EAB

Four Components of Effective
Grant Writing Trainings

University Research
Forum

![EAB logo]

Four Components of Effective
Grant Writing Trainings

3 Ways to Use This Tool

- Develop inaugural grant writing training for university faculty and researchers
- Improve existing grant writing training
- Conduct a faculty peer-to-peer review of grant proposals for both internal and external awards

University Research Forum

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Executive Summary

Growing Competition for Funding Necessitates Training

Competition for grant funding has increased over the past two decades, with proposal acceptance rates declining as the number of submissions continues to grow. For example, proposal acceptance rates at the National Institutes of Health (NIH) have decreased from 32% in 2000 to 19% in 2017.[1]

Given this increased competition, universities cannot afford to take a laissez-faire approach to faculty grant proposals. To retain—and hopefully increase—grant funding, institutions must find ways to proactively support faculty and strengthen submissions.

The Standard Model of Lectures and One-Off Events

One of the most common ways universities support faculty proposals is through grant writing trainings and workshops. This typically comes in the form of brown bag lunches, one-off lectures from a program officer, or other didactic presentations. While these programs are relatively easy to organize and often leverage existing campus space and presenters, they have shortcomings.

No Incentive to Participate. Faculty have many competing priorities, so they are unlikely to attend a voluntary training session unless the "what's in it for me" element is clear. Most events have low turnouts and gain little traction with faculty since they do not motivate or incent participation. Communicating the value of a workshop to faculty in the form of participants' success rates is a crucial motivator. Likewise, offering a potential reward, such as seed funding, can also entice participants.

Overly General Information. Too often, sessions share generic information that faculty could find through internet research or speaking to a colleague. Trainings are more impactful if they focus on faculty members' own work. This allows them to ask specific questions, gather actionable information, and better address their unique needs.

Didactic, Not Engaging. As in the classroom, lectures and didactic presentations do not always engage the audience or produce the best learning outcomes. More interactive sessions where faculty work together on grant proposals provide them with opportunities to improve each other's work.

Optimizing Grant Writing Trainings

While many standard grant writing programs have flaws, some institutions have revised and redeveloped their programs to better meet the needs of faculty. For example, the Rochester Institute of Technology (RIT) offers an annual program for new and research-inactive faculty to jump-start their work in STEM and non-STEM fields. RIT's program is distinctive because it replicates the grant writing process, from answering a request for proposals (RFP) to submitting and editing a grant to managing an award. This holistic experience better prepares faculty to respond to RFPs, improves their approach, and bolsters their written communication.

How to Use This Resource

The following pages will help research offices emulate the success of RIT and other select institutions' training programs. In particular, it details four components of effective grant writing trainings (detailed in the table below) and provides corresponding ready-to-use tools.

Training Component	Capsule Description	Rationale
#1: Research Proposal and Seed Funding	Faculty are required to submit a grant proposal in order to participate, which receives a high-level review. Successful faculty will then have the chance to receive seed funding.	A proposal requirement sets a bar for participation and prevents faculty from merely being "tourists" in the process. This makes faculty take the process seriously and fully invest in the workshop. The additional opportunity for seed funding serves as the incentive to meet the high bar for entry.
#2: Peer Review and Editing	During the workshop, faculty spend significant time collaborating with a peer to review each other's work and provide constructive feedback.	Peer editing and reviewing gives faculty the opportunity to not only respond to feedback on their work but also conduct a review themselves. This will help faculty understand the submission process from the perspective of a reviewer while learning about a peer's work and proposal approach.
#3: Access to Established Experts	On-campus and consultant experts who have served as program officers, directed institutes/centers, or won multiple large awards are invited to discuss their experiences and answer questions.	Faculty need the opportunity to interact with experts in both grant writing and reviewing. It is important for faculty to ask experts in-depth, personalized questions to improve their writing and proposal approach.
#4: Post-Workshop Review	Faculty submit a revised grant for a final review that is used to award seed funding.	Requiring faculty to act on peer review feedback and submit a final proposal has two main benefits. First, it provides further coaching on writing and strengthens future proposals. Second, it mimics the process of applying for funding from federal agencies, giving faculty extra practice and hopefully increased future success rates.

Source: EAB interviews and analysis.

