

NSF RESPONSE TO COV REPORT

RESEARCH IN DISABILITIES EDUCATION

Division of Human Resource Development
Directorate for Education and Human Resources Directorate

Committee of Visitors, May 22-23, 2006

The staff of the Research in Disabilities Education program (RDE) thank the members of the Committee of Visitors (COV) for their detailed and constructive program evaluation and thoughtful recommendations for the coming years. The COV recommendations offer the RDE staff valuable feedback to improve program administration and community impact. Program staff will address the COV's concerns and will seek to implement or address all recommendations. The following information summarizes specific COV recommendations and RDE staff responses.

QUALITY AND EFFECTIVENESS OF MERIT REVIEW PROCEDURES

"Overall, panel summaries are brief, general and a bulleted list detailing specific positives and negatives appear in the summaries. Whether this information is sufficient for the PI to understand the panel recommendation probably depends on the PI. For some PIs, the answer is probably yes. For others, the more detailed individual summaries may better justify the panel recommendation."

We appreciate the suggestion that the review panel generate more detailed summaries to better justify the panel recommendation. The 2006 panel generated in-depth, detailed panel summaries and the program is ensuring that future panelists provide detailed panel summaries that reflect the review panel's critical evaluation of proposals.

"Program officer recommendations appear to mirror those of the panel review. The review analysis from the program officer usually presents a bulleted list of strengths and/or weaknesses to justify either approval or declination of the proposal. Justification for panel recommendations is based on the ratings of individual reviewers and categorized as Highly Competitive (HC), Competitive and Non-Competitive (NC). Generally, the HC and NC categories are self-explanatory, but sufficient justification as to why a competitive proposal is declined is not always apparent."

We will improve the program officer's review analysis statements to ensure that satisfactory justifications are generated when competitive proposals are declined. Additional information from the program directors such as a Context Statement and a summary of the program officer's comments, as well as more explicit panel review summaries, will offer proposers constructive feedback and offer justification for declination.

"As noted in the prior COV review, the weight given to the section on "intellectual merit" and "broader impact" could not be determined. It is difficult to determine what weight reviewers give to each section and how this impacts reviewer rating and outcome of the proposal. NSF's response to the 2003 COV recommendations indicated each category was equally weighted, but this may not be clear to the PIs."

All NSF proposals are evaluated through the use of the two National Science Board approved merit review criteria: intellectual merit and the broader impacts of the

proposed effort. The criteria include considerations that help define them. These considerations are suggestions and not all will apply to any given proposal. While proposers must address both merit review criteria, reviewers will be asked to address only those considerations that are relevant to the proposal being considered and for which the reviewer is qualified to make judgments.

"The solicitation should indicate that sufficient detail should be included in the experimental design to allow reviewers to adequately evaluate the scientific merit of the proposal. It was noted that several reviews for both approved and declined proposals indicated that sufficient experimental detail was lacking in some proposals."

We have revised the proposed FY2007 program solicitation to indicate the importance of experimental design in proposals. For example, in the Program Description section of the solicitation that addresses the Focused Research Initiative track (FRI) the following statement has been added: "The experimental design of the proposals should be explicit and address the measurable impact of the project on people with disabilities."

"The solicitation could emphasize the inclusion of milestones as part of the proposal narrative, especially for the RAD proposals."

We have included a statement in the proposed FY2007 program solicitation that all proposals are encouraged to provide milestones for measuring project outcomes and timelines for data collection and outcome measurement. In the Program Description section of the solicitation, under the heading Project Outcomes and Evaluation, the following statement exists: "All proposals submitted to the RDE program should identify the specific project outcomes to be targeted for each year of the proposed award."

IMPLEMENTATION NSF MERIT REVIEW CRITERIA

"A review of proposals that were awarded, as well as declined, indicates that the merit review criteria were addressed by most reviewers (93% in 2005, 100% in 2004, and 98% in 2003)."

