

**Summary of Notes from Timely Topics Conversation:
“Staging the NSF Cycle: Strategies for Proposal Preparation and Submission”**

Association of Science-Technology Centers Annual Conference
Ft. Worth, TX
November 1, 2009

OVERVIEW

Session Description

“Now that the NSF Informal Science Education Program has gone to one round per year, many institutions are looking for ways to distribute the proposal development workload throughout the year. Join development staff, proposal writers, researchers, and evaluators for an informal discussion to identify ways in which we can more productively prepare and submit new proposals, multiple proposals, and resubmissions with less stress and better success.”

Facilitators

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Session Format and Participants

The session was organized into 90-minute group conversations with an estimated 30 ASTC conference participants self-divided among four separate tables. A facilitator at each table guided participants in exploring three questions:

What do PIs/senior project staff need to do or change to respond to the 1X/year ISE cycle?

What does your institution need to change?

What do external partners need to do and/or what do museums need to change about the way they deal with external partners in view of the move to one ISE cycle per year?

Rotating among the tables were NSF Program Officers Al DeSena and Bruce McFadden, and Tony Beck from NIH, who listened intently and responded to questions addressed to them.

Participants represented all sectors of NSF/ISE (youth/community programs, media, exhibitions) and had a range of prior experience with the ISE proposal process (from novice to well-seasoned).

A participant at each table volunteered to transcribe notes.

Content and Distribution of Notes

The following notes summarize: 1) Participant comments / concerns about the new 1X/year cycle; 2) Proposal preparation strategies discussed; 3) Additional recurring issues regarding NSF/ISE proposal preparation; and 4) A summary of NSF/ISE policy recommendations stemming from the session. Facilitators will distribute the notes via direct e-mail to session participants; through appropriate ASTC and CAISE channels to reach the broader field; and to NSF/ISE Program Officers and other ISE professionals vested in NSF/ISE policy.

SESSION NOTES

Participant responses to the new 1X/year cycle:

Every table spent some time speculating on the impact of the change to one ISE cycle per year even though that its effect had yet to be fully experienced by the field. One table (25% of participants) agreed that the change to one cycle per year did not adversely impact their organizations. However, the majority of participants at other tables (75%) were more leery of the change.

Group comments/concerns about the change to one round per year are summarized:

Worry about increased competition and a reduced number of opportunities for funding. Smaller, less experienced organizations were surprised and dismayed to learn that larger organizations were submitting many applications to the one cycle. Community organizations that serve youth, especially those located in minority communities, worried that they were at a disproportionate disadvantage. They felt that their chances of winning an award would be diminished especially as they came to realize that larger more experienced institutions were submitting multiple proposals. Some recommended that mechanisms be developed to help less experienced organizations to submit competitive proposals.

So many federal grant deadlines fall in the latter half of the calendar year (ISE, NASA, IMLS, NIH). ISE's change to one cycle a year reduces the number of major grant applications that any single institution can pursue, compared to the time when one of the two ISE deadlines fell earlier in the year.

Smaller institutions, which can only handle the work due on one application, are placed at a disadvantage. Outsider institutions or those in marginal communities may not apply at all because the likelihood of winning seems small and the investment of time and effort is huge. Some participants noted that sometimes the most innovative ideas come from organizations that are not in the ISE mainstream; these organizations *"think outside the box."* If proposals from smaller and less mainstream ISE sectors diminish in number, attendees worried that diversity within the ISE-funded portfolio of projects would be reduced.

There is a negative impact on evaluators, advisers, and other sub-contractors in that they do not have the capacity to double their workloads and could not accommodate all the requests they received. Participants were generally sympathetic to the multiplicative impact upon sub-contractor's workloads as two ISE cycles were collapsed into one. Several representatives from research and evaluation firms noted that they were receiving first calls from potential clients as late as two weeks in advance of the ISE deadline. *"There's only so much that we can handle."* Many projects are struggling to put together a competitive team. High-quality projects were suffering from not being able to attract project partners, grant-writers, advisers, and evaluators because these individuals became over-committed during an individual round.

One cycle per year causes a two-year delay in funding many worthwhile projects. *"Even good projects often don't win the first time. Will our directors see that [developing a re-submission is] still good investments of time, money and effort?"* Reducing the number of annual opportunities for projects to submit proposals was seen as having an adverse impact upon media (one table) and community-based organizations that serve youth (two tables). For both of these ISE sectors, the possibility of obtaining funding only once a year was problematic because proposals for

good projects must often be submitted twice. The change to one cycle per year means that the potential delay in receiving needed funding is extended by an additional six months; this worried many TTC participants. The prospect of an additional year spent holding partnerships together in view of a lack of momentum, the probability of staff attrition, and shifting institutional priorities was seen as problematic.

