

# *LESSONS* *for* **TOMORROW**

VOLUME I: SUMMARY REPORT

## A Study of Education at the Smithsonian



Smithsonian Institution  
Office of Policy and Analysis  
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## Preface

*Upon the subject of education, I can only say that I view it as the most important subject which we as a people may be engaged in.*

—Abraham Lincoln

This study was undertaken to provide an overview of education at the Smithsonian, highlight its importance, and strengthen it to meet the challenges of the 21<sup>st</sup> century. This Summary Report (Volume I) presents the main points to emerge from the study, along with conclusions and recommendations. Volume II (Appendices) contains more detailed findings and analysis.

Although this study looks at many aspects of education in broad terms, it is not comprehensive. For example, it does not examine the organization and management of education at each unit, nor does it evaluate individual programs. Rather, it focuses on the mission, strategy, audiences, programming, leadership, management, workforce, finances, facilities, and organizational alignment of education at the Smithsonian as a whole. The impact of new technologies on the Institution's ability to serve its audiences is also discussed, as is the critical issue of collaboration within the Smithsonian and with external organizations.

I am indebted to many people for helping the Office of Policy and Analysis (OP&A) produce this challenging study. In the course of their research, OP&A staff interviewed approximately 300 people, including Smithsonian employees and stakeholders, and non-Smithsonian museum and education professionals. I thank all of these interviewees for their cooperation, and appreciate their insights.

The following interns performed secondary-source research, participated in many long discussions, conducted telephone interviews, and prepared materials: Patience Baach, Stephanie Berger, Sarah Block, Meredith Ferguson, Yena Kim, Christina Markle, Heather Mauger, Sarah Morgan, and Robert Roach.

Collecting and analyzing the vast amount of information underlying this report, and assembling the report itself, were time-consuming processes. The project co-directors, Ioana Munteanu and James Smith, gave generously of their time and ideas. Ioana's eye for detail and careful analysis and James's ability to synthesize information underpin this study. The report could not have been completed without Whitney Watriss' extensive contributions to writing, analysis, and editing of the final report.

Other OP&A staff who contributed to all phases of the study include Andrew Pekarik, Zahava Doering, David Karns, Kathleen Ernst, and Lance Costello. They were assisted by three others who worked as members of the study team: Steven Williams, an educator from the National Air and Space Museum; Julie Blake Shook, a young museum professional from Canada; and Nino Gedevanishvili, a visiting scholar from the Georgian National Museum. Samantha Grauberger contributed logistical and administrative assistance.

I would like to thank Stephanie Norby, the director of the Smithsonian Center for Education and Museum Studies, and her staff for their interest in this project and willingness to share their knowledge, as well as the other Smithsonian educators who assisted the OP&A study team in coming to an understanding of the relevant issues.

Finally, I am grateful to Cristián Samper, the director of the National Museum of Natural History, who requested the study during his tenure as Acting Secretary of the Smithsonian Institution, and Secretary Wayne Clough for his interest in strengthening education at the Smithsonian, his support for OP&A's independent studies of organizational and managerial issues, and his desire to widen the Institution's vision, extend its reach, and explore its potential.

Carole M.P. Neves  
Director  
Smithsonian Institution Office of  
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## Glossary of Acronyms

AAM	American Association of Museums
ACM	Anacostia Community Museum
AIB	Arts and Industries Building
CCSSO	Council of Chief State School Officers
CRC	Conservation and Research Center (National Zoological Park)
Ed Com	Standing Professional Committee on Education (American Association of Museums)
EDGE	Education Data Gathering and Evaluation (database)
EIP	Excellence in Programming (Standing Professional Committee on Education)
ERP	Enterprise Resource Planning
IMLS	Institute for Museum and Library Services
IT	Information Technology
NASM	National Air and Space Museum
NCLB	No Child Left Behind
NMAH	National Museum of American History
NMNH	National Museum of Natural History
NPM	National Postal Museum
NSF	National Science Foundation
NSRC	National Science Resources Center
NZP	National Zoological Park
OCIO	Office of the Chief Information Officer
OD	Office of Development
OF	Office of Fellowships
OHR	Office of Human Resources
OP&A	Office of Policy and Analysis
OUSEPE	Office of the Under Secretary for Education and Public Engagement
SAAM	Smithsonian American Art Museum
SAO	Smithsonian Astrophysical Observatory
SCED	Smithsonian Council of Education Directors
SCEMS	Smithsonian Center for Education and Museum Studies
SE	Smithsonian Enterprises
SEEC	Smithsonian Early Enrichment Center
SERC	Smithsonian Environmental Research Center

SITES	Smithsonian Institution Traveling Exhibition Service
SLC	Smithsonian Latino Center
SOLAA	Smithsonian Online Academic Appointments
STEM	Science, technology, engineering, and mathematics
STRI	Smithsonian Tropical Research Institute



# 1. Introduction

*You cannot teach anybody anything. You can only help them discover it within themselves.*

—Galileo

In spring 2008, Smithsonian Acting Secretary Cristián Samper asked the Smithsonian Office of Policy and Analysis (OP&A) to undertake a comprehensive study of education at the Institution. The purpose of this study was not to evaluate specific education programs, departments, or units, but rather to consider how the educational efforts of the Smithsonian as a whole might be strengthened.

When he assumed leadership of the Smithsonian in July 2008, incoming Secretary G. Wayne Clough expressed an interest in seeing the project go forward, and specifically asked the OP&A study team to explore the role that the Institution might play as a leader on the national and global educational stage.

## The Big Picture

The Smithsonian possesses great potential as an educational organization. However, despite areas of unmistakable excellence, the Institution's current educational efforts are widely perceived to be fragmented, unfocused, and less impactful than one might expect from an organization of the Smithsonian's stature.

There appear to be two major reasons for this. First, the Smithsonian lacks an educational vision that would enable it to set clear strategic priorities at the Institutional level. Second, it lacks management mechanisms that would allow it to effectively marshal resources from across the units in the pursuit of such priorities.

## *Vision and Priorities*

A realistic, explicit central vision for Smithsonian education does not currently exist. As a result, while many programs and unit education departments are excellent when considered in isolation, educational activities at the Smithsonian *as a whole* comprise a diffuse grab-bag of offerings.

The problem is not the broad scope of Smithsonian education offerings per se. The problem, rather, is that Smithsonian education is not *more* than the sum of its parts: a broad selection of offerings, devised by units largely in isolation from one another.

It rarely reaches the critical mass in any specific area that would be necessary to have a real impact at the national level and beyond. Before it can do so, the Institution needs to define what it wants to be as an educational organization. This would allow it to set strategic priorities and focus resources on key areas.

### *Implementation*

Establishing a vision and setting priorities are necessary but not sufficient for raising the Institution's profile as an educational organization. An additional issue is that the current culture, management, and organization of the Smithsonian are not well-suited for focusing resources on strategic Institutional priorities.

- ◇ In terms of *culture*, Smithsonian staff tend to place too much value on autonomy (at the unit, department, project team, and even individual level), and not enough value on organizational learning. The former makes it difficult for units to cooperate in the pursuit of Institutional priorities. The latter hinders the Smithsonian from embracing innovative or experimental approaches to education.
- ◇ In terms of *management* and *organization*, educational activities are scattered across a highly decentralized structure in which no one plays a central coordinating role. Incentives and mechanisms for cooperation across units are weak; even basic cross-unit communications leave much to be desired.

Strong leadership is needed to effect the cultural, managerial, and organizational changes that will allow the Institution to leverage its limited educational resources, impose greater focus on its educational portfolio, and concentrate resources on strategic areas where the Smithsonian might make a significant national or global contribution.

### **Organization of the Summary Report**

This summary report primarily deals with “big picture” issues, conclusions, and recommendations. The companion volume, II. Appendices, contains supporting appendices that lay out the underlying issues in more detail, with supporting data, as well as a bibliography and list of organizations contacted for the study. Appendix 3 presents a brief history of education at the Smithsonian.

This summary report is divided into 12 thematic sections as follows:

- ◇ Vision
- ◇ Audiences and Programs
- ◇ Professional Training
- ◇ Organizational Culture
- ◇ Leadership
- ◇ Management
- ◇ Structure and Organization
- ◇ Collaboration
- ◇ Financial Resources
- ◇ Human Resources
- ◇ Space and Facilities
- ◇ Technology

Each section contains a brief presentation of the OP&A study team's main findings, conclusions, and recommendations in that area.

A number of important themes crop up repeatedly in different contexts throughout this document, and are worth mentioning at the outset. These include:

- ◇ The lack of clear, consistent definitions of what education means across the Institution;
- ◇ A failure to set clear priorities for education at the Institutional level (and at many units);
- ◇ An absence of economic thinking at all levels (that is, explicitly considering how to use resources efficiently in the pursuit of clear goals);
- ◇ Insufficient mechanisms for communicating, collaborating, and leveraging resources across units, combined with a lack of incentives to take full advantage of the ones that do exist;
- ◇ A lack of consistent cross-unit data on education staffing and other resources; and

- ◇ A culture that tends to treat education as an add-on activity, subordinate to scholarship.

A caveat: This study deals with generalizations at the level of the Institution as a whole. For each of these generalizations, there are notable exceptions. Indeed, the study team found a number of instances where the units and central administration have already instituted changes to address problems discussed in this report.

## Methodology

The findings, conclusions, and recommendations of this report are based on the following primary and secondary sources:

- ◇ An external literature review of published and unpublished books, articles, websites, and other documents relevant to the topics of learning and education, evaluation and assessment, management, organizational structure, collaboration, technology, and so on (see Appendix 1, Bibliography);
- ◇ An internal literature review of relevant OP&A and other Smithsonian program and policy studies (see Volume II, Appendix 1, Bibliography);
- ◇ Interviews with educators and other personnel:
  - » Internal—approximately 250 interviews with Smithsonian staff at all levels, including educators, unit and central leaders, information technology (IT) professionals, fellows, curators and researchers, administrative staff, and others;<sup>1</sup>

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1 The study team conducted interviews at the following Smithsonian units: the Archives of American Art (AAA), Anacostia Community Museum (ACM), Asian Pacific American Program (APAP), Center for Folklife and Cultural Heritage (CFCH), Cooper-Hewitt, National Design Museum (CHNDM), Freer and Sackler Galleries (FSG), George Gustav Heye Center (GGHC), Hirshhorn Museum and Sculpture Garden (HMSG), Horticulture Services Division (HSD), Lemelson Center, Museum Conservation Institute (MCI), National Air and Space Museum (NASM), National Museum of African American History and Culture (NMAAHC), National Museum of African Art (NMAfA), National Museum of American History (NMAH), National Museum of the American Indian (NMAI), National Museum of Natural History (NMNH), National Portrait Gallery (NPG), National Postal Museum (NPM), National Science Resources Center (NSRC), National Zoological Park (NZIP), Office of the Chief Information Officer (OCIO), Office of Development (OD), Office of Fellowships (OF), Smithsonian Affiliations, Smithsonian American Art Museum (SAAM), Smithsonian Astrophysical Observatory (SAO), Smithsonian Center for Education and Museum Studies (SCEMS), Smithsonian Enterprises (SE), Smithsonian Early Enrichment Center (SEEC), Smithsonian Environmental Research Center (SERC), Smithsonian Institution Archives (SIA), Smithsonian Institution Libraries (SIL), Smithsonian Institution Traveling Exhibition Service (SITES), Smithsonian Latino Center (SLC), Smithsonian Photography Initiative (SPI), Smithsonian Tropical Research Institute (STRI), and The Smithsonian Associates (TSA).

- » External—about 50 interviews with education professionals at dozens of cultural and academic institutions (see Volume II, Appendix 2, Outside Organizations Contacted);
- ◇ Smithsonian primary documents and data gathered from over 20 Smithsonian units and offices, including:
  - » Organizational charts and other documents on reporting relationships;
  - » Planning documents (such as strategic and operational plans);
  - » Financial data (unit budgetary and expenditure data; data on gifts, grants, and sponsorships from the Office of Development [OD]; summary expenditure data from the Smithsonian’s Enterprise Resource Planning system, provided by the Office of Planning, Management, and Budget);
- ◇ Human resources data (unit-provided data; staffing data from the Office of Human Resources [OHR]; and data on academic appointments from the Office of Fellowships [OF]);
- ◇ Questionnaires sent out to all unit education departments, requesting information on collaborations (internal and external); space and facilities; evaluation efforts; audiences; programs; and other topics;<sup>2</sup>
- ◇ The results of an online survey of 1,000 Smithsonian employees conducted as part of the Institution-wide strategic planning process. Some of the responses to the survey’s 12 open-ended questions discussed the Institution’s educational programming and function; and
- ◇ OP&A study team participation in seminars and workshops on a variety of relevant topics (including museum education, Web 2.0, and informal education), as well as study team observation of internal Smithsonian education forums such as the Smithsonian Council of Education Directors (SCED) and the Educators Exchange.

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<sup>2</sup> The study team sent the survey to all units where it conducted interviews except Affiliations, MCI, OCIO, OD, OF, and SE. Of those receiving the survey, three said they do not offer education programs and five did not return the data request (SLC, NMAH, SITES, NSRC, and HSD). The remaining units returned the survey, although they did not necessarily provide all requested data.

In addition to considering information derived from secondary sources, internal Smithsonian documents and data, interviews, questionnaires, and in-person forums for information exchange, the study team drew on its decades of collective experience investigating program and policy issues at the Institution.

## 2. Vision

*Education is not the filling of a bucket, but the lighting of a fire.*

—W. B. Yeats

The basic concern about education at the Smithsonian is that it does not add up to anything more than the sum of its largely uncoordinated parts. Collectively, the Smithsonian dissipates its limited resources by going in many different directions at once. In doing so, it squanders much of its considerable potential as an educational organization and lessens its impact.

