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Using Critical Appraisal to Inform Program Improvement

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Abstract In 2016, the education department at the National Building Museum offered a series of Late Night programs in conjunction with the Summer Block Party installation, ICEBERGS. The museum wanted to evaluate the programs but had limited resources to do so. In the following article, we describe the use of critical appraisal, an economic method applied by professional evaluators to provide observations and judgments about a program, for ICEBERGS. We also discuss the benefits and challenges of critical appraisal to highlight its potential utilization for other museum educators.

Keywords: program evaluation; critical appraisal; adult museum programs; after-hours museum programs; assessment

Data-driven decision-making is unquestionably important in many sectors, including the museum field. In fact, an entire 2015 issue of the *Journal of Museum Education* was devoted to evaluation to address the “outcomes-based work environment” in which museum educators now operate.¹ However, acquiring or compiling data of a type, quantity, and quality that is trustworthy for decision-making as well as within staff capacity and/or budget can present a challenge to museum educators. As guest editors in the aforementioned issue note, “museum educators are all too often challenged by the lack of time, resources, or experience to fully meet the needs for evaluation.”²

In this article, we describe one approach taken by the education department at the National Building Museum to make data-driven decisions about after-hours events called Late Nights for the 2016 summer installation, ICEBERGS (Figure 1). The museum’s education department had perceived the ICEBERGS Late Nights as a laboratory to test and refine new programming ideas and was interested in finding ways

to integrate evaluation into departmental work long-term. With the intention of developing a relationship with professional evaluators that would inform and evolve educators' knowledge and skills in evaluation, the education department contracted museum research and evaluation specialists RK&A to explore the impact of these programs in relation to the museum's mission and goals. Instead of conducting a traditional evaluation, RK&A conducted critical appraisal, an economic evaluative strategy implemented by evaluators that provides rapid results and enables more conversation and relationship-building between educators and evaluators. We discuss the benefits and challenges of this evaluative strategy, from the perspective of both the educator and evaluator, to highlight its potential utilization for other museum educators.

What is critical appraisal?

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.”³ While by definition, critical appraisal is conducted by an evaluator, it is not generally considered “evaluation” because it is grounded “not in a visitor input but in a professional input.”⁴ In other words, rather than questioning visitors or asking for their direct input, 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 case of the National Building Museum, RK&A conducted critical appraisal with the participant perspective; meaning, the evaluator observed and participated in the programs.

The critical appraisal method originated in visitor studies, a field of study devoted to museum visitors.⁵ In the early 1990s, critical appraisal was “the new kid on

the block, methodologically” in the visitor studies world.⁶ While critical appraisal is still among the glossary of terms on the Visitor Studies Association’s website, the method seems to have been little utilized since its introduction. Upon reviewing articles in Visitor Studies Association publications from 1993 to date, there are only a handful of references to critical appraisal.⁷ Yet, it is difficult to gauge how frequently this method has been used over time, since results of critical appraisals likely go unpublished in journals or are not shared broadly because their usefulness is limited to the person or organization that requested the appraisal. However, we estimate the number is modest given the few RK&A has conducted few in the past 20 years.⁸

In the larger evaluation world, critical appraisal bears semblance to rapid evaluation and assessment methods (REAM), which are a suite of real-time evaluation methods employed with the end goal of expedient reporting. REAM has burgeoned particularly in the past two decades, beginning around the time critical appraisal emerged, in response to an increasing need for speedy access to data from which to make decisions.⁹ For example, REAM might be used for health or social justice issues where quick responses are needed to save lives or prevent injury. REAM can take many forms but generally includes audience input (e.g., interviews with program attendees), unlike critical appraisal.¹⁰

As described in the literature, critical appraisal (and REAM) are beneficial because they provide data expediently and at low cost. The general challenges or limitations are 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 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.”¹¹ We hope to further clarify some of these

benefits and challenges by discussing the critical appraisal conducted for the National Building Museum.

