.understandingvisitors.org/about/

Create.Connect. (n.d.). Retrieved from http://www.createconnect.org/

Illumination. (2017). Retrieved from https://vimeo.com/247379405

Year of the Engineer. (n.d.). Retrieved from https://www.smm.org/engineer

Recognizing Youth and Educator Identities Around Computational Thinking

Leigh Ann Mesiti, Coordinator of Research and Evaluation, Museum of Science, Boston
Alana Parkes, Supervisor of Exhibit Content Development, Museum of Science, Boston
Denise Huynh, Research and Evaluation Associate, Science Museum of Minnesota

Purpose

The purpose of this session is to look at how informal and formal settings can affect youth and educator perceptions and ways of relating to computational thinking. It will also highlight challenges in conducting this research, such as defining computational thinking from different perspectives and constraints around collecting participant data. By sharing strategies used in an exhibit context, as well as a programmatic context, participants will learn how different types of museum offerings can affect students' and educators' understanding and relationship to computational thinking. As part of this session, participants will be able to engage with sample activities and exhibits from these two programs and hear recent findings from the field, as well as think about ways to incorporate a variety of strategies into their own work.

Abstract

This session will look at how youth and educators learn about and identify around computational thinking practices. Professionals will discuss findings from NSF-funded research, outlined below, around computational thinking capacity and engagement in informal and formal learning environments. Each institution will share how it defined computational thinking, its primary audiences, research context, methods, and findings.

Building Computational Thinkers through Informal Exhibit Experiences is research project at the Museum of Science that explored how educators and designers can effectively support the development of computational thinking capacity and how these learning experiences can be customized to meet the needs of learners from diverse backgrounds. This study focused on design strategies used in exhibits that were part of The Science Behind Pixar travelling exhibition about STEM content and practices behind Pixar's innovative films. Project research was conducted in two phases, where the first phase explored how students in grades 6-12 and experienced computer programmers/scientists engaged in different types of computational thinking-focused exhibits. The second phase focused on how museums can afford diverse, novice learners the opportunity to develop computational thinking capacity and become initiated into contextualized use of computational thinking. This research helped researchers and designers understand the impacts of exhibit design strategies for developing computational thinking capacity in relation to learner background and identity. Findings suggested that these exhibits embedded supports that made it easy for groups to identify with the work and people required to create believable scenes in Pixar movies. By using symbols and language, relaying authentic challenges, and revealing underlying mechanisms of the program, novices and experts connected to how Pixar professionals approach a problem and work toward a solution.

LinCT is an intergenerational, all-female community structured around near-peer mentorship aimed at building confidence around computational thinking. Through shared experience, collaborative learning, and distributed leadership high school youth and pre-service teachers gain technology skills, practice growth mindset, and develop and deliver tech-based camps and classes in formal and informal settings. This project at the Science Museum of Minnesota (in collaboration with several other institutions) explored how a program can be built around computational thinking practices and discovered how important community and relevance is to the program model. Research for this project investigated aspects of educator learning, such as how different forms of participation and engagement impact teachers' ability and willingness to incorporate technology use in their classroom, and how teachers' motivation, confidence, and self-¬efficacy in technology integration can change as a result of their role

and experience in LinCT. It also investigated programmatic effects on youth, as to how the project model effectuates change within the youth interns' motivation, confidence, self¬-efficacy, and technology knowledge over the duration of the program, as well as how summer camp and classroom students grew in their computational thinking. By documenting how participants come to define computational thinking over time and measuring perceptions and confidence related to this work, the museum gained a better understanding of how to better support youth and educators to engage with technology and computational thinking in a meaningful way.

Importance

Computational thinking is a hot topic in education across the nation, particularly in the museum field. How can we support students to systematically engage in the process of solving complex problems? The construct of computational thinking has been characterized as the "thought processes involved in formulating problems and their solutions so that the solutions are represented in a form that can be effectively carried out by an information-processing agent" (Wing, 2011). Informal learning environments, such as museums, can support diverse learners by providing opportunities to develop computational thinking capacity and provide an introduction to a contextualized use of computational thinking that complements the work of formal, K-12 settings. In doing this work, museums are starting to investigate how different types of learners understand and relate to computational thinking, as well as how they perceive these practices.

References

Cahill, C., Mesiti, L.A., Paneto, S., Pfeifle, S., Todd, K. (2018). The Science Behind Pixar summative evaluation report. Retrieved from: http://informalscience.org/science-behind-pixar-summative-evaluation-report

Additional Links

http://informalscience.org/science-behind-pixar-summative-evaluation-report

http://sciencebehindpixar.org/

http://wesharescience.com/pin/8531

Study and Improve Visitor Experience Using Timing and Tracking

Beverly Serrell, Director, Serrell & Associates, serrellassociates.com
Karen Wise, Principal, Wise Strategic Advising, wisestrategic.com

Purpose

Big Idea

When staff understand patterns of visitor behavior and movement at their organizations they are able to create and continually improve great visitor experiences. One of the easiest and most efficient ways to gather actionable information is through timing and tracking, which can be done by staff and even volunteers at almost any size organization.

Tracking and timing (T&T) data provide valuable information for exhibition planning and evaluation, and benchmarking success (in-house or field-wide), as well as for general operations from amenities to exhibits to staff hours. Most aspects of the visitor experience are influenced by audience movements and stay time, and understanding these patterns can provide important metrics as well as supporting improvements in the visitor experience and facility operations.

Abstract

Background

Tracking and timing (T&T) is one of the oldest research methods for learning about visitor behavior in exhibitions and throughout a museum. Although T&T has gained importance within exhibitions, it is also useful for understanding patterns of visitor behavior across an entire facility or building. T&T is a relatively simple method that can be used by virtually anyone. It can also be used to make comparisons both within an organization and across organizations. Practitioners will benefit from having more rigorous, standardized, and detailed methods of presenting T&T data that allows for making such comparisons.

Activities and Issues to be Discussed

After a brief presentation to define terms, attendees will work in small groups to analyze real timing and tracking data sets from different exhibits in different kinds of museums, and generate their own hypotheses, questions and sets of potential next steps. Each group will
derive average time spent, the % of stops made, and review visual expressions of the distribution of time data (histograms) and visualizations of the distribution of time and stops by the whole sample (scattergrams), and see examples of the attraction rates of exhibit elements within an exhibition (heat maps).

The entire group will then have a facilitated discussion exploring patterns observed in the data, and discussing the significance of their findings and the implications of patterns seen for running a museum. Attendees will leave with the capacity to conduct T&T, and with free access to electronic and paper versions of forms to collect and analyze data, as well as with a means to share and compare findings, particularly the metrics of sweep rates and the percent of diligent visitors in exhibitions.

Issues likely to be encountered and discussed include:

- o What can the shape of a histogram of time spent tell you?
- o Which shapes or trends are common or rare?
- o Is there such a thing as "the average visitor"?
- o How big does the sample have to be?
- o What can the distribution of data points on a scattergram tell you?
- o What is an "outlier"? Are they common?
- o What does the "percent of diligent visitors" mean?
- o What does "sweep rate" mean? Are these metrics meaningful or useful?
- o How do you make a "heat map" and what does it show?
- o What is considered a high attraction rate for an element?
- o Do high attraction rates for an element tell you about the audience or the time spent?
- o What is considered a low attraction rate? If just one visitor stopped does that make it good?

Importance

There is much discussion about having shared methods of conducting visitor studies so that the data can be shared and compared across time and institution types and sizes, yet there are few examples of methods capable of producing field-wide data trends. Tracking and timing, while widely known and often referenced, needs a more rigorous set of shared definitions and better methods of displaying the data to make it a more useful tool for improving exhibitions, visitor experiences, and museum operations for all types of museums. This session will provide free access and resources to methods and forms that can be used to create data which are not only useful to individual institutions or projects, but which will be comparable to data collected elsewhere, including a number of reports that are already posted on informalscience.org.

References

Bitgood, Stephen. 2014. "Exhibition Design that Provides High Value and Engages Visitor Attention." Exhibitionist 33 (1): 6–14.

Bitgood, Stephen. 2014. Engaging the Visitor, on-line resource, http://museumsetc.com/products/engaging

Borun, Minda, et al. 1998. Family Learning in Museums: Family Learning in Museums: The PISEC Perspective, Association of Science-Technology Centers, Washington DC.

Detroit Institute of Arts. 2013. Tracking and Timing Report. In-house document.

Serrell, Beverly. 2015. Exhibit Labels: An Interpretive Approach, Second Edition. Rowman & Littlefield.

Serrell, Beverly. 2010. "Paying More Attention to Paying Attention." http://www.informalscience.org/news-views/paying-more-attention-paying-attention

Serrell, Beverly. 1998. Paying Attention: Visitors and Museum Exhibitions. AAM.

Yalowitz, Steven and Kerry Bronnenkant. 2009. "Tracking and Timing: Unlocking Visitor Behavior." Visitor Studies 12(1): 47–64.

Additional Links

Many of the reports whose data have been referenced can be found at informalscience.org, such as: (order of information = Exhibition Name, Museum Name, Report Author)

Expedition Health, Denver Museum of Nature & Science, Patty McNamara
Secrets of Circles, San Jose Children's Museum, Sue Allen
Weaving a Revolution, Utah Museum of Natural History, Beverly Serrell
Denaina Way of Living, Anchorage Museum, Beverly Serrell
Search for Life, New York Hall of Science, Randi Korn
Amazing Feats of Aging, Oregon Museum Science & Industry, Patty McNamara
Star Wars, Museum of Science Boston, Carrey Tisdal

Rubens Gallery, Detroit Institute of Arts, Matt Sikora
Silent Witness, Shedd Aquarium, Beverly Serrell

Museums, Evaluation, and the Application in Design Thinking

Scott Burg

Purpose

This paper will provide an overview of the evaluation of three museums programs applying design thinking in different contexts for diverse audiences. Attendees will learn how museums are using human-centered design concepts to develop and test internal organizational capacities, improve interdepartmental collaboration, create programs and experiences to better meet audience needs, enhance outreach with local constituents, and serve as a resource for formal and informal educators across the country. Attendees will also become familiar with methods for assessing design thinking programs in museums, and with museum constituents.

Abstract

This paper will provide a summary of findings and methodologies for research and evaluation projects with three museums, the Cooper Hewitt Design Museum, the New York Hall of Science and the Computer History Museum, each adopting design thinking strategies for use with organizational planning, or for training educators in their community, and elsewhere across the country.
The Computer History Museum collaborated with IDEO, a leading design, and innovation firm, to conduct design workshops with CHM staff and community stakeholders to research needs and generate creative concepts for CHM's new Education Center. CHM has also adopted design thinking for use in organizational planning, exhibitions, and education programs. Our evaluation documented the design thinking processes and its impact on CHM staff and design of the Center.

The Cooper Hewitt Museum's Design in the Classroom (DITC) workshop provided 30 K-12 educators from across the country methods for integrating design thinking in the classroom. The museum wanted to learn if the workshop met teachers' needs, how teachers transferred skills and ideas from the workshop into practice, and what effects the experience had on teachers and students. A mixed methods evaluation was conducted before and during the workshop, and at participating schools to observe and assess teachers' design activities.

The New York Hall of Science's Design Lab, a multi-faceted STEM education initiative resulted in an exhibition learning space, field trip activities, in-class curriculum projects, and teacher professional development workshop all incorporating the use of design-based learning. A mixed-methods evaluation assessed the application and alignment of design-based learning for museum staff, teachers, and students across the project's 4 interconnected activities. A 3-year retrospective study was conducted to assess long-term sustainable impacts of design thinking methods with program alums.

Findings from these three projects provided researchers with a deeper understanding and appreciation of the growing importance and impact of design thinking for museum professionals and their professional education audiences. We observed that with design thinking that there is no single, definitive way to move through the design thinking process.

Design thinking is messy. There are many structured and unstructured elements to consider when assessing the effectiveness of the process itself and the impact of any resulting implementation. Exploring the application of design thinking in three different museum settings and contexts provided an opportunity to employ a number of different yet complementary evaluation methods, including structured observations, participant reflections, assessment of program artifacts, peer evaluation, and analysis of video footage.

Researchers also applied the design thinking method itself to define program outcomes and as a framework to plan the evaluation across each of the three projects. For each project researchers assessed four primary dimensions. These included:

- Changes in hard measurable outcomes
- Measurable changes in perception
- Changes in conversation and participant interaction
- Changes in how people think

Importance

Museums are taking on an increasingly important role in the training and dissemination of design thinking for their own staff as well as with educators in both formal and informal education environments. These workshops and outreach activities provide museum staff and educators with opportunities to explore design thinking, to integrate the design process into their practice, or their curriculum, and to transform the teaching and learning processes in classrooms. In our work with these three museums, we have witnessed how design thinking serves as a catalyst for team building and collaboration amongst peers, promotes risk-taking and incremental innovation, encourages internal and external partnerships, and enhances the museum's standing with diverse local and national communities.

This research provides insight on how design thinking can provide museums new methods to invigorate their own internal planning, while also reaching new audiences to become more efficient and responsive 21st-century institutions.

Look Up at the Stars: Integrating a User-Centered Design Process into a Natural History Museum

Barry Joseph, American Museum of Natural History

Purpose

The American Museum of Natural History (AMNH) is developing a deeper understanding about the visitors in our permanent Halls and exploring what happens when the power of emerging media is leveraged to connect the two. This multi-year investigation has been driven by a range of overarching questions. The study being presented looks at a series of prototypes that surfaced information pertaining to the following questions:
- Can we turn AMNH scientist’s digital data into Hall-based interactives?
- How can we create a social experience around digital specimens?

Abstract

"Remember to look up at the stars
and not down at your feet."
— Stephen Hawking

To be better prepared for the key challenges presented by our new century, the American Museum of Natural History developed an internal skunk works. It focused on tackling how to design interactives to engage visitors with the digital specimens produced and studied by our more than 200 scientists. Using VR, AR and other forms of emerging media, we developed prototypes and tested them with over 1,000 visitors to identify challenges and opportunities for the Museum visit of the future; virtual weevils and sharks cavorted with augmented constellations and moon-scapes.

This presentation will start with an introduction to the Museum and the challenges it faces. It will then introduce the department developing public-facing prototypes, its mandate to bring the digital specimens studied by museum scientists to the public, and the overarching questions that informed its work.

The presentation will then turn to the user-centric or human-centric design practices that informed this prototype development process, the related evaluation techniques that were deployed, and how we are learning by studying how visitors in our halls interact with and respond to these new experiences. It will add to our understanding on techniques of iterative design, prototyping, and design sprints.

A use case will show what this looks like up close, focusing on a series of prototypes that turned the most complete and accurate 3-D atlas of the universe (Digital Universe) into an interactive that highlights how stars in constellations sit in a 3-D space. The different demographics reached, the observational and interview evaluation methodologies deployed, and lessons learned about visitor engagement with emerging media will be shared. The iterations included the following:

1. Google Tango was offered to allow visitors to "look around" their constellation.
2. A laptop was used that invited visitors to "map" their face into a constellation.
3. Microsoft's Hololens immersed visitors in a starfield they could explore with their body.
4. The Hololens experience was integrated into a gamified, social context (an escape room).
5. A design sprint was held to rapidly advance the development process.
6. A Microsoft Kinect was attached to a large video screen that invited visitors to position their body over various constellations.

The use case will highlight how this design process informed the final visitor experience.

Finally, the presentation will share the type of findings which emerged across the first year of these projects.

Importance

This presentation advances our understanding of how design practices can inform the work of museum visitor research. This session highlights a variety of approaches that can be adapted by a wide range of museums.

Relevancy, Transparency, Trust: SCIENCES Project for Community Engagement in Chicago

Lisa-Anne DeGregoria Kelly, Chicago Zoological Society
Shelly Hope, Chicago Zoological Society
Kate Livingston, ExposeYourMuseum, LLC

Purpose

“Supporting a Community's Informal Education Needs: Confidence and Empowerment in STEM,” or “SCIENCES,” is a project that engages a community on the southside of Chicago in science learning through a partnership of Chicago Zoological Society, which operates Brookfield Zoo, and a community based nature center, Eden Place. The project provides an opportunity to consider both what relevant community engagement means for the community and what it means for the partnering organizations.

This session offers a variety of SCIENCES project perspectives from the project’s Community Relations Coordinator and co-Principal Investigator, who will address what it means to work within a community with the focus on that community, the need to be transparent and relevant, and how mutual trust developed over time; and the external evaluator, who along with the co-PI will address collaboration with the lead organization’s internal evaluator, and how evaluation strategies play a role in transparency and trust.

Abstract

Informal learning organizations increasingly recognize a responsibility to build relationships, particularly in traditionally underserved communities. Expanded participation in science and science learning is essential in addressing increasingly complex societal needs. Towards this goal of supporting lifelong learning for a diversity of audiences, the SCIENCES Project was created (Supporting a Community's Informal Education Needs: Confidence and Empowerment in STEM).

This NSF funded project partners Chicago Zoological Society and Eden Place, a community based nature center in Chicago’s southside Fuller Park, which has long been one of Chicago’s most under-resourced African American neighborhoods.

SCIENCES project partners created a “STEM learning ecosystem,” reaching a variety of audiences through multiple learning touch points in the urban community surrounding Eden Place. This five-year project (2013-2018) drew upon Brookfield Zoo and Eden Place program portfolios to increase engagement of this community in science and conservation. A holistic model included education programming for professional, school, and public audiences from young children to senior citizens.

ExposeYourMuseum, LLC conducts SCIENCES project front-end, formative, summative, and process evaluation. Some SCIENCES project education program types had been previously offered in different settings, and some had evaluation instruments designed and implemented by the zoo’s internal evaluation team. Such instruments were drawn upon by the external evaluator, and required adaptation to the SCIENCES context. In addition, new tools were designed and evaluation methods required adaptation as programs evolved. The external evaluator further fostered relevancy by recruiting and

building capacity of a team of local, independent data collection contractors who dubbed themselves "Community Ambassadors" – a strategy that had challenges and successes of its own.

Our VSA session represents one way we engage in dialogue about supporting learning in underserved communities. We will discuss: What does it look like when informal science learning institutions work to broaden participation and maintain relevancy with diverse audiences? How do we foster transparency and strengthen public trust in a community-focused learning ecosystem? What roles do informal learning and evaluation professionals working in partnership have in relevancy, transparency, and mutual trust in community engagement?

The session will share perspectives and discussion points applicable to initiatives focused on the roles of education programming and evaluation in community engagement endeavors. These perspectives include:

- Developing an effective relationship between the external evaluator and the informal learning organizations leading the project is an important element of transparency and trust, allowing lessons learned to be put into action. Collaboration among PIs, program staff, and evaluators is essential to ongoing program development and strategic decision-making. Such collaboration is important for gaining community access for front-end evaluation, adapting evaluation needs as projects evolve, finding relevant ways to share and discuss formative evaluation results, and situating summative results within the context of a multi-year, complex project.

- Developing relevant, trusted community engagement takes transparency, time, patience, persistence, and a consistent presence. Rethinking definitions of "community," recognizing community assets, and users of those assets by both neighborhood residents and others are important considerations for community engagement and relevance within a community-focused model in support of lifelong learning.