The primary reason is the absence of an educational vision—a results-oriented “destination” that defines long-term success for the educational function of the Institution—that can inform the process of setting concrete priorities and allocating resources. Developing a vision involves consideration of:

- ◇ The fundamental meaning of “education” for the Smithsonian as a whole, as well as for each unit;
- ◇ The external environment in which Smithsonian educational activities take place; and
- ◇ The proper role that the Smithsonian, with its unique history and strengths, might play on the national and global educational stages.

### Definitional Issues

What does “education” mean at the Smithsonian? Historically, the term has been associated in the museum world with programs for children and schools. The important question is what *other* programs ought to be considered education, particularly with the emphasis today on lifelong learning? The working definition of education among Smithsonian units, staff, and stakeholders ranges from the narrowest possible (serving schools and children) to very broad (“everything we do is education”).

The following are some specific conceptual areas where individuals interviewed for this study had differing ideas about what education means, or ought to mean, at the Smithsonian. Note that the dichotomies listed below refer to endpoints on conceptual spectra, rather than discrete, mutually exclusive points, and that

interviewees rarely advocated moving exclusively to one endpoint or the other in a given dichotomy.

◇ Domain

- » Whole/part—Is education the public face of *all* the Smithsonian’s activities? Does it refer only to those specific activities that deal with schools, youth, and the transfer of knowledge?
- » Formal/informal<sup>3</sup>—To what extent should Smithsonian education work through the framework of formal, classroom-based schooling, as opposed to supporting the self-motivated explorations of individuals?
- » Onsite/offsite—Should Smithsonian educators be primarily concerned with the visitors who walk through its doors? Is regional, national, and international outreach central to education at the Institution?
- » Physical/virtual—What is the proper balance between offerings that require three-dimension space and/or live staff, and offerings that are conveyed online or through other media?
- » Disciplinary/interdisciplinary—Should Smithsonian education offerings work within unit disciplinary confines? Should they strive as much as possible to cross such lines—for example, using contemporary artwork to illuminate mechanical or scientific principles?
- » Tied to/separate from other programmatic areas:
  - \* Exhibitions—What is the link between exhibitions and education? To what extent is the Smithsonian about educating through exhibitions and exhibition-related materials?

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<sup>3</sup> In this study,

- “Formal education” refers to programs for preK-12 school children tied to curricular standards, or programs for higher-education students tied to the completion of degree requirements;
- “Professional training” refers to non-degree (although continuing education or certification units may be awarded) programs for higher-education students, post-graduates, or mid-career professionals, aimed at conveying career-related knowledge and skills; and
- “Informal education” refers to anything that does not fall into either of the two previous categories.



- \* Collections—What is the link between collections and education? To what extent is the Smithsonian about object-based education?
- \* Research—What is the link between Smithsonian research and education? To what extent is the Smithsonian about bringing the research endeavors of Institution scientists and scholars to wider audiences through education programs and materials?
- » Central/unit—How should unit programming tie into central Smithsonian educational goals, priorities, and themes?

#### ◇ Outcomes

- » Unit-defined outcomes/user-defined outcomes—Should the educational outcomes for which the Smithsonian strives be collective, predefined categories of responses? Should such outcomes be particular, individual, and diverse?
- » Ideas/capacities—Should the focus be placed on building understanding, transmitting knowledge, or developing individuals' motivation and capabilities for learning?

#### ◇ Audience

- » PreK-12/college/graduate/lifelong learners—What is the proper balance in Smithsonian education among offerings for younger students (primary, middle, and secondary school), for older students (undergraduate and graduate), and for adults, mid-career professionals, and lifelong learners?
- » Traditional/non-traditional audiences—What is the proper balance between keeping traditional visitors happy, and reaching out to non-traditional and underserved audiences such as teens outside of family groups, young adults, non-museum-goers, the disabled, and minorities such as Latinos and African Americans?
- » General public/niche audiences—For units that have niche audiences (for example, philatelists at the National Postal Museum [NPM] or aviation buffs at the National Air and Space Museum [NASM]), how should educational efforts be divided between these audiences' needs and those of the general public?

- » Audience size/depth of impact—When a trade-off exists between the total number of learners reached and the potential impact on each learner, what is the right balance for Smithsonian educators to strike?

◇ Strategy

- » Wholesale/retail—When is it appropriate to target educational end-users themselves, and when is a strategy of educating educators preferable?
- » Piecemeal enrichment/integrated frameworks—Should the Smithsonian to provide “a la carte” offerings that can be integrated into wider learning frameworks as users (such as teachers) see fit? Should the Smithsonian itself create systematic, integrated, goal-directed educational frameworks?
- » Theory-based/non-theory-based—Should Smithsonian programming be explicitly grounded in theories/philosophies about how people learn?

## External Environment

Education has become a major social and policy issue in the United States. The U.S. educational system faces enormous challenges that have been accumulating over decades.

- ◇ Public schools in underserved communities are mostly lamentable, which threatens to create, in the words of Secretary of Education Arne Duncan, “an entire class of Americans who are unable to share in the benefits of a modern, progressive, and productive society” (Duncan 2009).
- ◇ Native-born U.S. students do not enter the economically crucial science, technology, engineering, and mathematics (STEM) fields in sufficient numbers for the nation’s needs, leaving the nation’s competence in these areas dependent on its ability to attract talent from abroad.
- ◇ The demographic face of the nation has changed radically in the last several decades, raising questions about how to effectively educate new Americans (many of whom do not speak English as their first language) and integrate them into the national fabric, how to serve the growing population of older Americans, and how to reach the younger generations raised on digital media.

- ◇ As a result of cuts in school budgets and the drive to improve student performance in core curricular areas, the arts and humanities are gradually being pushed out of public school curricula.

The ongoing policy discussion about improving the nation's education infrastructure has focused primarily on reforming classroom-based education in general, and public schools in particular. The debate on educational reform has not yet given full attention to the critical role played by non-school environments and media in inspiring and encouraging young people to value learning.

However, there is some evidence of this issue inching its way onto the nation's educational agenda. For example, Secretary Duncan has stated his desire to engage students in out-of-school activities that will support success in the classroom. A January 2009 study by the National Research Council of the National Academies, *Learning Science in Informal Environments*, has served to raise awareness of the potential value of informal learning—the kind that takes place outside the classroom through museums, zoos, after-school programs, broadcast and web media, and so on—in addressing the nation's educational shortcomings.

Indeed, within the field of education, the distinction between formal and informal learning is increasingly questioned. For example, schools use informal practices such as individual self-selected projects, and informal settings can be venues for the type of curriculum-based learning usually associated with classrooms. From this perspective, the real issue is how formal and informal education can complement each other.

In addition to the challenges noted above, the current national discourse on education presents opportunities that may be relevant to the Smithsonian as it moves to define a role for itself.

- ◇ Some argue that U.S. education at all levels should shift the emphasis from content acquisition to the cultivation of “21<sup>st</sup>-century skills”—such as creativity, critical thinking, and problem solving—that are applicable across content areas.
- ◇ Attitudes toward education have changed significantly over the past few decades. The idea of education as something mainly for the young has been replaced by a broader concept of “lifelong learning” across a variety of dimensions (including personal growth and enrichment, career retraining, and adjustment to changing technological and social realities) throughout all stages of life.

- ◇ New technologies—particularly interactive, web-based technologies—are opening up new possibilities for educational outreach to learners of every description.
- ◇ New concepts and developments in the science policy field are moving to the forefront in the world of museums and their funders. These include:
  - » The Public Engagement with Science model, which aims to connect the public with science professionals in a deep, ongoing dialogue; and
  - » The creation, with funding from the National Science Foundation (NSF), of the Center for Advancement of Informal Science Education, which is building links across the informal science education community—including film and broadcast media, science centers and museums, zoos and aquariums, botanical gardens and nature centers, digital media and gaming organizations, science journalism, and youth and community programs.

In sum, there is a great deal of interest in education at the national level, with great challenges to be addressed and similarly significant opportunities to be pursued. As a prominent, Federally-funded organization closely associated in the public mind with learning and education, the Smithsonian has the potential, and arguably the responsibility, to play an important role in the educational life of the nation. Indeed, influential Smithsonian stakeholders—including members of Congress, Regents, donors, and advisory board members—seem to be taking a heightened interest in what the Institution is doing in this area.

### **Possible Smithsonian Roles**

The formulation of a vision for education has to confront the question of the role that the Smithsonian—with its particular strengths, weaknesses, and history—could or should play in the crowded field of education. What are the Smithsonian’s comparative advantages, relative to the many other organizations active on the national education scene—Federal agencies and departments, educational publishers, universities, research organizations, professional associations, and so on? Which educational needs is the Smithsonian especially well-suited to address? Which needs are better left to other organizations?

## *Formal Education*

The Smithsonian currently offers a wide range of programs to support formal, school-based education, including:

- ◇ Development/distribution of course curricula;
- ◇ Development/distribution of short teaching supplements, many aligned with state or national standards;
- ◇ Online (and other media-based) real-time and asynchronous programming;
- ◇ Partnerships with universities to offer credit-based courses and programs at the undergraduate and graduate levels; and
- ◇ Teacher professional development activities.

As noted above, an area of formal education that has received particular attention is the need to strengthen the interest and competence of U.S. students in STEM fields. Political and economic support for STEM education initiatives is currently growing, and this could be an opportunity for the Smithsonian, which has considerable experience and great educational potential in certain STEM-related subject areas.<sup>4</sup>

However, it is debatable whether the Smithsonian has the experience, skills, and comparative organizational advantages in the area of formal education to play a national leadership role. Outside of a few units, such as the National Science Resources Center (NSRC), Smithsonian efforts in this area are generally unsystematic and small-scale. With respect to STEM education, Smithsonian strengths in certain areas of science are paired with subject-area gaps in mathematics, engineering, and other scientific fields. While there has been discussion about filling such gaps—for example, including engineering as a new discipline at the Institution—a measure of caution is appropriate when considering what the Smithsonian can or should do in the area of formal education.

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<sup>4</sup> The units most relevant here include the science museums, science research centers, NZP, NSRC, and NMAH (with its collections and expertise in the areas of environmental, technological, and industrial history). An emerging area of interest is the integration of humanities and arts education into STEM classes to support the critical-thinking skills and creativity that are a key, if often unacknowledged, part of the scientific mindset. Thus, art and culture units could have a role to play in the Institution's approach to STEM education.

## Informal Education

Arguably, the Smithsonian is better suited to a leadership role in the movement to integrate informal learning into national (and even international) education reform efforts than to a supporting role in formal education. With its unmatched range of museums and other public facilities for informal education—as well as assets such as its national prominence, attractiveness to partners, wide range of collections, and extensive national/global connections to other educational organizations and diverse audiences<sup>5</sup>—the Smithsonian has great potential to serve as a kind of national laboratory for models and methods of informal education.

There is a precedent for such a role. Under the leadership of Secretary S. Dillon Ripley (1964-1984), the Smithsonian was widely regarded as a leader in museum education. It:

- ◇ Convened national conferences on museums and education;
- ◇ Encouraged experimentation with new types of programs, such as the Discovery Room and Naturalist Center at the National Museum of Natural History (NMNH), as well as with new ways to study exhibitions;
- ◇ Promoted the concept of the “community museum” (via the Anacostia Neighborhood Museum, now called the Anacostia Community Museum [ACM]); and
- ◇ Supported the idea of “living exhibitions” (via the Festival of American Folklife, now the Smithsonian Folklife Festival).

During Ripley’s tenure, models and practices pioneered at the Smithsonian often became widely embraced across the country. There is a sense among some Smithsonian staff today that, with proper leadership, the Smithsonian could once again step into the forefront of museum education.

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<sup>5</sup> For example, through networks maintained by central outreach units such as TSA, SCEMS, NSRC, and the Affiliations Program; through traveling exhibitions mounted by SITES; through the individual and collaborative outreach efforts of specific museums and research units; and through media offerings such as websites, *Smithsonian* and *Air and Space* magazines, and the Smithsonian Channel.

## *Professional Training*

In several scientific and museum-related fields, the Smithsonian is already one of the nation's pre-eminent centers for the professional education of graduate students, post-graduate students, and career professionals. For example, Smithsonian scientific research centers such as the Conservation and Research Center (CRC) of the National Zoological Park (NZIP), Smithsonian Environmental Research Center (SERC), Smithsonian Tropical Research Institute (STRI), and Smithsonian Astrophysical Observatory (SAO) are strong in this area, and have sterling reputations in their respective professional circles.

The question is whether the Smithsonian should expand its role in professional training—and perhaps not only in the scientific fields where it is already an acknowledged leader, but in other fields as well. For example, many units conduct training programs for teachers and museum professionals. On the whole, these efforts have not achieved the high level of national renown that Smithsonian professional training programs at its scientific research centers have achieved.

## *Specific Thematic Areas*

The Smithsonian is uniquely situated as an educational organization to address certain themes. Most obviously, the Smithsonian is widely regarded as one of the central custodians of the history that makes us one nation. The Institution might therefore play a prominent role in educating the public about what it means to be American, and in raising awareness of, and appreciation for, the unique contributions that different linguistic, cultural, religious, and racial groups have made to our collective national identity. Indeed, in a world marked by growing tensions among nations and peoples, this function could be of great value not only to the people of the United States, but to a wider global audience.

Certain scientific issue areas, derived from the cutting-edge research done by science units, are also obvious candidates for the Smithsonian to make its own on the national and international educational stage. These themes might include the origins of the universe, the origins and evolution of humankind, biodiversity, and global climate change. Because of its interdisciplinary nature, the Smithsonian is well-positioned to explore these themes from a variety of perspectives.

## Conclusions

- ◇ The Smithsonian has the potential to play an effective leadership role on the national and global education stages, but will need to identify feasible niches on which to focus. Defining the proper balance of efforts between formal education and informal education is of particular importance.
- ◇ To play such a role, the starting point must be the articulation of an educational vision that:
  - » Points to key areas where the Institution has the potential to make a significant impact, given its current and potential educational strengths;
  - » Articulates the impact the Institution would want to have;
  - » Addresses specific, well-defined educational needs of the nation (and the world); and
  - » Is broad enough to encompass the diversity of units within the Institution, while at the same time bringing focus to educational programming.
- ◇ It is hard to imagine that professional training will not continue to be a central pillar of the Smithsonian's educational role in the future (particularly for its science research centers), and one that might be expanded.

