



Museum Visitor Studies, Evaluation & Audience Research

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## **The New York Hall of Science**

### ***Volunteers Try Science (VolTS)*** **Front-End Program Evaluation** **Executive Summary and Discussion**

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## APPENDICES REMOVED FOR PROPRIETARY REASONS

## EXECUTIVE SUMMARY AND DISCUSSION

This report presents the findings from a front-end study of the status of volunteering in science centers conducted by Randi Korn & Associates, Inc. (RK&A), for the *Volunteers Try Science (VolTS)* project. For this study, RK&A conducted 26 telephone interviews to help the *VolTS* partners better understand the relationship between and the needs of science center staff who work with volunteers and professional scientists and engineers who volunteer their expertise.<sup>1</sup>

The project team identified three groups to participate in the study: scientist and engineers who volunteer outside of science centers in an educational capacity (non-science center volunteers), scientists and engineers who currently volunteer in science centers, and science center staff who work with volunteers.

Only selected highlights of the study are included in this summary. **Please consult the body of the report for a detailed account of the findings.**

### HIGHLIGHTS

- In general, all interviewees placed great value on informal science education and praised science centers for advancing the publics' understanding of science.
- Scientists and engineers are interested in volunteering their expertise in science centers; science center professionals recognize their need for such volunteers. However, both groups have difficulty finding the best situations to match their interests, expertise, and needs.
- Scientists and engineers are more likely to volunteer if their work environment not only supports but also promotes volunteering. Volunteer opportunities are more attractive if they are associated with the scientists' and engineers' work.
- To some extent, most interviewees equate volunteering with direct public interaction. That is, they assume that volunteering means teaching. Most scientists and engineers are interested in volunteer opportunities that did not require them to "teach" the public.
- In general, scientists/engineers and science center professionals often approach volunteer relationships with different assumptions and expectations.
- Scientists and engineers interviewed find the idea of training or professional development problematic. Scientists and engineers are somewhat resistant to the idea of traditional, formal volunteer training. Instead of developing a new expertise (i.e., informal science education pedagogy), they prefer to volunteer their strengths.

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<sup>1</sup> In addition in-depth telephone interviews, VolTS partners conducted three discussion groups with science and engineering professionals at the IEEE Southeast Regional Conference 2006 in Memphis, Tennessee. While the findings from these discussion groups are not presented in this report, they do inform its analysis, discussion, and recommendations. Notes from the discussion groups are included in Appendix D.

- Recognition is important to a volunteer program's success. Scientists and engineers find it essential that their time, energy, and expertise be respected, appreciated, and valued throughout their volunteer experience.

## POTENTIAL

Science centers and professional scientists and engineers have the potential to engage in fruitful, symbiotic relationships. Such relationships are realized in many museums throughout the country. In these institutions scientists and museums work together to further the agenda of science centers: to connect people with science, to provide visitors with firsthand experiences and to give them opportunities to develop intuitions about the natural world, and to encourage curiosity (as outlined by ASTC, <http://astc.org/sciencecenters/index.htm>). In general, museums recognize the importance of working with science professionals; scientists who volunteer to support the science center's agenda and who consider themselves advocates for informal science education.

Upon initial examination, the science center-scientist relationship appears one-sided, with science centers, and ultimately the public, reaping the benefits. However, scientists can and do benefit from their relationships with science centers. In addition to promoting the science center agenda, they have opportunities to advance their personal agendas, such as helping children become and stay engaged with math and science and/or dispelling negative myths about scientists and engineers. In addition, science centers provide venues, means, and strategies for the public dissemination of scientists' work.

While science and museum professionals recognize the importance of building and maintaining healthy partnerships, there is not a cohesive body of knowledge about how to do this well. There are many cases of scientists and museums working together with varying degrees of success, yet limited conversation about best practices. Instead, the partnerships happen in isolation, leaving little room for the field to learn from the experiences (Cihlar, 2004). Even within a given organization, there are often roadblocks to learning from past partnership experiences (e.g., staff turnover; lack of institutional memory). Lacking is the larger conversation about best practices and stories of exemplary science center-scientist partnerships. The VolTS Project is making great strides toward filling this void and starting the conversation.

## BUILDING HEALTHY RELATIONSHIPS

For science centers and scientists, one of the biggest hurdles to building healthy relationships is developing an understanding of and respect for the cultures of their different work environments. While both parties may enter a partnership with the same goal in mind, science centers are fundamentally different from the environments in which most scientists work. Museums are non-profit, visitor-centered institutions, and as such have developed different behavioral norms than the professional science community. Developing a healthy relationship requires going further than simply recognizing that two distinct cultures exist. It requires that both parties learn

to navigate within the other's domain, all the while respecting the cultural norms (Seppälä & Vainio-Mattila, 2000).

Building and maintaining healthy science center-scientist relationships takes time and resources from all parties. Devoting adequate resources is necessary to foster mutual respect (Pacific Science Center and SLi, 1997). Scientists praise museums that dedicate money and staff time to nurturing partnerships. Scientists are not only willing but they are also excited to volunteer their time and expertise when they feel their contributions are appreciated and valued (RK&A, 2006). Appreciation can be shown in simple ways, such as providing a dedicated volunteer space or by providing volunteers with appropriate, intellectually challenging tasks. However, when a science center builds and sustains relationships with the scientific community, the role of the scientist volunteers becomes integral to the institution's success. The extent to which the museum values its volunteers becomes a part of the institutional culture; it is built into how the museum functions.

