

Perspective: Joining NSF's Culture of Communication

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Submitting grant proposals to federal agencies is a familiar activity for academic scientists. It's far from rare for young principal investigators -- and old ones -- to spend more of their time writing grants than working at the lab bench. Federal money is the fossil fuel of the research enterprise; other types of funding can propel a lab -- and a career -- forward, but federal money makes academic research hum.

So a lot of attention has been given to grant writing. Countless books have been written. Graduate schools offer grant-writing courses. University administrations fund workshops and reward successful grant writers with tenure, promotion, and honors.

All of this makes it surprising that, apart from data on applicant statistics, funding rates, and such issued by the agencies themselves, there's little empirical research on how the process works.

Recently, I completed an empirical, qualitative research project aimed at understanding the social and communication dynamics among the players in the grant-writing process, especially applicants -- both novice and experienced -- program officers, and reviewers. I analyzed grant proposals and conducted interviews and focus groups with 19 researchers, including five former and two current National Science Foundation (NSF) program officers (POs).

My research implies that the federal grant proposal is badly misunderstood. Too much effort is placed on creating submissions that follow a proposal "blueprint" not unlike a tax return (albeit with very long fields). Too little effort is placed on forming relationships with people at the agency and on understanding the culture.

The typical view: Grants are forms

Too often, the novice researchers in my study looked at the NSF grant proposal as a form they had to complete. The budget, to them, was a series of fields; facilities, equipment, and other resources were just some text boxes. Even the project description was seen as a series of answers to questions laid out in the *Grant Proposal Guide*.

These grant-proposal forms were often completed in a rush. Finishing touches, novice researchers admitted, were applied often at the last hour as they hurried to submit the proposal before the midnight cutoff. Barbara, currently a program officer -- all participant names are fictitious -- estimates that only about one in 20 proposals are submitted before the last hour of the last day.

Especially disturbing to me, a scholar of rhetoric, was the tendency to look for easy answers and apply little creativity in developing a project's broader impacts statement. Given the immense importance my program officers universally put on broader impacts -- NSF says they weight it equally with intellectual merit -- this "get it out of the way" attitude undoubtedly damages novice researchers' proposals.

Expert applicant's view: Grants are like job interviews

Although it's true that applying for certain jobs, especially early in the process, can involve filling in forms, most people who apply for jobs realize that there's far more to actually getting hired than that. Similarly, you wouldn't -- or shouldn't -- approach applying for a grant that way.

This recognition seems to take time and experience to develop. Several of my experienced applicants admitted to learning the hard way that grant proposals must appeal to the PO and reviewers to whom it is going. The job-interview analogy mentioned above was, in fact, suggested by some of my more seasoned researchers. They saw themselves as convincing the POs and reviewers that their idea is sound, achievable, and, most importantly, relevant to the priorities of the program. Chris, a researcher who has won more than five NSF grants, described this insight as recognizing he wasn't "just sending a grant off into a void somewhere."

Larry, an experienced applicant and reviewer, found during his review-panel experience that he and his fellow panelists were particularly impressed with "someone who could persuasively articulate" how and whether their proposed work would allow them to achieve the proposal's intellectual merit and broader impacts. Just as employers prefer job candidates who persuasively sell their skills and potential, reviewers prefer proposals that persuasively sell the value and potential of the project -- and the applicant.

Another common rhetorical move experienced researchers made was to anticipate the reactions of readers. What readers? POs are the obvious ones, we found; reviewers are more enigmatic. Experienced applicants recognize that if they are to succeed in winning a grant, they need to ask themselves who these readers are and what they are looking for.

Most fields are specialized enough that the number of colleagues qualified to judge a proposal is quite small. Hence, applicants should ask themselves, "Who is most likely to review my application? What type of project will those scientists find worthy of funding?"

This focus on the audience forces a consideration of what is interesting to people working in the field. In my interviews, I heard this characteristic described with a number of nicknames: "winds of change," "cutting-edge research," "hot-button topics." Whatever the nickname, it's a common theme: Just as employers are looking for a candidate who can meet the needs of the position, POs

and reviewers are looking for the researcher who can answer the most pressing questions of this moment. They want us to meet the *kairos*, the unique conditions, of the time we're working in (Kinneavy).

The PO's view: Grants are relationships

If you succeed in expressing clearly and forcefully how your project will fill the field's ever-changing needs, your odds of winning a grant will be strong. But careers are built from a series of grants spread over years, if not decades. To facilitate those decades of research, POs want to form lasting relationships with applicants.

Researchers need to make more of an effort to form such relationships. If you have never submitted to NSF before, contact the PO before you write your first word. Talk about the project you envision. Get the PO's perspective. Adapt what you write to take into account what the PO is looking for. If it's your third, or fourth, or 10th proposal, do exactly the same thing. Start with a phone call.

Recognize that times and POs change. A project that may have secured a grant 10 years ago may not make the short list today. When I asked each PO I interviewed what advice they would give to applicants, the only tip given by all seven was that researchers should talk with their PO before submitting. As Lewis put it, this is "*the* most useful thing" a novice researcher can do to improve chances of success.

A common desire expressed by POs was for researchers to recognize that a successful relationship with NSF requires work, especially after a proposal has been declined. When you receive a declined proposal, call and talk with the PO about resubmitting. Then put effort into making the resubmission better than the previous one. Especially disheartening, one PO observed, were applicants who repeatedly submitted essentially the same proposal. "They tweaked it here or there, or added a new figure, or arranged the order," but they "haven't called the program officer to see why it was declined, and they really haven't listened to those reviewers." Making superficial changes to a declined proposal won't get it accepted, but it will poison your relationship with your PO. A conversation, on the other hand, will help cement that relationship.

The social view: Grants are part of a larger conversation

Effective proposal writing means recognizing that writing grant proposals is an inherently social act, an exercise in the collective construction of knowledge: knowledge of what research we want to conduct, of what research NSF is looking to fund, of what research researchers in our fields find valid. Social construction of knowledge is something we're accustomed to seeing in political and social contexts; it's the root of Burke's "unending conversation" metaphor (Burke). But it's an unfamiliar idea to many scientists, and it's just as true in grant writing (if a little less obvious) as it is in those other contexts. No grant proposal exists in isolation, and no effective grant writer acts -- or writes -- as though it is.

This larger conversation includes this proposal you are writing and the papers that result from your research once the grant is awarded. It reflects the values of the researcher, the agency, and the reviewers of your field of science at this moment in its development. Researchers who position themselves well in that larger conversation will be better accepted by their community. And that acceptance is a surer guarantee of continued funding than any well-completed form.

References

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