Why was critical appraisal used to evaluate these programs at the National Building Museum?

When the National Building Museum approached RK&A about potentially evaluating the ICEBERGS Late Night Programs, critical appraisal appealed to both RK&A and the museum's education department for many reasons. Working with a limited budget, the museum education department's primary goal was to explore the impact of various experimental program strategies on attendees. The department also aimed to learn from evaluation and remediate programming throughout the summer. Given this, critical appraisal was an economic choice, since it would allow RK&A to appraise three distinct programs only weeks apart. Critical appraisal is an adaptive measure for a program series with wide-ranging activities since it relies on the expertise of the evaluator to make judgments as to how to spend time to best understand how the program is functioning. For the education department, this nimble approach was more easily integrated into educators' planning throughout the summer.

What preparation was involved?

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, including critical appraisal, because, unlike with methods that take place over a longer timeframe, there is little to no time to shift the direction of the study when employing such a rapid method.¹²

Ahead of conducting any appraisals, RK&A and the museum had several planning conversations where we determined that data collection and analysis would

focus on (a) providing the museum an impression of what was happening in the programs and at specific program activities of interest, from a participant perspective, and (b) exploring the extent to which activities supported key ideas related to the built environment, ICEBERGS, and the museum. These conversations were also necessary as planning for after-hours programs such as these can continue right up until the program happens (in contrast to planning for exhibitions), so educators and evaluators needed to check in shortly before each program was appraised to verify program activities and goals to best direct the critical appraisal.

What did implementation look like?

At the National Building Museum, each of the summer's nine Late Nights welcomes between 600 and 1200 people to explore the museum's Great Hall and exhibition space while enjoying music and food. In addition, in 2016, the education department planned a variety of activities and experiences within the ICEBERGS installation as well as throughout other exhibitions.

During each Late Night appraisal, the evaluator began by surveying the scene to take notes on the general atmosphere for context (e.g., layout of activities, visitors' behaviors after entering the museum, etc.). The evaluator then began participating in all program activities or experiences the education department had identified as "experimental." For example, at the *flip the berg!* Late Night program, RK&A focused on three "Creative Challenges" developed and presented by a contracted theater group. These guided activities ran once an hour and took visitors on an experiential journey throughout the museum and ICEBERGS to explore concepts including architecture, design, and climate change.

Data collection and analysis happened simultaneously. That is, the evaluator would participate in a program activity to understand its function (e.g., participating in

all three “Creative Challenges” at *flip the berg!*). After doing so, the evaluator would stop to write down things she heard visitors or museum staff say and note things like the order of events, the mood of visitors, questions that came up, and how the educators or facilitators behaved, all the while keeping in mind her knowledge from the planning stage about what the museum most wanted to understand and learn. These notes provided an important foundation for the evaluator’s interviews with visitors towards the end of each program.

As mentioned earlier, critical appraisal typically relies on the evaluator’s professional knowledge and expertise, not visitor input. However, given that some of the museum’s core questions about the programs were related to visitors’ takeaways, RK&A decided to gather some visitor input to supplement the evaluator’s experience attending and participating in the programs. To that end, the evaluator conducted a few short-answer interviews with visitors towards the end of each program.

Prior to attending the programs, the evaluator drafted an interview guide to frame the conversations; but she also asked additional probing questions of attendees related to the specific activities to achieve a better understanding of visitors’ takeaways related to the built environment, ICEBERGS, and their impressions of the museum’s programming. Questions were targeted based on what she learned from participating in the program.

How did educators understand and use critical appraisal data?