The FY2006 panel reviewers were instructed to address both merit review criteria and FY2007 panel reviewers will also be instructed to address both merit review criteria.

SELECTION OF REVIEWERS

"The reviewers and panel members do not reflect the same racial and ethnic distribution as the general population of disabled persons, nor do they reflect, for that matter, the population of scientists and engineers. Not a single ad hoc reviewer identified themselves as African American, Hispanic or American Indian, and the same applied to panelists in 2003, 2004 or 2005. Persons with disabilities represented a relatively small share of reviewers. There did not appear to be a balance among types of disabilities among reviewers on panels in each year."

We will continue to address the need for a diverse review panel in future years by balancing panel membership with members who are female, under-represented minorities and people with disabilities.

"The previous strategy for review was to send out five or six proposals to a small group of reviewers. While this might have made sense for the panel that reviewed the RAD proposals, this might not be the best way for obtaining an independent judgment about the merits of the DEI and FRI proposals. Perhaps, instead, staff should expand the reviewer pool considerably and send RAD, DEI and FRI proposals to a larger pool of reviewers, and then, convene a panel to review and evaluate the reviews. This provides an opportunity for the panel to assess the likelihood that DEI or FRI proposals will ultimately produce ideas or innovations of value to the larger and more expensive RADs."

We appreciate the suggestion to increase the reviewer pool, send proposals to an increased number of reviewers, and to convene a panel to review and evaluate the reviews. The FY2006 panel included a significantly increased number of reviewers and panel members, that is, there were twelve (12) review panel members compared to only five (5) review panel members in FY2005. Plans are in place for FY2007 to continue to maintain a significant increase in the number of reviewers on the RDE merit review panel.

RESULTING PORTFOLIO OF AWARDS

"Using project outcomes and outputs as the measure of project success, project duration does affect the project results. One year is too brief of a time to permit researchers to accomplish much other than small pilot demonstrations or to launch information dissemination programs."

We are addressing the concern about the limited duration for the Demonstration, Enrichment, and Information Dissemination (DEI) awards by proposing an increased duration to 18 months for these awards in the FY2007 solicitation.

"RDE currently does not have a significant number of projects that could be regarded as being "high risk." Considering the small budget of the program, this may be understandable."

We appreciate the observation that few RDE-funded projects were "high risk" given the program's small budget. In FY2006 there were several "high risk" proposals that reviewers rated as highly competitive and were funded. Program staff will better address this concern if significant budget increases occur in future program years. We will also address this concern by considering co-funding opportunities with other NSF programs.

"The term "new investigator" is used in two different ways when discussing new awards. If "new investigator" is meant to refer to individuals receiving their first government grant award, there is insufficient information to determine whether any of the newly funded PIs were in this category."

The RDE program does not currently have a "new investigator" track. All NSF proposals include a PI history summarizing previous PI submissions to NSF programs, as well as the outcomes of such submissions. NSF typically considers "new investigators" as those individuals that have not been previously funded by NSF. Future COV materials will provide data describing the proportion of awards granted to investigators who have never before received funding from the RDE program, the proportion of awards granted to investigators who have never before received funding from NSF, and the proportion of awards granted to investigators who disclose they are recipients of their first government grant.

“The geographical distribution of Principal Investigators needs attention. The northeast is overrepresented when compared to the remainder of the country. The Southeast and Plains states are poorly represented. It is surprising that California, with more than 10% of the nation’s population, had no awards during this time period. But it must be emphasized that the combination of awards and declinations demonstrates that there has not been a good geographical distribution of proposal submissions. Few proposals were submitted from the regions that were identified as poorly represented.”

NSF staff fully agrees that RDE proposals should represent a broader geographical sample. We will address this concern in future years by conducting outreach activities to regions of the country that have been under-represented. We will also prioritize outreach to under-represented states through the EPSCoR program.

“The RDE portfolio lacks significant inclusion of community colleges and institutions that historically include a high percentage of students from ethnic and racial minorities.”

