DESIGNING THE RIGHT BROADER IMPACTS PLAN FOR YOUR PROJECT

March 20, 2018
AGENDA

- What are Broader Impacts?
- How to be a Realistic Planner
- Tools Available Online
- Campus Resources
WHAT ARE BROADER IMPACTS (BI)?

• Also referred to as Outreach Efforts

• The potential of a sponsored project to benefit society and contribute to the achievement of specific, desired societal outcomes
Structural Evolution Through the Lifecycle of Hurricane Sandy (2012)
AGS 1322532
• Operational models of weather systems, storm forecasting and resilience planning

CAREER: Architectural Support for CPU / GPU Hybridization
CCF 1149539
• Broad potential to improve energy efficiency and battery life and to advance fields that rely on HPC
When the Broader Impacts are Directly Related to Research Project...

The LIFE Center: Learning in Informal and Formal Environments
SMA 0835854

• PI collaborates with organizations and policymakers to develop science-based programs that help children maximize their ability to learn.

CAREER: Rationally Designed Conjugated Polymers Based on Benzobisazoles
DMR 0846607

• Interdisciplinary research experiences for undergrad and graduate students and chemistry ambassadors which target underrepresented students grades 8-12.
Computational Behavioral Science: Modeling, Analysis, and Visualization of Social and Communicative Behavior

IIS 1029679

- Museum exhibit that integrated computer vision tools developed through this project with robotics tools from another Expedition

Energize New Mexico

IIA 1301346

- The NM EPSCoR project supports an array of outreach and education efforts designed to share the research developed by the project with stakeholders and the broader community.
**How to Plan Realistically...**

1. Follow the Solicitation
2. Include an Evaluator...Early (if needed)
3. Identify a Target Audience
4. Set a Goal for that Audience
5. Budget Accordingly
EVALUATOR OPTIONS

INTERNAL OPTIONS

• Institute of Social Research
• Cradle to Career Policy Institute
• Develop your own Evaluation Plan
• FRDO Website Resources

EXTERNAL OPTIONS

• New Mexico Evaluators
• Professional Evaluator
  • Lynn Nordstrom

Come back to ADVANCE space on Tuesday, April 17th for a follow up workshop on Evaluation Plans.
Identifying a Target Audience

- Realistically applicable to your proposed project goals
- Fits your personality and qualifications
- Effectively accounts for time, budget, and people constraints
SETTING A GOAL FOR YOUR TARGET AUDIENCE

• Timeline to the Future
• How many people, industries, government agencies, etc. will be affected?
• Do you need to include learning standards?
### Budget Resources Accordingly

#### Money & Goods
- Is it included in the proposed budget?
- Is it participant support?
- Is it unfunded collaboration?
- Are you using resources already available at your home or collaborative institution?
- How much will an evaluator cost?

#### People
- Do you have enough people?
- Are they qualified to conduct the proposed activities?
- Do you need to hire a consultant?
- Do you have the right contacts?
- How do you start the conversation to develop a broader impacts relationship?

#### Time
- How long will your broader impact take?
- Does it need to happen during a certain time to meet the goals?
- Do you or your target audience need to travel?
- Is this feasible to both your schedules?

Request support from the Faculty Research Development Network by clicking this [link](#).
TOOLS AVAILABLE ONLINE

- National Alliance on Broader Impacts (NABI) - https://broaderimpacts.net/
- Broader Impacts at UNM - http://frdo.unm.edu/unm_broader_impacts
Potential Outreach and Broader Impact Partners Available to UNM

**NM STEM Connection**
Managed by the UNM STEM-H Center for Outreach, Research and Education with support from the NM Experimental Program to Stimulate Competitive Research (NM EPSCoR), the NM STEM Connection provides information about STEM resources for K-12 students, teachers, parents, counselors, and administrators as well as higher education faculty/staff and community members in New Mexico.

**UNM STEM University**
STEM University is a collection of free outside-of-class activities related to science, technology, engineering and mathematics disciplines (STEM) put on by the STEM Collaboration Center. These events connect UNM students with STEM research, scientists, technology, and leadership. Faculty can post STEM events by following this link: Click here to access the current list of STEM University events.