One distinguishing characteristic of analyzing data from critical appraisals is that much of the data is not formally captured or recorded (e.g., paper survey or interview audio-recording). Instead, it sits within the evaluator, and thus needs to be synthesized and reported quickly using professional knowledge of museum environments and the museum’s goals for its programs. Data collected from critical appraisal and other rapid

evaluation methods require extremely speedy reporting to benefit the museum.¹³ The fast reporting is also necessary for reliability (i.e., the evaluator clearly recalls the program to appraise it reliably).¹⁴ RK&A reported findings to the museum within two weeks of each critical appraisal. RK&A prepared a PowerPoint presentation that was shared with the museum via webinar and then submitted afterwards in lieu of a traditional written report (Figure 2). The immediacy of a review following each program and the informality of the PowerPoint presentation and webinar made it possible for many education department staff to learn from the critical appraisal “in real time,” thereby supporting the development of evaluative thinking skills across the department.¹⁵ Also, the fast reporting allowed educators to apply what they learned from the critical appraisal to later summer Late Night programs.

For example, for the *Under the Surface* Late Night, staff spread activities throughout the Museum’s large, open building to encourage visitors to extend their experience of the ICEBERGS installation to the museum’s historic building and other exhibitions. However, data from the critical appraisal showed that the installation space was heavily trafficked throughout the night, while other museum spaces containing content-rich activities were not; thus, the evaluators recommended that staff move more content-rich activities into the installation space for future programs. This modification was easily made for two subsequent Late Nights, a change that would not have been possible with a different evaluation process that involved a detailed written report submitted after an extended period. Data from subsequent Late Nights showed higher use of “experimental” activities and promoted greater opportunities for visitors to take away key ideas related to the built environment.

The downside of rapid reporting is that the product, in this case a PowerPoint presentation, is not in a format friendly for sharing and repeated reference over time.

For example, RK&A's report was less streamlined than a traditional evaluation report might be given the quick turnaround; thus, while the PowerPoint presentation hit the key trends, the examples that elucidate the trends were reported verbally and included in the notes of the presentation, so they were not as easy to reference after the presentation. Therefore, the educators felt it incumbent to take detailed notes during the presentation as well as on any recommendations and clarifications that were generated during discussions of the findings. Additionally, the museum was conducting other assessments internally, and so staff had to summarize findings across the critical appraisals *and* other assessment findings. All of this required more time and planning on the part of the education department to organize notes and ensure ease of reference for the future.

Yet, because educators could be more involved in the immediate application of critical appraisal results and recommendations, information from these evaluations has had a bigger impact on departmental program planning than other evaluations. For example, through the critical appraisals, educators affirmed their assumptions that many visitors view the installation as a fun event destination, but discovered that few summer visitors could articulate how their installation experience related to the museum's mission; in particular, connecting the concepts of architecture, engineering, and design to the built environment. Accordingly, educators created activities and worked with collaborators for subsequent summer programming to more deliberately explain the architect's vision for the installation as well as related engineering or architectural concepts. In addition, throughout the year, educators have considered and revised program ideas or communication strategies to help visitors bridge concepts of architecture, engineering, and design to the museum's mission to educate visitors about the built environment.

For some of the educators, being involved in the critical appraisal process was their first experience working with evaluators. The fluidity and more casual nature of the approach, along with the prompt application of results, enabled those educators to become more comfortable with integrating evaluation into their work. One educator noted that critical appraisal taught him that evaluation is “much more than simply asking questions of participants...it involves observation and critical analysis of the gathered data.” A different method would likely not have resulted in this level of understanding or enabled this educator to be as involved in the entire process, including revising programming within a few weeks following reporting.

What are the implications for museum educators?

It's always important for educators to consider what type of evaluation is required, as every type has a distinct purpose. Critical appraisal 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. If you answer “yes” to all the following questions, critical appraisal might suit your needs:

- Are your evaluation needs mainly to help inform future practices?
- Are you hoping for results to be delivered quickly?
- Do the questions you have about your practice require outside expertise?
- Can you pay for outside expertise?