## SCIENTISTS AS VOLUNTEERS

Examining existing scientist-science center relationships revealed themes in three different areas: recruiting scientists as volunteers, training scientists as volunteers, and retaining scientists as volunteers. The remainder of the discussion is organized accordingly.

### *Recruiting*

Many science centers find recruiting scientists as volunteers challenging. If no long-standing relationship between the museum and the scientific community exists, volunteer coordinators are not sure where to start. Likewise, scientists have difficulty finding out about volunteer opportunities aligned with their interest and expertise. When no pre-existing relationship exists, scientists and science centers find one another through word-of-mouth or personal connections. Scientists find out about volunteer opportunities through their places of employment, professional societies, and their friends. This is the potential starting point for volunteer coordinators.

Most interviewees suggested that recruiting efforts come from the top down. That is, they proposed that "higher-ups" in museums approach the corporate and professional society "higher-ups." As one interviewee said, "you have to have people on the same level talking. You can't have some volunteer coordinator fresh out of undergrad approaching the head of a company and expect to be taken seriously." Again, establishing a relationship requires upper level buy-in from all partner organizations (RK&A, 2005a).

### *Training*

Training scientists as volunteers provides another challenge for science centers, especially given the general lack of and resistance to training revealed during the interviews. The majority of interviewees who volunteer went through no training; rather, they learned through "trial and

error.” Some scientists are interested and motivated to learn about informal science education, yet many are not.

Maybe the question should not be, “What training do scientists require to volunteer in science centers?” Perhaps a better question is, “How can we use the scientists who volunteer to the best of their abilities?” Create opportunities that encourage volunteers to rely on their strengths. Most interviewees were interested in volunteer opportunities that did not require them to “teach” the public. They expressed more interest in training staff, developing exhibits, serving as content advisors—opportunities that valued their existing expertise. They were not necessarily interested in developing new expertise.

Developing an interest in informal science education may result from such volunteer experiences, where classroom-based training may backfire. Most scientist interviewees resisted being formally trained in an informal environment. Instead, they proposed more of a partner relationship with someone who works at the museum. They envisioned a partnership where they could contribute knowledge and passion about content, and museum staff could contribute knowledge of learning theory, exhibit design, the public, etc. A mutually beneficial relationship, involving learning through collaboration, is more attractive to scientists than receiving traditional training (RK&A, 2005b).

### *Retaining*

Once the seeds of a healthy science center-scientist relationship are planted, they need to be nurtured. It is all too common for a volunteer experience to be short-lived or a one-time thing. Short, time-limited volunteer opportunities are not bad in and of themselves. In fact, many scientists find them attractive because they are manageable. In addition, they provide scientists with insight into the science center community; for many, they serve as the initial exposure to a new and different world. Once the science center and scientist are acquainted, what happens next? This is a critical time.

To keep someone interested in volunteering, they need to be provided with interesting and appropriately challenging tasks (Cihlar, 2004). Scientists come to a museum with distinct, well-developed expertise. They would rather put their expertise to good use than help out with more routine tasks.

Volunteering provides intrinsic rewards. However, appreciation and volunteer recognition are important, regardless of the scope of the volunteer activity. From simple pats on the back to galas, volunteers need to know that what they did was valued, important, and perhaps essential to a project’s success. They also would like feedback, not simply on how well they did, but rather an evaluation of the project as a whole. They want to know that their contribution was part of something bigger.

## RECOMMENDATIONS

- Science centers should first establish a partnership with the scientific community on a broad level before thinking about building a program for scientists to volunteer in their area of expertise.
- The science center-volunteer scientist relationship should be approached as just that, a relationship. It is not one-sided, rather both have a great deal to contribute to and gain from partnering.
- Science centers should work to build relationships with the local scientific communities rather than individual scientists. The relationships should start with the higher-ups on both sides.
- Science centers and the scientific community have distinct professional cultures. For a successful collaboration, both parties must develop an understanding of and appreciation for each other's cultural norms.
- Volunteer scientists have more satisfying long-term relationships with organizations that devote adequate resources to their volunteer programs. To grow and sustain a volunteer program, science centers need to commit the requisite staff time, money, and resources.
- Scientists seek opportunities that use their expertise. In most cases, developing new expertise (e.g., knowledge of informal science education) is secondary. Consider creating volunteer opportunities that use scientists' expertise while exposing them to informal science education pedagogy.
- Many scientists mistakenly assume that volunteering at a science center means "teaching." Similarly, many science center staff erroneously assume that volunteer scientists want to teach. Develop strategies to address these assumptions early in the relationship.
- Be strategic in pairing volunteer scientists and volunteer tasks. Scientists are looking for interesting and challenging volunteer experiences that call on their knowledge and expertise.
- Instead of using traditional training or professional development materials, pair scientists with museum staff in mentoring relationships that encourage them to learn from one another in a thoughtful, relevant way.
- Appreciation and recognition are central to any successful volunteer program, because they demonstrate how much the volunteers are valued. Develop strategies that integrate volunteer appreciation into the volunteer programs specifically and science centers more broadly.

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