Some worried that less risky/innovative projects will be submitted. Once a year funding means that the projects that were most risky - or transformative - may be self-edited prior to submission even among institutions that are capable of submitting multiple applications. There is a concern one cycle per year means that institutions are more likely to submit “safe” and “fund-able” ideas rather than risk the once-a-year chance on something that is edgy and truly innovative.

Considerable concern about whether the field will now receive a true peer review. If there are many applicants from museums, the shift to once-a-year means that there are fewer museum people left to review (because they would have a conflict of interest). Discussants were concerned that reviewers from outside the museum field – those without comprehensive knowledge about informal learning environments – would dominate the review panels. Many discussants noted the uneven quality of reviews during the 2009 preliminary proposal cycle, and wondered if this was a portend of the reviews of formal applications. Many participants hoped that program officers were organizing balanced review panels with representation of ISE constituents including those from the museum field. It was recommended that preliminary proposal reviewers receive professional development opportunities since their comments often influence whether or not an institution proceeds with a formal application to ISE.

Concern about institutional support for quality projects and meritorious PIs. It takes years to train staff in how much thought and effort needs to be given to developing a competitive ISE proposal. There is a pressure to show results from that kind of effort. Being turned on a first-time application means that a project will not have funding for two years, making it harder to get an institution to invest in a repeat application, or to give risky innovative projects a priority placement on grantwork calendars. Moreover, individuals with talent in developing exemplary projects would have less opportunities to have their talents recognized, which might lead to the eventual loss of these valued contributors to the ISE field.

One cycle per year conflicts with partner calendars. One table reflected upon ways that annual calendars of partnering organizations – schools, universities, libraries, and youth organizations – influenced abilities to assist and participate fully in a museum's annual cycle of grantwork. The late spring preliminary proposal phase conflicted with the end of school academic calendars; summer seemed a difficult time to engage with university-based partners and many community-based organizations that serve youth. Two cycles a year allowed more flexibility in the cultivation of these important constituents.

The return to the preliminary proposal process was uniformly applauded among all tables. This was especially true for applicants who lacked substantial experience in federal grantwork. Calling ISE program officers after receiving reviews of preliminary proposals was especially recommended as a good way to help interpret the significance of reviewers' comments as well as an opportunity to update ISE officers on project progress.

2. Preparation Strategies discussed for *Staging the NSF Cycle*

This section summarizes the discussions that ensued as each question about ways to respond to the once a year ISE cycle was posed to TTC participants.

What do PIs/senior project staff need to do / change to respond to the 1X/year ISE cycle?

The once a year cycle enables projects to start early and stay focused! (Participants at all tables lamented the “last minute mentality” of their institutions.)

Develop a proposal development calendar with realistic goals. Factor in over-lapping schedules such as other major proposal deadlines, partnering institutions’ annual ebb and flow of workload, conferences, exhibition openings, annual budgeting and trustee meetings, staff vacations, etc. Looking at the overall workload for the year, establish a timeline for developing the proposal internally, meeting regularly with collaborating partners, bringing in evaluators, advisers, and other consultants, and sketching out the budget (which should begin in the early stages of proposal development). It’s a good idea to develop an early white paper that outlines the project vision, audience needs, learning objectives, and workplan. This white paper can then be circulated and discussed among partners, advisers, and evaluators. Revise the white paper as the project proceeds: it will develop into a preliminary proposal. Allow ample time to bring in “mock peer reviewers” to read both the final drafts of prelim and formal narratives and incorporate their good suggestions. The importance of engaging community partners and sub-contractors in the process as early as possible cannot be overstressed.

Front-load the process and put major effort into the development of a pithy preliminary proposal. This will catalyze the entire process, necessitating early dialog with program officers (when they’re not so busy), and carves out ample time to secure commitment and involvement from partners, advisers, and sub-contractors.

Don’t stop work after the prelim is submitted: keep going! Call the cognizant program officer after the review of your preliminary proposal is received to glean further insights and also, update program officers on your progress.

Ask that sub-contractors submit their budgets for review, approval, and compilation in the required format well in advance of the deadline so that these can be uploaded in a timely manner. Schedule the process so that writing the narrative is completely finished well before the deadline, and then have it rigorously proofed. Begin to upload materials into Fastlane as soon as they become available: don’t wait until the last day. Biographical sketches, current and pending support pages, and bibliographies can easily be uploaded early along with the cover page. Develop a strategy and a Table of Contents for Supplementary Docs. that allows items already in hand (like executive summaries of front-end evaluation, exhibition floor plans, and other visuals) to be uploaded first. Then position items like commitment letters last in Supplementary Docs. so that these items that usually arrive late can be uploaded when they are received.

