

## CONFERENCE ARTICLE

## New Directions, New Relationships: The Smithsonian's Twenty-first Century Learning in Natural History Settings Conference and the Natural History Museum, London

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**Abstract** The Twenty-first Century Learning in Natural History Settings Conference at the Smithsonian Institution, Washington, D.C. (2012) has been more influential than similar conferences, resulting in new work streams and international collaborations for the Learning Research and Evaluation team at the Natural History Museum, London (NHM). The conference offered a rare opportunity to discuss issues relevant to our unique workplace and to be surrounded by an instant peer group. Although the event itself brought personal and professional satisfaction, it is the impact of the conference on our institution that has been most fulfilling. The conference has enabled us to think bigger—to think about the sector as a whole and the role the NHM can play as a large national museum.

There are many informal education conferences. Learning in museums and science centers is a heavily discussed topic with frequent meetings covering issues of audience research, innovative programming, and educator facilitation. While the impact of these can vary, the Twenty-first Century Learning in Natural History Settings Conference at the Smithsonian Institution, Washington, D.C. (2012) has been more influential than most, resulting in new work streams and international collaborations for the Learning Research and Evaluation team at the Natural History Museum, London (NHM).

There were early indications that the Twenty-first Century Learning in Natural History Settings Conference would have a powerful impact on our institution. First, it focused solely on natural history settings. Many national and international conferences are led by museums or science centers, with natural history in a rather unfashionable niche representation. This conference offered a rare opportunity to discuss

issues relevant to our unique workplace and to be surrounded by an instant peer group. To be in the presence of those who share similar aspirations, responsibilities, and limitations was professionally powerful. Second, attendance was controlled; delegates had to apply to attend. The NHM's heads of Learning and Interactive Media were involved in organizing the application process, which resulted in cross-departmental thought, planning, and reflection. This was valuable in itself as we discussed our understanding of learning across our different disciplines. At the request of conference organizers, we also engaged the NHM's directors and raised the event's profile within the institution. Third, conversations started online well before the meeting. Holding robust conversations around key questions and engaging in lively dialogue with potential conference attendees (and staff at the NHM who were unable to attend) allowed vital issues to come to the fore and gave us time to reflect before the event.

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Additionally the conference examined an area of great interest to colleagues within the Public Engagement division at the NHM: developing a learning research agenda for our specific sector. While academics and practitioners have come together around issues of learning in informal science settings, collections-based institutions such as natural history museums have generally not been the primary focus. These institutions occupy a unique place in the cultural landscape; they are not only repositories for biological and geological specimens but also leading destinations for families, school groups, and adults. Understanding how people learn in natural history settings is a significant area of interest for the NHM, so attending a conference with key practitioners and academics in the U.S. couldn't be missed.

Although the event itself brought personal and professional satisfaction, it is the impact of the conference on our institution that has been most fulfilling. The Twenty-first Century Learning in Natural History Settings Conference has enabled us to think bigger—to think about the sector as a whole and the role the NHM can play as a large national museum. Not only have its outputs influenced our approach to public engagement research, but also meeting with colleagues in the U.S. has led to new and exciting partnerships.

### A NEW STRATEGIC DIRECTION

As an outcome of the conference, the Learning Research and Evaluation team at NHM is adopting a new strategic direction: moving from an inward-looking approach regarding research and evaluation that only serves the museum's business needs, to understanding learning in natural history museums more widely. This latter direction will be relevant to the wider community both in the U.K.

and abroad. Taking this approach for the sector seems right—and the timing of the conference couldn't be better. Research into the impact of public engagement activities is a hot issue in the U.K. In general, Science and Discovery Centers (SDCs) have struggled to articulate and give evidence for the effect they are having on their audiences. In 2009, a government commissioned report on the impact and value of SDCs highlighted this issue, acknowledging that there is insufficient evidence about the long term outcomes of these institutions and that collected data lacked consistency and rigor (Frontier Economics 2009). The report recommended that the quality of data provided by these organizations should be significantly improved.