Importance

SCIENCES strives to increase community engagement. We will discuss lessons learned about the roles of education programs and evaluation in expanding participation in our conservation missions, maintaining relevancy with diverse audiences, and fostering transparency and community trust. Intended outcomes for the VSA audience include:

- Increased awareness of an informal learning model that deepens community engagement in science and conservation through a zoo-community partnership with education programs that have multiple touch points across ages and audiences.

- Improved understanding of the importance of time, persistence, and patience; and understanding varying definitions of community and community assets to relevancy, transparency, and trust.

- Strengthened recognition of the role external evaluation can play in fostering and understanding relevancy, transparency, and trust in a complex, community-focused project, including strategies of adapting methods as programs evolve, collaborating with internal evaluators, and recruiting a team of local "Community Ambassadors"—independent evaluation data collectors.

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Additional Links

https://www.czs.org/Chicago-Zoological-Society/Community-Impact/Eden-Place

Becoming Affect Aware: Ethics, Empowerment, and Emotion Detection

Sarah May, Museum of Science, Boston
Sunewan Paneto, Museum of Science, Boston
Gabrielle Schlichtmann, EdTogether
Kevin Kent, CAST

Purpose

Emotion is a critical mediator of engagement, yet we rarely attend to it explicitly. Affective technologies address this by attempting to detect emotion – and not without controversy. Researchers from the Museum of Science, Boston, EdTogether, and CAST discuss issues of trust and transparency percolating through three studies that employ affective technologies and the ethics surrounding leveraging emotions on a broader level. This team shares insights related to affective technologies, while reflecting on nuanced issues related to researching and designing for emotion experiences in a museum. What are affordances and constraints of affective technologies? What roles should stakeholders play in making meaning of emotion? What is the line between emotional design and manipulation? Through dialogue related to these questions, descriptions of recent studies, and reflection on how emotion work could be applied in other settings, this session highlights the complex nature of emotion in informal education.

Abstract

Background

The field of affective computing is exploding with new technologies that measure emotional information. These technologies create opportunities for museum professionals to explore the nature of emotional engagement, with implications that may support more effective design and research practices. However, use of these technologies raises questions of empowerment, privacy, autonomy, and trust (Cowie, 2015).

Since 2013, researchers from the Museum of Science, Boston (MOS), CAST, and EdTogether have engaged in collaboration exploring how affective technologies can be ethically and effectively leveraged in emotional design for informal learning. Three case studies on research investigating emotional engagement illustrate how technologies designed to create emotional awareness for visitors, designers, and researchers can be leveraged, with a focus on ethical considerations and implications for

transparency. Through this work, our research team has itself become more "affect aware." Lessons learned provide insight for museum professionals seeking to integrate methods of emotion measurement and design into their work.

Case Study 1: Research on Emotional Engagement

The MOS and CAST collaborated on an NSF-funded project (Emotion and Thinking in Designed Informal Science Environments, DRL #1222613) to understand emotional engagement during informal learning. Participants engaged in an exhibition while providing data on their emotional experiences through self-reports, video, eye-tracking glasses, and skin conductance wristbands. Public audiences were invited to learn about this research and experience the emotion monitoring technologies through an educator interpretation activity. Data collected helped identify emotional states not typically addressed in informal learning contexts but are critical for learning. This work illustrated the need to engage in more transparent conversations about emotional engagement with stakeholders.

Case Study 2: Designing for Emotional Engagement

With funding from NSF (Designing for Productive Struggle, DRL #1612577), we are conducting research to develop a framework for supporting "productive struggle" during informal science learning. Emotion measurement technologies are used during the research process to inform prototype development, and we are taking a design-based research approach where stakeholders engage as co-designers in the prototype development process, and consumers of the final exhibit components. We are exploring ways to level power dynamics by fostering empathy between visitors, designers, and researchers to inform development and address issues of emotional engagement in design.

Case Study 3: Empowering Learners through Emotional Awareness

The Empowering Learners through Effective Emotional Engagement project funded by the Argosy Foundation seeks to enable museum professionals and visitors to leverage emotion information through affective systems, while remaining critically responsive to issues of trust, transparency, and empowerment. Front-end studies with visitors and staff offered insights into public trust in the museum as well as general distrust of affect detection technologies. Insights informed the team's approach to technology integration that will support end-user autonomy and trust.

Altogether, we have grappled with ethical issues emergent in relevant literature (see Daily et al., 2013; Heger et al., 2016; Hook et al., 2008) around emotion induction, visitor autonomy in emotion construction, and power dynamics between researchers and visitors, while reflecting on practices that give stakeholders the ability to experience empowerment and autonomy in learning experiences.

Importance

As trusted, public informal education institutions we have a stake in shaping conversations around the use of ambient data collection technologies for public good, especially as these technologies might be leveraged in support of research into visitor experience and exhibit design more broadly. In this domain, emergent technologies for emotion measurement are some of the most promising and ethically concerning. Several high level questions emerge from this work that require exploration and reflection. How are emotional outcomes different or similar to cognitive outcomes? Does measuring emotion "feel" more personal and intrusive? Why might measuring emotional outcomes feel more invasive than other kinds of outcome measurement, especially when technology comes into play? How do we balance rigorous research and evaluation designs with the ethical, transparent inclusion of stakeholders along the way? What is the role of user empowerment and autonomy when thinking about integrating affective technologies into informal learning experiences?

References

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Hook, K., Stahl, A., Sundstrom, P., & Laaksolahti, J. (2008). Interactional empowerment. CHI 2008 Proceedings. April 5-10, 2008.

Rappolt-Schlichtmann, G., Evans, M., Reich, C., & Cahill, C. (2017). Core engagement in informal science learning. Exhibition, 36(1). 42-51. Retrieved from https://www.name-aam.org/s/10_Exhibition_CoreEmotion.pdf

1:45-3:00 PM - Roundtables, Papers, and Fireside Chats

Deborah Perry Fireside Chat

Dr. Perry has conducted research on the role of intrinsic motivation in informal educational settings focusing on the question, "What makes learning fun?" In addition to her accomplishments in museum exhibit and program evaluation, she is the founder and director of Chicago-based Selinda Research Associates, as well as a former VSA President and board member. Attend this session to participate in a discussion about the role of visitor studies in supporting visitor-centered learning and translating research to practice.

Exploring Methods for Measuring Visitor Motivation, Expectations, and Satisfaction

Sheri Levinsky-Raskin, AVP of Research and Evaluation, Intrepid Sea, Air & Space Museum
Amanda Thompson Rundahl, Director of Learning and Engagement, Saint Louis Art Museum
Kanani Hoopai, Curator of Education, Mission Inn Foundation
Mariruth Leftwich, PhD, Director of Education, Senator John Heinz History Center

Purpose

This roundtable discussion explores a range of methodologies for collecting and documenting museum visitor perceptions, motivations, expectations and levels of satisfaction. The big idea for the discussion will present opportunities for session attendees to:

- Explore why museums / cultural institutions measure visitor motivations, expectations and levels of satisfaction and how this information informs our work;
- Identify varied collection methodologies appropriate for institutional or programmatic goals and intentions, and institutional environments; and
- Engage in discourse with colleagues about the opportunities and challenges associated with examples presented by session presenters and audience members, and how collected information can be used and inform decision-making.

An action planning handout will provide a physical take-away for attendees to reflect on current evaluation practices at their institutions, why they need the data and how it can be used, as well as consider new approaches.

Abstract

This roundtable discussion will investigate a range of methods to measure why visitors come to our institutions, what they expect, and if they leave satisfied with their experience. Seeking to empower professionals at diverse cultural institutions to be creative in the evaluation practices they employ, this session will engage attendees in activities they can replicate with their visitors and in discussions about best practices for institutional buy-in and cross-departmental collaboration.

The session builds on the history of visitor studies in museums through reflection of varied examples from presenting institutions. Directions the conversation will take during the session include reviewing the data collected, why the data was collected and why the approach was selected, how and why approaches evolved during the course of studies, surprises revealed, and applications of the data.

Recognizing the essential need for research and evaluation across an institution, whether led internally by museum professionals or through contracted researchers, discussions will reference the spectrum of museum work that this data informs - from exhibition development, programming, marketing, and development. Other key topics considered through presenter comments and attendee discussions will be ethics, comparative data analysis, results and outcomes.

Importance

Linking to the conference theme, the importance of this session discussion addresses institutional responsiveness to communities and visitors, realizing an institution's value to its communities, reflecting visitor interests and needs through our presentation of content and experiences / programs, and making decisions that fosters empathy and understanding about the audiences we serve and seek to serve.

Implications for the field include the continually changing world in which we live, how it influences our visitors, and in turn how we remain informed about their expectations, motivations and satisfaction, while being agile, responsive, and relevant.

References

In addition to those listed below, other resources will be shared on the session handout.

Adams, M., Falk, J. and Dierking, L. (2003). 'Things Change: Museums, Learning, and Research'. In M. Xanthoudaki, L. Tickle and V. Sekules (eds), Researching Visual Arts Education in Museum and Galleries: An International Reader. Dordrecht: Kluwer Academic Publishers.

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Additional Links

American Evaluation Association (AEA) - https://www.eval.org/

Committee on Audience Research and Evaluation (CARE) - https://www.aam-us.org/professional-networks/committee-on-audience-research-and-evaluation-care/

"Evaluation Toolkit for Museum Practitioners." (2008). - http://visitors.org.uk/wp-content/uploads/2014/08/ShareSE_Evaltoolkit.pdf

Institute of Museum and Library Services (IMLS) Evaluation Resources - https://www.imls.gov/research-evaluation/evaluation-resources

Blending Both Worlds: Walking the Evaluator-Practitioner Path

Patience Baach, Audience Insights and Research Manager, The Field Museum
Elizabeth Bolander, Director of Audience Insights and Services, Cleveland Museum of Art
Marcus Harshaw, Director of Education and Community Engagement, Indiana Historical Society

Purpose

This roundtable discussion will focus on the opportunities and challenges of being an evaluator-practitioner. The goal of this session is to offer an open forum for professionals who must take on dual roles of being someone who must conduct research and evaluation activities as well as someone who utilizes these findings to guide their work. As more museum professionals must take on evaluation activities as a part of an existing role, this timely discussion, led by three presenters trained in evaluation who are taking on more expanded practitioner roles, is expected to offer attendees a chance to learn new strategies for managing their time and efforts and ways to communicate the challenges of being an evaluator-practitioner to supervisors.

Abstract

This roundtable discussion will investigate the place where evaluator and practitioner worlds meet. The three leaders of this roundtable discussion will discuss how their own roles are evolving to encompass more than just typical "evaluator" functions. Elizabeth Bolander and Patience Baach will discuss how their roles have evolved to incorporate more visitor experience elements. Marcus Harshaw will bring insights from his role in education.

Panelists and participants will discuss the opportunities and challenges associated with these role enhancements. Some examples of this include maintaining independence and being free from bias when analyzing data; managing peer relationships; ways of communicating this divide to supervisors; and carving out time for more in-depth studies when facing practitioner role demands. Specific discussion prompts include "What are some of the best things about being an evaluator-practitioner?," "What are some of the challenges of being an evaluator-practitioner?," "How do you find balance between the evaluation and practitioner functions with which you are charged?," and "How to do you maintain your independence as an evaluator when you also have a practitioner role?". Attendees will engage in active dialogue about strategies and tactics for managing these blended roles and being a visitor advocate under varied circumstances.

Importance

As more museum professionals come to evaluation through dual evaluator-practitioner roles, it is important to have conversations about the positive and challenging elements of these positions. This discussion will foster this community and provide ideas and insights that participants can use to be better evaluators and visitor advocates.

Constructivist Dialogue Mapping: Evaluating Learning During Play of Ant Adaptation, a Complex Interactive Tabletop Museum Game

Kit Martin

Purpose

One can only learn so much in a short interaction with a game in a museum. This session will detail how to create a constructivist dialogue map to show this learning in these contexts. Constructivist dialogue mapping is a evaluation methodology, I developed that is specifically designed for the short, informal interactions typical with digital interactives. At the heart of this work is the notion of museum visitors as active theorists. They develop their understanding in interaction with the context during their visit. I develop constructionist dialogue maps, a type of concept maps (Miles, Huberman & Saldana, 2014; Chi and Koeseke, 1983), as they emerge through transcript data. These maps represent what players say. As shown in figure 1, at this level, I captured ideas about the understanding of science players demonstrate during play in a constructivist dialogue map.goal of your session.

Abstract

I developed constructivist dialogue mapping, a way to study learning in an informal environment based in on constructivist theory. In constructivist theory, a learner's mental model drives his or her construction of an understanding. This process includes accommodation and assimilation (Piaget, 1952) and maintaining a balance between stability and change, continuity and diversity, and closure and openness when exploring the world (Ackerman, 2001). For Piaget, children are not just incomplete adults. Their ideas function very well for their current context and as a result, their mind changes through experience. As Ackerman (2001) said, children's' conceptual changes are like those of scientists: they happen through "action-in-the-world" (p. 3) to accommodate for experiences, and most likely through a host of internal cognitive infrastructures. "Knowledge is not merely a commodity to be

transmitted, encoded, retained, and re-applied, but a personal experience to be constructed" (Ackerman, 2001, p. 7).

Piles of theories of how the world works woven together form mental models. DiSessa and Cobb (2004) argue that from Newton, to Einstein, and Darwin, theories embody generalizations to organize overly abundant data that is subsequently viewed as part of a new theory. In this way diSessa and Cobb (2004) posit theory as a lens, "teaching us how to see" (p. 4). How we see the world, is the crucial bit about these theories since the lenses constructed through experience actual form our view. Just as "[t]he world is not just sitting out there waiting to be to be uncovered, but gets progressively shaped and transformed through the child's, or the scientist's, personal experience" (Ackerman, 2001), constructionist thought highlights transformation and molding as the work of mental models. In order to foster transparency in accounting for learning during interactions with museum interactions, I provide a system to evaluate these theories as they develop through short interaction.

Methods: I applied a mixed methods approach to the observations I made (Clampet-Lundquist, Edin, Kling & Duncan, 2011). In addition to observing visitors' interactions with the display and taking ethnographic field notes, I conducted a pre-post semi-structured interview protocol with participant groups. The protocol asked about groups' background knowledge, specifically about complex system notions in traffic, and feelings about the role of change in social life. This protocol provided a wider view of Ant Adaptation (Martin, Horn and Wilensky, 2018) to better understand what players learned about the complex system through playing with the interactive tabletop.

Data Analysis: I defined learning as elaboration of how players talk about the entities in the game. As a result, I analyzed the transcript data. As shown in figure 2, to build the map I would look at how the person changed from describing ants as six legged (Figure 2a) to six legged ants that carry 50x their weight and follow trails to find food (Figure 2d). I compare the change in processes and subprocesses the constructivist dialogue maps track before, during, and after play. I track these elaborations of entities and their actions to demonstrate players' learning.

Importance

One can only learn so much during a 2-6-minute interaction in a museum. My constructivist dialogue mapping is a method designed to show how much, through evaluating participants' discussions. The method, as developed, allows for a transparent accounting of what people discuss while interacting with museum artifacts. This account is both useful in evaluating our exhibits and when talking to the public because we can engender trust through providing information on what learning we can expect through our public informal learning institutions. The session is an opportunity to share back with the community the methods I developed through evaluating my own design in a museum. In the session, I will present examples of the framework so we can actively discuss its potential use in evaluation and research to foster interest in exploring the method and discussing its limitations.

References

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Chi, M. T., & Koeske, R. D. (1983). Network representation of a child's dinosaur knowledge. Developmental psychology, 19(1), 29.

Clampet-Lundquist, S., Edin, K., Kling, J. R., & Duncan, G. J. (2011). Moving teenagers out of high-risk neighborhoods: How girls fare better than boys. American Journal of Sociology.

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Miles, M. B., Huberman, A. M., & Saldana, J. (2014). Qualitative data analysis: A method sourcebook. CA, US: Sage Publications.

Piaget, J. (1952). The origins of intelligence in children. International Universities Press, Inc.

Doomsday at the Science Museum: Measuring Visitor Understanding in an Exhibit About Nuclear Weapons & Climate Change

Jana Greenslit, Research & Evaluation Coordinator, Museum of Science and Industry

Purpose

This session focuses on the evaluation of an exhibit about nuclear weapons, climate change, and the other ways in which humanity has brought itself closer to or farther away from global catastrophe ever since the dawn of the nuclear age. It utilizes interviews with visitors to determine how they view their own role and ability to impact the issues of nuclear weapons and climate change after experiencing the exhibit. The majority of the session will cover ways in which to design and implement an interview protocol when talking to visitors about such politically charged and potentially unsettling topics, and how to attempt to separate their prior feelings with these topics from their experience with the topic at the museum.

Abstract

Turn Back the Clock is a temporary exhibit at the Museum of Science and Industry that focuses on the history and enduring relevance of the Bulletin of Atomic Scientists and their Doomsday Clock, which uses the concept of “minutes to midnight” as a metaphor for how close the world is to global catastrophe from threats such as nuclear weapons and climate change. Its timeline covers “the dawn of the nuclear age, how the Clock serves as a metaphor for the global challenges we face today, and the potential applications of 21st century emerging technologies” (Museum of Science and Industry, 2017).

The evaluation of this exhibit focused in part on how visitors view their own role and ability to impact the issues of nuclear weapons and climate change. Evaluation of this exhibit poses several challenges –first, the relevance and global implications of these topics means that visitors may have prior feelings on the subject, making it difficult to determine to what extent a visitor’s post-visit thoughts can be attributed to the exhibit itself. Second, several ideas that the exhibit is trying to communicate, such as the importance of collaboration between scientists and policy makers to keep the world safe, are complex in that they draw upon multiple narratives throughout the exhibit, as opposed to being stated explicitly at every point. Lastly, the concept of global catastrophe could make people nervous. How do

you capture the idea that visitors may not necessarily feel “good” about nuclear weapons and climate change after seeing this exhibit, but could be nonetheless instilled with a greater sense of hope about the future of our planet?

This presentation focuses on the process of designing an interview protocol that measures for visitor understanding of this topic. It will cover lessons learned throughout the development and implementation of an interview protocol as well as analysis of the interview transcripts. The final evaluation results demonstrated that most participants did interpret the message of the exhibit as positive. However, it was clear from the interview transcripts that individuals’ background knowledge and attitudes strongly influenced their interpretation of the exhibit and subsequently their interview responses.

This session will provide a launching point for attendees to think about how to measure understanding in museum exhibits with similarly charged but nonetheless relevant topics. In what ways can evaluators structure conversations with guests to help separate guests’ prior feelings about a topic from their experience with that topic while at a museum? Lessons learned from this evaluation will be shared, but attendees are also encouraged to come with their own ideas for how to collect data around these kind of topics and share with the group.

Importance

As museums increasingly elect to focus on current, politically charged topics, it is important for evaluators to understand how to facilitate these types of conversations and discern meaning from them. While topics such as these may add a layer of complexity to an evaluation, they also add a layer of depth, as guests make immediate connections back to their own lives and even to their futures. Museum exhibits or programs that tackle vital issues can and should be highlighted through evaluation, which only pushes the field forward in terms of what we consider to be appropriate or relevant issues for our audiences.