NSF staff fully agrees that the RDE portfolio should include more community colleges and institutions that historically include a high percentage of students from ethnic and racial minorities. We will address this concern in future years by conducting outreach activities with current and prospective investigators, 2-year degree institutions and minority-serving postsecondary institutions.

“The portfolio does not have good representation of project participants who come from racial minorities other than Hispanics”

Future outreach activities will focus on minority-serving postsecondary institutions.

MANAGEMENT OF THE PROGRAM

“The COV believes that RDE’s sustainability is hampered by the lack of long-term management inherent in appointing a permanent program director who would have the ability to leverage resources across the research directorates. While the IPA model is sufficient for short-term management of program mechanics, it does not allow for long-term or strategic planning within the program. A full-time program manager is needed to allow for annual evaluations of program progress, and to ensure accountability of grant recipients. This would also address the need to accumulate information relative to program effectiveness, and impact many of the mechanics of the program, such as maintaining a balanced network of reviewers—as suggested in A1.3—diversity of proposal submission and the development of appropriate assessment tools for metrics to measure program outcomes. This issue was mentioned by the previous COV.”

RDE is currently staffed with a full-time Program Director, a shared permanent Assistant Program Director, and a shared permanent Program Assistant. The Assistant Program Director has extensive experience managing a variety of NSF programs. These changes in program leadership provide the stability necessary to address measuring program progress and project accountability.

“One of the underutilized aspects of RDE is the potential for assisting GEO, MPS and others with the creation of broader impacts and broader participation linkages.”

The RDE Program Director serves as a speaker at NSF’s Program Management Seminars for new staff. During these orientations, the RDE Program Director encourages cross-directorate collaborations with RDE and other HRD diversity-focus programs. Additional

opportunities to address the broader impact and the participation of people with disabilities occur when directorates request feedback regarding new solicitations and letters to colleagues.

"It is important to relate work in RADs to the other two components of RDE (DEI and FRI) and enhance the research component in all three. Clear and guiding statements in the program announcements and solicitations should require respondents to incorporate evaluation systems, expected outcomes and research."

The proposed FY2007 solicitation includes statements encouraging investigators to include a research and evaluation plan, with outcomes measures, for all three RDE program tracks. Program staff encourage RAD PIs to explore and establish collaborative opportunities with the currently funded DEI and FRI projects.

"Responsiveness of the program to emerging research and education opportunities depends on PIs submitting proposals to identify the needs. An advisory committee could assist with this."

We recognize that experts in the research in disabilities education community are an ideal source of information about emerging research trends. Input from the field is sought from participants at the RDE Annual PI meeting, regional meetings and review panel sessions.

"It is not clear whether the program is on the cutting edge of research on disabilities, nor does it seem to be leading the discipline in research on the education of persons with disabilities. But, it appears to be responsive to the outreach component of educational opportunities in STEM."

We appreciate the noted concern and program staff will revise future RDE solicitations to encourage the submission of innovative projects that advance the research base on disabilities.

"As suggested in the annual report for RDE, the COV recommends implementation of external evaluation of all three program components and encourages common performance metrics among RADs, DEIs, and FRIs with a formal summative evaluation of the outcomes of the various projects to learn what works and does not in order to establish best practices and guide replication."

The FY2007 RDE Management Plan includes an independent third party external evaluation of the program. The evaluation will recommend common performance metrics for the RDE portfolio.

"The COV also recommends metrics of success of individual student participation."

The RADs are currently collecting detailed data about the participation of individual students with disabilities. The RADs will be encouraged to share this data collection system with other RDE project investigators during the upcoming annual PI meetings.

"The program is hampered by a small budget with limited options for taking risks or exploring innovations. Limited funding is distributed among three different programs. The COV recommends coordination among RADs, DEIs, and FRIs, and increasing funding particularly for programs that promote risk-taking and new frontiers in working with persons with disabilities."

Investigators are encouraged to coordinate and leverage resources across program tracks. We will examine methods to improve the inclusion of innovative and high risk projects that advance the research base.