Work has begun in this area. In 2011, At-Bristol held a meeting entitled *Assessing Impacts of Science and Discovery Centers*, which brought together key practitioners from SDCs and academia, as well as relevant museum consultants. The conference explored what participants considered to be the impacts of SDCs, how to obtain evidence, and how to examine directions for future research on the evidence of impacts. Furthermore, the Wellcome Trust has commissioned two reviews on informal science learning which will provide analysis of current provisions as well as recommendations for future work.

Witnessing the role the Smithsonian National Museum of Natural History played in bringing the field together through this conference was inspiring. As a large national museum, we have a responsibly to work similarly, by collaborating with regional partners to begin to understand issues around impact.

### A FRAMEWORK FOR RESEARCH

A key output of the conference has been the learning research agenda and the working docu-

ment *Trending Topics and Potential Questions in a Natural History Museum Learning Research Agenda*. The document outlines six key areas that are central to the work of natural history museum practitioners and explores how people learn about critical concepts. The categories are: ecology, evolution, climate change, extinction, biodiversity; reaching new audiences, broadening our impact; facilitation and mediation; exploring the connection between emotion and learning; collections and learning from objects; and connecting learning and organizational change in museums. For us in London, this piece of work has become the framework to hang our research aspirations onto. It gives us a clear direction as to the issues and questions that the sector feels are most pressing and in turn highlights what we need to focus our attention on.

The framework also allows us to locate existing projects in a wider ecosystem. Over the last few years the museum has focused on issues around facilitation and mediation. A key concern for us, and the sector as a whole, is the role of the museum educator and the discussion around professionalization (Tran and King 2007). While educators have been at the heart of museum practice for many years, their role lacks the recognition and understanding given to their formal education counterparts. With over 150 staff members in our face-to-face team, we are in a unique place to make significant inroads in this discussion and have begun to do so by rethinking our approaches to training and induction.

Recognizing the role our educators play in delivering high quality learning experiences, and the need to create a shared understanding of best practices, we have re-examined induction and continuing professional development programs and have redeveloped them to reflect the work of Tran and King (2007). Induction modules and activities have been constructed around their prescribed domains: museum content

knowledge, museum pedagogical knowledge, and museum contextual knowledge. Additionally, to ensure that face-to-face learning staff are supported in the delivery of learning experiences, we developed the Quality Learning Framework, a series of processes to promote and enhance reflective practice. The framework, based on research in teaching and learning, includes criteria adapted by Berliner (1987) in assessing opportunities to learn, evidence collection methods when observing staff delivering programs (Zepeda 2005), and learning conversation approaches (Earl and Timperley 2009) to enhance the sharing and discussion of evidence to improve practice.

## DEVELOPING COLLABORATIVE PROJECTS

As a team consisting of “ex-teachers” and “museum professional purists” we have many years’ experience in conducting small-scale evaluation projects on exhibitions or learning programmers, but we fall short of providing the resources for more in-depth research projects. In order to fully understand the impact of public engagement activities, we plan to collaborate with several academic partners to develop and deliver a sector-relevant research program.

In recent years the NHM has made an increased effort to embed academic research into its public engagement staffing model. A collaborative Ph.D. program with King’s College, London, which began in 2010, provides a model for future involvement of this type. This research examines the impacts on visitors who meet scientists in our daily Nature Live program. Its findings are directly relevant to the work of program developers and educational delivery staff at the museum, and provide valuable data for advocacy regarding the impact of such an encounter. The initial work of this

Ph.D. student adapted a modified Delphi technique to involve staff at the NHM in the development of the initial research questions (Seakins and Dillon 2012). This methodology merged research and practice communities from the outset and we plan to repeat it at the beginning of similar endeavors in the future.

Over the last couple of months a number of projects in collaboration with universities around the U.K. have started to take shape. In conjunction with King's College London, we have applied for funding to hold a series of seminars to expand upon the outcomes of the Twenty-first Century Learning in Natural History Settings Conference. If funded, the seminars will continue the conversation locally, bringing together museum-learning practitioners and pre-eminent cross-disciplinary academics to unpick the complexities of learning in natural history environments while also exploring relevant theoretical and methodological perspectives. Additionally, we have commissioned a small-scale project to scope the viability of examining the impact of public engagement activities on scientific staff. This project will complement the work currently undertaken by our Ph.D. student but also add valuable discourse to the public engagement debate.