## Recommendations

- ◇ Senior Smithsonian leadership should articulate a clear vision for Smithsonian education that:
  - » Identifies those educational niches where the Smithsonian can make a real difference at the national and global levels;
  - » Ties directly into the wider Institutional strategic plan that is currently being formulated;
  - » Targets challenges and opportunities that exist in the external environment, such as:
    - \* Enhancing “21<sup>st</sup> century skills” like critical thinking, problem solving, working in groups, technical literacy, and creativity;



- \* Linking informal education to the wider national effort to increase learning and good citizenship;
  - \* Promoting lifelong learning by inspiring joy in learning and fostering self-development in people of all ages;
  - \* Supporting the teaching of certain STEM disciplines to young Americans in engaging ways; and
  - \* Embracing non-traditional audiences.
- » Plays to Smithsonian strengths, such as:
- \* Its national prominence, visibility, and attractiveness to partners;
  - \* Its unique capacity to explain and illuminate America's national identity to both Americans and the wider world;
  - \* Its prominence as a professional training organization;
  - \* Its capacity to create educational links among the arts, humanities, and sciences;
  - \* Its specialized research facilities such as SAO, STRI, SERC, the Museum Conservation Institute (MCI), the Center for Earth and Planetary Studies, and others;
  - \* Its extensive national networks;
  - \* Its large physical and virtual audiences;
  - \* Its collections and research; and
  - \* The variety of perspectives that its staff bring to the table.



### 3. Audiences and Programs

*After all, what is education, but a process by which a person begins to learn how to learn?*

—Peter Ustinov

Smithsonian education programs serve a wide range of audiences (the general public, preK-12 school children, scholars and aspiring scholars, museum visitors, website visitors, national outreach audiences, and so on). Many units, and the Institution as a whole, have not precisely defined or prioritized their target audiences. And even when audiences are adequately defined, educational programming at the Smithsonian is sometimes insufficiently attuned to audience needs; the direction and content of educational programming often tend to be driven by the interests of staff—educational or curatorial—rather than by objective assessment of what audiences want or need.

The range of programs offered to these audiences is similarly broad, and there is a perceived lack of consistency across the Institution in terms of program emphases, presentation, and in some cases quality. There is also a sense that programs tend to arise in opportunistic, personalistic ways, and to accumulate over time. At museum units, most educational programming is tied in some way to exhibitions; indeed, some interviewees argued that exhibitions themselves are best understood as educational offerings.

With rare exceptions, the Smithsonian model for written educational materials (whether in print or web format) is focused on creating original materials, typically based on the Institution's collections, exhibitions, or research. However, a small number of units (such as NSRC with respect to K-12 curricular materials and the Smithsonian Institution Traveling Exhibition Service [SITES] with respect to the educational materials that accompany its exhibitions) also review and vet educational materials created by other organizations, and provide stakeholders with information about those that meet these units' quality standards.

The balance between onsite programs and outreach programs (both web-based and “live”) varies considerably from unit to unit. On the whole, the default focus

for most museum education departments and NZP tends to be physical visitors.<sup>6</sup> Smithsonian educators often suggest that they would like to do more outreach to national and international audiences, but taking care of physical visitors has to come first, and increases in outreach activities—unless accompanied by additional resources—would have to come at the expense of onsite offerings.

The weight of programs for schools and children in education portfolios also varies among units. In general, programs for schools and children continue to account for a large part of what most unit education departments do—although only a small part of this involves formal classroom education. (One exception is NSRC, which focuses exclusively on formal curricular education.) A large part of the programmatic portfolio of the Smithsonian Center for Education and Museum Studies (SCEMS) involves outreach to school teachers.

Two units—NSRC and the Smithsonian Early Enrichment Center (SEEC)—have been suggested as possible models for Smithsonian involvement in formal preK-12 education. However, interviewees also raised several cautionary points about the feasibility of widely replicating or significantly scaling up these units' efforts. The major issues are that the investments required to develop, disseminate, and convince school systems to adopt new approaches and curricula for teaching specific disciplines can be very large; the time required to get a foothold in new markets is lengthy; and success depends on the willingness and ability of school systems to use these approaches and curricula effectively. Further, both units operate under unique circumstances—NSRC's partnership with the National Academies and SEEC's access to the rich collections and resources of the Smithsonian—that may limit their potential for expansion or replication.

## Exemplary Museum Education Programs

As part of this study, the study team explored educational practices at other museums to ascertain what constitutes “best practices,” standards, and “exemplary programs.” In this report, “best practices” refer to established requirements expected for a competent organization. “Exemplary programs,” by contrast, refer to those that are regarded as particularly noteworthy among a peer group.

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<sup>6</sup> This is not the case for central education units such as SCEMS and NSRC, which do not have their own public facilities, and emphasize outreach. The situation at the research centers varies. For example, the SERC education department emphasizes onsite programs; SAO has a larger outreach/offsite component.

Most museums do not develop their own standards for education programs. Rather, they use the education requirements of their accrediting organization, standards established for museums by the American Association of Museums (AAM), or the more detailed standards established by EdCom, a standing professional committee of the AAM.

EdCom offers a thorough, albeit general, set of guidelines for best practices in museum educational programming. By contrast, EdCom does not define the characteristics of exemplary educational programming. However, one gauge of exemplary status could be defined by looking at common characteristics of past programs recognized by EdCom's Excellence in Programming (EiP) Award. These include the following:<sup>7</sup>

- ◇ *Interactivity.* Several awardee programs involve an unusually high degree of audience immersion and interactivity with education staff, such as role-playing and the use of actors in period costumes.
- ◇ *Community connections.* Several have close ties to the local communities or to local education, civic, and governmental organizations. In some cases, the program is as much concerned with community service as with education.
- ◇ *Underserved audiences.* Several focus on—or involve topics dealing with—audiences that have been historically underserved by museum-type programming.
- ◇ *Innovation and experimentation.* Some are significant departures from previous programming at their home museum.<sup>8</sup>

The OP&A study team used EdCom EiP criteria, research into other museum programs, and interviews conducted for this study to identify a set of criteria that define exemplary educational programs in a museum environment similar to the Smithsonian's. This set consists of five main criteria, the first three of which are derived from the EiP awards:

- ◇ **Capabilities.** A museum must have access to the collections, research capabilities, and subject-matter expertise to support the types of educational programming it produces. The fullest range of museum resources available

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<sup>7</sup> Not in any order of priority.

<sup>8</sup> Interviewees indicated that such experimentation requires an organizational culture, sanctioned by senior museum management, that accepts risk in the pursuit of programming innovations.

should be used to illustrate and supplement the learning process for the target audience, including inter- or multi-disciplinary connections.

- ◇ **Community.** Exemplary museum programming often includes a substantial connection to the local community.<sup>9</sup>
- ◇ **Operational Awareness.** Exemplary programming reflects a keen awareness of the environment in which the museum operates. For example, some of the most important environmental factors affecting museum education today are the result of the *No Child Left Behind* (NCLB) act passed in 2002 and the ensuing emphasis on accountability and measurable results. The museum programs for school-aged children that have tended to do best in this new environment are specifically tailored to the standards and subjects that are the focus of NCLB testing.

The study team would suggest that two additional criteria for exemplary programming generally apply to Smithsonian programs, even though they were not considered important for EiP awardees:

- ◇ **Scale.** Many of the EiP award winners are notable for their relatively small size and opportunities for personal interaction. However, the sheer size of the potential audiences for Smithsonian educational materials and programming generally argues against focusing significant resources on programs that serve only a few visitors.
- ◇ **Sustainability.** Long-term economic viability was not a criterion for EiP selectees, as evidenced by in the fact that several awardee programs are no longer offered, having shut down upon (or soon after) the loss of grant funding. No matter how inspired a program may be, it cannot serve its audiences if it folds under financial pressures.

## Conclusions

- ◇ Given the absence of—or failure to follow through on—strategic goals and priorities that could inform decisions on audiences and programs, educational programming at the Smithsonian has been scattershot.

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<sup>9</sup> Smithsonian units do, to varying degrees, offer programs that connect them to local communities—with ACM being most tightly integrated at the local level. However, many Smithsonian units also target more conceptual “communities” in their role as national museums: national, global, and virtual communities of interest that form around particular issues or subjects.

- ◇ As the central administration and the units formulate new strategic plans and set goals and priorities for education (see Leadership section below), there will be a need for:
  - » Review of current portfolios of programs to assess their value-added in accomplishing Smithsonian and unit education goals, their cost-effectiveness in the use of scarce resources, and their long-term financial sustainability.
  - » A clearer definition of what is meant by education at the Smithsonian and who are its target audiences. Particular attention needs to be paid to the balance between formal versus informal education offerings, onsite versus outreach audiences, and new versus traditional audiences.
  - » Redesign of education portfolios to accomplish stated goals and align with priorities. This may require termination of some programs, enhancement of others, and development of new ones.

## Recommendations

- ◇ As part of a process of strategic planning for education, central Smithsonian leaders should define and prioritize target educational audiences, and explore, with education personnel, what types of programs might best serve these audiences. Consistent with central directions, unit leaders should do the same at their level. It is particularly important to clarify how the Smithsonian will engage programmatically with:
  - » National and international outreach audiences;
  - » Formal classroom audiences;
  - » Non-traditional and underserved audiences; and
  - » Lifelong learners.
- ◇ To the extent that outreach to national and international audiences is a priority for central Smithsonian leadership, it should make this clear in its education vision and strategic plan (see Leadership section below), and reallocate or raise additional resources specifically for this goal. The economics and logistics of national/international outreach—and the general tendency of units to prioritize onsite offerings—argue for some degree of

centralization (or at least central coordination) of outreach staff, resources, and infrastructure.

- ◇ To the extent that programs that work through formal school curricula are a priority for central Smithsonian leadership, it should make this clear in its educational vision and strategic plan (see Leadership section below), and reallocate or raise additional resources specifically for this goal.
- ◇ For an organization with the Smithsonian's national and global profile, an excessive focus on working in depth with a few visitors is not appropriate. Across units, the Smithsonian should aim for a diversified portfolio that offers a mix of programming in terms of numbers of people served, with explicit justification provided for small programs that consume substantial resources.
- ◇ Smithsonian units should weigh a program's potential long-term financial sustainability as part of the initial planning and development process. Because the Smithsonian does not charge admission and most units do not charge for program access, economically sustainable programs in this context are those that are attractive enough to potential funders—whether government, private, corporate, or other philanthropic—that they might be reasonably expected to garner sustained support for the long term.
- ◇ Education units and departments should, on a periodic basis, systematically review all programs (existing and proposed) with an eye to identifying those that might be cut, added, or modified in the interest of serving target audiences most effectively with available resources. The OP&A study team suggests the following guidelines:
  - » All education programs should have a clear rationale linked to unit and Smithsonian strategic plans;
  - » Rather than a program-by-program approach, educators should think in terms of frameworks and structures that are grounded in educational theory and practice, and are usable across a range of subject-matter areas;
  - » Among the factors that unit education managers should consider in such a review are:
    - \* A program's performance relative to its stated goals;
    - \* A program's potential to serve as a model for other organizations;



- \* A program's relevance to public policy issues;
  - \* A program's potential to change with the times and avoid becoming out-of-date or irrelevant;
  - \* A program's use of Smithsonian research, collections, and exhibits in a substantive way;
  - \* Evidence that the program addresses audience expectations and needs;
  - \* Whether a program has a clearly defined audience and is appropriate to that audience;
  - \* Whether a program is innovative or experimental, reaches out to non-traditional audiences, or in other ways moves beyond the status quo;
  - \* Whether a program has achieved significant professional or public recognition;
  - \* Whether a program tends to motivate audiences to follow up and learn more;
  - \* The size of a program's audience, relative to the resources it consumes; and
  - \* The overall programmatic balance within a unit's education portfolio—for example, are too many resources going to support a certain kind of program?
- » To increase their impact and outreach, onsite programs should strive to use an appropriate mix of delivery media:
- \* Individual onsite programs should have a complementary web component. For programs that are face-to-face or hands-on by nature, online models should be disseminated to guide other organizations that wish to replicate them.
  - \* Onsite programs should make greater use of a range of supplemental delivery modes, such as social media, mobile devices, cell phones, and alternative reality games.
  - \* Onsite offerings should provide information to facilitate post-visit follow-up (for example, information on online

resources related to the subject of an onsite display, lecture, or performance).

## 4. Professional Training

*There are two educations. One should teach us how to make a living and the other how to live.*

—John Adams

Smithsonian units offer a range of professional training opportunities, which fall into two basic categories: academic appointments (of which this report primarily addresses fellowships and internships) and professional training programs.

### Academic Appointments

#### *Fellowships*

The Smithsonian annually extends various types of academic appointments to over 2,000 scholars from around the world—pre-doctoral, other graduate, and post-doctoral fellows; visiting researchers; research associates; and others. Such scholars are drawn to the Institution by its unique collections and by the chance to work around pre-eminent researchers in their fields. Collectively, they bring an infusion of expertise, academic experience, and familiarity with recent developments in their fields that may not be represented in current Smithsonian research staff. The Smithsonian is among the national leaders in the professional training of researchers, particularly in several scientific fields including astrophysics, tropical and coastal ecology, systematics, mineral sciences, conservation biology, and art conservation.

Types of fellowships include centrally-appointed Smithsonian Fellows; fellows appointed by Smithsonian units; and externally funded fellows in residence at Smithsonian facilities. Fellows come to the Smithsonian to pursue individual research projects, rather than Institutionally defined projects. Contributing to the professional development of these individuals is a major element in the broader picture of education at the Institution, and fellows represent a pool from which the units often select new hires.