"The COV makes the following recommendations:

- 1. Make FastLane more accessible and fully friendly to persons with disabilities.*
- 2. RADs should have a plan for institutionalizing programs once NSF funds end.*
- 3. Ensure better geographical distribution of RADS."*

1. We will explore options within NSF for increasing the accessibility of FastLane for people with disabilities. The proposed FY2007 solicitation requires all proposers to submit proposals via the Grants.gov system. The use of the Grants.gov system will provide increased accessibility for some users with disabilities.
2. The proposed FY2007 solicitation specifies that RADs should establish sustainable institutional systems for continuing work when federal funding is expended. RADs that successfully institutionalize best practices will serve as models for other sites. All currently funded RADs will be required to develop a plan for institutionalization.
3. We will address this concern in future years by conducting outreach activities to regions of the country that have been under-represented. We will also prioritize outreach to under-represented states through the EPSCoR program.

RESULTS OF NSF INVESTMENTS

"There is a need for a rigorous and comprehensive evaluation of all of the RADs. The evaluation should examine the outputs and measure the success of program approaches. The evaluations should be built upon the knowledge base accumulated in prior NSF assessments of programs for women and minorities. More needs to be done to distinguish among types of disabilities and to disaggregate measures by race and ethnicity."

The RDE program evaluation plan includes rigorous and comprehensive evaluation of the RAD track and projects, similar to those conducted for other HRD programs. In addition, the proposed FY2007 solicitation encourages investigators to report demographic data which would allow them to identify types of disabilities, race and ethnicity.

OTHER TOPICS

"There is no apparent roadmap for the program for the next three to five years. What is the vision for RDE for the next several years? What impact does the program want to leave on society? The RDE program needs to develop a database of issues and barriers confronting individuals with disabilities who wish to pursue careers in science, engineering, technology and mathematics. This information should then be used to restructure the philosophy of the program to support a balance of projects focused on demonstrations, tool development, outreach and hypothesis-driven research relative to understanding the functionality of disabilities in the STEM environment. Once this data is obtained, then an appropriate roadmap for funding priorities can be established."

We appreciate the suggestion to restructure the philosophy of the program. Information from external program evaluation coupled with expert reports on the direction of research in disabilities education, input from review panel members and information obtained during site visits will provide valuable data for developing the RDE program roadmap.

"The COV recommends that the RDE program staff develop a set of metrics for the evaluation of progress on the DEI, FRI and RAD projects. While the foundation has a template for progress reports on funded projects, the program should develop specific questions or assessment protocols to acquire data on the success of their programs..."

The third party independent evaluation of the RDE program will yield performance metrics for all RDE tracks. This information will assist program staff as they work to improve the program and document program impact.

"The pool of reviewers, panel members and PIs should be more racially and ethnically diverse, and include more disabled persons."

Program staff addressed this issue with reviewers and panel members for the FY2006 review process (refer to "Selection of Reviewers," p. 2-3). They will continue to invite a diverse cohort of proposal reviewers and panel members. Attempts will be made to increase the diversity of the investigators submitting proposals by conducting outreach to minority-serving institutions.

"More can be done to document outcomes from funded projects and to track the success of participants in demonstration projects. There is a need to document transition into STEM majors to graduate school and the workforce. Existing NSF surveys might be helpful here. Have RDE talk with the office dealing with data collection and surveys."

The proposed FY2007 solicitation encourages investigators to document outcomes, including those that involve transitioning STEM majors to graduate school and the workforce. In addition, the upcoming external evaluation will suggest a data monitoring system and program staff will explore data collection and survey systems that document outcomes.

"Clearly define the universe of persons with disabilities that should form the baseline upon which RDE-funded programs and projects should be assessed. Calibrate the aforementioned roadmap to this baseline to assure that RDE-funded programs make a substantial difference."

RDE awardees will be encouraged to compile baseline data that will be used to assess project and program impact. We support research to define the national community of people with disabilities and we will consider identifying this specific initiative in future program solicitations.