References

Museum of Science and Industry, 2017. Iconic Doomsday Clock is the Focus of the Museum of Science and Industry, Chicago’s Newest Exhibit. Retrieved from https://www.msichicago.org/fileadmin/assets/press/turn_back_the_clock/TBTC_Press_Release.pdf

Additional Links

For more information about the exhibit:
https://www.msichicago.org/press/exhibits-and-events/turn-back-the-clock/

Formative Evaluation of Facilitated Play Engagement with Early-Childhood Learners

Brian Slattery, Lincoln Park Zoo
Erin Shoffstall, Lincoln Park Zoo

Purpose

This session will give participants insight into a collaborative relationship between two evaluation teams working toward the same goal while learning more about how to approach an early childhood evaluation project. We will share our methods, tools, and key findings as we share our experience in this collaborative journey. Participants will learn about how a cycle of reflection and implementation informs the development of an early childhood interpretation program. The aim is to prompt a discussion about the advantages and challenges of working with multiple evaluation teams in the same organization.

Abstract

Background

A perennial concern of informal learning institutions is a lack of capacity to fully evaluate a range of programs, given varying constraints on evaluation teams. This paper presents an on-going effort between two evaluation teams at Lincoln Park Zoo, regarding the interaction between interpretive volunteers and early-childhood visitors as part of a play facilitation program. Initial findings showed that interactions between guest engagement volunteers and children at educational carts were largely led by facilitators. But, early childhood pedagogy suggests play is most valuable to the learner when it is child-led, which was an existing area of interest for the zoo's Child & Family Learning (CFL) team. Combined with the initial findings, in 2017, the CFL team developed the role of a Play Assistant (PA), with the goal of facilitating play engagements for families at the zoo.

To assist in facilitating early-childhood play, PAs were equipped with a variety of techniques and tools that are best suited for younger children. In order to understand all aspects of the PA program—including outcomes for the PA participants as well as outcomes for the child visitor—the Evaluation & Learning Research team and Audience Research & Evaluation team partnered to conduct an interdisciplinary study. The goal of this effort was to support the formative, participatory evaluation of interpretive programming and facilitative behavior, by engaging in cycles of reflection and implementation that involved both evaluators and stakeholders. In this paper, we will discuss how this cycle helped support PAs to engage in more child-directed interactions, and how evaluators were better able to see and assess these changes through a collaborative, iterative process.

Methods

The two teams of evaluators used varying mixed-methods and analytic approaches to evaluate the intersection of child engagement and interpretive strategies. Data collection consisted of observations, interviews, surveys, and reflections at facilitated play stations at multiple locations, including the play-oriented Main Barn at Farm-in-the-Zoo, and the Regenstein Center for African Apes. Data was shared with stakeholders in the CFL team through data meetings, where both evaluators and stakeholders highlighted important findings that would inform programmatic changes. Reflections from evaluators and stakeholders also informed progressive phases of data collection and analysis, which took place over summer 2017 and winter 2017-18.

Findings

While the initial educational cart findings largely indicated interpreter-driven conversations, the two rounds of subsequent evaluations showed growth in PAs following, rather than directing, children's play,

which was also accompanied by shifts in children's engagement with the hands-on play activities. Through the evaluation process, the evaluation teams worked together to develop the instruments and methodology used to evaluate PAs and child visitors, as well as refine this approach through stakeholder feedback. These interpretive data meetings led to clearer operationalization of the core phenomena being observed, which informed the instrument design and evaluative approach of the second round. The two teams of evaluators had the opportunity to reflect on their practices, and developed the second round instruments as a result of the teams' differing strengths.

Importance

This paper contributes to the ongoing work of improving the evaluation of early-childhood programs, particularly the facilitation of child-directed play. These programs provide the opportunity for children to decide the content and form of their interaction with facilitators, which reinforces the free-choice nature of informal learning spaces such as zoos.
More broadly, as a field, evaluators often work amongst their own teams. This paper emphasizes the power of bringing two evaluation teams together while approaching evaluation with a participatory lens. As informal learning institutions have to make decisions as to what can and cannot be evaluated given what resources are available, this conversation of "combining forces" with stakeholders and other evaluators becomes essential to provide the most meaningful and rich data that tells the whole story.

References

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Pattison, S. A., & Dierking, L. D. (2013). Staff-mediated learning in museums: A social interaction perspective. Visitor Studies, 16(2).

Schön, D. A. (2017). The reflective practitioner: How professionals think in action. Routledge.

The F-Word: Failure and Failing Towards Success

Mary Jackson, Woodland Park Zoo
Taline Kuyumjian, Kuyumjian Consulting LLC
Kathryn Owen, Kathryn Owen Consulting LLC
Dr. Jennifer Rigney, Monterey Bay Aquarium

Purpose

The value of learning from failure is undeniable. Reflecting on and sharing our failures fosters transparency and has been described as the key to innovation. Despite this acknowledgement, embracing this concept in our field or in our individual practice is still not common.

The purpose of this session is to encourage an open, honest, and lively dialogue about our professional failures. Through presentations, discussion and a lively, informal activity inviting attendees to share their own professional blunders, we hope to foster a friendly, open dialogue as we strive to make failure an acceptable and celebrated discussion.

In this session participants will:

- Understand both the value and barriers to examining mistakes and learning from failure.
- Take away key lessons to avoid similar mistakes in their own practice.
- Have increased comfort in openly discussing failure within our professional environments.

Abstract

It's okay to fail. At least that's a sentiment we often hear from today's celebrated thought leaders and innovators, usually through inspirational quotes such as "Fail fast, fail small, learn big" or "Failure is success if we learn from it". Although most would probably agree there is significant value in reflecting on our mistakes, truly learning from failure is much more difficult to put into practice. There are emotional, social and technical barriers that deter individuals and organizations from revisiting past missteps. When examining individual failures we may feel negative emotions or a reduced self-confidence that can inhibit learning. Most organizational systems have inherent properties that inhibit managing failures. The skills that are beneficial in this reflective process, such as openness, patience, or acceptance, are not often rewarded, unlike say decisiveness, efficiency and action. Ultimately this inability to discuss these disappointments makes it more difficult to prevent larger failures down the road.

Evaluators play a unique role in that we facilitate access to data that enables the people we work with to identify and reflect on shortcomings. As such we are often adept at helping our clients or stakeholders turn negative findings into valuable learning opportunities, but how often do we turn that lens upon ourselves and our practice?

In this session we will briefly cover the three suggested processes for failing intelligently: 1) identifying failure, 2) analyzing and discussing failure and 3) experimentation (Cannon & Edmonson, 2005). Then we will put the first process into practice, hearing from four evaluation professionals as they reflect on their own past blunders and how they found the lessons and hopefully the humor in these failures. Stories include forgetting to check our own assumptions, losing sight of the goal while wasting valuable resources, and failing to consider existing perspectives and organizational cultures in an attempt to implement change.

Throughout the presentations the panelists will share their tips for separating failure from fault and how to reframe failure as a valuable learning experience. Session attendees will also be invited to join the discussion as we reflect on our field and the things we are doing to encourage or muffle frank conversations about our professional mistakes.

During this interactive session we will strive to create a safe, open, comfortable, and fun environment where admitting to our mistakes is not a sign of weakness, but of professionalism. After hearing from our presenters, attendees will be invited to participate in a fun, informal activity where they can confess to their own professional mistakes, big or small. Most importantly people will leave this session with an enthusiasm to celebrate the rewards of failure.

Importance

As a field that is frequently involved in helping other stakeholders identify and learn from professional failures, it is extremely important that we ask the same of ourselves and our practice. Demonstrating our own ability to discuss our missteps in an open setting fosters greater learning and acceptance in the field. We hope all those who attend or share their stories feel more empowered to own their failures, learn from them, and improve our collective practice.

References

Cannon, & Edmondson. (2005). Failing to Learn and Learning to Fail (Intelligently): How Great Organizations Put Failure to Work to Innovate and Improve. Long Range Planning, 38(3), 299-319.

Friday, July 20

10:15-11:30 AM - Concurrent Sessions

What's Next? Visitor Journeys at the Clyfford Still Museum

Sonia Rae, Clyfford Still Museum
Katherine Gean, Slover Linett Audience Research
Tanya Treptow, Slover Linett Audience Research

Purpose

In this panel presentation, representatives from the Clyfford Still Museum (CSM) in Denver and the audience research firm Slover Linett will discuss an in-depth case study of our research partnership. We will share key moments regarding how CSM determined that it was the right time for research, and how we adapted innovative data collection methodologies from UX research to understand visitor journeys. We will provide a behind-the-scenes look at how we brought non-visitors into the research—inviting them to think-aloud as they explored the museum website, grounds, and galleries to illuminate a first-time museum experience. We will guide attendees in a simple hands-on activity during the talk and hope that they will leave with ideas to add to their evaluation toolkit and inspiration for how to translate research findings into institutional change. Though situated in an art museum, the lessons learned throughout apply to many kinds of cultural organizations.

Abstract

In early 2017, Clyfford Still Museum (CSM) in Denver began this research project with the aim of learning more about how to continue to grow their audiences, reach more Denverites, and make their institution more relevant to more people. The Clyfford Still Museum and Slover Linett set out to learn more from non-visitors in Denver about how the museum could become a more top-of-mind destination and create deeper, more fulfilling visitor experiences. In essence, CSM needed insight on how to tell the story of itself as an institution and the single-artist on which it was built.

In this panel presentations, we will start with an overview of the questions and organizational strategies that CSM began their research journey with, as well as the qualitative user-experience methods used by Slover Linett to answer those questions. The session will outline the process by which Slover Linett employed a User Experience research model to map the holistic journeys of non-museum visitors (i.e. have never visited CSM before) to understand opportunities for better communication and a more relevant museum experience. We'll be including a fun, simple audience activity to give attendees a chance to practice methods we used.

Research methods began with online interviews to understand visitor experience decision-making via the CSM website and continued with follow-along cognitive interviews to unpack visitors' first experience at the museum. We will spend some time walking through these techniques to outline key best practices for these methods. In particular, we will focus on ways to ask questions and truly listen, will discuss the balance of observation versus diagnostic conversation, and how to recognize missed opportunities for better communication and deeper experiences.

We will then share the key findings from the research before engaging in a dialogue with the CSM Director of Audience and Community Engagement about the process of translating research findings into a plan for implementation and change within the Museum. The Clyfford Still Museum Director will share some of the key successes they've found since the research period and ongoing challenges or questions they've run up against in making data-driven change at the Museum. Topics for discussion may include setting up research for broad institutional buy-in, ways to incorporate change incrementally, and how to push through challenges by reframing priorities. While the findings in case study help bring more transparency to the Clyfford Still Museum's interactions with its specific audiences, the process we used can have resonance for many different types of cultural organizations.

Importance

We hope that this panel presentation will provide an important perspective on adapting UX research methods to museum and cultural institution practices, as well as helping to think about the needs of both current visitors and potential visitors to an institution. By the end of the presentation, we hope that attendees will gain concrete insights on using research to build audience-driven experiences at their own cultural institutions.

Additional Links

Clyfford Still Museum: https://clyffordstillmuseum.org/

Slover Linett Audience Research: www.sloverlinett.com/

What Research Tells Us About Supporting Engagement in Science

Marta Beyer, Museum of Science, Boston
Rachel Bonnette, University of Pittsburgh
Emily Howell, University of Wisconsin-Madison

Purpose

People encounter science through formal schooling and at multiple points in their daily lives, yet data indicate more work needs to be done to encourage the growth of STEM-related careers and an informed, science-literate public (Falk & Dierking, 2010; National Academies of Sciences, Engineering, and Medicine, 2016). What can research tell us about ways to design programs and learning experiences that will motivate people to engage with science? Through this session, conference attendees will leave with deeper knowledge about the strategies that facilitate engagement in science and the types of impacts that can be achieved. Conference attendees will also have a greater understanding of how to measure engagement in science in different settings and will learn about new resources and frameworks for assessing science learning and engagement.

Abstract

Findings from large-scale projects will provide conference attendees with a better sense of how to implement and evaluate projects that undertake this important work. In this session, three panelists who have studied this topic from different vantage points will share what they know about the public's associations with science and about ways to support successful science engagement and learning in formal and informal settings and beyond.

Rachel Bonnette will begin by presenting information about the Learning Activation Lab. She will describe the steps taken to develop a framework for understanding and measuring the various dimensions that support science learning: fascination, values, scientific sensemaking, and competency beliefs (see http://activationlab.org/tools; Dorph, Cannady, & Schunn, 2016). She will summarize how the dataset was used in a recent Activation Lab study (Bonnette, Crowley, & Schunn, pre-submission) to illustrate both the ways in which science activation measurements have been used and what the resultant findings elucidate about challenges and potential solutions to supporting engagement in and out of school, particularly motivation for girls and children who identify as members of racial or ethnic groups that are underrepresented in STEM fields.

Marta Beyer will then present findings from the NSF-funded ChemAttitudes project. Research from this project examined how particular content, program formats, and facilitation strategies used in informal settings could support the public's view of chemistry. In particular, this project analyzed the types of design criteria that might lead visitors to have increased interest in chemistry, enhanced understanding and perception of its relevance, and stronger belief in their self-efficacy with respect to the subject. These measures, based on the ARCS motivational model, speak to the Learning Activation Lab's dimensions (Keller, 1987). By sharing data gathered from visitors through observations, videotaping, and interviews collected at two science museums, this presentation will offer another perspective on the types of experiences needed for supporting engagement and interest in chemistry.

Emily Howell will expand the conversation beyond informal and formal settings and share findings from a second research study associated with the ChemAttitudes project. This study provides insight into how members of the general public view various fields of science and, in particular, chemistry. Findings from two large-scale quantitative surveys distributed through Amazon Mechanical Turk will be shared along with considerations of how interest, relevance, and self-efficacy seem to relate to each other and factor into whether or not the public is likely to engage with activities in science museums. The results will help illuminate how factors that the ChemAttitudes and Learning Activation Lab have used for understanding science engagement in schools and informal settings also provide insight into the general public's connections with science.

By hearing about these frameworks meant to support the design and measurement of science engagement, attendees will enhance their understanding of how to support these types of experiences. Specifically, findings related to key strategies and factors will be relevant to all those currently involved in evaluating or creating programs meant to spark changes in attitudes related to science.

Importance

Information from this session will offer insights to all those currently designing and studying science engagement in ISEs and other types of settings. In particular, experienced evaluators and researchers along with designers and on-the-floor educators will benefit by learning about recent research for how to measure and encourage engagement with science. Not only is it crucial for the field to continue considering how to assess and design for the various dimensions of science engagement, but, specifically, it is importance to include the topic of chemistry in these conversations, as it has been underrepresented in informal learning institutions.

References

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Falk, J.H. & Dierking, L.D. (2010). The 95 percent solution: School is not where most Americans learn most of their science. American Scientist, 98(6), 486-493.

Keller, J.M. (1987). Development and use of the ARCS model of instructional design. Journal of Instructional Development, 10(3), 2-10.

National Academies of Sciences, Engineering, and Medicine. (2016). Science Literacy: Concepts, Contexts, and Consequences. Washington, DC: The National Academies Press. https://doi.org/10.17226/23595

Additional Links

http://activationlab.org/tools

http://www.nisenet.org/chemattitudes

Reconciling Public Trust with Museums, Non-Profits, and Evaluation

Sarah Cohn, Aurora Consulting
Vidhya Shanker, Rainbow Research
Renae Youngs, Minnesota State Arts Board

Purpose

The trust of visitors, clients, and communities is important to both evaluators and museums. It lends our work credibility, but we rarely question why, or even whether, we deserve it. This panel will address the political and social histories of the evaluation, non-profit, and museum fields and how that history relates to the existence or loss of public trust in those fields. In order to cultivate deeper trust between professionals in these three fields and their key stakeholders, we must be aware of how our work is intertwined with and sometimes complicit in perpetuating a broader context of unjust social and political conditions. The panelists will briefly outline historical and contemporary conditions that hinder trusting relationships in each field, then facilitate attendees' discussion of justice- and trust-building actions to incorporate into our professional practice.

Abstract

Visitor studies is a relatively young area of professional practice, and a core value of this work (sometimes implicit, often explicit) is that we are serving the visitors of informal learning institutions. Sometimes we deliberately take on the responsibility of being the "voice of the visitor," while other times our work indirectly benefits visitors by improving an institution's practice. Through this lens, it can be easy to presume that our work merits the public's trust. Sadly, we must realize that the structures, histories, and practices that underlie our work - whether in museums, nonprofits and philanthropy, or evaluation and research/social science - can actively erode the trust we seek to build with those we serve.

When we look to the history of museums, the field's origins are rooted in the collecting habits of aristocrats and colonizers - and the political, economic, and social conditions that made their accumulation of wealth and objects possible. Practices of acquisition, classification, and didactic, "neutral" interpretation have been intentional features of museum practice for centuries. Only in the past 30 years have museums begun to embrace the idea that they can and should be of service to all via an orientation toward free-choice learning.

The field of evaluation is similarly intertwined with unjust social and political systems. Its origins reflect the accountability expected by those who hold an accumulation of wealth (such as government or philanthropic entities) as a condition of distributing their resources for some social good. While accountability is not fundamentally bad, it does highlight and reinforce power imbalances between resource-holders and resource-seekers. Moreover, evaluation practice has often (but not always) drawn on the wider enterprise of social science research to set its norms and practices. Expectations from Western worldviews about objectivity, quantifiability, hierarchy, and certainty have thus crept into evaluation practice and values, and this cultural paradigm that reinforces inequitable power dynamics has often been invisible to evaluators themselves.

Overlaid on these historical issues with museums and evaluation are the wider contexts of the nonprofit and philanthropic sectors in which most of us work. In the United States, most philanthropic entities exist because of the wealth accumulation of their founders, which was sometimes made possible by exploiting unjust social conditions and structures. Nowadays, all private foundations exist partly so that accumulated wealth can accomplish a social good, but also partly so the wealth can be protected from other means of redistribution for social good (i.e., taxation). Not-for-profit organizations in the U.S. must exist for some charitable purpose, and often work to advance a social good or mitigate unjust social conditions. But an organization's commitment to doing good does not automatically translate into adopting all the practices that ensure it is worthy of the public's trust.

These factors create a messy, problematic context in which we all seek to earn public trust in our work, but they are not often discussed in our professional communities. This session will name the big, important challenges we face so we can discuss ways to mitigate them.

Importance

The broader evaluation field and non-profit sector in the U.S. are built on the same fraught, imperfect, and unequal footing as the rest of our society. Institutions that benefit from or reinforce the concentration of wealth, power, and authority in the hands of the few need to reckon with our place in these wider, unjust systems. We do ourselves, our work, our organizations, and our communities a disservice by remaining uncritical or unconcerned about whether our actions bolster or undermine public trust. Instead of presuming to have the public's trust, we must interrogate our actions, our motivations, and what they communicate to others about our trustworthiness. Until we can recognize how we may be undermining our own work, we will not be able to realize the potential of fully stepping up to existing for the public good and because of public trust.