Stay abreast with recent literature and prior work in the field in general, and especially literature that relates to the proposed project. Call senior staff of similar projects (especially, be certain to contact the PIs of ISE-funded projects) and interview them about their challenges, solutions, and innovations. One department (usually Education) might convene

discussions of important literature in the field throughout the year. Even though a limited number of staff may be able to attend professional conferences, there should be a mechanism for sharing information from these conferences among staff who were not able to attend. Senior staff must commit to developing themselves professionally and work with administration and all programming departments to articulate a shared and coherent vision of what their institution stands for and contributes within the broader national landscape of ISE.

What does your institution need to change?

One director was asked: "How much time should an institution begin working on a project before the prelim deadline? He said "nine months." While many participants were surprised, they also said he was right, but wondered how to make that happen in their organizations. Emerging from the conversation was the need for staffs' professional development that underlies good projects – and successful grant proposals.

Institutions should develop mentoring strategies for Principal Investigators and Senior Staff who have not yet submitted or won an ISE proposal.

Many seasoned ISE applicants convened weekly phone meetings with all project partners beginning months before the prelim due date to two weeks before the final submission deadline. During this time, tasks were assigned for completion at deadlines that were agreed upon by all parties. Some organizers asked for signed contracts from everyone to solidify their commitment to the process. Some discussants shared ways to vet good proposal ideas as they are put into words – this could be done using shared websites or through regular reviews of written documents.

Some attendees noted that many museum directors, especially those trained outside the museum field (from universities, the corporate world, etc.) misunderstand the process of peer review and underestimate the time necessary to develop and write a competitive project proposal. Many directors want all grants pursued, miscalculating the impact upon staff, the distractions from their daily workloads as well as the time away from family and social lives. Such a workload overload overwhelms and can burn out even the most grant-savvy individuals. It was recommended that the ASTC Board (or some entity) develop a mechanism for introducing "outsider" directors to rigors of the peer review process, how to cultivate program officers, and when to "pull back" from trying to exercise political influence.

Institutions need to think carefully about how workloads can be equitably distributed. The importance of inter-departmental cooperation was emphasized numerous times. Staff who work on time- and energy-consuming grant applications need time to perform their regular duties, too – and "have a life?" "The stress is overwhelming. Good people burn out." In small institutions, the labor falls heavily on the shoulders of a few people, while in larger institutions, the work is more dispersed. Large institutions were judged to have a greater capacity to work on multiple deadlines and submit multiple proposals to ISE and other federal funding agencies. However, at least two representatives from large museums that regularly submit multiple applications indicated that a great deal of stress was occurring nevertheless because: a) multiple applications reduced the amount of attention and resources that could be devoted to any single project, and b) there seemed to be a lack of institutional priorities and consensus about the relative priority of all proposals being developed.

One table worked a bit to dissect this issue. They discussed how priorities might be

developed, which seemed to seek a balance between weighing the needs of the institutional goals, like capital projects and renovations, audience needs (particularly under-resourced communities) with edgy, risky, truly innovative projects that might entice funding and serve the larger goals of a strong national ISE community and infrastructure. Staying focused on the needs of the *audience* was recommended as a way to mediate between the differing agenda of partnering institutions. It was agreed that perhaps as an annual/seasonal routine, staff would list, evaluate, and re/affirm an agenda for likely grant projects – from those that encapsulated institutional goals and audience needs along with “edgy” project ideas. Museum staff might develop criteria for assigning priorities to projects that would drive a grantwork calendar and the organized formation of grant development teams for each discrete project. This would give the entire organization a sense of the “big [grant] picture”, facilitating inter-departmental communication and cooperation on major grantwork.

Two tables discussed how internally-shared websites were useful places to store all documents and allow partners and sub-contractors to see how the project had progressed and share resources. Bibliographies can also be annotated and stored on an internal website to extend their usefulness beyond the period of proposal development and spare other projects from covering the same ground.

What do external partners need to do and / or what do museums need to change about the way they deal with external partners in view of the move to one ISE cycle per year?

At some tables, applicants were advised to implement transparent decision making processes and be diligent in ensuring that partners' interests and needs are given equal voice and weight in project development. The once a year ISE cycle gives institutions a longer development time for cultivating and deepening partnerships with collaborators.