## *Internships*

Since its inception, the Smithsonian has supported the professional development of students through internship appointments. Internships allow a diverse group of undergraduate students (as well as some graduate students and very occasionally high-school students) with varied interests, career goals, strengths, and skills to assist and learn from the Smithsonian's curators, researchers, and other professional staff.

In the last few years, more than 900 students annually have participated in internships throughout the Institution, and applications were received from at least three times that number. Internships offer a wide variety of placement options, ranging from short-term (four weeks) to long-term (one year). While the majority of internships are unpaid, about one third carry stipends. Generally, more funds for interns are available in the science units.

It is not clear to what extent interns are used for education projects per se. SCEMS hosts about 10 interns a year, and likely would take more but for space considerations.

## *Issues*

There are a number of areas in which the fellowship and internship programs could be improved. These include the following:

- ◇ There is no overall coordination and integration of the various categories of fellowships and internships. One consequence is that there is no single source of reliable data on the number and types of academic appointments. Some years ago the Office of the Chief Information Officer (OCIO) began development of a central web-based processing system, Smithsonian Online Academic Appointments (SOLAA), but it has not been fully implemented, and all not units enter information on their academic appointments into the system.
- ◇ There appear to be differing interpretations about whether fellows can work on Smithsonian research projects. Smithsonian Directive 701 says that fellowship awards with stipends "are offered for the conduct of independent research or study for the primary benefit of the individual." Some interviewees interpreted this to mean that fellows are not supposed to work on Smithsonian research projects. Others said that they can do so, but must carry out their own proposed project within the Smithsonian research project.

- ◇ Funding for fellowships falls far short of demand.
- ◇ The duration of central Smithsonian Fellowships limits the design of research projects. Because of the nature of their funding, appointments can be for one year (occasionally two), but sometimes the appointments are made for shorter periods to allow more awards to be made. Fellows can re-apply for a second appointment. Three-year terms would enable Fellows to carry out more interesting and complex projects. (The terms of unit-funded fellowships are subject to unit policies, but tend to be three years.)
- ◇ It is not clear to what extent, if any, the units have been appointing fellows who want to conduct education-specific research.<sup>10</sup> The selection process for fellowships with stipends may hinder appointments for education-related research, as there is no definition of what “education” means in this context. In the case of the central Smithsonian Fellowship program, there is no review committee for education proposals per se.
- ◇ There is no effective system for reviewing proposals for interdisciplinary research.
- ◇ Management of internships is divided between the Office of Fellowships (OF) (for appointments with stipends) and SCEMS (for non-stipend appointments).
- ◇ Staff may use interns for tasks with little potential for fostering their professional growth (filing, data entry, reception work, and so on), often because of resource constraints.
- ◇ Some fellows and interns complain that, because of their dispersal throughout the Institution, they feel somewhat isolated from their peers at other units.<sup>11</sup>

## Professional Training Programs

The Smithsonian offers professional training programs in a range of areas, sometimes for a fee.

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<sup>10</sup> SCEMS is piloting a program to use outstanding teachers as educators-in-residence to work on specific programs.

<sup>11</sup> The SCEMS-managed, non-stipend internship program has attempted to address this issue by making use of Facebook to facilitate connections among the interns. Further, during the summer, when more than 60 percent of the interns are at the Smithsonian, SCEMS schedules social events such as professional network receptions, ice cream socials, field trips, and informal presentations by Smithsonian staff.

## *Teacher Development*

Teacher training takes a variety of forms. Some programs inform teachers about Smithsonian educational offerings and how to use them effectively in the classroom or on field trips. Others aim to improve general teaching skills or deepen teachers' knowledge of a subject area, using Smithsonian offerings and expertise as delivery vehicles.

The Smithsonian offers both in-person and web-based offerings for teachers. The former take place both at the Institution and in a variety of offsite venues (Teachers' Nights in cities other than Washington, Teaching American History workshops in partnering school districts across the nation, displays and presentations at the annual convention of the National Science Teachers Association and other professional educators' meetings, and so on). An example of the latter is SAO's online Annenberg courses for teachers. According to the industry newspaper *Education Week*, online professional development is likely to be an area of significant growth.

Not-for-credit programs for teachers are more common than credit-granting ones at the Smithsonian. The latter require partnering with a degree-granting institution—for example, NSRC and NZP offer teacher professional development programs with course credit available on a fee basis from Virginia Commonwealth University.

## *Other Professional Training Programs*

Some Smithsonian science units offer fee-based courses (sometimes paid through grants that fund scholarships) for professionals. For example, NZP's CRC hosts many scientists and technicians from developing countries for multi-week courses, and NZP staff conduct training in host countries as well; courses are also available for policy makers. NSRC runs strategic planning workshops for educational leaders of school districts. MCI is one of the few organizations with the ability to offer a variety of training in conservation techniques, and did so prior to 2004; it does not currently offer such courses. To some degree, the amount of professional training that can be offered is limited by resources such as teaching space.

In the past, the Smithsonian sought to promote itself as a resource for the development of museum professionals—particularly those from underserved populations and smaller local and regional organizations—through training and other channels. Its museum studies offerings have contracted significantly in recent years, although a few continue to be offered. These include a partnership with

George Washington University's Museum Studies Program, courses offered through the Community and Constituent Services Department of the National Museum of the American Indian, the Latino Museum Studies Program of the Smithsonian Latino Center (SLC), and courses offered through the museum studies division of SCEMS. There has been considerable discussion among Smithsonian staff about whether the Smithsonian should expand its museum studies offerings.

## Conclusions

- ◇ Fellows and interns are valuable complements to Smithsonian staff, not least because they provide an infusion of new knowledge, skills, approaches, and ideas. However, the scope and contributions of this non-employee workforce are difficult to quantify because administration of the various programs is fragmented across multiple units, and there is no central source of data.
- ◇ Conversely, Smithsonian fellowships and internships are typically an extremely valuable educational experience for the recipients. However, data limitations make it difficult to get an accurate picture of how Smithsonian internships affect the lives and careers of the people who receive them.
- ◇ There may be potential for greater use of fellowships and internships related to education (as opposed to subject-matter specific) research. To realize these benefits, however, the Smithsonian will need to address three major obstacles:
  - » Limited funding;
  - » Insufficient space; and
  - » A selection process that does not accommodate education-related research proposals.
- ◇ There is likely considerable unmet demand for the kind of fee-based professional training courses the Smithsonian could provide, although there may be resource constraints (particularly space) that pose obstacles to expanding these offerings. Online training offers a promising opportunity for increasing access to such courses.

## Recommendations

- ◇ The proposed Office of the Under Secretary for Education and Public Engagement (OUSEPE) (see section on Structure and Organization below) should take the following steps to strengthen the fellowship and internship programs:
  - » Institute a central database for fellowships and internships (and other academic appointees) by (1) reviewing the usability and technical aspects of SOLAA and (2) fully implementing the system or an equivalent one;
  - » Provide adequate resources for a central organization to coordinate support for academic appointments; track academic appointees (including alumni); and aggressively market the Smithsonian as a pre-eminent professional training facility;
  - » Expand Federal, central Trust, and endowment funding for Smithsonian Fellowships (the most prestigious category at the Institution) and internships. Work with the OD to raise additional funds to expand the fellowship programs;
  - » Fund and award more fellowships for three-year terms, and clarify fellows' ability to work on unit research projects;
  - » Recognize the potential of fellowships and other academic appointments as a staff recruitment channel similar to non-tenured appointments in higher education;
  - » Review and revise the Smithsonian Fellowship selection and funds allocation process, with particular attention to the creation of additional committees to review proposals that involve education research and interdisciplinary (or other innovative types of) research;
  - » Explore the value of appointing fellows and interns for education-related research, and establish processes to increase awards if appropriate;
  - » Combine management of stipend and non-stipend internships;
  - » Establish an endowment to increase the number of interns who get stipends; and



- » Explore the need for additional seminars, lectures, and informal gatherings for interns to give them exposure to the Institution and to relevant career options.
- ◇ The Professional Training unit of the proposed OUSEPE should explore the potential for expanding fee-based, credit-, or certification-granting professional development programs for teachers and other professionals.



## 5. Organizational Culture

*The only person who is educated is the one who has learned how to learn and change.*

—Carl Rogers

Despite the mantra that “the Smithsonian is all about education,” and recurring efforts to bring greater resources and focus to bear on it, education has, in practice, often been a lower priority than the research/curatorial side. Education departments and educators have historically been regarded as “second-class citizens” at many units—in terms of professional status, attention from unit and Institution leaders, and inclusion in decision making at the senior management level.<sup>12</sup> Many interviewees suggested that this has much to do with the academic culture at many of the museums and research centers, which values the “increase” of knowledge (as defined by a specialist peer group) above its “diffusion.”

In many units, a strong cultural divide exists between curators/researchers and educators. This tension is often evident in the dynamic among members of exhibition teams from the two sides. Researchers and curators tend to discount the contributions of educators because of the latter’s lack of subject-matter expertise. (Indeed, it is not unusual for educators to be brought into the exhibition development process at the last minute, suggesting that their contributions are seen as supplemental.)<sup>13</sup> For their part, educators often see researchers and curators as unconcerned with the accessibility of exhibitions to the general public, and as lacking in expertise about audiences.

Among units, a culture of insularity and “turf protection” has contributed to a low level of information sharing and collaboration in the educational area, although there have been some improvements in recent years, such as the Educators Exchange (a grassroots forum for facilitating dialogue among educators from across the Institution on issues of common interest) and the SCEMS-administered Education All listserv. Pan-Institutional education initiatives are widely seen as the work of SCEMS, rather than the collective work of all the units—a perception that impedes the success and

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<sup>12</sup> Some interviewees indicated that Smithsonian educators themselves are partially to blame for this state of affairs, suggesting that many tended to be insular and poor at “marketing” themselves to their non-educator colleagues.

<sup>13</sup> At most Smithsonian units, educators are increasingly integrated into the exhibition development process from the start as full team members. However, interviewees indicated that educators’ input is still generally less likely to be heeded than that of curators and researchers on the team.

expansion of such initiatives. Units that participate in pan-Institutional endeavors are not generally recognized or compensated for these efforts.

More generally, the Smithsonian lacks the values associated with a learning organization. At all levels, there is a degree of risk- and change-aversion, which is reinforced by a belief by some that consensus is required before undertaking any significant change. Learning through trial and error is avoided; funding is rarely allocated for experimentation; research aimed at improving programming has not been supported; awareness of, and comparison of Smithsonian practice with, developments in the wider professional worlds of museums and education are not systematically pursued; and inadequate attention is paid to program evaluation and lessons learned.

## Conclusions

- ◇ The culture at the Smithsonian undermines the provision of consistently high-quality education programming, and is likely to impede the achievement of strategic educational goals. Of particular concern are:
  - » Unit insularity with respect to each other; and
  - » A lack of value placed on organizational learning.

Also troublesome is the treatment of education at some units as an “add-on” feature.

- ◇ Recent initiatives to increase information sharing, promote collaboration, and raise the status of education suggest that there is some receptivity for a movement toward a different set of values at the Smithsonian.
- ◇ A critical task of leadership and management at all levels will be to define and foster a culture that supports innovation, risk taking, openness to new ideas, teamwork, and cross-unit collaboration where appropriate. Financial and professional incentives will likely be required to foster desired cultural change.

## Recommendations

- ◇ The proposed OUSEPE (see Structure and Organization section below) should:

- » Describe an alternative culture that values organizational learning, education, innovation, experimentation, and collaboration among Smithsonian educators and other staff; and
  - » Prepare a plan for fostering cultural change that at the very least addresses how to improve the second-class status of education and educators where it exists, and how to chip away at cultural issues such as risk aversion and insularity. Among possible incentives for cultural change are:
    - \* A fund for competitively awarded grants to support projects that embody culture-changing values such as experimentation, innovation, application of knowledge gained from the outside world, entrepreneurship, collaboration, evaluation, and cross-unit learning and information sharing;<sup>14</sup> and
    - \* Access to space and other resources for delivering experimental, innovative programming.
- ◇ Senior Smithsonian leadership should actively support efforts to foster cultural change.

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<sup>14</sup> Such a fund, the School Programming Fund managed by SCEMS, was introduced in 2008 and distributed \$300,000 in competitively awarded grants to the units in that year. (Unfortunately, non-obligated monies from the Fund were held back in 2009, owing to budgetary pressures.) Criteria for proposals included innovation, collaboration, and an evaluation component.



## 6. Leadership

*The decisions our leaders make about education in the coming years will shape our future for generations to come.*

—White House Education and  
Technology Agenda

### Central

In recent years, educational leadership at the Smithsonian has been weak at the central and unit levels. Except in connection with exhibitions, education has not had strong champions against competing claims on resources, although that picture now shows signs of changing.

The central administration approved an Institution-wide strategic plan for education for 2004-2009. However, because agreement on the plan required consensus and no central office has the authority to ensure its implementation at the unit level, the plan's objectives were broad and focused on pan-Institutional programs (such as the Education Data Gathering and Evaluation [EDGE] database, professional development opportunities, and the Educators' Award program). It did not address units' educational roles beyond calling for them to draft their own strategic plans in this area.

The Education Committee of the Smithsonian National Board—as well as members of advisory boards of several units—have stepped forward as dedicated champions of Smithsonian education. However, these boards are advisory, with no formal governance or operational authority. They can be valuable allies for a Castle administration committed to education, but cannot be fully effective without leadership from the Regents, the Secretary, and other senior Smithsonian managers.

The SCEMS-administered SCED, established as a vehicle for bringing educational leaders from the units together to give them a collective voice, has had mixed results. Some interviewees believe it facilitates problem solving and awareness of educational developments across the Institution. On the other hand, few seemed to think it has significantly raised the profile of education at the Smithsonian or improved central coordination of educational efforts.

More generally, the current culture and organizational structure of the Smithsonian stymie bold leadership from the Castle. They are marked by:

- ◇ A sprawling, decentralized structure that exhibits considerable organizational inertia and is difficult to “steer”;
- ◇ A deeply-entrenched culture of autonomy at the units that they strongly defend; and
- ◇ A culture that expects decisions to be made through consensus.