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Walking the Talk: Visitors' Understanding of Zoos/Aquariums' Conservation Efforts

Amy Niedbalski, Saint Louis Zoo
Jennifer Rigney, Monterey Bay Aquarium
Manda Smith, Lincoln Park Zoo

Purpose

Museums invest in a variety of activities beyond their onsite experience, including education, research, and advocacy. However, museums vary in the extent to which they communicate these activities to visitors. Most museum missions require collective action and visitors may not feel they can create meaningful change towards such large societal problems. The purpose of this session is to explore ways that museums can raise awareness of their work and discuss whether doing so can foster trust in the organization, help visitors feel part of a community committed to social change, increase efficacy to act and join the museum in acting for social change.
In this session, three zoo and aquarium evaluators will discuss their work to better understand how to effectively communicate their organization's work to visitors, discuss implications of doing so for perceptions of the organization and discuss the conditions under which visitors feel ready to act for change.

Abstract

Museums are more than educational institutions and typically work toward goals such as civic engagement, social justice and conservation. One way museums work to achieve these mission-related goals is through their public galleries. Effecting change requires not only raising awareness but crafting exhibits that spark visitors to change their perspectives, attitudes and even behaviors. Furthermore,

museums often engage in other strategies to work toward their missions, such as providing educational programs for children and teens, conducting research, and advancing policy.

The purpose of this session is to explore ways to interpret museums' work to visitors in ways that connect with their values and interests and discuss possible benefits to both the museums and visitors of doing so. Museums might be concerned with communicating their work to visitors and the public at large to increase favorability towards these organizations, foster trust, normalize target behaviors, and help visitors feel part of a community committed to social change. Many of these potential outcomes are preconditions for inspiring action. For example, perceiving an organization to hold similar values and goals increases trust in that organization, which in turn serves as an important mediator of acting on information provided by the trusted organization (Winter & Cvetokovich, 2010). Additionally, perceiving that organizations are doing much to advance their goals may make personal engagement in those social movements feel more efficacious, which is crucial for individual involvement in social movements (Bamberg, Rees, & Seebauer, 2015; Jugert, et al., 2016). Thus, if museums want to inspire their visitors to engage in action post-visit they should be concerned with perception of their research and advocacy work.

In the current session, three zoo and aquarium evaluators will present their work to better understand the importance of interpreting their organization's research and advocacy work to visitors. Zoos and aquariums engage in a variety of activities that advance conservation goals such as public education efforts, wildlife research, sustainability recommendations, and environmental advocacy. Because of the increasing public scrutiny of captive animals, zoos and aquariums have been particularly concerned with public perceptions and interpreting our work may be one strategy for increasing both public trust and bringing visitors along as we advance our mission.

In this session, Niedbalski will present results from an evaluation of Zoo member awareness and understanding of the Saint Louis Zoo's Institute for Conservation Medicine and discuss the implications for the Zoo's messaging around this work (Padda, Niedbalski, Tate & Deem, 2018). Rigney will discuss results from a series of studies designed to evaluate whether the Monterey Bay Aquarium's programs that turn its wildlife conservation efforts into 15-minute stories are successful at increasing attendees' understanding of how the Aquarium works to protect the ocean and whether that increased understanding influences visitors trust in and affinity for the Aquarium. Finally, Smith will round out the discussion by presenting results from a study exploring visitors' and community members' perceived behavioral control around the Zoos' calls to action and discuss the role of feeling part of a conservation community in inspiring action.

Importance

Museums have increasingly focused on their public value in recent years as funding for museums has declined and as the public has raised the bar for what they consider to be fulfilling museum experiences (Korn, 2013). The public derives important personal benefits from visiting museum galleries (Packer, 2008) and museums enact their mission, in part, through these galleries. However, many museums make progress towards their mission beyond working through their casual visitors—they provide educational programs for children and teens; they conduct mission-relevant research; and they advocate for policy changes. If the public has raised the bar on what they expect from museums, perhaps helping visitors understand them as "more than a museum" can foster trust and garner public support. Interpreting this important work to visitors might also help them feel part of a vast collective of museum stakeholders who are ready to act with the museum for change.

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The Evolution of Evaluation to Support Community Engagement

Sarah Lee, President, Slover Linett Audience Research
Ken Morris, Manager of Evaluation and Research, Detroit Institute of Arts
Elizabeth Bolander, Director of Audience Insights and Services, Cleveland Museum of Art

Purpose

In recent years, museums and other informal learning organizations have been focusing more and more attention on reaching and engaging communities that have typically been underrepresented among their visitor bases—particularly communities of color or lower-income communities, but also those who simply haven't found traditional museum experiences to be relevant to them. In this session, we want to consider the implications of this shift on the evaluation field: What new skills or ways of working does it demand from evaluators? What new opportunities does it open up for evaluation and audience research to contribute to the overall success of informal learning organizations? And how can VSA support the field in taking full advantage of that potential?

Abstract

A recent evaluation of the Irvine Foundation's New California Arts Fund, conducted by Slover Linett Audience Research, suggests that cultural organizations that want to deepen their ability to authentically and sustainably engage communities of color or lower-income communities need to do

more than just offer new kinds of programming (Lee & Gean, 2018). They need to build new internal capacities and ways of working—including deepening their ability to gather input from their communities and strengthening their evaluation and measurement muscles. This finding resonates with the on-the-ground experience of our panelists at the Detroit Institute of Arts and the Cleveland Museum of Art and, we suspect, with our colleagues throughout the VSA community. We've seen that community engagement efforts require spending time and energy getting to know communities, building empathy for the ways that they experience cultural and informal learning organizations, and understanding how to develop programming that is interesting, enticing, and high impact.

Such work makes natural use of tools in the evaluator's toolkit: observation, interviewing, focus groups, pattern recognition, identifying actionable implications, and so on. But deploying those tools outside of the institution and with communities that haven't already chosen to visit may require some new capabilities, from the very tactical (like recruiting non-visitors) to the more strategic (like cultural competency). These ways of working can also change the relationship between evaluation and program development—sometimes blurring the boundary between those two traditionally separate domains. In this session, we want to leverage the knowledge and experience of the VSA community to better understand: (1) how individual evaluators, both at informal learning institutions and in independent practices, are currently connecting with community engagement work; (2) what new opportunities and challenges they're facing; and (3) how they're building the capacity necessary to contribute meaningfully to community engagement efforts.

We'll kick the session off with a brief overview of the community engagement landscape and the role that evaluators are playing within it. This overview will draw on the report for the Irvine Foundation cited above, as well as panelists' experiences in their institutions. We'll then facilitate a conversation among participants about the key challenges, questions, or opportunities that they've encountered in the community engagement work they've been involved in, aiming to describe and prioritize the most pressing ways in which the field is or ought to be changing in order to effectively support community engagement.

From there, we'll turn toward examining how VSA can support the field in growing in these areas. We'll select 4 or 5 key challenges to focus on, breaking into small working groups to brainstorm specific resources or forms of support. Some of these may be existing resources (e.g., journal articles or other reading, online communities, etc.), which we'll compile into a list and work with VSA to distribute to the community. Others may be resources that need to be developed; our goal will be to identify a few people who would be interested in collaborating to develop critical resources on community engagement for the VSA community.

Importance

As the museum and informal learning field invests more time, energy, and resources in community engagement, the evaluation and visitor studies field may need to change too. This session will provide space for an open, candid dialogue among evaluators involved in (or aspiring to be involved in) community engagement efforts about how the profession is changing or ought to change. We see a direct connection between this conversation and the conference theme: in order to support the field in fostering and maintaining the trust of the public, evaluators must be able to contribute to institutions' ability to effectively engage their communities.

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Program Evaluation Practice and Capacity in the Canadian Art Museum Sector: Findings from a National Study of Museum Practitioners

Agnieszka Chalas, Queen's University

Purpose

In recent years, art museums have increasingly been called upon to engage in comprehensive evaluations of their educational programs in an effort to both foster transparency and strengthen public trust. Despite this trend, research on program evaluation in the context of art museums is scarce. Consequently, little is known about what such museums are doing to evaluate their educational programs or to what extent they possess the internal capacities to conduct evaluations and use evaluation findings for both accountability and learning purposes. In this paper, I present the results of a pan-Canadian study that was undertaken to fill this gap in the literature. Its objectives were to describe what evaluation practice and capacity looks like across the Canadian art museum sector, and elucidate specific examples of institutional successes for the purpose of sharing them with the growing number of art museums interested in integrating evaluation into their organizational cultures.

Abstract

A qualitative interview study was used to address the purposes of this research. Specifically, a key informant purposeful sampling strategy was employed to identify practitioners with responsibility for program evaluation working in Canada's largest publicly owned art museums. Using a semi-structured interview protocol, an in-depth interview of around 60 minutes in length was carried out with each art museum practitioner that agreed to participate in the study. The protocol consisted of 25 open-ended questions grouped according to the dimensions of a literature-derived conceptual framework of evaluation capacity that was developed to guide this research. Accordingly, interview questions asked practitioners to report on both their art museum's contextual characteristics and extant evaluation culture. Practitioners were likewise asked about: (a) what drove program evaluations at their museums (i.e., internal demands versus external pressure), (b) the type and amount of evaluation resources and training supports that were available to them, (c) their current capacity to collect, reflect on, and incorporate various forms of data into their educational program development, and (d) the specific evaluation activities they engaged in to document programmatic impacts. All interviews were recorded using a digital recorder, transcribed in full, and sent to interviewees for review. A framework approach to qualitative content analysis (Ritchie & Spencer, 2002) was employed to manage, analyze, and interpret the interview data collected during this study. Specifically, analysis involved: familiarizing myself with the data; developing a data-coding system; coding the data using a combined deductive-inductive approach; synthesizing the entire data set into structured matrix coding charts; and reviewing the data across the charts to draw out descriptive and explanatory conclusions clustered around each of the dimensions comprising the afore-mentioned conceptual framework. Overall, the findings of this study shed new light on Canadian art museum's program evaluation practices and their current capacities for evaluation while also providing considerable insight into the factors and conditions

that can both promote and limit such capacity in these unique learning settings. The study's findings likewise highlight both the challenges Canadian art museums face with respect to implementing program evaluation and their needs for assistance while also pinpointing distinct strategies that were used to overcome limitations of resource scarcity. In addition to sharing the results of this research, during this presentation I will also examine the implications of the study's findings for visitor studies theory, research, and practice, and will begin a discussion about how, as a field, we might both support better program evaluation practices and strengthen capacity for evaluation in art museums and other institutions of informal learning.

Importance

This study addresses a pressing literature gap by advancing knowledge on program evaluation practice and capacity in the Canadian art museum sector while providing a seminal basis for future transnational inquiry, thus initiating field-wide learning and comparison. It likewise supports a new conceptual framework that can be used to describe program evaluation practice and capacity across varying museum environments. Moreover, the study also offers both art and other types of museums assistance in the form of institutional successes and a practical tool (framework operationalized as a rubric) that can help practitioners reflect on their capacity for evaluation and identify appropriate activities to further develop lower-capacity areas over time. Ultimately, the findings of this study will be used to improve evaluation practices and inform capacity building efforts in museums. In doing so, the field can reach a fuller understanding of the wide range of effects and outcomes attributable to museum programs.

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Additional Links

http://educ.queensu.ca/students/profiles/chalas

https://www.youtube.com/watch?v=zV6FV6Sbz0c&list=PLww1dvjSoO4PO1a17d5VDea_VDhdCYhck&index=6

Eliciting Teen Voices and Stakeholder Values Using Most Significant Change

Cassandra Solomon-Filer, Shedd Aquarium

Purpose

This paper presentation addresses the use of the participatory method of Most Significant Change (MSC) to engage teens and other stakeholders for youth informal education programming focusing on STEM/STEAM and career exploration.
During the presentation I will discuss the qualitative approach of MSC as a potential evaluation tool for teen programs that are complex or programs that do not have clearly delineated outcomes (Dart & Davies, 2005). The presentation will center on the following questions:

- What is MSC?
- How is MSC implemented?
- What it the value of MSC with teens? With other stakeholders?
- How can MSC be used for program planning and evaluation?
- What did I learn using MSC for the evaluation of a drop-in teen space?
- What value do I see in using MSC for an informal science education teen program moving forward?

Abstract

Most Significant Change (MSC) is a participatory evaluation method that originated from the monitoring and evaluation of international development projects (Dart & Davies, 2003, 2005). MSC involves the collection of stories from program participants of what each considers to be the most significant change, positive or negative, they experienced through a program. The technique therefore encourages authentic collaboration with participants by asking them to define their own program outcomes from their own systems of values and ranges of program-related experiences. Groups of stakeholders then discuss and prioritize stories in an effort to agree on a story or stories that best illustrate what they believe the program should be accomplishing. This participatory coding and analysis of participant voices is an important element of the technique, as the process leads stakeholders towards a collective understanding of potential program outcomes valued by both participants and other stakeholders.
I piloted MSC at a teen learning lab structured towards informal education and self-directed learning. The teen learning lab's resources focus on aquatic science, technology, art, and the natural world, and

the space was conceived as a place for teens to socialize, work on projects, and explore careers. The teen lab welcomes a diverse audience of teens from Chicago and its surrounding suburbs.
For this pilot study, I collected a total of 15 MSC stories from teens who had visited the teen lab at least once. Teens submitted stories by responding to questions on Surveymonkey or through semi-structured interviews. The next step was organizing small groups of stakeholders to discuss what stood out to them in the stories, with each group ranking stories to narrow the pool for the next group of stakeholders.
At the time of submitting this abstract, I am concluding stakeholder discussions and starting the analysis. I am approaching MSC from an interpertivist ontology and social constructivist epistemology (Guba & Lincoln, 1989), and am using NVivo to conduct a thematic analysis from the different stories collected, with codes and themes that emerge primarily from ongoing stakeholder discussions.

Limitations I have experienced using MSC include the challenge of convincing internal staff to try the approach, the difficulty of collecting stories from a diverse sample of teens, and then also of finding the time for teens to read through stories and analyze them. Like many qualitative approaches, the analysis takes a lot of time.
I plan to conclude this pilot with a brown bag to share results with internal staff, including interested teens. I hope to continue using MSC to explore how participants' stories change or stay the same longitudinally and across teen programs, and to incorporate teen participant evaluators to conduct MSC interviews while expanding the interviewee sample. The repeated themes of confidence and self-worth that are arising in the stories of teens who identified as females also suggest the utility of analyzing stories through a feminist critical lens.

Importance

MSC provides a structure for teens to define their own outcomes and communicate what matters to them most, allowing evaluators to hear "participants as they are" (Goodyear et al, 2014, p.251). It also asks teens to reflect on their own learning and assess the how and why behind their decisions and behaviors, encouraging the further development of critical thinking and reflection skills in participants and other stakeholders. Participatory analysis brings in stakeholders, including teens that might not have been included or wanted to participate in the initial story collection, to voice their own values and viewpoints in a process that will be documented and shared widely with others. It also asks stakeholders at different institutional levels to engage with teen voices by contextualizing teen stories within their own value systems. MSC fosters transparency in the evaluation process with its collaborative and participatory elements, and fosters "learning by all involved" (Goodyear et al, 2014, p.251).

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Additional Links

Rick Davies describes how to code and analyze MSC stories:
https://www.youtube.com/watch?v=QKK39k2UYss

Download a facilitation guide for using MSC integrated with Photovoice:
http://www.comminit.com/global/content/facilitation-guide-integrated-evaluation-methodology-most-significant-change-and-photovo

1:45-3:00 PM - Round Tables, Papers, and Fireside Chats

Judy Koke Fireside Chat

Throughout her career as a researcher and museum professional, Dr. Koke has challenged museums to broaden and deepen their meaningful relationships with audiences. She has acted as a VSA board member and held leadership roles at the Art Gallery of Ontario and The Nelson-Atkins Art Museum, and she currently serves as Director of Professional Development at the Institute for Learning Innovation. Attend this session to participate in a discussion about true collaboration between organizations and their communities and the changing role of museums today.

Say the Unspoken: Fostering Dialogue for Emerging Professionals

Jason Allen, Project Manager and Evaluator, Eiteljorg Museum of American Indians and Western Art
Taline A. Kuyumjian, Experience Evaluator, Kuyumjian Consulting LLC
Lauren Wilson, Audience and Evaluation Specialist, Illuminated Ideas

Purpose

This roundtable discussion hopes to encourage an open and frank dialogue about the realities of being an emerging professional in the Visitors Studies field. It can be difficult to encourage transparency with our communities when we gloss over, and occasionally diminish, the challenges within our own field and institutions. Through this open conversation, participants will share challenges faced and perspectives on growing in and influencing our field. Topics like mentorship, networking, imposter syndrome, and realities of entry-level evaluation positions will lend a critical lense to life as an emerging professional and Visitors Studies as a field at large.

Abstract

As evaluators, working effectively and responsibly with communities requires transparency. Before fostering trust and openness with those we serve, it must first be established within our institutions,

organizations, and careers. Say the Unspoken will explore ways emerging professionals in Visitor Studies can chart their career path, underscoring transparency through mentorship and networking, examining the structure and realities of entry-level evaluation positions, and discussing how involvement in the field can shape its future.

Guidance through mentorship and networking empowers emerging professionals. During early stages of a new job role or career path, newcomers may suffer from imposter syndrome, or feeling like a fraud (Weir, 2013). Building a network helps emerging professionals overcome these fears, both by establishing interpersonal connections and offering access to resources for continued development.

With emerging professionals as discussion hosts, issues and difficulties faced early in Visitor Studies careers will be at the forefront of conversation. Often, early stage work involves tasks which may feel irrelevant to or out-of-line with future career goals. However, work on less fulfilling projects may open doors to valuable opportunities. Through understanding the current state of our field, emerging professionals will be better equipped to navigate its challenges. In time, they will usher in a new era of emergent professionals; it is today's newcomers who will structure systems that promote equity and value for our field in the years to come.

Finally, participants will feel empowered to share their own expertise and knowledge back to the field. Involvement in VSA and other organizations offers a platform for contributing ongoing dialogue surrounding our field. Established professionals will gain their fresh insights, while emerging professionals will benefit from the experience and collective knowledge of the industry. Discussion will encourage participants to capitalize on their unique experience to give back and establish a culture of collaboration and camaraderie.

Importance

While the field of Visitor Studies readily tackles issues of diversity and inclusion within our visitorships, we do not always approach systemic issues faced by emerging professionals with the same clarity or drive. Dedicating space to discuss the realities of building a career in our field encourages open and direct communication within our institutions around advocating for early stage professionals. In turn, the ability to address difficult topics of systemic change internally helps institutions to be more transparent with the communities we serve. With attention to the ways access to our field is granted or restricted, we will continue to increasingly welcome diverse voices and perspectives into our staffs and institutions.

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Collective Insight: Strategies for Culturally Responsive Evaluation Capacity Building

Patricia Montaño, Bridging Communities FIG Co-Chair
Kate Westaby, ¡Milwaukee Evaluation!, University of Wisconsin-Madison
Angie Ong, University of Washington

Jill Stein, Independent Consultant

Purpose

Join the Bridging Communities Focused Interest Group (FIG) to learn about building capacity for culturally responsive evaluation (CRE) among emerging and established evaluation professionals. Together we will brainstorm strategies for VSA professional development and capacity building in culturally responsive evaluation, which will be shared with VSA's Professional Development Work Group and Board leadership to inform future directions.

In this working group session, presenters will share their reflections on efforts to build capacity for CRE and diversity within the evaluation field. This will prompt participants to consider various types of capacity building opportunities so that they can collectively generate ideas for how VSA can further its own capacity building efforts in the area of CRE. The Bridging Communities FIG Co-Chairs will facilitate and record the group discussions and lead post-conference actions with interested session participants.

