



2024 SRAI SO/NE
SECTION MEETING
HILTON HEAD, SC
MAY 7 - 10

Moving an Idea Forward to the Research Funding Stage: Lessons Learned on Proposal Development and Scoring

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Session Objectives

1. Learners will be put in the investigator position and envision developing their dream project through the investigator writing process, with an eye on how the reviewer criteria for scoring and review can greatly impact the presentation of proposal components.
2. Determine how serving as a proposal reviewer assists in the proposal development process.

Part 1

- Managing the grant writing process is an ***art***.
- Writing is a craft, not a science. Grantsmanship is the ability to match an idea or your organization's agenda to the mission, culture, and procedures of funders.
- *Imagine being a scientist and writing your dream NIH proposal*

How NIH Scores Your Application

- Your **summary statement** is where you will find information about the review, the reviewers' critiques, and your score.
- Your **overall impact score** is the key review outcome, the main basis for a funding decision by an NIH Institute.
- Your score reflects your reviewers' judgment of ***the extent to which your project can make an impact***. NIH defines impact as the likelihood that your project will ***exert a powerful influence on its field***.
- Reviewers also usually comment on its ***relevance to the NIH mission: improving human health through science***.
- ***Your score is generated through criteria***.

Application Scoring Criteria

- An application does not need to be strong in **all review criteria** to get an outstanding overall impact score, though all the criteria can affect your score.
- To arrive at your overall impact score, reviewers consider the following core review criteria:
 1. Significance
 2. Investigator
 3. Innovation
 4. Approach
 5. Environment

Criteria 1 - Significance

- Does the project address an important problem or a critical barrier to ***progress*** in the field?
- How will scientific knowledge, technical capability, and/or clinical practice be ***improved***?
- How will successful completion of the aims ***change the concepts, methods, technologies, treatments, services, or preventative interventions*** that drive your research?

Criteria 2 - Investigators

- Are the principal investigators (PIs), collaborators, and other researchers well suited to the project? If early-stage investigators, new investigators, or in the early stages of independent careers, do you/they have ***appropriate experience and training***?
- If established investigators, have they demonstrated an ***ongoing record of accomplishments*** that have advanced their field(s)?
- If the project is collaborative or multi-PI, do the investigators have ***complementary and integrated expertise***; are their leadership approach, governance, and organizational structure ***appropriate*** for the project?

Criteria 3 - Innovation

- Does the application challenge and ***seek to shift*** current research or clinical practice paradigms by ***utilizing novel*** theoretical concepts, approaches or methodologies, instrumentation, or interventions?
- Are the above ***novel to one field of research or novel in a broad sense?***
- Is a ***refinement, improvement, or new application*** proposed?

Criteria 4 - Approach

- Are the overall strategy, methodology, and analyses ***well-reasoned and appropriate*** to accomplish the Specific Aims of the project?
- Are potential ***problems, alternative strategies, and benchmarks*** presented?
- If the project is in the early stages of development, will the strategy ***establish feasibility***?

Criteria 5 - Environment

- Will the scientific environment in which the work will be done ***contribute to the probability*** of success?
- Are the institutional support, equipment, and other physical ***resources available to the investigators adequate*** for the project success?
- Will the project ***benefit from unique features*** of the scientific environment, subject populations, or collaborative arrangements?

Sorting out the *Criteria*

- Significance and innovation (1 and 3) criteria assess a project's **importance**. Approach, investigator, and environment (2, 4 and 5) assess its **likelihood of success** or **feasibility**.
- Reviewers look to your **Research Strategy** for the most detailed information on significance, innovation, and approach (1, 2, and 3), and they mostly read your **Biosketches and Resources** to gauge the criteria of investigator and environment (4 and 5).

Though your overall impact score reflects all the criteria, **it does not represent a mathematical sum.** It is an **integrated whole that cannot be derived from the sum of its parts.**

The Overall Impact Score

- An overall impact score reflects the review committee's assessment of the project's likelihood to perform a ***sustained, powerful influence on its field.***
- Investigator-initiated R01 funding opportunities ***typically*** use the standard NIH review criteria only. (1-5 above) Other types of investigator-initiated applications further along in the career trajectory, (e.g., P01, R34, and U01) and initiatives ***may include additional review criteria in the notice of funding opportunity.***
- What is a good score??

What is a *good* NIH score?

Impact scores run from 10 to 90, where 10 is best.

Generally speaking...

- impact/priority scores of 10 to 30 are most likely to be funded;
- scores between 31 and 45 **might** be funded;
- scores greater than 46 are rarely funded.

Goals

- The NIH strives to promote the highest level of scientific integrity, public accountability, and social responsibility in the conduct of science.
- When a result can be **reproduced** by multiple scientists, it **validates** the original results and readiness to progress to the next phase of research. This is especially important for clinical trials in humans.

With the goals and criteria in mind, did you change how you imagined writing your proposal?

Part 2

Determine how serving as a proposal reviewer assists in the proposal development process.

Dr. Karen L. Anderson, Professor of Education

- National Science Foundation (NSF)
- U.S. Environmental Protection Agency (EPA): Regional Grants Competition

How did you become involved with the reviews?

- Responded to email from EPA
- For NSF, role as PI for Noyce-funded project

What was the process like in global terms?

