NSF Broader Impacts 101
Template Facilitation Plan

Resources & Inspiration

- Broader Impacts 101 - ARIS session led by Jory Weintraub (July 2019)
- BOOST Engage Effectively facilitation plans - for Bold Challenges module (Fall 2023)
    - BOOST Engage Effectively Session 1 - slidedeck
    - BOOST Engage Effectively Session 2 - slidedeck

Objectives

This session serves as a basic introduction to the broader impacts criterion of NSF proposals.

Through this session, you will:

- Understand the different pillars of broader impacts as defined by NSF;
- Be able to articulate why broader impacts matter; and
- Become familiar with tools and resources to help you better incorporate broader impacts into your project planning and proposals.

[Long term ultimate aim on our end] Enable faculty to integrate broader impacts throughout an entire NSF proposal, in the interests of greater success in the grantmaking process.

Virtual Facilitation Plan (90 minutes)
Slidedeck

Element	Facilitation Notes	Time
Welcome & Activation Introductions and expectation-setting ● Broader impacts work (or BI for short) can feel like a burden, box-checking activity, or opportunity. Today, we hope to demonstrate how BI work can be an opportunity for you. ● Walk through agenda Chatterfalls: 1. What does “impactful” work look like in your field? 2. What is an example of a project you did or have witnessed that was really effective in connecting research with groups and constituencies outside of your scholarship? ○ What made this project interesting and impactful? ○ What motivated this project? (e.g., Funding? Personal passion? A requirement for a program?)		:02 - :12 (10 min)

Probe to get at some of the main messages below **Transition: Today's key messages** Today we're going to focus on exploring the NSF Broader Impacts criterion, keeping in mind what we just discovered and discussed about impactful work. There are four critical messages that we hope you will leave today understanding: 1. There are many ways to do BI work, because there are lots of ways to be impactful. 2. There are many reasons to do BI work, and good BI projects sit at the intersection of a PI or team's ambitions, identities, societal needs, and capacities. 3. Good impacts planning is good project planning, with an emphasis on relationships. 4. If you've done good BI project planning, those plans should be reflected throughout a proposal and tell a compelling story. We're going to explore each of these messages in turn, with opportunities for some reflection, discussion, and application along the way.		
Key Message #1: There are many ways to do BI work, because there are lots of ways to be impactful. The NSF "expects researchers' work to have broader impacts: the potential to benefit society and contribute to the achievement of specific, desired societal outcomes." (NSF Broader Impacts page) The NSF has outlined nine example outcomes. These include: ● Inclusion ● STEM education ● Public engagement ● Societal well-being ● STEM workforce ● Partnerships ● National security ● Economic competitiveness ● Infrastructure It's important to note that these are not the only possible outcomes of BI work, nor are they mutually exclusive.		:12 - :20 (8 min)

That's because there are lots of ways to be impactful beyond academia. Ultimately, BI is fundamentally about identifying objectives and outcomes and working from there. Here are some examples of BI work from U-M: ● Inclusion: ○ Audrey Bennett: quilting algorithms ○ Lola Eniola-Adefeso: multi-tiered mentor program for every grad student in program, explicitly about creating welcoming environments ● Public engagement: ○ Monica Dus: Sugar Buzz comic ● Societal well-being: ○ Luke Schaefer: Child poverty tax credit ● Economic competitiveness: ○ MCity ● Infrastructure & partnerships: ○ Roshanak Mehdipanah: Housing Solutions for Health Equity		
Breakout Room Activity Knowing that there are many ways to do BI work, we want to return to some of the activities that you shared at the beginning of the session, or other impactful work that you've witnessed. How might one of these projects be articulated within the BI framework that NSF has laid out? You'll have one minute to select and reflect individually on where a particular project might be situated in the NSF framework. You'll then be placed in a breakout room with a small group to share your example and how you might describe that project within the NSF BI framework. You'll have [10] minutes in your breakout room.		:20 - :32 (12 min, including time for instructions & individual reflection)
Transition: [brief share-out of any observations from attempting to frame projects using the BI pillars] While you don't *have* to articulate BI work within this framework, it is helpful when you're working on proposals to be familiar with the language and frame that NSF uses so that you can consider possible alignment. What's more important, because there are so many ways that you *could* do BI work, is to consider why BI work		:32 - :35 (3 min)