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Component 1: Research Proposal and Seed Funding

Component in Brief

Faculty are required to submit a grant proposal in order to participate, which receives a high-level review. Successful faculty will then have the chance to receive seed funding.

Rationale

A proposal requirement sets a bar for participation and prevents faculty from merely being "tourists" in the process. This makes faculty take the process seriously and fully invest in the workshop. The additional opportunity for seed funding serves as the incentive for people to meet the high bar for entry.

Proposal Requirement and Seed Funding

The first component to effective grant writing training is requiring a proposal from the participants and offering them the potential for seed funding. The proposal requirement will help replicate the actual grant process, providing faculty with a "dress rehearsal" before they submit their work for extramural funding. It also gives them the opportunity to get their initial thoughts on paper and refine them throughout the workshop. The faculty proposals should be given a quick review prior to acceptance to the workshop. This review is not used to aggressively screen proposals but to instead ensure they meet minimum standards.

For example, proposal review might be based on:

- Feasibility
- Likelihood of external funding
- Access to appropriate facilities on campus
- Appropriate scope for faculty rank and tenure
- Alignment with institutional mission and goals

Additionally, requiring a grant proposal from each faculty participant can help planners gather the information they need to organize faculty into discipline-appropriate workshops. Although there are universal do's and don'ts of grant writing, the work of a historian will be inherently different from the work of a physicist. The best workshops match researchers in similar fields or content areas.

When creating faculty workshop groups, consider:

- Social vs. natural sciences
- Humanities vs. engineering
- STEM vs. non-STEM
- Similarity in content
- Similarity in fields
- Ability to assess each other's methodology
- Similarity in potential funding sources (e.g., federal sources vs. private foundations)

Finally, many faculty will need a strong incentive to write a proposal and fully participate in a workshop. Potential for seed funding is a proven method to build interest and ensure full participation from attendees. There is no universal dollar amount for such seed funding, but RIT has found $5,000 to be a meaningful award for participants that successfully complete the training.

Source: EAB interviews and analysis.

Component 2: Peer Review and Editing

Component in Brief

During the workshop, faculty spend significant time collaborating with a peer to review each other's work and provide constructive feedback.

Rationale

Peer editing and reviewing gives faculty the opportunity to not only respond to feedback on their work but to also conduct a review themselves. This will help faculty understand the submission process from the perspective of a reviewer while learning about a peer's work and proposal approach.

Peer Review and Editing

The second component to improving grant writing training is peer reviewing and editing. In general, trainings should be interactive in design and focus on using the actual work of faculty participants. Trainings should center around the proposal that each faculty member submitted and incorporate group discussions, self-review, and peer review.

To ensure peer review discussions stay on track, workshop facilitators should provide faculty with a worksheet and instructions for reviewing peer proposals. EAB's peer review template is provided on pages 8-9. Although each funding source will have its own criteria, this form can serve as a guide for any faculty member when conducting an initial, in-person peer review. The graphic below outlines the steps in the peer review activity.