External partners were encouraged to be proactive and send out reminders to clients to start early in the annual cycle. One table noted that external partners should:

- Debrief with proposal development team after this year's round.
- Agree to a proposal calendar with key checkpoints for proposal development.
- Adopt standards and templates for budgets and forms.
- Stay true to any promise to prepare early.
- Offer incentives for partners to prepare early.

Seasoned individuals and organizations might provide guidance and planning tools for others. Ideas included developing a webinar for first timers, or a workshop about smart proposal planning, using lessons learned from past proposal writing experiences. Budget and form templates and sample milestone calendars might be developed and distributed. Evaluators and researchers might be more explicit in explaining to the field at large how the Friedman, ed., Impact Framework can be used as a planning as well as assessment tool. The difference between research and evaluation should also be articulated by experts who can conceptualize examples of each for museum programs and exhibits.

Lastly, to collaborate is to enter into partnership with an “other.” Approach collaborations not only early but also deliberately and judiciously. Acknowledge that there are differing organizational priorities and cultures that should be articulated and respected. Some discussants suggested that partnering organizations might go through a vetting process or engage for a trial period prior to the prelim to see if the partnership can work. Sometimes,

choosing to collaborate with a less obvious partner makes the project more innovative. Others recommendations included developing formal contracts or MOUs about the work involved in proposal development as well as the responsibilities and roles incurred if the application is funded. One seasoned TTC discussant wondered aloud if ISE proposal reviewers considered and factored into their funding decisions whether or not a particular partnership had already successfully weathered the vicissitudes of collaboration.

Additional ISE proposal preparation issues raised during discussions:

It was clear that the giving priorities of the ISE program and the qualities that give an application a competitive edge are not equally understood by members of the field. There's a disparity between those "in the know" and others who are first time performers or have not yet been successful. This was especially apparent among discussants from community-based organizations. The importance of positioning projects within the framework of research and in reference to important publications was not fully apparent to many discussants. Not all attendees understood that proposals must use the Friedman, ed., Impact Framework as a crucible for developing learning goal statements. Even the importance of integrating research into the development of all competitive ISE grant applications was not widely understood by discussants. Some participants indicated that "traditional proposals" from museums, such as those that requested funding for exhibitions, seemed difficult to conceptualize as platforms for research, even among staff who were deeply steeped in the museum field.

Two tables discussed the value of debriefing proposal processes after each application is completed. Debriefing might occur ca. 3 weeks after the proposal was submitted: close enough so that details are still fresh in memory and yet a bit removed from the "emotional crash." Learn from challenges; celebrate the team. Examine issues of grantwork vs. daily workload, inter-departmental communication, and the quality of support from administrators as well as lateral and functional staff. Archive contact information, literature, letters, and quotes that might be useful for future grant-work. Make certain everyone is thanked and the project meaningfully documented and archived. Save all passcodes and proposal ID numbers.

Develop templates for budgets, forms, bibliographies, letters of commitments, current and pending support pages, and circulate these among partners, sub-contractors, and colleagues to make certain all information is being relayed consistently and comprehensively.

A major grant application needs to have a priority status established by top administrators. A strong PI should be identified and allowed to lead. Clear and convivial inter-departmental communication and cooperation lines need to be established. Major grant development processes need adequate access to resources; many team members are adopting dual roles and will need support from others. Finance staff should be engaged early, not late, in the process. Good budget planning ensures that project goals and activities are kept realistic.

There was considerable discussion lamenting the fact that evaluators seemed to be brought on board rather late in the process, which was viewed as problematic since these consultants have considerable impact on the articulation of learning goals. It was agreed that project teams need to write learning statements early in the process, discuss these with partners and evaluators, and take the time to re-visit and re-evaluate goals regularly points during proposal

development.

One table talked at length about the value of holding monthly discussions aimed at understanding and distributing knowledge of important literature in the field. Such regular meetings are a form of professional development. For grantwork as well as presentation of “our museum” to colleagues, it seems useful to create among staff a commonly-shared interpretation of how each museum contributes to emerging trends, builds upon past experience, and uses valuable insights from other projects and publications. *“Carve out your niche.”*

Summary of policy recommendations stemming from the TTC discussion:

Develop mechanisms to help less experienced staff and organizations to submit competitive proposals.

Provide professional development opportunities for preliminary proposal reviewers whose comments often influence whether or not an institution proceeds with an application to ISE.

Ensure a balanced representation of ISE constituents, including those from the museum field, when selecting peer review panelists.

Develop a mechanism for introducing “outsider” directors to the rigors of the peer review process.