matters in the first place.		
Key Message #2: There are many reasons to do BI work, and good BI projects sit at the intersection of a PI or team's ambitions, identities, societal needs, and capacities. One part of the equation is that funders (in this case, the NSF) require it, in part for accountability. In the words of the NSF, "By evaluating every proposal it receives according to its intellectual merit and its broader impacts, NSF ensures that publicly funded research has tangible benefits to society that go beyond increasing knowledge." (NSF Broader Impacts page) Because NSF requires it, proposals with good BI plans might help increase the likelihood of success in a very competitive space. And also… BI work can be intrinsically motivating for a PI or team. It can: ● Open up new research directions, including by amplifying the opportunities you have to partner with different types of stakeholders and create pathways for the work beyond advancing knowledge for knowledge's sake. ● Be a means of skill-building, especially around relationship and communication skills ● Be related to your personal purpose(s) in pursuing your scholarship and help you think more deeply about the relevance and connection of your work with wider issues. So that you are aware, there is an emerging idea within the broader impacts space called an impact identity. An impact identity looks to this combination of external context and your own internal motivations to find that "sweet spot" of what you could do, what you might do, and what you should do. We're not going to go into this idea today beyond a brief reflection question at this time, but if you're interested, exploring your impact identity is a way that you can deepen your understanding of who you are and what you do as a scholar, and how engagement or BI work might play into that. (Side note: we can also help you with this beyond today, if you're interested!)		:35 - :40 (5 min)
Individual Reflection Activity Take [5] minutes to reflect on the following question: *Possibilities include (we would choose one)* ● Who does your research *already* impact? Why?		:40 - :45 (5 min)

• What larger societal issues, policy areas, behaviors, attitudes, practices, etc. link to your research? What problems or needs are there in these places? • If you had to write a one-sentence guiding "north star" for your research impact, what would it be? • Other than researchers, who might be interested in some aspect of your work? What are those interests and why would they be interested? • Who might your research impact? Who is currently left out of the impacts from your work? • What are you especially good at? How might you leverage these strengths for the societal good?		
Transition: Now that we have some language around BI work according to the NSF and we've considered why BI work is important, we're going to switch our focus to some more practical elements of project planning for BI work and how these plans relate to the larger NSF proposal.		:45 - :46 (1 min)
Key Message #3: Good impacts planning is good project planning, with an emphasis on relationships. We consult on BI projects a lot, and something we've often observed is that teams want to do many, smaller/easier BI activities rather than focusing on one deep, thoughtful plan. That grab-bag approach isn't actually particularly effective. • For researchers: it splits attention too many ways • For reviewers: it tends to read that the BI plan is just an add-on to the proposal Just as you would apply major project planning to your research projects or the intellectual merit side of an NSF proposal, you want to apply those same kinds of ideas to your BI project planning. While it would be great if you had infinite time and resources and capacity to do ALL the things, it's really about being strategic, realistic, and allocating resources effectively — all while working equitably with any external partners. Let's zero in on what good BI project planning means.		:46 - :47 (1 min)
Zeroing in on Engaged Project Planning There are some principles in the project management field that help you to do this kind of good planning.		:47 - 1:00 (13 min)

- Dimensions: people and processes
    - People include: core team members, partners, others that need to be kept in the loop (e.g. leadership, funders, etc)
        - Full-time project managers often say that something like 75-80% of their job revolves around communicating with these people.
- Processes include: initiating, planning, executing, monitoring & controlling, and closing
- Project lifecycle: The project management processes occur during each phase of a project lifecycle.

Taking a BI or public engagement lens to these fundamentals of project planning helps us more fully understand some of the core considerations of good BI work.

Dimensions: What makes a BI or engaged project a little different is that you really need to pay especially close attention to the relationships with project partners.

- Of course you may already be thinking a lot about relationships when you think about planning a research project, such as making sure that your team includes people with complementary strengths. In BI project planning, these same considerations definitely apply, and you also just want to pay particular attention to relationships that you're forming with external partners so that these relationships are equitable. If you're interested in partnering, it is your responsibility to learn how to be a good partner.
- Relationship dynamics are particularly important in BI projects because they frequently involve partnerships with people who operate in different spaces, with different cultures and resources. Academic spaces are very different, for example, than museums, policy spaces, or community-based organizations. You may be interested in working with communities who have experienced harm at the hands of academics - yes, even from U-M. Finally, partners coming from university spaces frequently (though not always) have access to more or different kinds of resources, which can set up a power imbalance right from the start.

• One way to think about relationship dynamics is the IAP2 spectrum [walk through spectrum].
 	
Processes
 	
• Rather than using a "managing" or "controlling" process in BI project planning, it's helpful to think about using concerted effort, time, and continual reflective practice to ensure that your project is staying on track and that you're living up to your values.
• Reflective practice in this way is not an add-on activity, or something that you do if you only have the time (because let's face it, you will never have the time unless you make time for it). Rather, having conversations with your partners and being mindful about power dynamics along the way is *simply good project planning in engaged projects*. This is your permission to build in time and be purposeful and intentional in the project!
 	