In the face of such realities, recent Smithsonian administrations have for the most part steered clear of decisions that could provoke negative reactions at the unit or grassroots levels. This has led to a sense that the Castle passively presides over education at the Institution, rather than actively leading it.

That said, a workable Smithsonian educational strategy will have to allow the units leeway to pursue their own needs, interests, and priorities because of the real differences that exist in units’ missions, audiences, disciplines, and so on. A centralized, “one-size-fits-all” approach to education cannot be considered a realistic option.

## **Unit**

As noted, the 2004-2009 Smithsonian strategic education plan specified that each unit was to complete and submit its own strategic plan to the central administration. A number did so, but the plans varied substantially in quality and nature, and only a few provided clear, detailed guidance and priorities. Further, it is not clear to what extent the units implemented their plans. Interviews conducted for this study suggested that education programming at the museums and research centers has remained largely the product of individual personalities, and is subject to change with personnel changes.

It is unclear to what extent unit directors are evaluated for their units’ educational efforts. Interviewees indicated that in practice some directors are far more committed to education than others.

## **Conclusions**

- ◇ Achieving greater influence as a national educational organization will require clear strategic priorities for the Institution as a whole, based on the Institution-wide educational vision discussed above. Ensuring the units adopt these priorities is a major leadership challenge.



- ◇ For education at the Smithsonian to move forward, leadership at all levels will need to become strong advocates for establishing it as an Institutional priority and allocating the resources necessary to ensure excellence in the areas defined by strategic goals and priorities. It will be essential that leadership do more than pay lip service to education.
- ◇ A key reason that education is not a higher priority at the central and unit levels is that it has not had a voice in high-level planning and decision making. Reform of education at the Smithsonian will likely not succeed unless education is represented on senior management teams.
- ◇ Other key leadership tasks will be to:
  - » Foster a supportive culture (as discussed in the Organizational Culture section above); and
  - » Develop means of promoting and supporting cross-unit collaboration.

## Recommendations

- ◇ The Secretary should establish and communicate that education is a Smithsonian-wide priority in a variety of ways:
  - » Establish the OUSEPE (discussed in detail in the Structure and Organization section below);
  - » Include education prominently in the Smithsonian-wide strategic plan;
  - » Follow through with appropriate changes in organizational structure and resource allocations, as discussed in later sections;
  - » Be a strong advocate for education internally and externally; and
  - » Ensure that substantive education goals are incorporated into unit director performance plans, and that the relevant Under Secretaries hold directors accountable for these goals.
- ◇ To raise the profile of education at the Smithsonian and focus resources on a limited number of key strategic priorities, the Secretary and senior Smithsonian leadership should create a new education strategic plan, closely aligned with the overall Smithsonian strategic plan. The education plan should:

- » Establish clear Institutional educational priorities based on the Smithsonian education vision, and set realistic goals and strategies for achieving them;
  - » Position the Institution's educational function internally and externally in the wider context of national and global educational needs;
  - » Clarify the respective roles of the central administration and the units, with enough flexibility to accommodate the differing needs of the units;
  - » Clarify the balance between onsite and outreach activities, while exploiting critical synergies between them; and
  - » Take a long-term view—think in terms of sustainability and flexibility.
- ◇ Unit-level leadership should likewise take steps to strengthen education:
- » Include representation for education on senior management teams;
  - » Ensure that education managers either come into their positions with solid management training/experience, or are provided with the requisite training, mentoring, and support. The basic skills education managers should be expected to possess include not only expertise in the education area itself, but also core management skills such as strategic and operational planning; project management; and personnel management.
  - » Allocated adequate resources to enable the unit's education goals to be achieved.

## 7. Management

*Management is, above all, a practice where art, science, and craft meet.*

— Henry Mintzberg

Ineffective management of education at the central and unit levels is at the heart of many of the problems described in earlier sections—the proliferation of fragmented, disparate programs; overstretched staff and budgets; tension between education departments and other departments; insularity; inattention to collaboration with other units; personalized or opportunistic program decisions; lack of emphasis on innovation, experimentation, and organizational learning; and inadequate accountability.

### Central

There has been little emphasis within the central administration on systematic management of education, in the sense of:

- ◇ Formulating and overseeing the implementation of pan-Institutional strategic plans and budgets;
- ◇ Decision making and resource allocation based on clear plans, priorities, and objectives;
- ◇ Coordination of programming across units and support for collaboration;
- ◇ Facilitation of communications and information sharing pan-Institutionally;
- ◇ Emphasis on a culture of organizational learning, creativity, innovation, and audience service; and
- ◇ Accountability for performance.

As noted, the current Smithsonian strategic education plan called for units to prepare and submit their own individual plans, and this objective was made part of unit directors' performance plans. However, there was no process to assess the quality of these plans or to ensure their alignment with the central plan. Further, it is not clear to what extent the central administration has evaluated unit directors on implementation of their units' education goals.

## Unit

As at the central level, education at the unit level has not benefited from effective management in recent years, although there has been some recent movement at some units to rectify the problem. Not all those put in charge of education have had relevant management training or experience, or even experience in the type of education taking place at their unit. More typically, individuals with backgrounds in disciplinary research, museum studies, or general education have been promoted into management positions. Such individuals are rarely provided with management-related training, mentoring, or other support. At some units, turnover in management positions (especially education department heads) has led to a lack of continuity in educational direction and emphasis.

There was also a sense among many education managers that education was not a priority of unit leadership, which was seen to favor other programs or functions when it came to resource allocation. Often, education managers do not have a seat at the senior management table.

Programmatic decisions at many units were described as opportunistic (donor- or funding-driven) or personalistic (based on factors such as staff interests or preferences). By contrast, more rigorous factors such as audience needs assessments, results of program evaluations, explicit strategic priorities, cost-effectiveness analysis, and awareness of developments in the wider worlds of museums and education rarely appeared to drive decisions.

## *Evaluation*

Although program evaluation is an important management task and a potentially valuable tool for informing programmatic decisions, some interviewees indicated that it had in the past received little attention at their units, although the situation is slowly changing. Evaluation of Smithsonian educational offerings has tended to be informal and carried out internally by the education departments, using less-rigorous tools such as comment cards, informal observation, and casual interviews. Some departments have used the results to make adjustments in evaluated programs or to inform other aspects of programmatic decision making, but this is not always the case.

One barrier to effective program evaluation is the cost and difficulty of assessing outcomes or impacts. Rigorous evaluation of outcomes can be costly, tracking

impacts and outcomes in detail is difficult, and the results may not justify the expenditure. In light of these barriers, programs are typically judged on the basis of output measures such as attendance, web traffic, and cost recovery, although near-term outcomes such as visitor satisfaction may also be assessed. Some units, however, such as NSRC and SAO, do invest considerable resources in outcome evaluations of their programmatic efforts, and program funders increasingly expect program providers to undertake some level of evaluation.

The EDGE database, administered by SCEMS, is the only Smithsonian-wide system for collecting education program output data. In the long run, SCEMS envisions EDGE as a practical tool for entering intended learning outcomes. In its current state, EDGE provides a reasonable overview of attendance, audience types, program types, and methods of delivery. It is regarded positively by units that do not have their own systems to track similar data, and there is widespread acceptance that it is potentially useful for providing numbers to Congress and donors to bolster the case for Smithsonian education. However, some interviewees were critical of EDGE; they offered the following observations:

- ◇ Widespread buy-in for the project has not been secured, and many units see it as a centrally-imposed administrative burden rather than something of potential benefit to them;
- ◇ Beyond providing summary statistics for pitches to Congress and donors, the purpose of the system is unclear; few staff could provide concrete examples of how they have used the data for internal unit purposes; and
- ◇ Data entry is time-consuming, and the system is not user-friendly; some units complain that it is duplicative of, or not compatible with, their own tracking systems; and the categories used and measurement methods are not always understood by staff, and not applied consistently across units.<sup>15</sup>

## Conclusions

- ◇ Strategic planning, increased resources, structural changes, and other initiatives to strengthen education will come to nothing without effective management. The necessary starting point is to have qualified managers at all levels and to hold them accountable for the accomplishment of specific goals. Support of senior leadership is also critical.

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<sup>15</sup> To address these criticisms, SCEMS has proposed a centralized calendar system into which the units would enter all their program offerings, making EDGE unnecessary. However, this idea, has not gotten off the ground because not all units support it.

- ◇ Particular aspects of management that require attention are:
  - » Professional development for staff who are identified as potential managers, which may include formal training, opportunities to manage projects and supervise volunteers, and mentoring by managers;
  - » Inclusion of education managers on senior management teams;
  - » Decision making guided by a rigorous framework that encompasses central and unit education strategic plans, explicit priorities, clear decision-making criteria (see, for example, the program criteria suggested in the Audience and Programs section above), cost-effectiveness analysis, and the results of program evaluations;
  - » Improved communications within and across units to avoid duplication, improve the use of resources, and achieve synergies; and
  - » Criteria or guidelines for program evaluation that outline what types of evaluation should be conducted and how often, as well as feedback mechanisms to ensure lessons learned are applied. Periodic reviews of program portfolios will help ensure the relevance and value added of each program, assuming the results are used to redesign the portfolio by cutting weak programs, strengthening successful ones, and adding new ones to fill gaps and address changes in strategic plans at the central and unit levels.

## Recommendations

- ◇ The Secretary should monitor the performance of the OUSEPE in managing its programs and overseeing implementation of the Smithsonian strategic education plan.
- ◇ The OUSEPE should play an active management role in ensuring that the units have strategic education plans aligned with the central Smithsonian strategic education plan, and are carrying out those plans.
- ◇ The OUSEPE should identify management issues at the unit level that are affected by inadequate support from the central administration and create mechanisms to address those issues. These should include:

- » Improving means for communications among educators, including:<sup>16</sup>
  - \* Channels for sharing feedback on, and lessons learned from, program evaluations and EDGE data;
  - \* Interactive forums for disseminating lessons learned in one unit to the others (such as an interactive website where educators could pool their experiences to solve common problems or address common opportunities); and
  - \* Support for grassroots cross-unit communications efforts by staff (such as the Educators Exchange).
- » Strengthening accountability for the quality and impact of education programs across the Institution, for example,
  - \* Defining and promulgating performance indicators by which the success of education programs might be judged, and ensuring that program development and assessment take account of these criteria.
  - \* Setting guidelines, informed by cost-effectiveness analysis, to indicate when and what type of program evaluation is ordinarily expected; and
  - \* Clarifying EDGE's current and potential purposes, uses, and benefits; continuing to work with the units to ensure consistency in the use of its categories, language, and measures; and addressing unit concerns about its usability, measurement techniques, and technical issues (including the IT platform).

◇ Unit directors should:

- » Identify desired qualifications for education managers at their unit and ensure that new hires or current managers either have the needed expertise or are provided with the necessary training;
- » Create a professional development track for staff who have management potential; and
- » Include education managers on the senior management team.

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<sup>16</sup> A positive recent initiative in this area is OCIO's development of a Sharepoint capability to facilitate collaboration and information sharing across units.

- ◇ Unit education managers should:
  - » Develop a decision-making framework for programming;
  - » Develop and implement a plan to improve intra-unit communication;
  - » Apply cost-effectiveness thinking at all stages of program conceptualization, development, operation, and review;
  - » Develop a program for front end, formative, process, and summative evaluations to the extent feasible; and
  - » Systematically review all programs (existing and proposed) on a periodic basis with an eye to identifying those that might be cut, added, or modified in the interest of serving target audiences most effectively with available resources.



## 8. Structure and Organization

*Do not dismantle the house, but look at each brick, and replace those which appear to be broken, which no longer support the structure.*

—Neale Donald Walsch

### Central

Many units, central offices, and advisory bodies contribute to education at the Smithsonian. However, no office within the central administration has responsibility for the strategic direction and overall coordination of education. SCEMS is the closest thing that the Smithsonian currently has to a central education office, and it has on occasion been charged with coordinating Institution-wide initiatives and programming. But its mandate has never been well-defined, and it lacks the authority and leverage to be a truly effective central coordinating office.

The relationship between the central administration and units providing education programming is poorly defined, and is often based more on personal connections than formal channels. Exchanges of information and expertise among units are similarly informal, which limits learning across the Institution. The few mechanisms and bodies that promote communication and coordination across units—such as SCED and the Educators Exchange—rely on voluntary participation and lack strong Institutional support. As a result, many units pursue their educational agendas largely in isolation from other units and from the central administration, constraining the Smithsonian's ability to focus on choices that best serve the interests of the Institution as a whole.

There is limited Smithsonian-wide planning of resource needs for education (such as human resources, facilities, technology, and professional development for educators), resulting in a failure to leverage resources. Uniform, accurate, and comprehensive quantitative data on the resources (human, financial, and other) devoted to educational offerings across the Smithsonian are difficult to acquire. The soft qualitative data that are available, while sometimes valuable, are often difficult to interpret.

## Unit

The Zoo and almost all Smithsonian museums and research centers have education departments, but their placement in the organizational structure varies greatly. Multiple education structures have evolved across the units to facilitate the attainment of goals of individual units, specific departments, and particular individuals.<sup>17</sup>

Even though most education programming (at least at museum units) is tied to exhibitions, exhibition departments are typically separate from education departments, and the working relationship between the two is often strained. In addition to exhibitions, many other educational offerings are provided by departments other than education—research and curatorial divisions, offices of public programs, web units, community outreach offices, and so on. A few units have, however, moved to address the problem of intra-unit fragmentation of educational efforts. For example, NMAH has grouped education-related functions (school programs, public programs, new media offerings, docents, and so on) under an Associate Director for Public Programs, and its senior leadership has taken steps to improve the relationship between these functions and the curatorial side of the house.