1 Look over review prompts to understand criteria
5 Min

2 Read over peer proposal with prompts in mind
30 Min

4 Discuss each other's proposals, sharing constructive feedback
30 Min (15 Min each)

3 Respond to each review prompt thoroughly on paper
25 Min

90 Minutes

Source: EAB interviews and analysis.
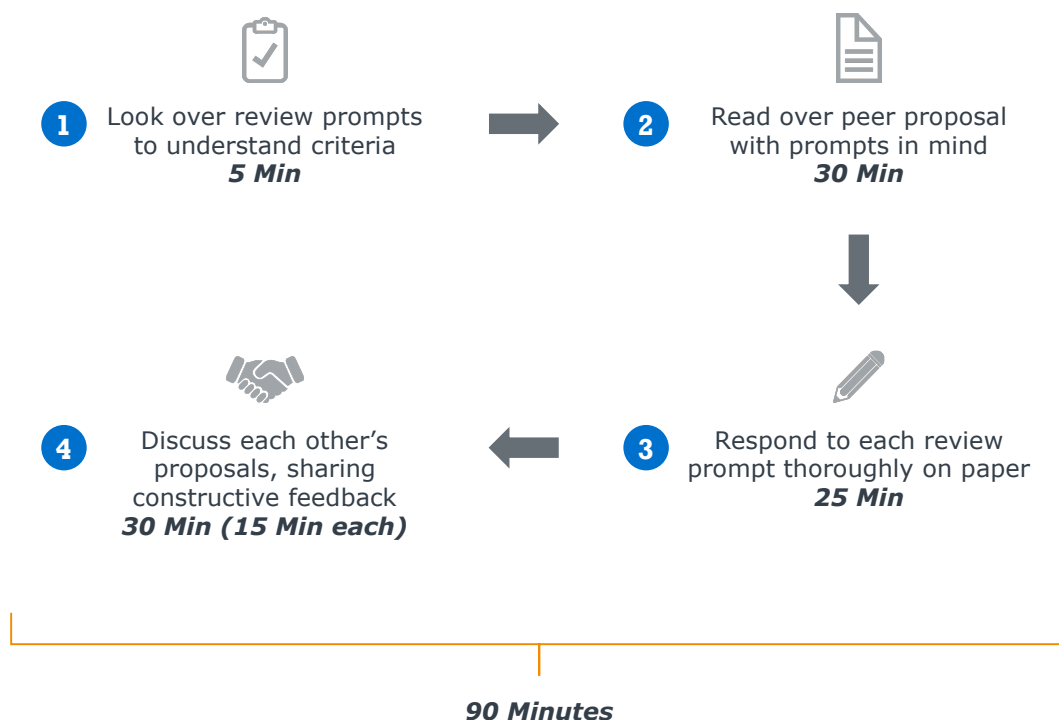
Faculty Grant Peer Review Worksheet

Using This Worksheet (*90-Minute Activity*)

Choose a faculty partner who has written a proposal in a field similar to your own. First, spend a few minutes reading through the following eight questions. Then spend 30 minutes reading each other's proposals, keeping these questions in mind. Afterward, spend 20-25 minutes responding to the questions below. Use additional paper if necessary. Finally, use the last 30 minutes (15 minutes each) to give each other feedback and discuss the proposals.

Peer Review Questions	
1	**Intellectual Significance:** *Would the proposed research project advance understanding and/or add new findings or analysis to the discipline? Of what importance are these findings?*
2	**Personnel and Equipment:** *How capable are the proposed researchers to do the work? What necessary equipment and laboratory space do they need to complete the proposed research?*
3	**Methodology:** *How will the proposed methodology answer their research question(s)? What gaps exist between their methodology and the research question(s)?*
4	**Proposal Writing:** *What level of expertise is needed to read and understand the proposal? How clear and easy to read is the proposal for an educated, non-expert reviewer?*

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Faculty Grant Peer Review Worksheet (Cont.)

	Peer Review Questions (Cont.)
5	**Proposal Writing:** *How clear is the grammar and format of the writing? What improvements or changes could be made?*
6	**Proposal Writing:** *How easily could you identify the research questions? Could a generally educated reader understand them? How could they be improved?*
7	**Dissemination:** *How effective will the proposed plan for dissemination be? Are there additional opportunities or strategies the researcher could use to disseminate their work?*
8	**Sustainability:** *What promise does the proposed work have for securing extramural funding after the seed funding has been spent? Would the researcher be able to continue his or her work without funding? If so, how?*

Source: EAB interviews and analysis.

Component 3: Access to Established Experts

Component in Brief

On-campus and consultant experts who have served as program officers, directed institutes/centers, or won multiple large awards are invited to discuss their experiences and answer questions.

Rationale

Faculty need the opportunity to interact with experts in both grant writing and reviewing. It is important for faculty to ask experts in-depth, personalized questions to improve their writing and proposal approach. This helps them gain firsthand knowledge about internal review processes that may impact their submission success.

Peer Review and Editing

The third component is giving faculty access to established experts. These experts can be found on campus or hired from other institutions. Most universities are leveraging experts to some degree, but they can improve their efforts by ensuring they have the right mix of guest speakers and facilitators. If possible, institutions should tailor workshop presenters to their specific audience(s). For example, a former program officer from NIH would be the best fit for biologists and medical doctors.

The graphic below outlines the three archetypes of established experts to invite to grant writing trainings. Inviting one of each type will ensure participants get multiple perspectives on the grant writing process. It is also important for at least one of the experts to be an internal faculty member who can serve as a role model and help make success seem more attainable.