Abstract

VSA's Evaluator Competencies for Professional Development were developed in 2008 to support visitor studies professionals in planning their own professional development and to guide the work of VSA in building the capacity of its members (VSA, 2008). Since then, the American Evaluation Association published its Statement on Cultural Competence in Evaluation (AEA, 2011) and culturally responsive evaluation (CRE) (Frierson, Hood, Hughes, and Thomas, 2010) has increasingly gained mainstream attention. Within VSA, there have been several presentations focused on themes relevant to cultural competence and CRE in recent years; these have ranged from discussing implications of AEA's statement on cultural competence for VSA (Stein, Heimlich, Valdez, Reich, and Garibay, 2012), to pathways into visitor studies for diverse professionals (Aichele, Benne, Bequette, Huerta Migus, and Valdez, 2013), to practicing culturally responsive evaluation (Garibay, Garcia-Luis, and Gontan, 2015), to specific projects and strategies. Furthermore, with the creation of the Bridging Communities FIG within VSA and the shift from Committees to Work Groups within VSA's management structure, there are new forums and mechanisms that can be leveraged in still evolving ways to advocate for and facilitate member capacity building.

At the beginning of the working group session, panelists will speak about developing CRE within communities of emerging and professional evaluators. Attendees will be asked to consider what types of capacity building VSA could provide its members in the area of CRE.

Kate Westaby from ¡Milwaukee Evaluation! and University of Wisconsin-Madison will discuss the work of ¡Milwaukee Evaluation! (Wisconsin's professional evaluation association), including pipeline work to foster workforce diversity, intentionally providing space for cultural differences at their hallmark Social Justice and Evaluation Conference, and results from their recent Culturally Responsive Evaluation Survey.

Angie Ong will speak about how CRE is incorporated into University of Washington's Introduction to Museum Evaluation syllabus to build awareness among emerging museum professionals, regardless of whether they eventually become evaluators.

Jill Stein will share insights from her experience as an audience researcher and evaluator who focuses on culturally responsive practices, as well as her position as an At-Large Member of VSA's Board of Directors.

In working groups, attendees will brainstorm ideas for adding CRE to the association's list of professional competencies as well as strategies for building capacity for VSA members. Each group will discuss one of these topics:

- Skills and competencies for CRE. What are they, and how could they be incorporated into VSA's Evaluator Competencies?
- Professional development opportunities. What formats, topics, and entry points should VSA consider?
- Emerging professionals. How can VSA and universities build emerging professionals' cultural competency skills and capacity to do CRE? What is the potential role of mentorship programs? What support do graduate programs need?
- Organizational change. How can VSA support organizations to be inclusive, diverse, and culturally competent within their workforce? With community interactions during audience research and evaluation?

Following the conference, the Bridging Communities FIG will discuss these topics with VSA's Professional Development Work Group and other leadership to identify next steps and develop an action plan.

Importance

The conference theme Fostering Transparency, Strengthening Public Trust asks each of us to reflect on how informal learning institutions can better serve and respect diverse communities. How can we do better at building capacity and preparing informal learning professionals, particularly visitor studies professionals, to understand and engage with various communities in ways that foster trust and support culturally relevant processes and outcomes? The interest in CRE and cultural competency has grown within VSA and it is time to act not as individuals, or as a FIG, but as a collective association. Through learning from strategies and findings from ¡Milwaukee Evaluation!, higher education, and experiences of VSA members, the collective insight from participants will illuminate a path forward for how VSA can address capacity building regarding diversity, inclusion, and culturally responsive evaluation within visitor studies.

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Talking About Teens: Evaluating Museum Programs that Target Teens

Jennifer Borland, Rockman et. al.
Preeti Gupta, American Museum of Natural History
Alison Mroczkowski, Museum of Science and Industry

Purpose

The vast majority of out-of-school time programs target youth ages twelve and younger. Similarly, museum programming tends to focus on young children and adults, and has sometimes struggled to attract and engage teen audiences. In this Roundtable discussion, we will talk about the challenges and benefits of programs designed for teens and the unique issues and opportunities that go along with evaluating these programs.

Abstract

This roundtable discussion is designed to explore the challenges and benefits of programs designed for teens—including the unique issues and opportunities that go along with evaluating these programs.

Specific Outcomes and Objectives:

- Attendees will learn more about different types of programs being offered to teens in museum settings
- Attendees will gain insights into best practices for evaluating teen programs
- Attendees will come to understand key differences between evaluating teen audiences in comparison/contrast to other audiences

Proposed Method:

Our planned discussion will include a brief introduction of the co-presenters, wherein each will discuss teen programming offered at or studied by their institutions—including Teen SciCafes and other teen-oriented programming at the American Museum of Natural History and the long-running Science Minors and Science Achievers program for teens at the Museum of Science and Industry. Roundtable participants will also be invited to share examples of the work they are doing with teens as well. A series of targeted discussion questions will be posed in order to explore strengths and weaknesses of programs geared toward teen audiences and best practices (and/or potential pitfalls to avoid) when evaluating teen programs.

Why the closer look at teen programming specifically?

Teen audiences are similar to adult audiences in many ways—including their ability to grasp more advanced concepts and their verbal abilities to communicate information about their experiences. However, there are unique cultural differences that should be taken into consideration by evaluators and researchers seeking to work with teen audiences—e.g., social norms within groups of teens and between teens and adult program facilitators, and different communication and technology preferences.

Importance

Since the teen years are an important period in youth development in terms of emerging skills and self-identity formation related to career interest and exploration, it is especially important for us to consider programs aimed at youth in this age-group and seek to find ways to effectively study and communicate findings about their impacts.

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Price, C. A., Kares, F., & Segovia, G. Gender differences in STEM career and educational choices of alumni of an urban, museum-based after-school program. Transforming Learning, Empowering Learners.

Price, C. A., Kares, F., Segovia, G., & Loyd, A. B. (2018). Staff matter: Gender differences in science, technology, engineering or math (STEM) career interest development in adolescent youth. Applied Developmental Science, 1-16.

Additional Links

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

MSI Science Minors and Achievers:
https://www.msichicago.org/education/out-of-school-time/science-minors/

Teen SciCafe Network: https://teensciencecafe.org/

Big Questions About Food Security - The BigPicnic Project

Theano Moussouri, University College London (UCL)

Purpose

This presentation discusses how BigPicnic, a multi-actor collaboration and engagement EC-funded project, provides a platform for dialogue about responsible research and innovation (RRI) on food security. BigPicnic brings together the public, scientists, policy-makers and industry to help tackle the global challenge of food security. The project aims to do this through the creation of a series of exhibitions, science cafes and participatory events held and run by 14 botanic gardens spanning twelve countries across Europe and one in Uganda. Co-creation, action research and organisation research are at the heart of the project's collaborative approach which brings botanic garden practitioners in dialogue with local people as a way to build greater understanding of food security issues. Participants will be involved in thought-provoking, reflective conversations about the use of co-creation approaches together with participatory approaches to evaluation and research to tackle more complex questions and engage local communities in global issues.

Abstract

As social and scientific institutions, botanic gardens hold the expertise to inform, raise awareness of, and engage the publics with global environmental matters. Food security is one of the greatest challenges facing society today and it is a concern not only at policy level but also for the general public. According to the Special Eurobarometer 389 (European Commission, 2012) EU citizens are concerned that sufficient food is produced to meet the needs of the world's population and suggest that the EU should help other countries to produce more food, should produce more food to reduce its dependence on imports and to meet the rising demand in the EU and elsewhere. Research and innovation can be part of the solution to the food security challenge and the EU citizens should be given the opportunity to express their ideas and opinions on which direction these can be developed.
The BigPicnic project aims to create this opportunity at a large scale across Europe.

By acting as mediators, botanic gardens and other institutions taking part in BigPicninc facilitate dialogue and develop a mutual understanding among researchers and visitors by engaging them in co-creation activities. Both the co-creation process and the outcomes of the co-creation activities and other events and exhibitions developed as part of BigPicnic are evaluated using Teams-Based Inquiry

(TBI). As a form of action evaluation, TBI gives professionals the opportunity to also reflect on the process and the impact of the co-creation activity as well as the practice that went into its development. This collaborative approach aims to give a voice to adults and young people on Responsible Research and Innovation (RRI), communicating their views to policy-makers, sharing ideas, and encouraging debate on the future of our food.

This panel presentation highlights the importance of using co-creation approaches together with participatory approaches to evaluation and research to tackle more complex questions. This approach helps understand the nuances of key issues around food security in their local context. One of the key themes that has emerged so far is the societal and cultural significance of food. The idea of food as heritage goes at the heart of people's personal and collective identities, any policies around food and food systems need to take this into account. This is a parameter that is omitted by the prevalent European and global policies that deal with food and sustainable development but is strongly linked with the growing awareness and recognition of intangible cultural heritage by UNESCO. The presentation will also link the particularities of the Garden's individual projects with the wider research themes provided both by the EU, but also with the UN Sustainable Development Goals. For example, key findings which directly link to Food 2030 policy priorities and Sustainable Development Goals include safe food, community empowerment and gender issues, nutrition and combating hunger, food education, and sustainable food production and consumption.

This account aims to inspire attendees to think through the challenges and considerations for this type of participatory multi-organisation project. Co-creation case studies, and participatory approaches to research and evaluation employed by different botanic gardens will be used as examples to discuss what has worked and what has failed and why.

Importance

This panel session is closely connected to the themes of fostering transparency and strengthening public trust by showing how botanic gardens use participatory approaches to programme and exhibition development, to research and evaluation to foster dialogue with their communities and European citizens in general. It directly promotes two VSA learning competencies, namely "Knowledge of and Practices with Social Science Research and Evaluation Methods and Analysis" and "Professional Commitment".

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BigPicnic Project website: https://www.bigpicnic.net/

Food 2030 website:

http://ec.europa.eu/research/bioeconomy/index.cfm?pg=policy&lib=food2030

Responsible Research and Innovation http://www.ucl.ac.uk/sts/research/projects/rri

Sustainable Development Goals website: https://unstats.un.org/sdgs

Team-Based Inquiry http://www.nisenet.org/catalog/team-based-inquiry-guide

UNESCO, Convention for the Safeguarding of the Intangible Cultural Heritage:
https://ich.unesco.org/en/convention

Examples:

- Safeguarding traditional foodways of two communities in Kenya https://ich.unesco.org/en/projects/safeguarding-traditional-foodways-of-two-communities-in-kenya-00176
- Mediterranean diet https://ich.unesco.org/en/RL/mediterranean-diet-00884

Exploring Empathy: Lessons from Challenging Exhibitions

Kirsten Madsen, National September 11 Memorial & Museum
Silvina Fernandez-Duque, United States Holocaust Memorial Museum
Juli Goss, Crystal Bridges Museum of American Art
Dr. Rebekah Sobel, United States Holocaust Memorial Museum (facilitator)

Purpose

In this session, panelists will share their experiences with conducting evaluations that center visitor empathy and discuss the challenges of capturing empathy in museum settings. Participants will walk away understanding how empathy has been defined, successful and unsuccessful tools for measurement, and how these conversations may live on within organizations.

Abstract

Panelists from the National September 11 Memorial Museum, the United States Holocaust Memorial Museum, and Crystal Bridges Museum of American Art will discuss their experiences with tackling questions about empathy-building through evaluation. The discussion will focus on exhibitions and exhibition components relating to current issues, including undocumented migration, the Syrian refugee crisis, and 9/11-related health effects.

Silvina Fernandez-Duque (US Holocaust Memorial Museum) will discuss evaluation work done in conjunction with a virtual reality (VR) experience featuring the story of a Syrian refugee. A short 360 documentary film called For My Son was shown on a VR headset as part of an exhibition about the crisis in Syria. The evaluation of the program looked at whether the film and the immersive technology of VR had an influence on empathy or learning. Silvina will share the results of the evaluation and some of the challenges in trying to measure empathy.

Juli Goss (Crystal Bridges) will discuss findings from an exhibition evaluation as well as the resulting institutional conversations that have come about since. Border Cantos was an exhibition which sought to humanize the experience of undocumented immigrants crossing the border between the U.S. and Mexico. Juli will provide background and definitions on how the concept of empathy functioned in an art museum environment through this exhibition and beyond, and how her museum worked with community groups and stakeholders to present the exhibition and foster empathy.

Kirsten Madsen (9/11 Memorial Museum) will focus on evaluation work relating to visitors' awareness of 9/11-related illness, which affects thousands of 9/11 survivors and first responders. She will reflect on how the unique nature of the 9/11 Memorial Museum as a memorial at the authentic site of the 9/11 attacks impacts visitor experience and how evaluation at the institution has evolved to meet these challenges. Because most visitors to the museum have memories of September 11, 2001, she will also explore how visitors' lived experience might affect their ability to connect with others' stories and experiences.

Based on their shared experiences, Silvina, Juli, and Kirsten will discuss strategies for considering visitor emotion, opinion, and empathy in the course of museum evaluation. Questions under consideration include: Is it possible to know how deeply an experience has affected someone's understanding if they're overwhelmed or disassociated when intercepted? Can we formulate questions that help visitors process their experience enough to reflect? Is evaluating in the moment ultimately unproductive? How does this commitment to empathy live on in an organization beyond one project?

Importance

The concept of empathy is often discussed but rarely approached through an evaluative lens. Through discussion of the panelists' projects, we hope to have a meaningful discussion about why producing empathy among museum visitors is a worthwhile goal, and how museum professionals can begin to consider empathy as a visitor outcome in evaluation work. In discussing the outcomes of our projects and our plans for future empathy-centered evaluation, we will begin to identify strengths and weaknesses of existing evaluative tools and explore areas for growth in the field. We hope to give our colleagues, especially those working with difficult history, the confidence to start conversations with their colleagues about what visitor empathy looks like at their institution and how they can deploy evaluation to determine whether their programs and exhibitions are successful in guiding visitors toward empathy.

References

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Additional Links

The Border Cantos evaluation report can be found here:
https://crystalbridges.org/reports-and-research/

4:00-5:15 PM - Concurrent Sessions

Engaging Undergraduate Students in Audience Research

Fran Mast, Research and Evaluation Associate, Research and Evaluation, John G. Shedd Aquarium
Jennifer Matiasek, Research Program Coordinator, Chicago Zoological Society/Brookfield Zoo
Nadya J. Bennett, Audience Research and Interpretive Content Specialist, Columbus Zoo and Aquarium
Nicole Rivera, Assistant Professor of Psychology, North Central College

Purpose

Improved understanding of the strategies cultural institutions can employ to build the competence and confidence of undergraduate students in audience research practices

Increased awareness of the ways cultural institutions can work with colleges and universities to offer audience research experiences to undergraduate students

Increased awareness of strategies to integrate undergraduate students into workflow to support project planning and resource management

Abstract

This session will explore structures and strategies for working with undergraduate students and college/university partners to engage students in audience research. The presenters will share examples from their own institutions, discuss methods for recruiting students with diverse academic backgrounds and experience, and present perspectives on developing and maintaining relationships with colleges and universities.

Undergraduate research experiences have many benefits for the participating students as well as the institutions that offer research opportunities (Lopatto, 2009). Students demonstrate gains such as personal development, growth of new skills, preparation for scientific careers, increased interest in graduate work, and more positive perceptions of research (Crowe & Brakke, 2008; Lopatto, 2009; Russell, Hancock, & McCullough, 2009).

The Research and Evaluation department at Shedd Aquarium has three different positions that allow undergraduate students to build research and evaluation skills and participate in social science research. These opportunities include volunteer positions for those wanting to develop applied skills such as data collection and entry, internships that allow students to lead one project across all evaluation phases, and part-time staff who assistant and coordinate day-to-day efforts of the department. Shedd's presentation will discuss the challenges and rewards of this multifaceted model in relation to student recruitment, engagement and learning and institutional capacity building.

The Chicago Zoological Society's Audience Research department recruits research assistants each summer to conduct audience research at Brookfield Zoo. This team is typically made up of students from a range of backgrounds who collect and manage data to address needs identified by the zoo. More self-directed audience research is conducted by students as part of the zoo's internship program. This presentation will share approaches, successes, and challenges related to recruiting students and creating learning opportunities as part of applied research projects and beyond.

The Audience Research Team at the Columbus Zoo and Aquarium offers seasonal internship opportunities to undergraduate and graduate students from diverse fields of study. The program provides interns with the opportunity to take an active role in the evaluation process from project development and planning to writing reports and presenting results to stakeholders. This presentation will highlight the structure of the program, how challenges turned into successes, and examples of projects interns completed over the last three years.

Students at North Central College have opportunities to participate in a variety of informal course experiences, internships, and engagement in audience research and evaluation projects with cultural institutions. Informal course experiences occur through the college's Verandah program and includes a week-long class in which students visit five different cultural institutions to work with research and evaluation teams. Students participate in research and evaluation projects as volunteers and/or to earn course credit for a research practicum or internship.

Following the presentations, the panel will invite audience members to take part in a discussion of challenges and benefits in working with undergraduate students. Finally, the group will consider traditional and novel ways our institutions can maximize the learning potential of these types of research experiences to stimulate new questions, ideas, and relationships.

Importance

From an institution's perspective, having undergraduate students contribute to research can support workflow and project management, contribute to the field of science by developing future professionals, and provide research projects with enthusiasm and new perspectives. Additionally, grant projects that engage undergraduate opportunities and academic partners may be stronger for funding consideration. As museums and cultural institutions endeavor to grow capacity for research and evaluation, undergraduate students are an important resource to support current practices and develop a pipeline of future professionals. The John Shedd Aquarium, the Chicago Zoological Society, Columbus Zoo, and North Central College each work with undergraduate students to offer opportunities to experience applied audience research and help students to develop research skills. Staff from these institutions will share their approaches to engaging undergraduate students and discuss successes and challenges they encounter in their work and share ideas for fostering partnerships between cultural institutions and universities/ colleges.

References

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Digital Experiences in Art Museums: Visitor Preferences, Participation, and Impacts

Laura Brown, Manager, Evaluation & Visitor Research, The Nelson-Atkins Museum of Art
Shiralee Hudson Hill, Lead Interpretive Planner, Art Gallery of Ontario
Hannah Ridenour, Research Specialist, Cleveland Museum of Art
Maia Werner-Avidon, Principal, MWA Insights

Purpose

Using case studies from three art museums, this session will explore what recent research has revealed about the incorporation of digital experiences in art museums. Presentations will focus on visitors' preferences for analog versus digital experiences, digital engagement, and impacts of digital experiences ranging from apps to augmented reality. During the session, participants and panelists will reflect on best practices for incorporating digital experiences into art museum galleries, and participants will learn about new approaches to measuring the impact(s) of digital experiences that have the potential to be adopted by other museums.

Abstract

In recent years, art museums have increasingly embraced the inclusion of digital experiences inside their galleries, with the hope that these experiences will attract new audiences, change visitors' perceptions of the museum, and offer new and engaging ways of interacting with art (see, for example, Cannell, 2015; Gamerman, 2015, and Lohr, 2014) . But how well do these digital experiences mesh with visitors' expectations and preferences for their museum experience? To what extent are visitors choosing to engage with technology? What impact does engaging with digital technologies ultimately have on the visitor experience? And are there certain types of digital experiences that are more impactful than others? This session will include case studies of three recent research studies that sought to answer some of these questions.