Thus, when evaluation is needed to serve a purpose beyond informing future practices, such as if an educator is expected or required to report results to other departments, funders, or stakeholders, a formal evaluation is likely required. Formal evaluation adds credibility that may be necessary for particular projects, so planning

ahead for funding or writing evaluators into grant applications is important to ensuring that program budgets can support formal evaluation.

Self-assessment and reflective practice may be sufficient for an educator's needs when questions about programs or projects can easily be answered by other educators. Reflective practice is also important for shared learning within an education department and for on-going improvement of work. When museums do not have evaluation staff, building skills in evaluative thinking and evaluation among educators can greatly enhance a department's ability to not only inform practice but also to report on work within the institution and to improve institutional understanding of the role and value of evaluation. The latter may be especially important in gaining support for evaluation budgets and fundraising, which is ultimately necessary for formal evaluation with outside evaluators.

One of the greatest values of critical appraisal is that it falls in the middle of this continuum, and thus brings in outside expertise economically. For educators, it can provide meaningful learning about programming as well as about evaluation methods. Through the critical appraisal of ICEBERGS programs, several National Building Museum educators learned about a new evaluative strategy. In addition, the pace and informality of the approach provided opportunities to improve understanding of evaluation, broadly, and to immediately apply specific evaluation results. This is not always possible with formal evaluation, and being able to use the results of the critical appraisals to adapt subsequent programs was of great value to the museum's educators working on ICEBERGS programming.

About the authors

Theresa Esterlund is Vice President for Education at the National Building Museum. Her twenty-two years' experience in museum education in a variety of museums and content areas includes exhibition interpretation, interactive galleries, participatory

programming, and online experiences. She emphasizes an interdisciplinary and holistic approach to learning and is committed to outcome-based planning that incorporates audience research and evaluation.

Amanda Krantz is Managing Director at RK&A and has ten years of experience conducting research and evaluation in museums. Her background is in art museum education, although her research interests include object-based teaching practices in multiple disciplines as well as designing welcoming, inclusive museums spaces.

Catherine Sigmond is a Research Associate at RK&A. She has a Master's degree in Museum Education and has worked with diverse audiences in art, science, and history museums. As a researcher, she is particularly interested in using qualitative methods and design-based research practices to understand the complexities of visitors' museum experiences.

NOTES

¹ Joy Kubarek and Laureen Trainer, "Empowering Museum Educators to Evaluate," *Journal of Museum Education* 40, no. 1 (March 2015): 3.

² While the title of the article quoted, which is by the guest editors of the issue, is entitled "Empowering Museum Educators to Evaluate," the authors quickly note the limitations of educators being able to evaluate as per the quotation cited. Joy Kubarek and Laureen Trainer, "Empowering Museum Educators to Evaluate," *Journal of Museum Education* 40, no. 1 (March 2015): 3.

³ The definition published in visitor studies glossary of terms was defined in 2006 after a convening of visitor study professionals: "Glossary of Visitor Studies Terms," Visitor Studies Association, accessed May 10, 2017: http://www.visitorstudies.org/index.php?option=com_content&view=article&id=77:glossary-of-terms&catid=20:site-content&Itemid=157 See also Stephen Bitgood's similar description of critical appraisal reprinted from a 1994 issue of *Visitor Behavior* in his book. Stephen Bitgood, *Social Design in Museums: The Psychology of Visitor Studies, Volume 1*, (Edinburgh, UK: MuseumsEtc, 2011): 145-147.

⁴ Harris Shettel, "A Return to the Future," *Visitor Behavior*, (Fall 1993): 11-13.

⁵ For more information on the field of visitor studies, please refer to the Visitor Studies

Association: <http://www.visitorstudies.org/> Also see: Stephen Bitgood and Harris H. Shettel,

"An Overview of Visitor Studies," *Journal of Museum Education* 21, no. 3 (Fall 1996): 6-10.

⁶ Harris Shettel, "A Return to the Future," *Visitor Behavior*, (Fall 1993): 11-13.

