



AERA NSF Grant Writing Tip Sheet

- Pursue an authentic partnership that centers on the common research/practical interests but brings together unique, complementary expertise/experiences/access that collectively tackle the common focus holistically and thoroughly. This way, each party sees the value of what others can bring to the table and is thus incentivized to work on the common issue. This also translates into a strong NSF proposal that has breadth and depth in all regards.
- When working with institutions that can provide researchers access to the populations of research interests, think about making this a true partnership rather than just access to research sites. Especially when working with under-resourced institutions that tend to provide research populations of interest and policy priorities (underserved groups of faculty, students, etc.), consider ways in which the grant can be an opportunity to build institutional capacity, and if possible, build into the grant tangible resources to help fulfill that opportunity. My experience so far has proven that this approach is not just well received by NSF's review process, but truly makes incremental differences at the institutions. This approach has the potential to give true meaning to education research and scholarship.
- Institutional research is such a critical yet under-tapped function. Bring in IR at the front end of any grant proposal. Regardless of whether research is a focus of the proposal, almost all NSF programs require rigorous evaluation and assessment. IR is a great internal resource to help facilitate this part of the grant. This also helps strengthen and streamline efforts toward building an institution's data-driven capacity and culture.
- Build on pilot studies to show expertise in the area, but to also identify gaps in the literature. Emphasis in NSF funding is increasingly on partnering with others and building up communities of practice. Consider how the project becomes sustainable once the grant funds are expended. Robust piloting can build platforms upon which new research is possible.
- Think about how you will report out on research findings in multiple venues. Many of the faculty involved as participants in projects come from a range of fields and institutional types. Consider what publication avenues allow for access to practitioner audiences and also how products of the grant advance scholarship.
- **Collaboration with engineers and scientists is not only important, but a necessity:**
 - The PI often needs to be a STEM faculty member.
 - Engineering educators are great partners and can bridge disciplinary differences between STEM and social sciences.
 - Collaboration is ideally *truly collaborative and cross-disciplinary* (not isolated work by members from different disciplines).
 - Collaboration at its best can create peer-learning and professional development opportunities among members.
- **Understand funding agency priorities:**
 - Be attuned to the funding agency's priorities (e.g., NSF's Big 10 Ideas, prior awards, etc.).
 - Talk to program officers and develop a relationship with them prior to application, during the award, and after completion.
 - Align application language and perspective to those of the funding agency.
- **Be persistent:**
 - Persistency is the name of the game. Rejections happen and are commonplace, but keep at it.
 - The process of applying makes future work (of all kinds) stronger.



Small Group Questions—Report out on two key points

Curriculum and Instruction Strategies [Debra Bragg & Pamela Eddy]

- How could we encourage more active forms of faculty development (e.g., through curriculum development)?
 - What forms of engagement are feasible?
 - What incentives would help faculty to engage?

- Faculty can learn through outreach to other levels of education, but this is rare. How can collaborative approaches to faculty development be supported across K-12 and higher education?
 - What strategies bring educators together to learn? What is learned? and What is the value of the learning?
 - How do Communities of Practice contribute to faculty development and improved teaching strategies?
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Faculty as Adult Learners [Xueli Wang, Marilyn Amey, Alex Gardner]

- How can professional development activities reconcile and leverage multiple identities of faculty as adult learners?
- What are effective approaches to incentivizing faculty from different disciplines to work together in professional development and other initiatives?
- What are promising leadership models and organizational structures that help develop and sustain faculty development and communities of practice?

Using Data to Improve Practice [Jaime Lester & Carrie Klein]

- What are the implications of using learning analytics (i.e., educational big data) or predictive learning analytics to inform practice? What possibilities exist? What constraints or concerns?
- How can these data be integrated into practice? How does this differ for faculty versus advisors versus students versus administrators? What are the interests and needs of each of these groups – where do they align or differ?
- How do professional and personal beliefs impact use of these data and what are the implications when beliefs do not align with data use or with the technologies (e.g., dashboards and early alert systems) that convey those data?
- What guidance or support mechanisms should be in place to help users (i.e., faculty, advisors, and students) interpret and act upon data they receive? How does this guidance and support change when data is predictive in nature?
- What policies (if any) exist related to data sharing, access, and dissemination? Who within higher education organizations should be involved in policy related discussions when crafting funding agency applications?
- What ethics and privacy considerations must be taken into account when mining, analyzing, and using data to improve practice? What sort of consent should be considered prior to data collection and use?