Case Study 1: Print or pixel: Comparing visitor use and preferences for analog versus digital interpretive components at The Nelson-Atkins Museum of Art

The Nelson-Atkins Museum of Art recently completed a renovation of its 19th- and early-20th-century European art galleries (the Bloch Galleries). The renovation incorporated new visitor engagement and interpretation strategies, including several digital components. Summative evaluation, conducted in collaboration with MWA Insights, examined visitors' use and depth of engagement with both digital and analog interpretation and captured visitors' opinions about the inclusion of digital experiences and preferences for ways of getting information.

Case Study 2: Transporting you into the art: Visitors' responses to augmented reality at the Art Gallery of Ontario
In 2016, the AGO partnered with Toronto-based digital artist Alex Mayhew to realize ReBlink, an exhibition and augmented reality (AR) digital project, which allowed visitors to download an app to see an animated "remix" of specific paintings. The summative evaluation sought to discover who was using the app, to what extent visitors were engaging with the technology as well as the project's thesis about change and contemporary life, what visitors found captivating about this experience, and whether the AR experience encouraged close-looking at the artwork. This case study will explore how we can use our research to think further about enhancing the visitor experience and connecting art, ideas and visitors through AR.

Case Study 3: Defining Metrics and Discerning Change: Evaluating the impact of interactive technology at the Cleveland Museum Art
The Cleveland Museum of Art was awarded a grant from the National Endowment for the Arts to better understand the value of visitor engagement with digital interactives and the metrics that best measure this value. The study, designed and implemented in collaboration with Rockman et al, is examining ways in which the museum's recently reopened interactive space, the ARTLENS Gallery, positively impacts the visitor experience, and which metrics tested in the study appear to best measure the impact of interactive technology in any art museum.

Importance

The featured case studies will provide takeaways related to best practices in digital use in art museums and how to measure its impact. These studies have garnered new insights about the value of in-gallery digital experiences, including reported preferences for printed over digital components and visitor reactions when technology can achieve experiences not possible in typical viewing experiences. They have explored the relationship of location and experience, and will reflect on the appropriate tone, type of experience, and amount of content to provide in specific locations. They have worked to understand the results of an interactive intervention against a traditional museum experience across various visitor groups, and defined the metrics to measure its impacts and value. The panelists will share the ways in which museums can assess digital impact even as technology continues to evolve and museums continue to embrace new interpretive approaches.

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Additional Links

Nelson-Atkins Museum of Art Bloch Galleries Summative Evaluation Report
http://informalscience.org/nelson-atkins-museum-art-bloch-galleries-summative-evaluation

Bringing Our Values to Work

Cecilia Garibay, Garibay Group
Kenneth Morris, Detroit Institute of Arts
Jeanine Pollard, Minneapolis Institute of Art
Kate Livingston, ExposeYourMuseum

Purpose

How do our values compel us? What are the risks and rewards of "living our values?" What happens when personal values and museum values don't align? In this participatory workshop, attendees assess their core values and explore ways to infuse them deeply and meaningfully into their museum and visitor studies work. The purpose of this session is to identify and explore our personal values, investigate how, when, and why they show up at work, and reflect on the importance of values within museums, visitor studies, and audience research and evaluation. Participants will 1) Identify individual "core values," 2) Assess if and how their values align with or are different from the values of their organization and/or work, 3) Learn the "value of values" within visitor studies, especially in terms of increasing transparency, moving individuals to action, and taking steps toward institutional bravery.

Abstract

The session starts with a participatory activity to help attendees determine their top values and assess if/how those values show up at work. Following the guided activity, session presenters will share their top values and how they present in their work. Each presenter will reflect on the "value of values" within museums and visitor studies, especially in terms of being transparent, bold, brave, and moving from talk to action:

1. Cecilia Garibay will share how her values led her toward culturally responsive approaches to research and evaluation and advocating for equity and inclusion in the museum field. Although working with clients and colleagues toward deep change can be rewarding, raising issues of power dynamics, privilege, and ways our own practices can exacerbate inequity, can also be draining and lonely work.

2. Ken Morris will share how his values translate into his work at the Detroit Institute of Arts. This means sometimes being the voice in the room no one wants to hear. It also sometimes involves reminding the organization of its stated values a pushing it into uncomfortable roles and situations.

3. Jeanine Pollard, a VSA 2017 student scholarship recipient, will share how her values have influenced her work in interpretive planning for visitors with disabilities at the Museum of Contemporary Art, Chicago and how they led to her new position as Research and Project Manager at Mia's Center for Empathy and the Visual Arts.

4. Kate Livingston will share how her values led her to start Fund the Change, supporting marginalized activists in museums, and to pursue certification in leadership coaching. From a consultant's perspective, she runs the risk of upsetting clients whose values don't align with her own. On the other hand, being upfront with her values filters out projects that aren't well aligned with her passions.

Following presenters' stories, they will share the collective values in the room by showing a data visualization of the most frequently occurring values submitted by attendees. Panelists will also share common "core values" of museums to elicit comparison. This will lead into an open discussion and Q&A, which may include: 1) How do you know what your workplace values? 2) Are the values our workplaces profess the same as the values they enact? 3) How do museums' and museum workers' values align? What do we do when they don't? 4) What might be possible for museums and for visitor studies, given the collective values that have been shared in the room? 5) How can we bring our values into our work? 6) What are the risks and rewards?

Importance

As many of the references shared in this abstract confirm, when personal and workplace values are not aligned it can cause incredible discomfort, frustration, and disenchantment. Sometimes, it leads to quitting a job or leaving a chosen field altogether. In recent years, movements around values in museums (and values in museums as workplaces) have gained traction and attention, from “Museum Workers Speak” to #MuseumsAreNotNeutral. It is clear that our values inform not only our individual thoughts and actions, but can lead to collective and systemic shifts. This session recognizes the importance of first gaining clarity on what we each value as individuals so that we can more authentically engage in conversations related to the 2018 Visitor Studies Association conference theme, “Fostering Transparency, Strengthening Public Trust.”

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Harvard Business Review (2018): How to Establish Values on a Small Team:
https://hbr.org/2018/04/how-to-establish-values-on-a-small-team

Harvard Business Review (2015): Manage Stress by Knowing What You Value:
https://hbr.org/2015/09/manage-stress-by-knowing-what-you-value

Additional Links

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https://museumworkersspeak.weebly.com/

#museumsarenotneutral:
https://artstuffmatters.wordpress.com/
https://artmuseumteaching.com/2017/08/31/museums-are-not-neutral/

Who's Not Here? Defining Audiences, Broadening Methods, Changing Relationships

Leigh Ann Mesiti - Research and Evaluation Coordinator, Museum of Science, Boston
Sarah May - Research and Evaluation Associate, Museum of Science, Boston
Juli Goss - Research and Evaluation Manager, Crystal Bridges Museum of American Art
Maddie Smith - Researcher, Slover Linett Audience Research

Purpose

Museums and cultural institutions grapple with issues related to “who’s not here?” and research and evaluation professionals are increasingly addressing this question (Baach, Giron Mathern, Baltazar, & McManimon, 2016). Recent work in this area shows that museums have considered characteristics such as multilingualism (Garibay et al., 2015), income (Dawson, 2014; Dilenschneider, 2016), and diversity and inclusion more broadly (Holmes, 2017; Cole & Kashan, n.d.) to ground their thinking and strategies in reaching audiences. In this session, evaluation professionals from institutions at different points in this work share their own insights and emergent challenges related to “broadening audiences.” Major points of discussion include concrete research and evaluation strategies to engage potential visitors, as well as how audience engagement practices influence, and are influenced by, research and evaluation. Additionally, this session reflects on ways in which relationships between evaluators and different stakeholder groups vary by project and institutional missions.

Abstract

Panel members from the Museum of Science, Boston (MOS), Crystal Bridges Museum of American Art, and Slover Linett Audience Research will each share unique institutional perspectives on practices and lessons learned from audience engagement projects centered on the question “Who’s not here?”

The MOS has a long history of engaging audiences with disabilities, and are now in early stages of further broadening its audiences by redefining approaches to community engagement that move beyond the “transactional” (Bowen et. al., 2010). MOS panelists will discuss how the institution is beginning to more concretely define what it means to be “underrepresented in STEM learning,” and how new approaches to community engagement have led to using targeted audience surveys and focus groups, as well as discussions with community leaders to better understand potential audience perspectives on exhibitions and the institution as a whole. Organizational change is taking place, as community engagement teams are rethinking how to integrate research and evaluation into their approaches, just as the research and evaluation team is exploring new methods for reaching audiences of interest.

As a very young museum, Crystal Bridges is in the process of learning about all audiences visiting and how the museum’s audience reflects the local community. Recently, the museum identified local Hispanic/Latino communities as an audience of interest because it is the largest minority group and fastest growing community in the region. This session will share the work of the organization's one

internal evaluator, her systematic approach to audience surveys exploring demographic differences between general attendance and specific programming, and how she engaged local racial and ethnic communities specifically by integrating their voices into front-end evaluations across multiple exhibitions. An interest in seeking visitor feedback has spread across the organization and others have begun to adopt data collection methods to shape their practices and relationships with these communities.

Slover Linett Audience Research is a social research and evaluation firm for the cultural sector, broadly defined. Through quantitative, qualitative, and ethnographic methods, Slover Linett helps cultural institutions of all kinds understand their participants and communities, as well as helps connect institutions with people not currently visiting/attending. As a part of this panel, Slover Linett will share research they have done with a performing arts organization to qualitatively and quantitatively understand how the institution is viewed and valued among those who don't currently attend it's programming. The findings from this research will inform strategic decisions within the organization spanning marketing, outreach, and programming to better reach a wider ribbon of the organization's community.

Different institutions have their own goals, resources, and structures for engaging new audiences. These three perspectives present varied examples that aim to showcase potential approaches to starting or advancing work related to audience development, as well as identify challenges that have confronted institutions in the process. In each case, approaches to broadening audiences and community engagement has affected practices spanning across the organization.

Importance

Cultural institutions, such as museums, were intended to serve as educational and experiential resources for their communities. Today they are not exclusively providers of knowledge, but also hands-on adventure spaces, social spaces for families and friends to convene, and scribes of history. In order to uphold the ideal that cultural institutions serve their broader communities, research is needed to understand the perspectives, perceptions, and values of those who are not typically reached in audience engagement initiatives. This session has implications for future directions in participants' and session panelists' practices related to research, evaluation, and community engagement, specifically related to: 1) how to get started with this work, 2) specific strategies that others have used in defining audiences, 3) the role of evaluation and evaluation methods in audience development, and 4) how relationships form and shift over time in both internal and external contexts.

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Parents as Partners in Supporting Early Childhood STEM Learning

Scott Pattison, Institute for Learning Innovation
Sasha Palmquist, Institute for Learning Innovation
Maureen Callanan, University of California Santa Cruz
Graciela Solis, Loyola University Chicago

Purpose

Although museums and other informal learning contexts are critical for supporting early childhood STEM learning, programs often undervalue the important role of parents and caregivers. In this session, presenters will share findings and lessons learned from three recent research-practice partnership projects that attempted to authentically engage parents as collaborators in supporting children's learning. Through the presentations and discussions, participants will:

1) Learn about recent approaches to working with parents as partners in order to support early childhood STEM interest development and learning;
2) Consider examples of research and evaluation methods to study family learning and support authentic partnerships with parents; and
3) Discuss lessons learned, challenges, and future directions for the field.

The session will be relevant to researchers, evaluators, and other visitor studies and museum professionals interested in family engagement and early childhood STEM learning in out-of-school contexts.

Abstract

Presenters will describe research findings and lessons learned from three recent projects that aspired to authentically engage parents and primary caregivers as partners in supporting and studying family engagement. The session will highlight challenges and successes related to working with parents, as well as a variety of research methodologies aligned with this approach to family learning.

My Sky Tonight
(Sasha Palmquist, Maureen Callanan, Jennifer Jipson)
Young children's ideas about science often emerge in everyday conversations (Callanan et al., 2013; Callanan & Valle, 2008). My Sky Tonight is an NSF-funded research-practice partnership (RPP) focused on preschool-aged children's interest in and understanding of astronomy, using parent-child conversations as a setting for early astronomy-related thinking. Analysis of parent diary reports of conversations about nature revealed both causal explanatory talk and talk that highlighted children's personal connections with the topic. The team will discuss patterns in this talk across three groups of families from different backgrounds and reflect on how this research informed the development of a toolkit of activities that support children's early engagement in science (Sobel & Jipson., 2016).

Head Start on Engineering
(Scott Pattison, Pam Corrie, Gina Svarovsky, Marcie Benne, Shannon Weiss, Verónika Nuñez)
Although not often a focus of early childhood education, engineering skills are increasingly recognized as essential for individuals to thrive in today's society. The NSF-funded Head Start on Engineering (HSE) project is designed to introducing low-income families to the engineering design process through a multi-component family engineering engagement program integrated within the Head Start model (Pattison et al., 2017; Svarovsky et al., 2017). HSE fosters connections across preschool and family learning contexts to catalyze long-term, enduring interest pathways. The program engages Head Start staff and families as collaborators and co-learners and uses a family system perspective (Pattison et al., 2018) to understand and support family engineering-related interest development. In this session, the team will share findings and lessons learned from the project, including insights about how parents and children jointly developed engineering-related interests extending beyond program materials and activities.

Expert Narratives and Parent-Child STEM Talk During Inquiry-Based Programs

(Graciela Solis, Catherine Haden, David Uttal, Diana Acosta, Lauren Pagano, Meriem Sadoun, Autumn Crowe)
Oral narratives can support family science learning in informal learning environments (e.g., Avraamidou & Osborne, 2009; Dahlstrom, 2014). Using a design-based research approach, this project focused on when and how oral narratives told by engineering experts help parents to engage their children in discussions of STEM in museums and libraries. More than 100 children ages 6 to 10 were presented with engineering design challenges with their parents. Analysis showed that parents talked more about engineering when the experts explicitly emphasized the engineering design process in their oral narratives (e.g., "Alright, so first… name the problem, brainstorm ideas"). This project is yielding important information about aspects of engineering expert narratives that advance parent-child STEM-related conversational interactions.

Importance

To build trust and authentically engage families with young children, parents and caregivers must be treated as collaborators for both supporting learning and researching the processes and outcomes of these efforts. Early childhood is increasingly recognized as a critical time period for STEM learning and interest development (Alexander et al., 2015; McClure et al., 2017; Morgan et al., 2016; NSTA, 2014). Museums and other informal learning contexts have a central role to play in these experiences, supporting family learning, open-ended exploration and play, and equitable access to quality education experiences (McClure et al., 2017; NRC, 2009). Although there are many early STEM learning programs, institutions often underestimate the important role of parents—or worse, see parents as barriers to STEM engagement. The visitor studies field can take a leading role in supporting and empowering parents, both in partnering with families through research and promoting authentic parent engagement program models.

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Understanding and Assessing Visitor Attention

Ross J. Loomis Ph.D. , Psychology Professor Emeritus, Colorado State University
Stephen Bitgood, Psychology Professor Emeritus, Jacksonville State University
Scott Pattison, Institute for Learning Evaluation

Purpose

This panel session is designed to review how visitor attention transpires and integrates with an understanding of how visitors value their experiences. A second purpose is to present a model for assessing visitor attention using well established approaches to evaluation in visitor studies.

Abstract

Understanding how visitors attend to exhibits and programs presented in museums is one of the most basic needs for insuring a quality visit. Exhibit spaces require exploration. Helping visitors have a satisfactory visit includes guiding their attention while also creating a satisfying informal learning and leisure time experience. Success at these tasks insures the public will view museums as special places to experience. This panel will use two presentations and facilitated discussion to understand and assess visitor attention. Presentation One (Bitgood) will provide a model to help understand visitor attention and how attention relates to visitors valuing their experiences. Following it, a discussant (Pattison) will encourage questions and discussion. Presentation Two (Loomis) will cover a strategy for both assessing visitor attention and guiding evaluation efforts. Following this presentation, Pattison and Loomis will provide some exercises for using the evaluation plan covered. A bibliography and handout aides will be provided to participants.

Presentation One
Stephen Bitgood: Understanding Visitor Attention

The Attention-Value Model (e.g., Bitgood, 2010; 2011; 2013; 2014), adopting principles from many sources over the 100+ years of visitor studies, argues that both the psychological processes of attention and the motivational role of economic value are fundamental to understanding how and when visitors pay attention within the museum environment. This presentation describes the stages of visitor attention (capture, focus, engage), how economic value serves as a primary motivator, and the characteristics of a museum environment that support paying attention to interpretive content. In addition, some guiding principles that encourage engaged visitor attention are offered.

Presentation Two
Ross J. Loomis: Assessing Attention by combining Screven's Process Evaluation with a Developed Logic Model

An integrated model (Loomis, 2017) including both Logic Analysis (Kellogg, 2001) and Screven's Process Evaluation (Screven, 1990) is designed to help evaluate visitor attention in two ways. First, it can be used as a general assessment of visitor attention. Included are measuring how well existing exhibit design and layout attract and hold visitor attention to objects on display. This work can include evidence based Critical Appraisal. It can also be used to determine if interpretation, such as labels or media presentation, attract and hold attention. Remedial evaluation is built into the logic analysis and can be done as part of the general assessment. Second, the model can help evaluators and exhibit creators evaluate a developing exhibit. Using the model to guide development of new exhibits has the advantage of integrating with logic analyses the practical and popular Process Evaluation Model with stages of Front-End, Formative, Remedial, and Summative assessments.

Importance

Understanding how visitors attend to exhibits and other interpretive offerings is very important for high quality visitor experiences. This panel session will help attendees understand what draws visitor attention and how to assess attention. Planning and assessment work of this kind aids in the important goal of museums being quality institutions sensitive to the needs of their publics.

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Visitor Behavior, 1(2), 36-67.

Additional Links

University of Wisconsin Extension Education presentation of logic models in program development and evaluation: https://fyi.uwex.edu/programdevelopment/logic-models

Saturday, July 21

9:45-11:00 AM - Concurrent Sessions

Gathering Data to Inform Equity-Focused Organizational Change: Methodological Implications

Gretchen Haupt, Evaluation and Research Associate, Science Museum of Minnesota
Choua Her, M.Ed., Evaluation and Research Associate, Science Museum of Minnesota
Evelyn Ronning, Ph.D., Evaluation and Research Senior Associate, Science Museum of Minnesota

Purpose

Measuring, understanding and furthering equity work among museum practitioners requires evaluators to call on innovative, responsive, and collaborative approaches. This session conveys practical and theoretical insights on collecting practitioner data in equity-based projects, as well as provides examples of specific methods and instruments from three differently-scaled evaluation and research projects undertaken at the Science Museum of Minnesota -- the STEM Justice, iPAGE, and RACE Forward projects.Using these three differently-scaled examples, panelists and participants will explore the ethical and practical implications of working with practitioners to gather and use organizational data to transform their institutional structures, program models, and cross-departmental relationships in support of equity initiatives.

Abstract

Often organizational equity work primarily focuses on diversifying visitors without adequate attention to the internal equity work among staff necessary to authentically collaborate with underrepresented communities, and for community members to trust that our institutions are responsive of their needs. Organizational equity work should include practitioner/colleague data collection and analysis to inform equity initiatives and ensure their success. However, this work can be intense and transformational, provoking methodological challenges and unforeseen ethical considerations.