- “Really well organized, well thought out, detail oriented and TIME CONSUMING. Even virtual meetings ... it is a lot of work to read the proposals, try to digest the content, write the reviews, and then during the meetings writing the panel summaries. A little stressful because you want to do things “right.” But I also felt really appreciated... I met cool people (even via Zoom). ... Not kidding each time I serve as a reviewer I think – this is a really great professional development opportunity ... and that is why I continue to do it. That and to get ideas, not for grant “ideas” exactly but for how to write a proposal that is easy to read.”

What makes a proposal “easy” to read?

- (1) “understanding that requirements are requirements period. If they ask for 57 bullet points, given them 57 bullet points – not two paragraphs with 57 phrases bolded.”
- (2) “Don’t try to impress the reviewers with your vocabulary. Do the opposite. Impress the reviewers with your use of everyday language to express complex ideas. No one wants to admit they did not understand the proposal. Related – I don’t think there are any such thing as style points – so speak clearly, concisely, and in language everyone understands. That does not mean don’t use professional language / language of the field.”

What makes a proposal “easy” to read?, continued

- (3) “remember the reviewers read and scored these days before they convene ... use the one-page project summary (or first paragraph) to summarize everything in the proposal. That way in the 3 minutes between proposals the reviewers can refresh their memories ... especially since most of us did NOT print out the proposals therefore we are looking at our laptop screens ... make the real meat of the proposal easy to find.”

Additional impressions/take-aways from the review.

- (1) “Each time I serve as a reviewer I think – this is a really great professional development opportunity ... and that is why I continue to do it. That and to get ideas, not for grant ‘ideas’ exactly but for how to write a proposal that is easy to read.”
- (2) “For multi day panels remember there is homework each night Plan accordingly.”

How would you encourage other faculty to become involved?

- “Absolutely, especially now that most panels are virtual. Just know ahead of time what they want / how many proposals you will be expected to read / how much time they suggest it will take (before the panel as well as during – and in some cases after - the panel).”

Why become a reader/reviewer/panelist as a Research Administrator?

- Find out who the “reader” is
- Improve own work in proposal development
- Bring clout to position

How do you find out about opportunities?

- Colleagues
- Bidders conferences
- Agency announcements
- Local/state agencies

Title III/Upward Bound/FIPSE

- Orientation
- Panel Configuration
- Scoring
- Process

**UPWARD BOUND PROGRAM
(REGULAR AND VETERANS)
APPLICATION TECHNICAL REVIEW FORM
(CFDA NO. 84.047A)**

APPLICANT: _____

PR Number PO47A_____

ADDRESS: _____

INSTRUCTIONS: Use this form to evaluate the attached application. Use your professional judgment to assess the quality and extent to which the applicant has provided information to satisfy each criterion. In each section, state the rationale used to arrive at each score and cite the information (or lack of information) in the application that supports your reasoning. To the extent possible, make more specific comments for high or low scores. Limit your comments to the scope of the criterion, but be as thorough and specific as possible in your comments because they will be provided to the applicant (the Department will not disclose your name). Attach additional sheets if necessary and provide the section and item number.

SUMMARY RATINGS

| | MAXIMUM POINTS |
|------------------------------------|-----------------------|
| a) NEED | (24)_____ |
| b) OBJECTIVES | (9)_____ |
| c) PLAN OF OPERATION | (30)_____ |
| d) APPLICANT AND COMMUNITY SUPPORT | (16)_____ |
| e) QUALITY OF PERSONNEL | (8)_____ |
| f) EVALUATION PLAN | (8)_____ |
| g) BUDGET AND COST EFFECTIVENESS | (5)_____ |

MAXIMUM TOTAL SCORE (100)_____

a) **NEED : (0 - 24 points)**

The application provides the information necessary to determine that a need for the project (**Regular Upward Bound, Math/Science, or Veterans**) exists in the area the applicant plans to serve. The criterion for each type of project differs.

REGULAR UPWARD BOUND

1. Evaluate the need for a **Regular Upward Bound** project in the proposed area on the basis of:

- (i) The income level of families in the target area is low. [34 CFR 645.31(a)(1)(i)]

Score_____

- (ii) The education attainment level of adults in the target is low.
[34 CFR 645.31(a)(1)(ii)]

Score_____

- (iii) Target high school dropout rates are high. [34 CFR 645.31(a)(1)(iii)]

Score_____

- (iv) College-going rates in target high schools are low.
[34 CFR 645.31(a)(1)(iv)]

Score_____

- (v) Student/counselor ratios in the target high schools are high. [34 CFR
645.31(a)(1)(v)]

Score_____

- (vi) Unaddressed academic, social and economic conditions in the target area
pose serious problems for low-income , potentially first-generation
college students. [CFR 645.31(a)(1)(vi)]

Score_____

Section Total_____
Maximum Points (24)

**UPWARD BOUND PROGRAM
APPLICATION TECHNICAL REVIEW FORM
(CFDA NO. 84.047)**

Field Reader (Print Name) _____ Panel No. _____

Telephone Number (Work) _____ (Home) _____

I have reviewed the application in accordance with the "Scope of Work" statement that I have signed and returned to the Department of Education.

Signature of Reader

Date

I have reviewed this technical review form in accordance with the check sheet provided.

Signature of ED Staff Person

Date

State Reviews

- Massachusetts Board of Higher Education
- Massachusetts Service Alliance

Professional Applications of the Review Process

- Informing the writing and preparation of proposals
- Review forms with RFP
- Mock review sessions
- Visiting reader
- Encourage and support others in agency to serve as reviewers

Benefits and Challenges

- Status with others
- Verification of process
- Time commitment
- Process expectations
- Quality of proposals
- Networking
- Exposure to models

Questions and Conversation