Work has also begun with the University of York's Institute for Effective Education (IEE) to develop robust methodologies to measure the impact of Real World Science learning programs. Real World Science is a partnership program between the NHM and seven regional museums. The program collectively develops curriculum-linked activities to enrich secondary school science teaching and learning. The activities aim to engage and inspire secondary school students who will potentially choose to study science further, whether it be to pursue a science-related career, or to gain confidence as a scientifically literate individual. Together

with IEE we are exploring a quasi-experimental methodology to assess the educational impact of one of these activities: a museum-based laboratory experience where students participate in an authentic scientific procedure while examining the concept of peer-review. Although anecdotal evidence suggests that the impact of this workshop on student learning and career choice is profound, little exists in terms of robust data. This collaboration merges the expertise and staffing resource to finally fill that gap.

Our practice at the NHM is focused on delivery and can only benefit from academic investigation, scrutiny, and reflection. Academic research into our public offer will enable us to talk more authoritatively about impact on visitors of engaging with natural history settings and will tell us more about the extent to which we achieve the aims of the NHM's strategic plan. We have high aspirations for this program of work. It will contribute to the wider field of informal learning, be relevant to practice and practitioners, and provide robust evidence of impact which can be used to support public policy development.

## AN INTERNATIONAL COMMUNITY OF PRACTICE

The conference also provided the perfect platform to develop international networks to address the research need globally. The participant list not only spanned informal learning academics, but also included key practitioners from natural history museums across the U.S. as well as learning scientists, a term we liked very much here in London. While the attendees' passion, experiences, and insight led to inspiring conversations, it is the new relationships that have emerged from the event which will have international significance.

Since the conference we have explored the prospect of developing an international research consortium with colleagues from the Smithsonian National Museum of Natural History, the Carnegie Museum of Natural History, and the University of Pittsburgh's Center for Learning in Out of School Environments (UPCLOSE). We have aspirations to use the agenda and develop powerful questions in relation to the emerging themes, working together to address these across and within each institution. There is potential to share resources and information to deepen the understanding of learning in natural history museums as well as to further the academic field in this area. This may include collaborative funding bids, Ph.D. fellowships, sharing expertise, conference events, and publications. Tackling this agenda without coordination and partnership seems counter-productive, but as a united group, our impact and output is potentially more powerful. While the ideas are at an early stage, these new relationships have resulted in a number of unintended outcomes. In working closely with Kevin Crowley and Karen Knutson at UPCLOSE, we have not only found new colleagues but also friends. UPCLOSE is a model of academic-museum collaboration that resonates with our aspirations in the U.K. Being able to tap into their expertise and experience is invaluable. This relationship has been strengthened by reciprocal research trips to London and Pittsburgh and will continue through fortnightly phone conferences to deepen our mutual understanding of issues while exploring joint projects. Similarly, since talking to the Smithsonian, we have become involved in a research project examining visit planner/concierge staff and the impact they have on visitor motivation and experience. Led by the Smithsonian's Office of Policy and Analysis, we plan to replicate training modules and assessment methods in both London

and Washington, widening the data sets and exploring the results through a cross-cultural lens.

Participating in and contributing to the Twenty-first Century Learning in Natural History Settings Conference was a significant event for those of us from the NHM who attended. Not only did we partake in sessions that resulted in exciting outcomes, we also got to spend considerable time with leading learning practitioners and respected informal education academics. The impact of the conference, however, has been felt by many more than those who attended in Washington. At the NHM it has provided us with the confidence, intellectual framework, and collegial support to develop initiatives in the U.K. and further afield. Moving forward, the NHM is planning ambitious new learning facilities, which will become a beacon for excellence, innovation, and support for teaching and learning from natural history collections. This project will build upon the NHM's ambition to be a leader in learning research and practice in natural history settings, placing education research at the heart of its practice. **END**

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