Life Cycle:
 	
• How you develop and maintain your relationships should affect the decisions that you make throughout your project lifecycle. We're going to walk through some practical examples of equitable partnerships in each phase of a project lifecycle with an equity lens:
  ○ Designing
  ■ Seek collaborators **before** plans are solidified, to enable them to make recommendations & help shape a project
  ■ Look for alignment around goals - purposefully asking about what is interesting, important, strategic, etc
  ■ Vision the outcomes that both partners want to pursue
  ○ Planning
  ■ Budget equitably, sharing resources with partners and asking for sufficient resources
  ■ Create communications plans to ensure knowledge and information		

sharing - this can be a form of power balancing! This is also a good time to talk about norms or preferences for communication - what might work in one space might not work in another. ■ Co-develop community compacts to outline mutual collaboration expectations. ○ Executing ■ Maintain equitable role distributions, sharing the desirable tasks and distributing the onerous ones ■ Leverage each collaborator's strengths, valuing different approaches and ways of knowing ■ Check in to make sure there's clear communication ○ Closing ■ Ensure mutual benefit by reflecting on what's been done and whose goals it served ■ Be sure that there are outcomes for all partners - don't stop until the whole group's goals have been met ■ Evaluate your project (including of relational satisfaction among partners)		
Breakout Room Activity We're now going to give you a few minutes to apply these ideas to your own work. In small group breakout rooms, discuss: 1. With which of these phases/strategies do you have the most familiarity/experience? What has this looked like for you in practice? 2. Which phases or practices are you least practiced in? How might you build capacity in at least one of these areas for your next proposal? You'll have [7-8] minutes in your small groups.		1:00 - :1:10 (10 min)
Transition: Now it's time to put everything together.		1:10 - 1:11 (1 min)

If you've… ● Considered the objectives and outcomes of your BI work and their alignment with how NSF talks about BI ● Explored why BI matters to you as well as to a funding agency ● Developed a BI project plan that is thoughtful, clear, and centers equity in your relationships Then… ● All of this hard work should show up in your NSF proposal.		
Key Message #4: If you've done good BI project planning, those plans should be reflected throughout a proposal and tell a compelling story. Let's go over a few guidelines about what to include, where to include it, and how to frame your work to set yourself up for success. Chatterfall (or shout-outs): Where do you expect to see elements of your BI plan in a proposal? We expect BI to show up in… ● Project summary and abstract (if awarded) ● Project description ● Special information & supplementary documentation ● Postdoc mentoring plan ● Data management plan ● Letters of collaboration ● Biosketch ● Budget and justification ● Annual report (if awarded) Let's zero in on budgeting for BI.		1:11 - 1:15 (4 min)
Zeroing in on the Budget Chatterfall: In terms of percentage, how much of the budget do you think should, on average, be allocated to the BI plan? ● It depends! If you need a heuristic, 10% is a good place to start. ● The most important thing is to budget effectively for the types of activities that you're planning, including equitable compensation for people's time and effort. Reactions: High/low game for equitable budgeting. Use the reactions function to indicate if you think the estimate		1:15 - 1:20 (5 min)

is higher or lower than the listed cost of the activities below: ● Make a video: $1,000 ○ Higher: ~$5-20k, with a threshold of $3400 ● Developing an exhibit: $10,000 ○ Higher: Threshold of $50k (depends on square footage) ● Filing a patent: $80,000 ○ Lower: $15-25k ● Hosting a fellowship program: $50,000 ○ Higher: including staffing, $100-120k/year We hope this activity encourages you to get realistic about budget estimates and then ask for what you need to fulfill your BI plan.		
Resources Recap key messages from today We know that we've covered a lot of ground today, and it might seem overwhelming at first. Fortunately, there are some great tools available to you as you work on a BI plan for a NSF proposal. ● ARIS BI Toolkit ○ Guiding principles ■ How to think about the pillars of BI; use to think about which categories of BI your project aligns to ○ Planning checklist ■ Check a draft of a BI plan to consider if you have everything, or as a project planning tool to make sure that you're developing all of the components before you start writing ○ BI Wizard ■ Hand-held version with reflective prompts to use at the beginning or ask you're developing an idea ○ Rubric ■ Getting a get check about success ● U-M specific resources ○ Consultations with the PE + RI team ○ Portal of resources supporting BI at U-M ○ (Menus, if/when we have them)		1:20 - 1:25 (5 min)
Q&A & Wrap Up Knowing that there is lots more to explore with these resources, what 1-2 questions can we answer at this point?		1:25 - 1:30 (5 min)

Thank you! Please know that you're not alone, and we're here to help.		