**Albuquerque Museums**
Below are links to contact information for local museums:
- Albuquerque Museum
- Exploris! Indian Pueblo Cultural Center
- International Balloon Museum
- Museum of Nuclear Science & History
- NM Natural History Museum

**UNM College Based Outreach**
A number of schools and colleges at UNM offer outreach opportunities. These are excellent places to begin your own outreach effort, either as an example to follow or as a collaborative partner. Check out the links to their outreach pages below.
- College of Arts & Sciences
- College of Education
- College of Fine Arts
- School of Architecture & Planning
- School of Engineering

**New Mexico EPSCoR**
One mission is to cultivate a well-qualified and diverse Science, Technology, Engineering and Mathematics (STEM) workforce and develop a strong culture of innovation and entrepreneurship. Through collaborations with organizations ranging from after-school programs to colleges and universities, from museums to business startup accelerators, NM EPSCoR Education and Outreach programs serve a wide range of audiences across the state.

**ABQ Math Teachers’ Circle**
The Albuquerque Math Teachers’ Circle supports local teachers who desire to explore mathematical ideas in a fun, encouraging environment. Their meetings provide an opportunity for math educator participants to work on interesting problems, developing their mathematical knowledge, skills, and intuition with the support of leading mathematicians and scientists from the local community.

**Research Data Support**
Effective open source software and data sharing can be incorporated into broader impacts. The Research Data Services provides a variety of services in support of effective research data planning, management, preservation, discovery, and use. In addition, the RDS team also provides support for several key research data infrastructure capabilities that are maintained by the Library for use by UNM’s research community.

**CSTA New Mexico**
The Computer Science Teachers Association (CSTA) supports and promotes the teaching of computing. CSTA provides opportunities for K-12 teachers and their students to better understand computer science and to more successfully prepare themselves to teach and learn. The NM chapter offers a way to get involved with CS teachers helping to shape CS education in New Mexico.

**Industries in NM**
Industry collaborations are positive outcomes of broader impacts. Below are links to some industries in New Mexico who are already working to improve STEM education and may be productive partners in your proposal:
- Key Albuquerque Industries
- Boeing
- Honeywell
- Intel
- Northrop Grumman
- Raytheon
CAMPUS RESOURCES

- New Course Development
- K-12 Specialists
- Undergraduate Specialists
- Underrepresented/Minority Groups Specialists

Request support from the Faculty Research Development Network by clicking this link.
NEW COURSE DEVELOPMENT

- UNM Curriculum Forms & Resources - https://registrar.unm.edu/faculty--staff-resources/index.html
- Head of your department
  - Departmental letters are required for NSF CAREER proposals
- Associate Provost for Curriculum & Assessment
  - Pamela Cheek
- Center for Teaching and Learning - http://ctl.unm.edu/
- Graduate Interdisciplinary Studies
K-12 SPECIALISTS

- NM STEM Connection
  - Karen Kinsman (Director)
  - http://nmstembh.org/

- NM MESA
  - Kim Scheerer (UNM Contact)
  - http://www.nmmesa.org/

- Engineering Student Success Center
  - Elsa Castillo (Asso. Director)
  - https://ess.unm.edu/index.html

- ABQ Math Teachers’ Circle
  - Michael Nakamaye (UNM Prof.)
  - http://www.unm.edu/~mathtc/index.php
UNDERGRADUATE SPECIALISTS

• STEM Collaborative Center
  - Tim Schroeder (Director)
  https://stem.unm.edu/

• STEM University
  https://stemuniversity.unm.edu/

• Engineering Student Success Center
  - Steve Peralta (Director)
  https://ess.unm.edu/index.html
UNDERREPRESENTED/MINORITY GROUPS SPECIALISTS

• Student Support Services
  http://ssstrio.unm.edu/

• Ronald E. McNair Scholars Program
  -Ricardo Romero (Program Specialist)
  https://mcnair.unm.edu/

• Project for New Mexico Graduates of Color
  http://pnmgc.unm.edu/

• El Centro de la Raza
  -Rosa Isela Cervantes (Director)
  https://elcentro.unm.edu/

• Native Americans in STEM (NASTEM)
  -Douglas Williams (Program Coordinator)
  https://ess.unm.edu/ess-programs/nastem/index.html

• African American Student Services
  W. Scott Carreathers (Director)
  http://afro.unm.edu/

UNM Spring 2018 Total Enrollment by Ethnicity*

**Main Broader Impacts Take Aways**

- Make it meaningful and applicable.
- Try to incorporate it into your long-term personal goals.
- You’re not alone.