Strength in Numbers: Learning How Data Can Help Develop a More Competitive Grant Proposal

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When Should You Include Population or User Data in a Grant Proposal?

- To Comply with Solicitation Requirements;
- To Strengthen Your Argument;
- To Tell a Better Story
Types of Solicitations that May Require Data Inclusion

**Education & Training Grants**
- National Science Foundation
  - Research Traineeship (NRT)
  - Improving Undergraduate STEM Education (IUSE)
- National Institutes of Health
  - Graduate Research Training Initiative for Student Enhancement (G-RISE)
  - Maximizing Access to Research Careers (MARC) (T34)
- Department of Education
  - Promoting Postbaccalaureate Opportunities for Hispanic Americans Program (PPOHA)

**Organizational Change Grants**
- National Science Foundation
  - ADVANCE: Organizational Change for Gender Equity in STEM Academic Professions
  - Established Program to Stimulate Competitive Research (EPSCoR)
- Department of Education
  - Development Hispanic-Serving Institutions Programs (DHSI)
Solicitation Text Specifying Required Data from Selected Training Grants

- Proposers must present a TABLE in the proposal with quantitative data showing the recruitment and retention outcomes of participating departments for the five years preceding the submission date, including time-to-degree completion. (NSF NRT)

- Particular attention must be given to the required Training Data Tables for new predoctoral programs. In the Program Plan, the application should summarize key data from the tables that highlight the characteristics of the applicant pool, participating faculty, institutional support, student outcomes, and other factors that contribute to the overall training environment of the program. (NIH G-RISE)

- The extent to which the methods of evaluation include the use of objective performance measures that are clearly related to the intended outcomes of the project and will produce quantitative and qualitative data to the extent possible. (Dept. of Ed PPOHA)
Evaluation Plans - The data elements and the data collection procedures are clearly described and appropriate to measure the attainment of activity objectives and to measure the success of the project in achieving the goals of the comprehensive development plan (Dept. of Education, DHSI)

Intersectional approaches should be considered throughout the project design - from the data collection and analysis to identify systemic inequities, to the design of the project strategies, and into the project evaluation. (NSF ADVANCE)

Where appropriate, baseline data should be provided to give context for the impacts of the planned activities. (NSF EPSCoR)
Key Terms to Search for in a Solicitation

- Data
- Table
- Evaluation Plan
New Mexico is one of six Minority Majority States
New Mexico has the 2nd highest percentage of Native Americans in the U.S. and the 4th highest number of Native American citizens*
New Mexico consistently ranks in the bottom two states in the country in terms of education.

* https://www.census.gov/quickfacts
UNM is a Hispanic Serving Institution (HSI) with >25% FTE undergraduates self-identifying as being Hispanic.

UNM is a Minority Serving Institution (MSI) because we’re an HSI and because >50% of total undergraduates self-identify as being members of ethnic minority groups.

UNM is a Minority Institution (MI) because >50% of total student body self-identifies as being members of ethnic minority groups.

UNM is 1 of 16 Very High Research Activity (R1) HSI Universities

UNM is 1 of 2 Flagship universities that are also R1 HSIs.

UNM is 1 of 3 R1 universities that are also MIs

UNM is the only Flagship university that is an R1 MI

UNM has the highest number of Native American students at an R1 university
Use the Right Data to Tell the Most Compelling, Most Accurate Story...

- Spring 2019 Native American Enrollment
  - 5.1% total student population is Native American (NA) which equals 1,170 students
  - Only 320 NA students are enrolled in STEM degree programs (27%)
  - Only 9 are enrolled in MS STEM degree programs (0.77%)
  - Only 14 are enrolled in PhD STEM degree programs (1.20%)

- Spring 2019 Hispanic Enrollment
  - 43.9% of total student population is Hispanic which equals 10,008 students
  - Only 34% of total School of Engineering (SOE) students are Hispanic
  - Only 18% of SOE graduate students are Hispanic
Finding the Right Data

- Peruse the Office of Institutional Analytics website
  - Access Tableau Reports for a number of pre-compiled student, staff, and faculty demographic and activity reports

- Use MyReports ad hoc student records to access relevant data compiled by UNM Enrollment Management
  - Banner Authorization Request - Student Detail MyReports User
  - Authorization request is specified by relevant School or College unless job demands access to cross disciplinary student records

- Student Population Experts on Campus
  - STEM Collaborative Center
  - Individual Department Recruitment Offices
STEM Benchmarking Data

How is UNM doing in its efforts to improve STEM education for all undergraduate students? The answer to this question can best be assessed through impact data. For instance, are STEM student retention rates and graduation rates improving? Are fewer STEM students dropping out of UNM, or switching majors out of STEM fields? The benchmarking reports below will be updated annually, and provide a longitudinal glimpse of UNM’s STEM undergraduate education performance. This data may be especially useful to faculty and staff who are seeking grant funding to improve STEM education at UNM.