Many interviewees spoke of the fragmentation of education programming within units, particularly the larger ones, with multiple departments conducting educational activities, often in isolation from the education department and one another. Some units have moved to address this issue by forming inter-departmental groups (such as NZP's Zoo Education Group and NMNH's Conversations About Museum Education and Outreach) or by carrying out structural reorganizations (such as grouping education-related departments under an Associate Director for Public Programs at NMAH or combining the curatorial and education departments at the Hirshhorn Museum and Sculpture Garden). Interviewees sometimes pointed to a cultural basis for this fragmentation that was most notable in the relationship between educators and curators/scientists and educators and exhibition development teams (see Organizational Culture section above).

A recurring theme at the Smithsonian is how to balance the needs of the central administration and those of the units. While interviewees acknowledged the need for units to decide on their organizational structure and programming, they also saw

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<sup>17</sup> The study team spoke with ten external museums and found considerable variation in where education fits in their organizational structures. In five of the eight, the head of the education department is considered senior management. For a majority, the education department houses public programs.

areas where central support would be beneficial. Examples include information-sharing mechanisms, evaluation, and professional development to keep staff on top of developments in the fields of general and museum education. Pan-Institutional programs such as Heritage Months and Teachers Night have worked well on a model of voluntary unit participation facilitated by the central administration through SCEMS.

## Conclusions

- ◇ Current organizational structures, for the most part, do not adequately support cross-unit and intra-unit synergies, communication, and organizational learning, or the effective pursuit of pan-Institutional strategic priorities.
- ◇ Organizational restructuring at the central and unit levels can be an important means of strengthening education at the Smithsonian. For example, the central administration can provide valuable support for unit efforts by
  - » Developing a central vision and strategy;
  - » Coordinating unit efforts in priority areas;
  - » Setting Institutional standards;
  - » Leveraging central resources to support key initiatives;
  - » Facilitating information sharing, professional development, and evaluations;
  - » Providing support for digital media projects;
  - » Assisting with marketing;
  - » Providing end users with better and easier access to education information and programs; and
  - » Ensuring consistent excellence in programming.

At the unit level, restructuring can be a tool for addressing fragmentation in education programming and the frequently inferior status of education compared with other programmatic functions.

- ◇ OUSEPE staff (see Recommendations below) can be recruited from across the Institution and particularly from SCEMS, which has many of the knowledge and skill sets required to perform the functions envisioned for OUSEPE.
- ◇ Education at the Smithsonian can benefit significantly from the creation of a more formal relationship between the central administration and the unit education departments. That structure will need to accommodate the differences among units, to avoid turf battles that undercut creativity and inspiration.

## Recommendations

- ◇ The Secretary should establish an Office of the Under Secretary for Education and Public Engagement (OUSEPE). The office would be charged with:
  - » Developing a vision for Smithsonian education that sets forth where the Smithsonian would like to be in 10 years and a strategic education plan that defines Institutional goals, priorities, and strategies;
  - » Setting guidelines or standards for programs;
  - » Coordinating and facilitating education programming by the units related to the thematic areas defined in the forthcoming Smithsonian strategic plan;
  - » Providing support to the units in areas where there are clear economies of scale and pan-Institutional roles, such as academic appointments, digital media, professional development for staff, and research and development of model programs;
  - » Serving as an information broker for the education community by facilitating, through diverse media, the sharing of information and lessons learned on internal education efforts, and gathering and disseminating the latest relevant research and trends from the external world;
  - » Identifying, initiating, facilitating, and monitoring pan-Institutional educational collaborations and external partnerships;
  - » Coordinating outreach efforts;

- » Managing pan-Institutional programs such as Heritage Months, Teachers' Night, and academic appointment programs;
  - » Marketing Smithsonian education offerings; and
  - » Assisting units with fund raising and financial management.
- ◇ Organizational structures and the division of responsibility between center and units should be sufficiently flexible to accommodate shared responsibility in areas such as evaluation, web-based programming, and collaboration below the pan-Institutional level.
  - ◇ To further accountability, there should be dual reporting of unit education managers to their unit directors and to OUSEPE, similar to that for development staff in the units (who also report to OD).
  - ◇ Unit directors should put in place an organizational structure that:
    - » Gives education a seat at the senior management table; and
    - » Facilitates communication and coordination of educational activities across the unit.



## 9. Collaboration

*The magic by which two plus two can make five.*

—Stephen Weil

### Internal

The Smithsonian has experienced some success with cross-unit and pan-Institutional educational collaboration. Examples of centrally-mediated collaborations include the Heritage Months, the Smithsonian Connections Lincoln series, and exhibitions, festivals, and public programs jointly sponsored by central outreach units such as the SLC, SCEMS, and The Smithsonian Associates. Examples of non-mediated cross-unit collaborations among museums or research centers include the “Posters to Go” project among the Smithsonian American Art Museum (SAAM), National Portrait Gallery, and Archives of American Art and a program by ACM and SERC that teaches children living in Anacostia about the environment of the Anacostia River.<sup>18</sup>

However, in spite of some successes, internal collaboration at the Smithsonian tends to be dependent upon individuals and personal relationships. Rather than facilitating collaboration, the culture and organizational structure of the Smithsonian seem to discourage it. Internal collaboration is sometimes seen as an additional burden on top of basic unit-level responsibilities, and a luxury that already overstretched educators cannot afford.

Even where Smithsonian educators grasp the potential benefits of collaboration in principle (knowledge sharing, resource leveraging, accessing new audiences, creating programs of broader scope, and so on), in practice they find collaboration difficult and frustrating to attempt. For example, interviewees stressed that there are few rewards or incentives for individuals at the unit level who participate in collaborative projects. Of particular concern is the inability to compensate individuals for time spent working with other units. Different operating procedures at participating units frequently complicate matters, while the overarching management and administrative processes for collaborative projects remain unclear. These logistical issues are exacerbated by the culture of autonomy and competition that often prevails at the unit level; for example, concerns about credit and recognition often impinge upon collaborative efforts.

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<sup>18</sup> That both of these projects were funded by the SCEMS School Programming Fund underscores the importance of incentives for internal collaboration.

Not only is collaboration challenging, the lack of cross-unit communication and awareness discussed above makes it difficult even to identify opportunities for inter-unit collaborations. Those who wish to explore them are often frustrated in their attempts to identify the relevant person or point of contact in other units. Units off the Mall feel particularly isolated from their colleagues.

## **External**

External collaboration raises a different set of issues. Both central and museum/research units are involved in a wide variety of collaborative educational activities with external partners, including state and Federal government entities, schools and school systems, non-profit organizations, universities, and corporations. At most units, external collaboration is more common than internal collaboration.

Units often engage in external collaborations because partners bring things to the table that the Smithsonian itself cannot. For example, the Smithsonian is not a degree-granting institution, but it can work through university partners to offer degree-, credit-, or certification-granting programs. Restrictions on direct grant applications to Federal agencies can be surmounted through external partnerships, and external partners can broaden the reach of Smithsonian programming by providing access to new audiences. Partners may also provide skills, facilities, technology, and other resources that the Smithsonian lacks or cannot secure in a cost-effective way.

Of course, external partnerships and collaborations cannot be expected to give the Institution literally “something for nothing.” A large part of the Institution’s appeal to collaborators is its status, brand, and reputation, which do not cost anything to share with reputable partners.

While external partnerships seem to hold more appeal than internal collaboration for many Smithsonian units, there are potential pitfalls that necessitate careful consideration of the costs and benefits before entering into an agreement. For example:

- ◇ There are always transaction costs and risks associated with partnerships and collaborations, such as the additional time it takes to set them up and manage them. Unless there are clear benefits to all parties, relationships can bog down, and the project may founder. The literature on partnerships suggests that great care needs to be taken to ensure that the likely benefits outweigh the risks and transaction costs.



- ◇ Some interviewees suggested that the Smithsonian tends to be excessively bureaucratic in dealing with partners, especially when central offices such as the Office of Facilities Engineering and Operations and Office of the General Counsel get involved, and that this can reduce its appeal as a collaborator.
- ◇ Because of the decentralized nature of the Institution, there is great potential for confusion if clear points of contact are not established within the central administration and the units.
- ◇ External collaborations with for-profit firms—especially if they involve exclusivity or even the appearance of it—need to be handled with extreme sensitivity, to avoid damage to the Smithsonian’s reputation and brand.

One important pan-Institutional external collaborative effort worth singling out for comment is the Smithsonian’s partnership with the Council of Chief State School Officers (CCSSO), the national umbrella organization for the public officials who head departments of elementary and secondary education in the 50 states, the District of Columbia, the Department of Defense Education Activity, and five U.S. extra-state jurisdictions. Initiated in 2006, the partnership has significant potential to leverage the Smithsonian’s educational reach across the nation, and has already generated value for both sides. However, some interviewees also indicated a measure of disappointment with the partnership, noting that it has not been as successful as originally anticipated and requires a great deal of effort to administer. On balance, the Smithsonian-CCSSO partnership remains a work-in-progress, the ultimate fruits of which remain promising but not yet fully realized.

## Conclusions

- ◇ The Smithsonian and the units are missing many benefits that could accrue from more collaboration across the units.
- ◇ To foster more cross-unit collaboration, the Smithsonian will need to address the administrative and cultural obstacles to it, and offer incentives to units and staff to engage in it. An important initial step would be to support and expand mechanisms for sharing information about education activities and resources across the Smithsonian. In addition, there would be benefits to affording off-Mall units a greater presence on the Mall.
- ◇ External partnerships are likely to bring increasing benefits to the Smithsonian as it moves into new technologies and areas of education, allowing it to leverage resources, access expertise it lacks, and stay current

with the fast-changing world of IT and other technologies. Although collaboration and partnerships will be important to the Institution's future, potential projects need to be thoroughly explored and discussed to ensure that expected benefits are sufficient to justify the transaction costs and risks inherent in collaborative efforts.

## Recommendations

- ◇ The central administration should provide practical incentives for inter-unit educational collaboration, such as:
  - » A pool of funds, distributed on a competitive basis, to foster cross-unit projects;
  - » A pool of funds for staff located outside Washington, D.C. to travel to Washington to meet with and learn from their peers (and vice-versa);
  - » The provision of physical and technological infrastructure to facilitate collaborative interactions—for example, meeting rooms, IT tools such as Sharepoint, and high quality videoconferencing capabilities;
  - » A pilot program that allows interested staff to rotate through temporary assignments at other Smithsonian units and external museums, national and international;
  - » A pilot program that allows staff time, within a pre-determined limit, to work at other units on collaborative projects; and
  - » The establishment of standard Smithsonian-wide procedures and policies for collaborative projects.
- ◇ As outlined in the Structure and Organization section above, the proposed OUSEPE should include:
  - » A unit tasked with identifying and facilitating opportunities for collaboration among units; and
  - » Personnel tasked with promoting interdisciplinary projects in the thematic areas identified in the Institution-wide strategic plan.

## 10. Financial Resources

*Education costs money, but then so does ignorance.*

—Sir Claus Moser

While funding sources for education programs differ across units, in general most internal Smithsonian funds go to salaries, with the split between Federal and Trust varying widely across units. While most units also have some level of internal funding for operational expenses for education programming, there appears to be a heavy reliance on project-by-project fund raising to cover operational needs.

### Adequacy

Money for education is a perennial issue at the Smithsonian. Educators almost universally complain of being overstretched, and of a mismatch between resources and responsibilities. The OP&A study team cannot independently verify such claims, in part because it is impossible to track exactly how much money has been allocated for education, as the activities and personnel classified as education-related vary across units and over time.

More fundamentally, however, the study team lacks an objective measure of “adequacy” in this context. On the one hand, many units have over the last decade or so experienced staff reductions affecting education departments, turnover resulting in unfilled vacancies in education positions, rising expectations for outreach and web programs unaccompanied by increased resources, and other developments that create the impression of inadequate funding. Further, interviewees suggested that requests for unit funds for education are less likely to meet with success than requests related to exhibitions or research, and that educational expenditures are especially vulnerable to cuts in the face of general or exhibition-related cost overruns. On the other hand, there is a general unwillingness at most units to take educational programs off the table when facing resource constraints—which practically guarantees a sense of constant financial and staff overstretch.

Regardless of the accounting facts, the perception of overstretched resources itself has important implications. For example, it will be difficult to obtain unit buy-in for new Smithsonian strategic educational priorities unless they are backed by additional funding. Most unit educators will certainly see such priorities as an additional demand on resources that are already inadequate.

## Revenue-Generating Offerings

Revenue-generating offerings are not a major source of funds for most units; free educational offerings are the general rule. Indeed, some stakeholders argue that, as a Federally-supported organization, the Smithsonian is *obligated* to keep its educational programs free to users. However, a number of interviewees also raised the possibility of generating additional funds through increased sales and licensing of educational products and services. The prospects here are mixed.

- ◇ The Smithsonian is already engaged in a number of educational markets with considerable revenue-generation potential—for example, tours, general-interest books, and cable television—through partnerships and licensing administered by Smithsonian Enterprises (SE).
- ◇ Some interviewees suggested the Smithsonian could raise significant additional revenues through a more aggressive push into markets for curricular educational products and services, such as those currently offered by NSRC. However, others noted that such markets tend to be difficult to break into, because the required investments in research, design, and marketing can be very significant.
- ◇ Some interviewees seemed to see the market for fee-based in-service or pre-service professional training courses for teachers and other professionals as a particularly promising area for greater Smithsonian involvement.
- ◇ A number of other miscellaneous educational product lines were mentioned by interviewees, such as educational games, self-study kits, and online continuing education courses. Many of these appear to offer at best relatively modest revenue potential.

## Economic Thinking

The study team saw little evidence that economic thinking—that is, the explicit consideration of how limited resources can be used most effectively to achieve explicit goals—is systematically incorporated into education planning and programming at the Smithsonian. There is a widespread tendency to lament the perceived mismatch between resources and responsibilities, but only sporadic evidence of:

- ◇ Sharing and leveraging of resources across units;
- ◇ Exploration of more cost-effective programmatic alternatives to meet existing responsibilities; and

- ◇ Cutting programs to bring responsibilities into line with available resources (other than terminating programs when their project-specific funding is lost).