The NSF-funded RACE Forward project engages museum practitioners to participate in project groups focused on cross-departmental action research on organizational transformation of racial equity practices and policies. Methodological approaches include: practitioner-collected qualitative data from group meetings such as memos, observations, and project narratives, and an organization-wide equity survey developed with practitioners, proctored by researchers, and analyzed by both project researchers and practitioners. Specific methodological challenges to be discussed include the communication about the purpose of and about data from the survey, and about the processes through which the survey was developed and analyzed, in order to gain staff trust in the project and the practitioner-researchers. and to adequately represent diverse perspectives across the organization.

The NSF-funded project iPAGE - Developing a Model for Broadening Participation in Informal STEM studies how the iPAGE model of professional development prepares cross-institutional teams to work collaboratively to make their institutions more inclusive learning environments. The project model incorporates face-to-face workshops, site visits, and institution-specific activities geared to build knowledge around, awareness of, and capacity for equity initiatives at informal STEM institutions. The project has relied on participant surveys, interviews, observations and will implement case studies to understand the program model design, which necessitated: awareness and sensitivity to status and hierarchical dynamics within institutional teams (e.g. ensuring confidentiality in data collection and reporting); unintended outcomes related to data collection on potentially sensitive topics; and fostering effective collaborative inter-departmental relationships.

The NSF-funded project STEM Justice: Investigating a Model for Building Youth Science Capital examines, documents, and shares a program model where high school-age youth apply STEM content to advance social justice while also building confidence and workforce skills. Utilizing a participatory approach to integrate theory, research, and practice in studying informal STEM education, an interwoven team of youth and adults work together to analyze and discuss learning practices and research findings. Throughout the research process, consideration has been given to methodologies that intentionally center and uplift voices or perspectives that have historically been untapped in STEM. Tensions usually

found in the relationship between research and practice have informed how data is collected and used to increase collaboration across museum staff that are in the same organization but have different approaches and connections to equity work.

These project examples illuminate the benefits and pitfalls of different approaches to evaluating and informing organizational change around equity work at different levels: organizational, cross-departmental, and within a single department. The session utilizes the examples of these projects as a springboard for communication across session participants about other examples of fruitful approaches to evaluating equity.

Importance

Museums and visitor-centered organizations, particularly those with a charge to serve the public, have a responsibility and a role to play in challenging social inequities that pervade society (Sandell 2003). Addressing organizational equity is a key component of building trust with sectors of the public that have been disenfranchised and marginalized by dominant, white systems and structures. Because addressing internal issues with equitable practices and policies has structural and political implications, the role of the evaluator in this work is often fraught. Thus, this session is both crucial for fostering trust among visitors through transparency in addressing equity in practice, as well as pointing other evaluators to potential methods and processes for doing this work within organizations, eventually building capacity and a toolkit of best practices for evaluating and communicating about organizational equity within the field.

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Researching with a Field-Wide Perspective

Nicole R. Rivera, Assistant Professor of Psychology, North Central College
Kari Ross Nelson, Research and Evaluation Associate, Thanksgiving Point Institute
Michelle L. Nguyen, Evaluation & Grants Associate, Boston Children's Museum
Sarah Brenkert, Senior Director of Education and Evaluation, The Children's Museum of Denver at Marsico Campus

Purpose

In the November/December 2016 issue of Museum magazine, John Jacobsen wrote about the need for "shared data definitions and collections methods" to improve individual museums, as well as the museum field as a whole. The Association of Children's Museums Research Network is an example of researchers and practitioners from various institutions, and in various locations, sharing data definitions and collection methods to benefit Children's Museums more widely. The purpose of this VSA conference session is to share what we've learned about the the logistics of collaborative research, as well as methods and findings of the Network's efforts. The session with explore three studies conducted by the Network, with a particular focus on making connections between research and practice. We'll then consider the benefits and implications of taking a field-wide perspective in research, evaluation, and visitor studies.

Abstract

At the 2017 VSA conference in Columbus, Ohio, members of the Children's Museums Research Network (CMRN) presented a session on collaborative research, using the CMRN as a case study. While the session focused on logistics, benefits, and challenges of collaborative research, attendees showed a strong interest in studies the group had conducted and their findings. This session is in response to that interest.

In 2012, the Association of Children's Museums (ACM) initiated the Learning Value of Children's Museum Research Agenda Project with funding from IMLS. ACM worked in partnership with the University of Washington (UW) Museology program to complete a comprehensive review of available research and evaluation in the children's museum field. The landscape review was shared with over 100 museum professionals at the Research Agenda Symposium in September 2013. The symposium resulted in the development of a field-wide research agenda, articulating research topics that could demonstrate the learning impact of children's museums. With support from a second IMLS grant, ACM and UW again teamed up to develop the Children's Museum Research Network in 2014 to dig into some of those research topics. To date, the network has completed three studies, and is in data collection stage of a fourth study.

In the Network's first study, we examined how children's museums define learning through the lens of learning frameworks. A case study approach was used to explore the learning frameworks of five network museums to look at the major vocabularies used by the museums, priorities for constructs, and implicit or explicit theories represented by the museums. Analysis revealed key findings related to learning approaches, learning outcomes, and the role of play in the learning frameworks.

Questions about play in the first study led to a second study that looked at the role of play in children's museums. This time we conducted interviews with representatives from a stratified random sample of children's museums across the United States. The study aimed to describe how children's museums conceptualize play, and how they position their work relative to play. Findings from this study showed that while play is important to the field, there is not consensus regarding the role of play at children's museums. These findings stimulate significant exploration of arguments and counterarguments for a shared definition of play.

The third study moved to visitors as the source of information for understanding learning in children's museums. Through in-depth questionnaires with over 200 parents and caregivers bringing children to the museums, we sought to reveal what parents/caregivers learn about their children from their visit, and what it is about the children's museum experience that they feel contributes to that learning. The majority of caregivers indicated that they learned something about their children's learning during a visit. Further, they attributed that learning to the built space, opportunities to observe their children, and socialization with other visitors.

Examination of these studies lends itself to further discussion of implications of findings, application of research in practice, and benefits and challenges of collaborative research with a field-wide perspective.

Importance

Discussion of the the Research Agenda and the Network's collaborative studies will provide models of research methods and dissemination. Additionally, as participants engage in a conversation about the wider lens of a process that focuses on larger field-wide perspectives, conference theme, New Pathways in Visitor Studies, will take on relevance as we explore questions such as:
How research and evaluation studies can be conducted, and findings disseminated, in a way that informs and impacts a broader field?
Are there similarities and differences across various types of information such that work in one may benefit another?
What are the larger questions that are facing museums and cultural institutions?
These topics speak to the importance of shared efforts to strengthen the case not just for individual institutions, but for the museum field as a whole.

Additional Links

https://www.childrensmuseums.org/childrens-museum-research-network

http://www.informalscience.org/news-views/learning-value-childrens-museums-research-agenda

https://www.imls.gov/blog/2017/02/exploring-learning-value-childrens-museums-through-research-network

What's the Benefit of Single-Visit Art Museum Programs to Students?

Stephanie Downey, RK&A
Melissa Higgins-Linder, Cleveland Museum of Art
Amanda Krantz, RK&A

Purpose

Through this session, panelists will disseminate results of a national study into the effects of single-visit art museum programs on students in grades 4-6. The study was spearheaded by the Museum Education Division of the National Art Education Association (NAEA) and the Association of Art Museum Directors. It was conducted by researchers at RK&A with funding from the Institute of Museum and Library Services. In sharing the results of this study:

- Participants will become familiar with a quasi-experimental research design and rationale for the design (related to VSA Competency C).
- Participants will understand the benefit of single-visit art museum program revealed through this study through the lens of prevalent practices and goals for single-visit art museum programs (related to VSA Competency B).
- Participants will consider the benefits and challenges of conducting evaluation that explores the public value of museum work (related to conference theme).

Abstract

Single-visit field trip programs are the primary ways many museums, and particularly art museums, serve K-12 students. While museum annual reports regularly boast about number of students served, a question lingers to demonstrate public value: What are the benefits of single-visit art museum programs for students? Simultaneous discussions arose within the Museum Education Division of NAEA and AAMD between 2010 and 2011 about the need for more rigorous research responding to this question. For, while several studies examined multi-visit art museum programs (Adams et al., 2007; Curva and Associates, 2005; RK&A, 2007; 2010; 2014; Tishman, 2003), there is a dearth of information about the effects of single-visit programs on students. Since planning for this study began, only studies of single-visit programs at the Crystal Bridges Museum of American Art have begun to fill this gap (Bowen et al., 2014; Greene et al., 2014; Kisida et al., 2016).

In addition to concentrating on single-visits, this study focused on inquiry-based programs and five interrelated student capacities museum educators believed such pedagogy supports: 1) critical thinking, 2) creative thinking, 3) sensorial experience, 4) human connections, and 5) academic connections. A literature review by NAEA describes inquiry-based pedagogies and these five capacities (Terrassa et al., 2016).

RK&A conducted a quasi-experimental study that included three study groups: Treatment A that received a museum program, Treatment B that received a classroom program, and a Control that did not receive any program. The intent of the Treatment B study group was to pinpoint differences between inquiry-based art museum programs presented in the museum with original works of art, versus in a school classroom with reproductions of works of art. Multiple methods, to be described during the presentation, were used to understand the results from multiple perspectives.

STUDY GROUP	TREATMENT A	TREATMENT B	CONTROL
Intervention	Single-visit museum program facilitated by an art museum educator	Single-visit school classroom program facilitated by an art museum educator	None
Pre-measure	Student questionnaire	Student questionnaire	Student questionnaire
Program measure	Observation of program	Observation of program	N/A
Post-measure	Student questionnaire Student interview Teacher questionnaire Teacher interview Facilitator interview	Student questionnaire Student interview Teacher questionnaire Teacher interview Facilitator interview	Student questionnaire Student interview Teacher questionnaire Teacher interview

Through the study, we found that single-visit programs had positive effects on students in a few areas.

1. Emotive recall – Students who participated in a single-visit art museum program recalled their experience more emotionally than students who participated in a similar program in their classroom—suggesting the influence of the art museum setting. This has implications for the capacity of sensorial experience.

2. Question and wonder – Students who participated in a single-visit museum program were better able to question and wonder about an unfamiliar work of art than students who did not receive an art museum program. This has implications for the capacities of creative thinking and critical thinking.

3. Multiple interpretation – Students who participated in a single-visit art museum program were more likely to disagree with the statement, "All people should understand art in the same way," than students who did not receive an art museum program (positive finding). This has implications for the capacities critical thinking, creative thinking, and human connections.

4. Materials & mediums – Students who participated in a single-visit art museum program were more likely to refer to materials & mediums when asked what comes to mind when they think about art. This has implications for the capacity of creative thinking and sensorial experience.

Importance

As noted previously, this is the first national study of single-visit art museum programs. While we will continue consider the results with the art museum educators, leaders, and stakeholders, we believe these findings have numerous implications, which will be unpacked at a symposium at the Detroit Institute of Arts in October 2018. In particular, art museums must look closely at how they promote and market the benefits of single-visit art museum programs on students when speaking with teachers, school districts, and policymakers.

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Terrassa, J., Hubard, O., Holtrop, E., & Higgins-Linder, M. (2016). Impact of art museum programs on students: Literature review. Alexandria, VA: National Art Education Association.

Tishman, S. (2003). Investigating the educational impact and potential of the Museum of Modern Art's visual thinking curriculum. Cambridge, MA: Harvard University.

Additional Links

Study website, with links to all publications to date:
https://www.arteducators.org/research/articles/377-naea-aamd-research-study-impact-of-art-museum-programs-on-k-12-students

Study symposium information:
https://drive.google.com/file/d/1GcaLW-UPIkMYOf6hSnP2SblcUIQqf-KC/view

Outside In: Learning from Community Voices in Visitor Studies

Cecilia Garibay, Principal, Garibay Group

Veronica Garcia Luis, Project Director, Visitor Research & Evaluation and Director of Diversity Initiative, Organizational Development, Exploratorium

Leticia Perez Castellanos, Professor, Escuela Nacional de Conservación, Restauración y Museografía PhD Candidate, Universidad Autónoma Metropolitana-Iztapalapa

Rebecca Teasdale, Senior Evaluation and Research Associate, Garibay Group, PhD Candidate, University of Illinois at Urbana-Champaign

Purpose

In efforts to expand reach to better serve their communities, museums have experimented with a range of initiatives that take place beyond the museum walls. By expanding our conceptualization of program and exhibition planning, where we physically locate experiences and exhibitions, and our practice of evaluation, we can begin to bring community perspectives and values into our work in new ways. This panel discusses approaches to honoring and incorporating community voice in planning, implementation, and evaluation of informal learning projects. Issues explored include ways we might define "success" in ways that consider community perspectives; approaches that helps us learn about the community's impact; and possibilities for tracing long-term impact. After panel presentations, breakouts discussions will allow for deeper dialogue of issues raised.

Abstract

Rebecca Teasdale will discuss her research on methods to reflect community perspectives in the evaluative criteria (or indicators of success) used in evaluation of informal science education (ISE) programs and exhibitions. Often, we think about achievement of desired outcomes as the key indicator of success. However, through analysis of a sample of reports posted on informalscience.org and a survey with the report authors, she has identified a range of criteria used in ISE evaluations including a project's relevance, significance, and the extent to which it fosters equity. Further, some evaluators are taking steps to define those criteria from the perspective of the community. Questions raised include: How do we define "success" for a program/exhibition? How might community members define "success" for the same program/exhibition? How can we choose criteria to reflect community values and perspectives?

Cecilia Garibay will discuss approaches to integrating community voice into summative evaluation. Using the Ciencia Publica (CP) project—a parklet space developed by the Exploratorium and located in the Mission (a predominantly Latino neighborhood)—as an example, she will describe the collaborative evaluation process used to consider the success of the project from the community perspective. Questions raised include: How do we balance the need for assessing desired outcomes with the desire to understand value as defined by the community? What are the implications for scope? What are promising approaches and methods?

Veronica Garcia-Luis will share and reflect on the Exploratorium's outdoor offsite exhibit co-development experiences with underrepresented communities. A series of public space projects will be highlighted by examining a) the role of community as contributor; b) reflecting on the

semi-permanence of these spaces over time; c) showing the ways in which public space is used beyond the original project goals; and d) the reality of content accessibility in public community spaces. Questions raised include: How can we learn more about the community's impact on these public spaces beyond the project timeline? How do we continue to engage and learn from community participants as they evolve the use of the public space over time?

Leticia Perez Castellanos will discuss her current research, which considers the question of ways to define and measure community impact of museum outreach efforts. La Casa del Museo, developed by the National Museum of Anthropology, consisted of semi-permanent museum and programming spaces installed in three of the most marginalized communities in Mexico City. The project ran from 1972 – 1980. Using a mix of archival research and interviews with individuals who lived in these communities and visited exhibits in these museum sites, she examines the notion of long-term impact from community members' perspectives. Questions raised include: How do we trace long-term impact? How can we identify qualitative traces or resonances of our museum work? How can we establish museum exhibitions and programs' outcomes considering a prospective way and future impact?

Importance

Strengthening public trust and continuing to enhance service to our communities require informal learning organizations to honor and incorporate community voice in the planning, implementation, and evaluation of projects. This panel shares four examples that aim to spark thinking within the field about how this can be accomplished. Specifically, we seek to foster reflection on how we can broaden our approaches to defining impact, consider impact beyond the museum walls, and develop strategies to incorporate community voice into all aspects of our programs and exhibitions.

The panelists hope this session will spark several ideas and implications for future research, evaluation, and community engagement practices. Areas of research to consider are conducting longitudinal analysis of the visitor experience and further exploring the impact on communities beyond our museum walls.

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Schwandt, T. A. (2015). Evaluation foundations revisited: Cultivating a life of the mind for practice. Palo Alto, CA: Stanford University Press.

Additional Links

Generating Engagement and New Initiatives for All Latinos/Generando Entusiasmo y Nuevas Iniciativas para Audiencias Latinas: GENIAL Webpage https://www.exploratorium.edu/education/genial

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Leticia Pérez personal blog (available in English with google translator) https://eldivanmuseologico.wordpress.com/

Exploratorium Studio for Public Spaces https://www.exploratorium.edu/publicspaces

Critical Appraisal: What's the Value?

Cathy Sigmond, Research Associate, RK&A

Purpose

This session will discuss the value of using critical appraisal to improve museum programs. For instance, one of the many benefits of this methodology is that it provides data expediently and at low cost. However, the trustworthiness of the data is largely based on the expertise of the evaluator to make judgments as to how to spend time to best understand how a program is functioning. In this session, RK&A will break down the issues surrounding this methodology, welcoming and inviting comments from VSA attendees about the value of critical appraisal as an evaluative tool. The session will draw heavily from RK&A's experience conducting critical appraisal for a series of Late Night programs offered alongside the ICEBERGS installation at the National Building Museum (NBM) in 2016.

Abstract

In 2016, the National Building Museum approached RK&A to consider how to make data-driven decisions about a series of after-hours Late Night Programs developed for the summer installation, ICEBERGS. Instead of a traditional evaluation, RK&A conducted critical appraisal, an economic evaluative strategy that provides rapid results and enables conversation and relationship-building between educators and evaluators.

As defined by the Visitor Studies Association, critical appraisal is “the overall observations and expert judgment of an exhibition, program or interpretive product by a professional evaluator (or panel of

professional evaluators) to identify obvious or suspected problems which can be immediately corrected or studied later with visitor input." While by definition, critical appraisal is conducted by an evaluator, it is not generally considered "evaluation" because it is grounded in professional versus visitor input. In other words, rather than questioning visitors directly, a professional evaluator observes, participates in, and makes recommendations based on his/her expertise gained from evaluating similar programs, exhibitions, etc. at various institutions. In the larger evaluation world, critical appraisal bears semblance to rapid evaluation and assessment methods (REAM). REAM can take many forms but generally includes audience input (e.g., interviews with program attendees), unlike critical appraisal. Generally speaking, both critical appraisal and REAM are beneficial because they provide data expediently and at low cost. At NBM, the museum's education department aimed to learn from evaluation and remediate programming throughout the summer. Critical appraisal was thus an economic choice since it would allow RK&A to appraise three distinct programs only weeks apart.

Another distinguishing characteristic of critical appraisal is that data collection and analysis happen simultaneously. At the same time, much of the data is not formally captured or recorded. Instead, it sits within the evaluator, and thus requires extremely speedy reporting for reliability. The immediate reporting following each program at NBM made it possible for education department staff to learn from the critical appraisals "in real time," thereby supporting the development of evaluative thinking skills across the department and allowing educators to apply what they learned from the critical appraisals to later summer Late Night programs. And, the fluidity and more casual nature of the approach, along with the prompt application of results enabled educators to become more comfortable with integrating evaluation into their work.

The major challenge or limitation of critical appraisal is that the trustworthiness of the data is largely based on the expertise of the evaluator in both methodology of evaluation as well as in the environment (i.e., museums). To successfully conduct critical appraisal, it is essential for the evaluator to fully understand the study questions. While this is true of all evaluation studies, it is especially important with rapid methods because, unlike with methods that take place over a longer timeframe, there is little to no time to shift the direction of the study. And, having to report findings rapidly can result in a less thorough report that does not lend itself to being widely shared or referenced a long time after the appraised programs conclude.