The Successful Grant Applicant	The Experienced Reviewer	The Former (or Current) Program Officer

• Who they are:
  – Internal, well-funded faculty members
  – External center or institute directors
• What they have done:
  – Produced results and publications
  – Garnered national recognition
  – Directed centers, institutes, large labs
	• Who they are:
	  – Internal faculty who sit on review panels
	  – External professional reviewers
	• What they have done:
	  – Read dozens of grant proposals
	  – Influenced decisions about grant awards
		• Who they are:
		  – Internal faculty who served as a program officer at a funding agency
		  – External agency program officers
		• What they have done:
		  – Designed funding programs
		  – Oversaw review processes

At least one of the experts should be a successful faculty member at the workshop's institution.

Source: EAB interviews and analysis.

Component 4: Post-Workshop Review

Component in Brief

Faculty submit a revised grant for a final review that is used to award seed funding.

Rationale

Requiring faculty to act on peer review feedback and submit a final proposal has two main benefits. First, it provides further coaching on writing that will help strengthen future proposals. Second, it mimics the process of applying for funding from federal agencies, giving faculty extra practice and hopefully increased future success rates.

Post-Workshop Review

The final component for improving any grant writing training is having faculty submit a revised proposal that will be evaluated through a final review and used to make seed funding decisions. For the final review, institutions should ask past successful workshop attendees to review the proposals using the same peer review worksheet used in the workshop. Past attendees are ideal reviewers because they were recently novices themselves and therefore know the most important improvement steps. A more seasoned grant writer might struggle to coach or give actionable feedback to new grant writers.

Following the review, grant readers accept the proposal, reject it, or accept it with revisions. Then, the research office awards seed funds based on the results. Some institutions provide seed funding only to the strongest proposals. Other universities choose to provide funds to any proposal that reaches a predetermined quality bar. The final review process can also be iterative, with faculty allowed to resubmit a proposal over and over until it is deemed successful. This approach has the advantage of maximizing the number of submission-ready proposals. However, it requires research offices to budget for the possibility of all participants receiving funding.

Pages 12-13 provide a reproduction of the *Faculty Grant Peer Review Worksheet* (Component 2) with the addition of a final decision section.

Faculty Grant Review Sheet and Grading

Using This Worksheet (*90-Minute Activity*)

Faculty reviewers should use this worksheet to accept, reject, or accept with revisions a research proposal for seed funding. First, the reviewer should spend five minutes reviewing the questions in the worksheet below. Second, they should spend approximately 45 minutes reading the proposal without looking at the questions. Last, they should spend the remaining 40 minutes answering the questions and making a final funding decision (bottom of the second page). The time required to complete this activity may vary depending on the length of the proposals submitted.

Peer Review Questions	
1	**Intellectual Significance:** *Would the proposed research project advance understanding and/or add new findings or analysis to the discipline? Of what importance are these findings?*
2	**Personnel and Equipment:** *How capable are the proposed researchers to do the work? What necessary equipment and laboratory space do they need to complete the proposed research?*
3	**Methodology:** *How will the proposed methodology answer their research question(s)? What gaps exist between their methodology and the research question(s)?*
4	**Proposal Writing:** *What level of expertise is needed to read and understand the proposal? How clear and easy to read is the proposal for an educated, non-expert reviewer?*

Source: EAB interviews and analysis.

Faculty Grant Review Sheet and Grading (Cont.)

	Peer Review Questions (Cont.)
5	**Proposal Writing:** *How clear is the grammar and format of the writing? What improvements or changes could be made?*
6	**Proposal Writing:** *How easily could you identify the research questions? Could a generally educated reader understand them? How could they be improved?*
7	**Dissemination:** *How effective will the proposed plan for dissemination be? Are there additional opportunities or strategies the researcher could use to disseminate their work?*
8	**Sustainability:** *What promise does the proposed work have for securing extramural funding after the seed funding has been spent? Would the researcher be able to continue his or her work without funding? If so, how?*

Proposal Grading (*Check One Below*)		
Accept		**Comments:**
Accept with Revisions		
Reject		

Source: EAB interviews and analysis.

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