At the Institutional level, inadequate communication, collaboration, and sharing of information across units are major sources of inefficiency.<sup>19</sup> There has been little exploration of mechanisms for directly sharing or temporarily redeploying resources across units to promote efficiency. Within units, resources are also frequently deployed in inefficient ways as a result of the management weaknesses discussed above—particularly the unfamiliarity with cost-effectiveness thinking.

## Fund Raising

Responsibility for educational fund raising from private sources is shared between OD and the units. While the mechanics of this arrangement received mixed reviews from interviewees, it was usually acknowledged to be necessary to avoid chaos. Some interviewees praised OD for successfully imposing a degree of coordination on the fund-raising efforts of the units. Others pointed to cases where units continue to get in each others' way—for example, when two or more units approach the same donor to seek funds for similar programs without coordinating their efforts.

Relative to other programmatic and capital needs, education is generally considered an “easy sell” to funders. But interviewees indicated that large-scale fund raising in this area has been hampered by the lack of a pan-Institutional education strategy to present to potential funders. (Such a strategy would also be useful in seeking increased appropriations from the Congress.) In addition, because of its appeal to funders, education was said often to be used as a “bait” in approaching potential donors but later dropped in favor of other priorities, such as exhibitions and facilities.

The reliance on program-specific gifts, grants, and sponsorships for operational funding limits the flexibility with which resources can be deployed and sometimes drives programmatic decisions.<sup>20</sup> The preference of many donors for funding new start-up programs (rather than existing programs or base salaries) can result in difficulties sustaining promising programs over the long term, or in the continual layering of new programs on top of existing ones until staff are overwhelmed.

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<sup>19</sup> “Efficiency” is used here in its classical economic sense: obtaining maximum output from a given set of inputs.

<sup>20</sup> Some gifts and grants go to unit-level education endowments, which are more flexible.

## Conclusions

- ◇ The issue of the adequacy of funding for education staff and programming (outside the context of exhibitions) is not as straightforward as presented by staff. While some units do face tight operational budgets and other financial constraints, the more pervasive issue appears to be a failure at the unit level to plan and prioritize within the framework of actual funding. In other words, rather than focusing and trimming education functions to what funds and staff can reasonably handle, units have tended to allow functions to proliferate.
- ◇ The adequacy of funding for education staff and programming (outside the context of exhibitions) cannot be addressed in isolation from funding needs for other areas such as research, collections, exhibitions, facilities, and IT. Interviewee claims that education is short-changed relative to other areas may simply reflect an implicit judgment on the part of Smithsonian and unit leadership that other areas have higher priority. Increased clarity is therefore required not only in terms of priorities within the area of education, but in terms of the relative priorities of education and competing claims on resources.
- ◇ To the extent that education is made a significant priority at the Smithsonian, the issue of resources will need to be addressed. Particular points warranting consideration are:
  - » Increasing the percentage of the budget allocated directly for educational programming (beyond exhibitions) and support services (such as IT);
  - » Increasing the level of fund raising for education;
  - » Increasing the efficiency with which resources are deployed across the Institution; and
  - » Increasing the revenue generated from education-related materials and services created by the Institution.

## Recommendations

- ◇ The OUSEPE and SE, in consultation with unit educators, should identify and perform detailed needs and market assessments for lines of net revenue-generating Smithsonian-themed education products, such as:

- » Curricular packages;
  - » Professional training for teachers;
  - » Miscellaneous curricular support materials; and
  - » High-quality informal learning kits, games, and so on.
- ◇ To promote efficiency in the use of scarce resources, the OUSEPE should be responsible for:
- » Centralization of some education-related functions and infrastructure in areas such as digital media, the web, distance learning, marketing, and liaising with schools and school districts; and
  - » Creation of mechanisms or “markets” for cross-unit sharing of personnel, infrastructure, and equipment.
- ◇ OD should shift its focus from the pursuit of project-by-project awards to a strategic approach that targets Institutional priorities.
- ◇ OD should work with the OUSEPE to craft a pan-Institutional education fund-raising case statement, based on the central Smithsonian education vision and strategy, as part of an approach that targets larger gifts/grants/ sponsorships aimed at Smithsonian strategic education priorities. (Such a case statement may also be adapted for making a case to the Congress for increased appropriations.)
- ◇ Development personnel in the units should work closely with the OUSEPE on fund raising for strategic education initiatives and priorities.
- ◇ Senior Smithsonian leadership should raise or reallocate funds to establish a central endowment to support education programs that contribute to achieving strategic Smithsonian education priorities, with competition for distributed funds.
- ◇ Subject to realistic short-term expectations for augmenting revenues and increasing the efficiency with which they are deployed, senior Smithsonian and unit-level leadership should become more forthright about confronting the realities of limited resources and the need to use them wisely for maximum effectiveness:
- » Set and enforce realistic priorities within and across programmatic areas, including education; and

- » Advocate for more systematic use of cost-effectiveness analysis, and economic thinking in general, in programmatic decision making.



## 11. Human Resources

*Never doubt that a small group of thoughtful, committed people can change the world. Indeed, it is the only thing that ever has.*

—Margaret Mead

Not all staff who contribute to education programming are located in education departments, or are formally classified as educators by OHR. This makes it difficult to arrive at a definitive profile of Smithsonian educators or their numbers.<sup>21</sup> For the purposes of this project, the OP&A study team considered as “educators” staff who met one or more of the following criteria:

- ◇ Were placed in the education job series (1700) by OHR;
- ◇ Were part of unit education departments, where such departments were clearly identifiable;<sup>22</sup>
- ◇ Were identified by the units themselves as educators on an OP&A questionnaire administered in the course of this project, or in interviews by OP&A staff;
- ◇ Were judged by the study team to be programmatically involved with education on the basis of job titles.

Educators as defined above have, on average, lower salaries and lower job grades than other employees of Smithsonian programmatic units.<sup>23</sup> They are younger, more likely to be female, less likely to be considered career employees, and less likely to be Federal employees.

The backgrounds, skills, and experience of Smithsonian educators are highly variable. They include former teachers, content-area specialists, individuals with museum studies backgrounds, and individuals with technical skills (writing, IT skills,

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<sup>21</sup> The study team did not attempt a systematic comparison of the size of Smithsonian unit education staff with those of other museums. However, it did learn that the American Museum of Natural History—considered a national leader in science museum education—has approximately 100 educators, compared with 20-30 at NMNH in recent years (using the study team definition of an educator).

<sup>22</sup> This includes both core programmatic staff and administrative and technical support staff; the study team was not able to find a consistent way of excluding the latter personnel.

<sup>23</sup> Excluding staff of the Office of Protection Services and Office of Facilities Management and Reliability, both of which have disproportionately large numbers of lower-grade employees (security guards and maintenance staff, respectively).

and so on) needed for education programming. Educators have a wide range of responsibilities, sometimes in areas where they have little formal training. In these cases, the needed skills are typically acquired through informal on-the-job training. In general, professional development of educators is a low priority throughout the Smithsonian. Few programs are offered internally, and staff often cover the costs of participation at education conferences and the like themselves.

There is no consistent pan-Institutional definition of educators' roles. Many Smithsonian educators strongly resist the historical tendency to pigeonhole them as the staff who serve schools and children. But this is in fact a large part of what they do, and the association continues to be commonly made. Some educators prefer to think of their role as specialists in audiences and learning, yet many lack formal training or expertise relating to audiences, education theory, museum education, and other relevant fields. At the same time, there is a widespread sense among them that their work is not adequately recognized and acknowledged.

Many interviewees suggested that overall numbers of educational staff are inadequate, resulting in stress, long hours, and difficulty maintaining programs at desired levels of quality. Because a large part of educational expenditures at the Smithsonian go to staff compensation, this issue overlaps substantially with the issue of the overall adequacy of funding for education, which is discussed in Chapter 10 of this report, Financial Resources.

Regular education staff are complemented by docents (who typically do onsite tours), other volunteers (who assist with special events), interns, and, at some units, intermittent staff (such as the college- and high school-aged "Explainers" at the National Air and Space Museum [NASM]). Docents and other volunteers typically assume much of the responsibility for actual floor work with visitors, but staff invest considerable time in training, scheduling, and managing non-staff personnel.

A number of units now require that curators and researchers spend a certain amount of time on education activities for general or school audiences. The general goal of increasing curator and researcher involvement with the public is laudable; however, it is not clear that the best approach to this goal is simply to compel staff who may have little interest, experience, or training in public engagement to get involved in it.

## Conclusions

- ◇ Those who staff the education function at the Smithsonian bring a wide range of skills, credentials, and experience to the job, and their precise roles and responsibilities are not always well defined. This presents a contrast with the wider world, where education is increasingly seen as a specialized professional field that requires formal academic training as well as experience.<sup>24</sup> As the Smithsonian moves to strengthen its educational offerings and to target audiences with greater focus, it will need to be more systematic about identifying what skills it needs from its educators, and how to secure them (through new hires or professional training of existing staff).
- ◇ As with financial resources, the study team believes that the perceived shortage of staff is attributable in part to a failure to design an education function that is consistent with the staffing available. To the extent that units assign greater priority to education, however, they will need to look carefully at the level of staff needed to meet education goals and to ensure adequate staffing.
- ◇ Assurance of adequate staffing is complicated by the absence of good data on who is involved with education across the units and how much time they spend on it. Understanding how to staff the education function will require much better data than exists at present.

## Recommendations

- ◇ The professional development office of the proposed OUSEPE, in conjunction with OHR, should develop and fund a program of professional development for Smithsonian educators. Components of the program should include:
  - » Dissemination of the latest research on effective practices in the external museum, education, and academic worlds;
  - » Seminars, symposia, and workshops, open to all education (and other) staff, on nuts-and-bolts topics such as the latest research in education, the educational applications of new technologies, and methods of evaluating the impact of education programs in cost-effective ways;

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<sup>24</sup> Indeed, audience sub-specialization is often desirable. (For example, a person with college-level teaching experience may not know how to work effectively with kindergarten children.)

- » Supplemental and continuing training needed by education and non-education staff to enable them to carry out the goals of Smithsonian and unit education plans; and
  - » Development, in conjunction with OHR, of training for non-educational staff before they assume education-related roles and positions, including management positions.
- ◇ Steps should be taken to better define the professional role of educators at the Smithsonian, and to improve their professional status:
- » OHR should create consistent education job series and descriptions that cover a larger part of education staff, and units should apply those series to education staff;
  - » Unit leadership should increase the percentage of educator positions that are Federal appointments; and
  - » Central Smithsonian leadership should encourage and reward Smithsonian educators who achieve national recognition in museum or subject-area education fields.
- ◇ Unit education staffing should be based on a careful estimate of the number of educators and types of skills needed to achieve unit educational priorities (as defined in the unit strategic plans for education). Programs that cannot be adequately staffed with classified educators should not be implemented. Unit leadership should not shy away from reallocating resources across programmatic areas in response to such estimates.
- ◇ Units should ensure that the skills of education staff match the programmatic needs implied by their education strategic plans. They should:
- » Develop specific criteria for new hires;
  - » Offer supplemental training for existing staff who are asked to take on new duties outside their fields of expertise (and comfort); and
  - » Provide time and resources for continuing education for all educational staff.

## 12. Space and Facilities

*We could do probably ten times what we do now, but we just don't have the space.*

—National Zoo interviewee

Museum educational programming requires adequate space and facilities. Educators—like most other programmatic personnel at the Smithsonian—generally say they need more space. However, space is clearly a greater constraint on educational activities at some units than at others. For example, central units such as SCEMS, SLC, and the Asian Pacific-American Program (APAP) have no programmatic space of their own, and interviewees at some units indicated that the museum floor is their only significant educational space.

Some interviewees reported that educational activities at their units have had to be curtailed or modified due to lack of space or other infrastructural shortcomings. Very few units have places for school groups to store coats and lunches, lunchrooms where they can eat, rooms for orientation to the museum, or a separate entrance for groups. Similarly, spaces dedicated to innovative activities, class instruction, teacher training, and distance learning are generally absent, as is equipment for electronic field trips and other IT outreach activities. Multiple units and functions often use the same spaces, and when conflicts arise, education is usually the loser. For example, evening education programs may be preempted by late-booking special events. Some units use space that is not owned or controlled by the Institution, which raises the possibility of conflicts with landlords over scheduling, maintenance, cost, and other issues.

As in many of the other areas discussed so far, units tend to go their own ways in space and infrastructure planning, thus potentially missing opportunities to leverage resources. For example, several large units have begun to plan their own state-of-the-art education centers. It is unclear whether these units have explored the possibility of coordinating their efforts—if not in terms of actually sharing space, then at least in terms of the communication and coordination of plans that would allow them to share lessons learned and avoid unnecessary duplication of efforts.

A final, oft-heard complaint is that Smithsonian auditoriums and lecture halls are not only in short supply, but often suffer from poor infrastructure (such as lighting), weak technology support (such as reliable internet access), and limited seating

capacity. Interviewees from central units that do not have their own auditorium space and have to rent it from museum units complained that the cost and terms of such rentals differ substantially across units, and in some cases are quite onerous.

## Conclusions

- ◇ Expansion of onsite education activities is likely to be constrained by limitations of space and infrastructure. Addressing these limitations will likely require approaches such as:
  - » Ensuring that education program needs are incorporated in all building plans, particularly new construction and renovations;
  - » Ensuring adequate allotment of existing space to education as it competes with other functions; and
  - » Reconfiguring some existing space to meet the technological and logistical needs of education programs. Here it may be necessary to develop space that can be shared across units. The Arts and Industries Building (AIB) might offer one solution to space and infrastructure constraints.