Importance

It is always important for museum educators to consider what type of evaluation is required, as every type has a distinct purpose. One of the greatest values of critical appraisal is that it can be thought of as in the middle of a continuum of evaluative strategies, with formal evaluation conducted by evaluators on one end and self-assessment or reflective practice conducted by educators on the other end. Attendees will leave this session armed with an understanding of the benefits and limitations of using critical appraisal to assess museum programs and feel inspired to try this evaluative strategy at their institutions. To quote professor and visitor studies expert Stephen Bitgood on critical appraisal: "This approach, if it proves to be a reliable and valid predictor of audience reaction, could save considerable resources."

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Stephen Bitgood, Social Design in Museums: The Psychology of Visitor Studies, Volume 1, (Edinburgh, UK: MuseumsEtc, 2011): 145.

Additional Links

RK&A's website: https://rka-learnwithus.com/

ICEBERGS installation at the National Building Museum: https://www.nbm.org/exhibition/icebergs/

For more on the benefits and challenges of critical appraisal, see RK&A's recently-published article in the Journal of Museum Education, co-authored with NBM: https://rka-learnwithus.com/wp-content/uploads/2017/12/Esterlund-Krantz-Sigmond-JME-Article-for-website_PDF.pdf

The "Unsafe" Museum: Negotiating Difficult Heritage

Dr. Theopisti Stylianou-Lambert, Associate Professor, Cyprus University of Technology
Prof. Alexandra Bounia, Professor, University of the Aegean, UCL Qatar
Dr. Karen Exell, Honorary Senior Research Associate, UCL Qatar
Kate Flinner, Communications Manager & Researcher, New Knowledge Organization Ltd

Purpose

Museums are increasingly encouraged to become audience-focused institutions that include multiple viewpoints, facilitate knowledge and strive to be relevant and forward-looking. However, most museums dealing with difficult heritage still choose to adopt a more traditional approach because it is considered more appropriate as it provides a “safe” authoritative environment for communicating information in a seemingly objective manner. Often, it seems that the more contested or difficult the heritage a museum is called to present, the more traditional the approach it adopts.

This session, that includes three paper presentations, looks at how museums or cultural heritage sites that deal with difficult or contested heritage can provide transformative experiences. How can a “safe”, traditional, ethnocentric museum become inclusive, open to multiple voices, a facilitator of knowledge without reinforcing existing attitudes and beliefs? How can a museum that deals with difficult heritage become an “unsafe”, unsettling place and provide transformative experiences?

Abstract

The first paper is titled “The ‘Unsafe’ museum: imagining the Ledra Palace Museum” (Stylianou-Lambert & Bounia). This presentation offers an introduction to the concept of the “unsafe” museum and provides ways to thinking about the future of museums that deal with difficult heritage. As a case study, we use one of the most controversial sites in Cyprus: the Ledra Palace Hotel. Once praised as the jewel of Cypriot modernity in the heart of its capital, now it is a crumbling dwelling accommodating the United Nations Peacekeeping Force next to the division line between the southern and the northern parts of Cyprus. This specific site is not a museum and there are no current plans to establish a museum. But it is a perfect example of a symbolic, “loaded” building that can be used to negotiate the recent history of conflict in Cyprus. The Ledra Palace Museum will become an imaginary space where - without the practical and political restrictions of an actual museum - we can re-imagine the future of museums that deal with difficult heritage.

The second paper is titled “Contemporary politics, audience expectations and new national museums: the blockade of Qatar” (Exell). Drawing on data from a three-year audience research project which aims to develop an understanding of the social and cultural perception, expectations and impact of the new National Museum of Qatar across key demographic groups in Qatar, this paper explores how Qatari nationals and residents – a community of great diversity and widely ranging opinions – imagine and expect their new National Museum will respond to the blockade by Qatar’s neighbors, Saudi Arabia, Bahrain and the United Arab Emirates and their allies, an event of immense political significance and regional sensitivity. The respondents consider not only whether their National Museum is an appropriate forum for this narrative, but if so, how should and could it be narrated? At the level of national politics or at the level of the personal experience? The paper also contextualizes the Qatari experience within broader approaches to politically sensitive subjects by national museums in the region and elsewhere.

The third paper is titled “Human Rights Education in Museums” (Flinner) and has two sections. The first section generally describes HRE, a perspective on human rights advocacy that can be uniquely helpful to museums and other informal learning spaces. The second part of the presentation will present a brief case study with a progressive, New York City-based historical society that did social science research to inform the design of a new exhibition. A team of researchers from NewKnowledge worked with this museum to understand how the public responds to difficult, charged topics like gentrification, historical erasure, and environmental injustice. The research results advocated for a transparent approach to presenting information in the exhibit, explicitly addressing difficult topics, and embracing multiple voices. This presentation also aims to highlight that using HRE principles in museum work is accessible

for any museum, as this case study highlights a small/mid-sized institution with limited space and resources.

Importance

Negotiating difficult heritage is a timely subject matter that many museum professionals are called to deal with. This session can be useful to experienced evaluators and researchers, novice evaluators and researchers, and emerging museum professionals.

Learning outcomes:
#1. Familiarize museum professionals and evaluators with current debates in museums and other informal learning institutions
#2. Encourage the critical assessment of theories, studies, activities, and approaches relevant to museums and other informal learning institutions

11:15-12:30 PM - Concurrent Sessions

How Informal Learning and Science Communication Define and Assess Identity

Jamie Bell, Center for the Advancement of Informal Science Education
John Besley, Michigan State University
Kelly Riedinger, Oregon State University
Kevin Crowley, University of Pittsburgh

Purpose

The concept of "identity" has become increasingly relevant in STEM education and science communication. Identity is an individually and socially constructed sense of self. One might think of it as the way that people, on a daily basis, answer questions such as: "who do I think I am or who can I be, where do I belong, how do I think other people see me?"

In an effort to create tools to support the evaluation of identity in informal learning and science communication, the Center for Advancement of Informal Science Education (CAISE) conducted interviews with leading identity researchers. Our session reports out a synthesis of what we learned, presents prototype tools, and explores future directions.

Abstract

Individuals can have many different identities, but some are more basic or foundational to their sense of self. Other identities might be more situated and only become prominent when a person is in a particular context, such as in a learning setting, leisure environment, at home or at work. Various identities can be reinforcing or in competition. Identity shapes engagement and learning, but it also depends on factors such as ethnicity, gender, class, power, or political ideology.

People who develop identities related to science engage with these topics more often and more deeply. Science identities increase the likelihood that students will, over the long term, continue to develop science literacy or even follow an educational pathway towards a science career. One way that identity

shapes learning is through the evolving choices and expectations of a learner. First, when people engage with science, having a positive science identity changes their expectations for how interesting and successful the experience will be. Second, if they find the experience to be, in fact, interesting and successful, the experience will then strengthen their science identity, leading to a positive feedback loop that can reinforce ongoing science engagement and learning. But it can also become a negative feedback loop for learners who are not having enjoyable and successful learning experiences.

In science communication, the approach is somewhat different: A partisan or cultural identity can partially determine the degree to which people are attentive to information, whether they trust scientific information sources, and how they process scientific information. Being liberal or conservative, or leaning towards individualistic or collective preferences, all can influence how people perceive and process scientific information. Science communication work tends to focus on adults making civic or personal choices in light of their existing identity, as opposed to educational questions about experiences that develop identity over the long term.

Science identity can be measured through both quantitative and qualitative approaches, and there are considerable existing resources that can be drawn upon by evaluators. One resource would be the many examples of open-ended interviews in which researchers ask people to talk about their identities, the impact of identity on their lives, the roots of their identity in the learning history, and their expectations of their goals and expectations of the future. Sometimes researchers observe people in science learning contexts, noting how identity is expressed, performed, and changed. When researchers and evaluators have questions that involve larger numbers of research participants, they often rely on self-report measures consisting of a group of individual items that often ask about how one sees themselves with respect to science, and how they perceive others see them with respect to science. There is no standard measure of identity, and researchers and evaluators often tailor their particular survey questions to the specifics of their audience or content. In addition to surveys, other techniques, such as implicit association tests can provide behavioral measures of identity.

Importance

Those who attend this session will learn about how to conceptualize, measure, and support identity in informal STEM education and science communication. They will learn about tools to help evaluators and practitioners. They will also be able to share their own work and connect with each other around issues of integrating the concept of identity into their ongoing evaluation and research.

Design-Based Research in Informal Education: Examples, Promise, and Pitfalls

Elizabeth Kunz Kollmann, Museum of Science, Boston
Marcie Benne, Oregon Museum of Science and Industry
Marjorie Bequette, Science Museum of Minnesota
Joyce Ma, Exploratorium

Purpose

This session will strengthen VSA Competency C: Knowledge of and Practices with Social Science Research and Evaluation Methods and Analysis. Through this session, participants will gain:

- Some background on design-based research -- its lineage, related approaches, historical applications, use in informal education, and opinions on future applications
- How design-based research differs from other methods such as formative evaluation
- Different ways that design-based research methodologies can be implemented in museums
- Benefits and drawbacks of conducting design-based research in informal education and specifically in museums
- Ideas and input on design-based research questions from fellow participants

Abstract

The National Science Foundation's 2015 Advancing Informal Science Learning program solicitation suggested that projects include "iterative design-based data collection" or "design-based research processes" as appropriate (NSF, 2015). As a result, a number of informal education projects have been funded that integrate design-based research (DBR) methodologies. DBR is characterized by the creation and iterative improvement of both an educational product and the theory that it is based upon (Collins, Joseph, & Bielaczyc, 2004). Therefore, it involves processes similar to formative evaluation. However, it adds an aspect of generating understandings for the broader field through the definition, refinement, and testing of a theoretical framework upon which the educational product is based. Sandoval (2014) laments that there is literature about what design-based research is and is not, but not about how to implement it. Additionally, as DBR was created for the formal education field, there were certain expectations about the kinds of educational product being tested and developed. This raises questions for museum researchers: if we adapt DBR approaches to shorter educational experiences and products that need to work for a broader range of people, what are the aspects of the DBR approach that hold promise for informal education? Researchers will discuss how they implemented DBR, and the benefits and drawbacks of using these methods.

A description of four DBR museum projects

During this session, participants will hear about four projects that have used DBR methodologies:

ChemAttitudes developed hands-on activities that promote positive changes in attitude about chemistry. Educators and researchers worked together to optimize the abilities of the activities to increase feelings of interest, relevance, and self-efficacy about chemistry and generate a framework to describe the content, format, and facilitation strategies that promote these outcomes.

Living Liquid developed and studied how interactive visualizations could engage visitors in inquiry with large scientific datasets. Using the DBR framework, it sought to investigate design factors affecting visitors' data inquiry practices by iteratively developing visualizations that embodied prior findings and theories in close collaboration with museum practitioners and scientists.

Science on the Move (SOTM) advanced strategies for engaging adults in public settings with interactive STEM exhibits. Through DBR, the team developed context-specific conjectures about public engagement with STEM experiences at transit stations. After multiple cycles, the team created a single conjecture that mapped to theoretical constructs drawn from the fields of environmental psychology and visitor studies (Cardiel et al., 2016).

Making Connections explored how Making activities could better engage with communities of color, and how the museum overall could engage differently with those communities. The project used DBR over two rounds of activity iteration, and longitudinal tracking of relationships.

Benefits and Drawbacks of DBR

Researchers will discuss the benefits and drawbacks of conducting DBR in a museum-setting, including the following:

- Benefits included generating practitioner and researcher understandings about not only if, but how, hands-on activities achieve their goals.
- Challenges included modifying a framework during a fast development schedule and managing expectations among stakeholders.

Importance

Design-based research is a relatively new methodology to study educational products, especially in informal education settings. However, because of influences like the National Science Foundation, this methodology is becoming more common and is likely to be implemented as a part of many informal education projects. This session gives professionals a chance to think about whether and how they should implement DBR based upon the experiences of those who have already tried this methodology as well as the promises and pitfalls it holds for our field.

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Additional Links

ChemAttitudes:
http://www.informalscience.org/chemattitudes-using-design-based-research-develop-and-disseminate-strategies-and-materials-support
http://www.nisenet.org/chemistry-kit

Living Liquid:
https://www.exploratorium.edu/cellstoself/projects/living-liquid
https://www.exploratorium.edu/sites/default/files/pdfs/visweek2012.pdf

Making Connections
http://www.informalscience.org/poster-making-connections-exploring-culturally-relevant-maker-experiences-through-iterative-cross
https://www.smm.org/make

Science on the Move:
http://www.informalscience.org/sites/default/files/16_04_21_SOTM_2016VisitorStudiesArticle_v19_i1.pdf
https://programs.omsi.edu/sites/default/files/Science_on_the_Move.pdf

Visitor Perceptions on the Well-Being of Animals in Captivity

Mary Jackson, Woodland Zoo
Jerry Luebke, Brookfield Zoo
Manda Smith, Lincoln Park Zoo
Nick Visscher, Denver Zoo

Purpose

It is important to understand not only how visitors are interacting with exhibits, but also how emotional responses scaffold or mediate visitors' experiences—primarily with living collections (e.g., Luebke and Grajal, 2011). Unlike previous research at zoos and aquariums where the focus was on guest engagement and satisfaction with exhibits, these studies have collected information on the predispositions of guests and how that factors into emotional interpretations of animal behavior. The aim of this session is to focus on understanding visitor behavior and perceptions more broadly. In addition to the foundation of information gathered by the different studies, this session will also factor in visitors' pre-existing knowledge about animal welfare, as well as the information on visitors' responses in situ. By determining how this pre-knowledge of animal welfare influences their emotional response, this may affect the methods of communication done by zoos and aquariums to achieve better outreach and trust.

Abstract

Accredited institutions provide the animals in their collections with the highest standard of care by relying on scientific indicators of animal welfare that assess environmental, behavioral, and physical health. At the same time, however, zoo and aquarium visitors are making personal judgements on the welfare of these animals based on their own observations and preexisting values and knowledge. This session will incorporate case studies of visitor perceptions of animal welfare from different zoos and provide highlights of these efforts. The aim of this session is to focus on understanding the visitor's perspective of animal welfare. In addition to the foundation of information gathered by these studies, this session will also consider visitors' pre-existing knowledge about animal welfare, emotions visitors ascribe to animals, and understanding the underlying rationale for these perceptions. By determining how these variables influence emotional responses, this may affect the methods of communication done by zoos and aquariums to achieve better outreach and trust. At the end of the session, the panelists will rotate through discussion points to maximize diversity of perspectives and keep attendees engaged.

Brookfield Zoo
Brookfield Zoo began an ongoing audience research program in 2014 investigating visitors' perception of animal welfare. This presentation will share key highlights of our findings over the last four years and discuss various strategies that address visitors' concerns about the welfare of zoo animals.

Lincoln Park Zoo
Since Lincoln Park Zoo's Audience Research team creation in 2015, staff members have been working on better understanding how the zoo's visitors perceive different types of animal behaviors, specifically from its megafauna. Understanding guests' prior knowledge to animal behaviors, animal care and animal welfare will be discussed, as well as how that influenced the visitors experience throughout the zoo.

Woodland Zoo
Woodland Zoo will present on an embedded, formative measurement strategy that fosters understanding about visitor perceptions of animal behavior and the emotional states they subsequently ascribe to the animal, such as excitement or boredom. Utilizing perspective taking, this strategy is unique in that it was designed to be embedded into program delivery to gather quick, qualitative information from a youth audience, enabling program presenters to rapidly respond to visitor perceptions or misperceptions of behavior.

Denver Zoo
Denver Zoo has taken one standard measure of guest satisfaction, Overall Experience Rating (OER), and modified it for use in monitoring how guests perceive the Zoo's quality of animal care. This Perceived Animal Care Rating (PACR) has been used to track perceptions across exhibits, programs, and general visitation.

Importance

There has recently been an increasing occurrence of articles in the press and social media questioning the relevancy and welfare of wildlife living in zoos and aquariums. Given this trend, it is imperative that zoos and aquariums not only need to understand visitors' perceptions of animal welfare, but also how to frame their educational and interpretive strategies to facilitate visitors' positive perceptions of the managed care and welfare of zoo and aquarium animals. This session will share findings from different zoos concerning studies in visitors' perceptions of animal welfare and describe how these findings can inform improvements to visitor engagement and future implications relevant to the practice of evaluation. Understanding all aspects of the visitor perspective is essential when thinking of new ways to engage visitors that will foster transparency and strengthen public trust in zoos and aquariums.

References

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

Visitor Insights Driving Change and Practice

Keith Snode
Erica Maganti
Marina Guiomar
Caitlin Ballingall

Purpose

Featuring speakers from the Marketing, Group Sales and Evaluation departments, the panel examines practical models of social listening, as means for growing cross-institutional buy-in at an internal evaluation capacity. Actively listening to the dynamics of users largely contributes to an ongoing dialogue with the visitor at large and empowers museums with the adequate tools to become civic, social and educational mainstays.

Questions driving this inter-departmental study include:
How does data about visitors provide insights into practices of inclusivity, accessibility, and social responsiveness?
How can research studies be implemented by cultural institutions with varied environments including staffing models, budgets, and infrastructure?
Learning outcomes for panel attendees are inclusive of:
Concrete applications and outcomes of user experience-driven data.
How prototyping and user-testing protocols can generate taking action at their own cultural institutions.
Service blueprint to visualize all the departments involved in producing a successful visitor experience.

Abstract

This session will highlight internal studies at the Intrepid Sea, Air & Space Museum and presents perspectives from multiple departments including the research and evaluation team, marketing, and group sales. Presenters and attendees will briefly explore these recent studies to reveal how collected data led to change in internal practices and institution-wide.

Additionally, attendees will generate an action plan finding and collecting data needed for their work, and transitioning existing data into action. Featuring presenters representing multiple departments and interdepartmental projects, this session will investigate how to use data to inform change, design new practices and protocols, and transform institutional thinking and planning.

In a moderated and conversational format, presenters will examine the varied projects and studies conducted internally at the Intrepid Museum, will discuss the applications and outcomes of using collected data, and then invite attendees to participate in smaller group discussions to more deeply explore the successes, challenges, and opportunities for institutional by-in at their own institutions.

Topics that will be featured through the Intrepid examples:
· Visitor experience data collection
· Concept user-testing for program and outreach development including studies of visitor expectations, interests, attitudes, and preconceptions
· Engaging in dialogue to respond more authentically, responsibly, and timely with communities served

Prompts for attendee conversation will include:
· What insights can be gained from better understandings demographics of the institutions general visitors?
· How does data about visitors provide insights into practices of inclusivity, accessibility, and responsiveness?
· How can understandings about visitor interests, preferences, attitudes, learning patterns, prior knowledge, and expectations be incorporated into the programming development process?
· How can studies be conducted by cultural institutions with varied environments including staffing models, budgets, and infrastructure?

Importance

The session directly responds to the conference theme in presenting ways that informal learning environments can utilize and leverage community and audience feedback to drive change and be more responsive to expectations, needs, interests, and interpretation. Additionally, utilizing social and on-site listening, insights may be garnered from the visitor perspective to understand needs and change institution-wide, allowing for the institution to grow and change with the visitor.