"Currently, 60 million Americans have some form of a disability. With the involvement of current and future generations in armed conflicts throughout the world, this number may well increase, and these individuals deserve an opportunity for a career in STEM fields."

NSF's RDE program will continue to fund efforts to broaden the participation of all people with disabilities in the Nation's STEM enterprise.

"The COV encourages the continuation of intra-agency meetings to discuss how RDE could participate in co-funding proposals in collaboration with other NSF programs."

Program staff continue to participate in intra-agency meetings to explore collaborative funding options with other NSF programs. RDE staff also serve as speakers at orientations for new NSF program officers; potential collaborations with RDE are encouraged at these agency wide training sessions.

"If the funding level for the RDE program continues to receive small incremental increases, then it may be appropriate to evaluate the portfolio of the program to decide whether continued support of three initiatives is a responsible use of resources."

The scheduled external program evaluation will assist program staff as they work to assess the impact of current RDE program tracks. As additional information is available about program funding levels, this data will inform plans to allocate program resources.

COV REVIEW PROCESS, FORMAT AND REPORT TEMPLATE

1. *"In Part A of the template, the requested responses are "yes, no, data not available or not applicable" for sections 1, 2, and 3. However, the requested responses for section 4 are "appropriate, not appropriate, or data not available." This COV recommends changing the requested responses for section 4 to be the same as those in the other sections.*
2. *The provided advance materials are helpful, but consider web-based material for COVs. Also, it would be helpful to receive all documentation (exclusive of proposal jackets) at least 2 to 3 weeks prior to convening the review.*
3. *The template is at times confusing and perhaps not all questions on the template are applicable to the program under review. Therefore, it would be helpful if the NSF program officer and/or director review the template to determine which questions are applicable to their program, rather than let the committee decide."*

In the future we will provide more direction to the COV, offer the COV members program documentation further in advance of the review, and alter the reporting template within acceptable NSF guidelines. Concerns regarding the report template will be shared with senior management staff in the Directorate for Education and Human Resources.

ADDITIONAL QUESTIONS FROM PROGRAM

Is the current funding level adequate to maintain all RDE programs?

"If the goal is to fund additional alliances and maintain the current portfolio of three initiatives, then funding needs to be increased to implement the recommendations and to support and encourage more basic research related to recruiting and training people with disabilities in STEM. The current funding level for RDE is insufficient to permit the growth of the Regional Alliances into regions not currently served and to foster improved field-initiated innovative research and demonstration projects from individual investigators. The RDE budget should be placed on a schedule for increased budget levels comparable to that promised by the current administration when it stated that the NSF budget would be doubled over a five-year period to ensure that America's science and technology enterprise would remain globally competitive. Without such a commitment, the nation's STEM enterprise is endangered, and the participation of underserved groups will continue to suffer."

We appreciate the COV suggestion that the RDE budget increase to implement COV recommendations and to support and encourage basic research in disabilities education in STEM. Results from a proposed external evaluation will offer staff the necessary information to direct the future allocation of program resources and it will offer NSF the necessary data to direct budget decisions.

Does the management structure within RDE allow for continuity in the program's continued development?

"Sustainability of the program will require the attention of a full-time manager to develop a long term strategic plan that improves the current STEM environment to be more user-friendly to disabled individuals and with the ability to leverage resources throughout NSF's other directorates."

RDE is currently staffed with a full-time Program Director, a shared permanent Assistant Program Director, and a shared permanent Program Assistant. The Assistant Program Director has with extensive experience managing a variety of NSF programs. These changes in program leadership will allow the development of a long-term strategic plan. With information from internal and external evaluation processes, the program staff will have the data necessary to formulate a long-term strategic plan that improves a more user-friendly STEM environment and addresses intra-agency resources for people with disabilities in STEM.

SUBMITTED BY

Mark Leddy, Program Director

Martha James, Assistant Program Director