⁷ Since 2013, the Visitor Studies Association publication has been published under three titles:

Visitor Behavior, *Visitor Studies Today*, and the current journal *Visitor Studies*. There is one report from a critical appraisal conducted by Stephen Bitgood and Arlene Benefield for the Franklin Institute. The citation: Stephen Bitgood and Arlene Benefield, "Critical Appraisal of the Heart Exhibition at the Franklin Institute of Science," *Visitor Behavior*, (Fall 1995): 14-16. Otherwise, only one 1997 article references use of critical appraisal. The citation: Lynda Kelly, "Indigenous Issues in Evaluation and Visitor Research," *Visitor Behavior* 12, no. 3(Fall 1996/1997): 24-25. Also, Stephen Bitgood, sometimes along with Harris Shettel, offered pre-conference workshops at the Visitor Studies Association conference in at least 1996, 1997, 2002, and 2005, entitled "Overview of Exhibit Evaluation and Critical Appraisal."

⁸ RK&A has conducted a total of 14 critical appraisals out of the approximately 800 completed projects—a relatively low number compared to the many other types of evaluation engaged. RK&A has completed critical appraisals for a range of museums, including art museums, history museums, science centers, plus a national park, arboretum, botanic garden, and university. Topics covered include exhibitions, interpretive labels, orientation, wayfinding, programs, and self-guides.

⁹ Miles McNall and Penni G. Foster-Fishman, "Methods of Rapid Evaluation, Assessment, and Appraisal," *American Journal of Evaluation* 28, no. 2 (June 2007): 151.

¹⁰ Miles McNall and Penni G. Foster-Fishman, "Methods of Rapid Evaluation, Assessment, and Appraisal," *American Journal of Evaluation* 28, no. 2 (June 2007): 152-159.

¹¹ Stephen Bitgood, *Social Design in Museums: The Psychology of Visitor Studies, Volume 1*, (Edinburgh, UK: MuseumsEtc, 2011): 145.

- ¹² Miles McNall and Penni G. Foster-Fishman, "Methods of Rapid Evaluation, Assessment, and Appraisal," *American Journal of Evaluation* 28, no. 2 (June 2007): 164-166.
- ¹³ Miles McNall and Penni G. Foster-Fishman, "Methods of Rapid Evaluation, Assessment, and Appraisal," *American Journal of Evaluation* 28, no. 2 (June 2007): 166.
- ¹⁴ The lack of formally recorded data can make it difficult to find a balance between speed and trustworthiness of the data. RK&A did a few things to mitigate this challenge, in the vein of all REAM projects. First, we ensured that our data collection process was systematic and consistent across programs, and that this was documented in our presentation to the museum. Second, when moving through data collection and subsequent analysis, we constantly conducted self-checks that what we were observing and reporting focused on the museum's concerns and questions. These are principles that should apply to any evaluation or assessment, regardless of methods used, but are particularly important with rapid assessment methods like critical appraisal.
- ¹⁵ To supplement the critical appraisal and practice formative evaluation methods, some department staff conducted additional program evaluation throughout the summer. Using critical appraisals allowed a more fluid way for educators to synthesize and combine data into a simple, concise report for museum stakeholders or financial supporters.

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Figure 1

ICEBERGS installation at the National Building Museum, 2016. Photo by Timothy Schenck.



Figure 2

Slide from RK&A critical appraisal presentation for National Building Museum, August 2016.

CREATIVE BUILD

I'll Never Let Go Jack (float):

- One NBM staff oversaw this activity; the architects checked in occasionally.
- Visitors generally worked in the following way:
 - ◆ Some quietly built a structure to test, while some watched others build and mimicked what they saw.
 - ◆ Many seemed to do the activity alongside group members, rather than with them.
 - ◆ The majority tested multiple designs; most often, their first attempt failed to float while holding the fruit.
- Visitors were visibly excited when they successfully created a structure that floated while holding the fruit.



RK&A