## Recommendations

- ◇ In terms of space and facilities, unit directors should prioritize education as highly as other functions and ensure that:
  - » Adequate space is made available for the realization of the unit's education mission; and
  - » Each unit/center education team has access to videoconference technology, with good links to the OUSEPE.
- ◇ The Smithsonian should signal its commitment to an expanded leadership role in education by acquiring or retrofitting a prominent, central, pan-Institutional education facility. The currently vacant AIB is an obvious candidate for housing such a facility. The Secretary should begin exploring the possibility of using AIB as an education facility that features:
  - » Adequate space for classrooms, workshops, labs, and experimental venues;

- » A studio/broadcast center, and additional technological infrastructure to support functions such as videoconference distance learning, electronic field trips, and other internet-based programming; and
- » A teacher resource center where visiting teachers can get materials and information, offer feedback on current Smithsonian educational offerings, and provide ideas for new types of offerings and support.





## 13. Technology

*There's a tipping point that's racing away from us the longer we shuffle around.*

—Smithsonian IT Manager

Technology is a powerful tool for answering questions, engaging attention, and stimulating learning. As such, it is a critical dimension in any discussion of education. Two general areas of technology were considered for this study: website-based and non-website-based.

### Internet Technology

#### *The Promise of the Web*

The web can serve both as a medium for independent educational offerings, and as a way of luring people to the Smithsonian's buildings and helping visitors prepare for a learning-rich visit. As a delivery medium for educational programming, it is not subject to the limitations on audience size that constrain "live" programming, and thus has the potential to reach many more people—although possibly not as deeply.

In addition to augmenting the Smithsonian's ability to reach national audiences, new Web 2.0 technologies also offer the opportunity to add new dimensions to the online experience—such as giving the public a chance for direct contact with Smithsonian staff, providing a medium for users to interact among themselves, and providing a channel for non-Smithsonian experts to contribute to Smithsonian websites. However, it also raises questions and concerns about what is appropriate to post on Smithsonian websites. For example, at some units, there is a strong preference for releasing material to the public only in a form that is authoritatively interpreted, a philosophy that is completely at odds with the Web 2.0 ethos of exchange, interaction, and collective creation.

#### *Smithsonian Web Overview*

The online portfolio of the Smithsonian includes 150 public websites and 50 internal sites. These are administered by about 150 full- and part-time web masters and web specialists across the units, including five at OCIO. The central Smithsonian home page is well-visited, but much less so than those of organizations of comparable

stature such as the Library of Congress, National Geographic, and Public Broadcasting Service.<sup>25</sup>

SCEMS has been building a central education portal ([smithsonianeducation.org](http://smithsonianeducation.org))—a web page containing descriptions of and links to a wide variety of Smithsonian educational programming and materials, with a search function that allows browsing by specific state standards of learning and other parameters. It is designed to be a “one-stop shopping” site where teachers can easily find and acquire a wide variety of materials. At present, however, this portal is much less visited than other major education websites.<sup>26</sup>

The quality of Smithsonian websites overall is variable, ranging from cutting-edge interactivity to “orphaned” sites with dated information. The Smithsonian has not adopted a common content management system across all websites. Web offerings across different units are fragmented, with overlaps, lack of internal linkages, and inconsistencies in design, content, features, and approach. This undermines their identity as part of the larger Smithsonian “brand.”

The Smithsonian’s websites provide access to podcasts, webcasts, videos, maps, downloadable files such as lesson plans and posters, and experiments with Web 2.0 platforms (such as Facebook, Flickr, YouTube, blogs, an alternate reality game, and so on). Partnerships with external organizations (such as an NMAH collaboration with Verizon Foundation’s Thinkfinity consortium) enable some Smithsonian websites to do more or to reach wider audiences.

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25 According to the traffic rankings on [Alexa.com](http://Alexa.com), on average over the last three months at the time of this writing, [nationalgeographic.com](http://nationalgeographic.com) was among the top 1,000 sites; [pbs.org](http://pbs.org) among the top 2,000; [loc.gov](http://loc.gov) among the top 3,000; and [si.edu](http://si.edu) among the top 7,000. According to [websiteoutlook.com](http://websiteoutlook.com), a site used for evaluating the value of websites based on their daily page views, [si.edu](http://si.edu) was worth \$350,000 on March 30, 2009, compared to over \$700,000 for [loc.gov](http://loc.gov), \$1.4 million for [pbs.org](http://pbs.org), and \$2.3 million for [nationalgeographic.com](http://nationalgeographic.com).

26 For example, [enchantedkids.com](http://enchantedkids.com), a site for K-3 students, has a higher traffic rank than the entire Smithsonian website. The more general teacher and student website, [abcteach.com](http://abcteach.com), has a ranking of 12,000, while [smithsonianeducation.org](http://smithsonianeducation.org) has a ranking of 280,000. According to SCEMS, one possible reason [smithsonianeducation.org](http://smithsonianeducation.org) traffic is low is that its resources are being integrated into school district and state websites and accessed via these sites rather than directly via the Smithsonian’s own portal.

## *Web Management*

The attitude toward emerging online opportunities varies among units. Some approach them in a spirit of experimentation; others display hesitation and resistance. However, all accept that the internet has become the key to maintaining and expanding the Smithsonian's national and international presence. The Institution currently lacks a coordinated strategy for the internet, although a web strategy team is hard at work.

There is no consensus, either across or within units, about how to conceptualize the web's role. It is usually understood as an extension of existing frameworks: some see it as a publication medium, others as a public affairs medium, others as a collections access medium, others as an exhibition extension, others as an education materials distribution system, and still others as a medium of its own, requiring distinctive skills and approaches and offering unique opportunities. In some units, web-related personnel are regarded as primarily technical support specialists; in others, web personnel manage content and presentation much like exhibitions personnel. One result of these varying views is that there is no agreement about where the web fits into existing organizational structures. As the importance of the web grows, administrative conflicts over its control may intensify. This is more than a turf issue, because in the absence of a broader strategy, the character of a website tends to reflect the priorities of its parent administrative unit.

Most unit web portals are organized along the lines of internal structures, with categories such as collections, exhibitions, and education (with the latter usually referring to materials and information for students and teachers). A few are based on user categories.

Overall, the Smithsonian is making only a modest investment in its internet presence. For example, under items budgeted as "education" in the ERP system (excluding collection and exhibition websites), less than 2 percent of all expenditures are for web activities. There is a strong sense among those who work in the web arena at the Smithsonian that the resources devoted to it are inadequate for a major web presence.

Finally, the Smithsonian has given relatively little attention to the web's potential as a marketing tool; this is certainly true in comparison with competitors such as National Geographic. For example, the web is underutilized for development outreach, and the failure to integrate si.edu and si.com is a missed marketing opportunity.

## *Challenges*

The promise of new technologies is accompanied by new challenges that go beyond those associated with traditional “live” programming and printed materials. A major issue is the lack of a definition of what education is at the Smithsonian and what the role of the web should be within the context of that definition. Are only the websites produced by education departments or directed to children and teachers “educational”? Do education staff have an important role to play in the creation of websites that feature collections or research? Just as each unit and individual tends to have a different understanding of education at the Smithsonian (some broad, some narrow, and some in-between), so, too, these varying viewpoints are reflected in the many approaches to the Smithsonian web.

Other challenges relate to online infrastructure and programming, including:

- ◇ Changes in technology and technological standards that demand frequent reinvestment;
- ◇ Equipment that is difficult to maintain, such as webcams;
- ◇ Older staff who sometimes find the technology and its applications difficult to understand, appreciate, or use;
- ◇ Legal issues in areas such as data ownership and image reproduction, which raise questions about what may be posted online;
- ◇ Production processes—the creation of engaging websites requires approaches that are different from those used to create more familiar offerings such as exhibitions and publications;
- ◇ Web 2.0 resources—the Smithsonian does not have enough staff to keep on top of the feedback it is likely to receive through interactive Web 2.0 sites (although commercial infrastructures to organize and simplify this task are available).
- ◇ Learning new technologies—because in-house resources for the creation of new websites are limited, most units contract out this work; this means that the learning that takes place in the process of constructing new sites typically leaves with the contractors and cannot be built upon.
- ◇ Inconsistencies—the absence of established central coordination mechanisms sometimes has led to approaches that are inconsistent across units, are

difficult to support, demand excessive system resources, and are insufficiently documented.

## **Other Education Technologies**

Websites play an important role in Smithsonian education, but other technologies are important in all aspects of museum education. For example, technology supports educational outreach via satellite broadcasts and via online talks, tours, classes, conferences, and courses. Technology can also be used to engage onsite visitors and enhance the museum learning experience. Behind the scenes, technology facilitates the collaboration necessary to create quality educational programming.

### *Broadcasts*

Smithsonian units have partnered with the Fairfax County Public Schools' broadcast facility and with Ball State University on large-scale "electronic field trip" school broadcasts with limited interactivity, very broad distribution, both live and archived delivery, and website support. These broadcasts are expensive to produce and require infrastructure the Smithsonian does not itself possess, but they are capable of reaching audiences numbering in the millions, and have in the past attracted considerable donor support. The Smithsonian Channel has potential for reaching the general public through cable and satellite broadcast systems.

### *Videoconference Distance Learning*

Some units, most notably SAAM, are conducting classroom- and museum visit-type distance learning programs to classrooms via Internet-based videoconference technology that feature extensive interactivity, but narrow distribution (for example, to a single classroom of students). In some cases, considerable savings are realized by developing the same topics for broadcast, videoconference, and in-classroom delivery.

### *Onsite Technologies*

The presence of technology on the museum floor can be highly engaging, particularly to younger visitors. Recent exhibitions have included educators on the exhibition team to provide insight on how technology can be employed effectively in exhibits. Examples of the effective use of technology in recent exhibits include the Science on a Sphere Global Oceans System exhibit at the NMNH Sant Ocean Hall and the QuickTime Virtual Reality kiosks at the NASM Udvar-Hazy Center (UHC),

which allow the visitor to sit in the virtual cockpit of an aircraft, manipulate their viewpoint, and see what a pilot would see.

### *Behind-the-Scenes*

Recommendations for creating interdisciplinary educational programming via collaboration among educators from different Smithsonian units are predicated upon those educators being able to communicate efficiently across significant geographic boundaries. For this to happen, each participating unit must have the necessary communications technology and infrastructure. Recent adoption of SharePoint has greatly enhanced the ability of units to work together on targeted projects, such as digitization and web strategy.

### **Conclusions**

- ◇ Smithsonian websites are powerful tools for learning, but there is no consistent appreciation for the unique potential of the web medium. The current state resembles the situation early in the history of exhibitions, where displays were treated as public extensions of existing methods of research or publication, rather than as distinctive media requiring a customized, team-based approach.
- ◇ The web is, and will continue to be, an absolutely critical vehicle for the Smithsonian's educational mission. It is important that a major share of the Smithsonian's investment in the web be dedicated to this purpose.
- ◇ Some units have made effective use of the web in supporting learning and identifying target audiences, but others are still in their infancy. Centralized web support can perform a valuable service for the units by keeping them up-to-date on technology applications for educational purposes.
- ◇ Given common needs and the existence of economies of scale, development of web infrastructure is best handled centrally, in collaboration with the units. This would also address the over-reliance on contractors that limits the development of internal capabilities.
- ◇ Although the many different ways that Smithsonian websites are conceived allows for variety, they also create confusion for users and inconsistency in both presentation and quality. Users would be well-served by portals that address specific topics (such as Lincoln) or specific audiences (such as teachers) across units, containing all Smithsonian materials relevant to that

topic or audience. The central Smithsonian education portal being developed by SCEMS benefits teachers in this way.

- ◇ Web functions have generally been shoehorned into existing organizational structures, often without consideration of how they might be effectively integrated with other functions.
- ◇ Although web efforts across the Smithsonian demonstrate much grassroots creativity, ingenuity, and resourcefulness, they are fragmented and less collectively effective as they might be with greater coordination and leveraging of resources. New technologies are a prime area for collaboration across units and for the sharing of information and lessons learned.
- ◇ Non-internet technologies will continue to play an important role in educational programming, engagement, and learning in the museum environment. The units will need to address acquisition, application, and use of these technologies in a systematic manner so that the necessary resources can be allocated—where possible, collaboratively.
- ◇ The public increasingly expects the integration of interactive media in exhibitions; this requires new ways of thinking for exhibition teams, as well as additional resources to maintain and upgrade these media over time.

## Recommendations

- ◇ Establish a digital resources unit reporting to the proposed OUSEPE, to:
  - » Assist in the development of selected projects from across the Institution with the potential to provide models and templates;
  - » Provide models, standards, and training for digital product development that can be implemented and extended at the unit level;
  - » Orchestrate the sharing of unit experiences with new technologies and coordinate inter-unit collaborative efforts in new areas; and
  - » Help units implement compatible content management systems that would increase the linkages among unit websites, and develop coordinated designs that would improve usability and a sense of coherence across Smithsonian websites.

- ◇ Reorganize at the unit level to construct web departments that will function in parallel with exhibition departments, have similar authority, and use comparable team-based approaches.
- ◇ Establish clear roles and boundaries for the OUSEPE web office, unit internet departments, and OCIO, especially with respect to:
  - » Resources and where obtained;
  - » Maintenance and replacement responsibilities; and
  - » Upgrading and introduction of new technologies.
- ◇ Increase investment in the web by selectively transferring resources from onsite programs and by seeking external partnerships to leverage resources.
- ◇ Align web efforts and policies with the overall Smithsonian strategic plan, the Smithsonian education strategy recommended above, and the Smithsonian digitization and web strategies that are currently being framed.
- ◇ Have OUSEPE consider constructing and maintaining a series of portals, based on the model of the SCEMS education portal for teachers, that would provide direct access to cross-unit materials on particular topics or for specific audiences.
- ◇ In constructing and revising websites, units should engage in extensive user research to determine the most effective ways to organize and label options on portal pages and to meet the needs of visitors (especially those who do not enter via portals).
- ◇ The OUSEPE should ensure that all units participating in the collaborative development and delivery of educational programming should have adequate videoconference and other collaboration/communication technology and infrastructure.
- ◇ The OUSEPE should encourage and facilitate the effective use of technology in museum exhibits.







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