STEM Benchmarking Data, Broad Definition of STEM

The term “STEM” has different definitions to different funding agencies. This benchmarking dataset uses a broad definition of STEM, INCLUDING such fields as health science, economics, science education and architecture. This data is currently available as a PDF, but eventually will be made available as a dashboard. Click here to access an archive of the November 2016 STEM Benchmarking Data report. Click here to access an archive of the May 2018 STEM Benchmarking Data report. Click here to access an archive of the October 2018 STEM Benchmarking Data report.

STEM Benchmarking Data, Narrow Definition of STEM

This benchmarking dataset uses a narrow definition of STEM, EXCLUDING such fields as health science, economics, science education and architecture. This report is currently under construction, so check back soon.

UNM’s Murky Middle STEM Student

Click here to access a report on which used the narrow definition of STEM to address which attribute (demographics, socioeconomic factors, major) acts as the best predictor to Murky Middle (MM) STEM students’ long-term performance (persistence) and persistence within the STEM fields?
LoboWeb (Employees)

LoboWeb is the place for employees to view/update personal information, benefits and deductions, pay information, tax forms and more.

Quick links:
- Employee Dashboard
- Finance

Employee and Organizational Development

Employee and Organizational Development (EOD) provides a variety of organizational development services to UNM employees. Our Training Programs cover all aspects of work at the university: Administrative, Management/Leadership, and Personal/Professional.
Student Reports Available on MyReports

- Records can include all student information which requires user to complete FERPA training prior to gaining authorization to access these reports.
How to Access MyReports from Home


➤ Directly access MyReports from the direct VPN website or download the VPN application and access it through MyReports on http://my.unm.edu/home
Who Applied and was Accepted?

Admissions Applicants Detail

Select Type of Display Output

Save Selections

Run Report
### Class List

Who is Enrolled in Specific Classes and/or Majors?

**Academic Period**: Summer 2020

**Course Campus**: ALBU - Main, Online & ITV, UWM West, GALLUP, LOS ALAMOS, LANE

**Subject**: ACCT - Accounting, AFST - Africana Studies, ALB - Arts Leadership & Business, AMST - American Studies, ANTH - Anthropology, ARCH - Architecture

**Course Number**: 011, 012, 021, 022, 099, 100

**Registration Status**: All, Registered, Dropped, Wait Listed

**Select Type of Display Output**: HTML, Active HTML, Excel, Fox, PDF

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**Please Select Course Sort Field(s)**:
- Academic Period
- Subject Code
- Course Number
- Course Section Number
- Subject Reference Number
- Short Course Title
- Primary Instructor ID
- Primary Instructor Last Name
- Primary Instructor First Name
- Primary Instructor Email
- Meeting Days
- Meeting Time
- Building
- Room
- Start Date
- End Date
- Actual Enrollment

**Please Select Student Detail Field(s)**:
- Student ID
- Confidentiality Indicator
- Student Name
- Registration Status

**Is Enhanced**: N/A
- Is Correspondence**: N/A
- Is TVT**: N/A
- Is ITV Parent**: N/A
- Is Live**: N/A
- Is Hybrid**: N/A
- Is Branch**: N/A
- Is MOPS**: N/A

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**Run Report**

**Save Selections**
WHO IS ENROLLED IN SPECIFIC COURSES?

DEPARTMENT ENROLLMENT
Who has graduated and how long did it take?

Graduates and Pending Graduates
Who is enrolled and what are they majoring in?

Academic Study Detail
Organizing Data Within a Proposal

Effectively Visualizing the Best Story
Presenting the Required Data Accurately

<table>
<thead>
<tr>
<th></th>
<th>Physics</th>
<th>Chemistry</th>
<th>OSE</th>
<th>ECE</th>
<th>CS</th>
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<td>2016: 6.5</td>
<td>2016: 5</td>
<td>2016: 6.5</td>
<td>2016: 5.5</td>
<td>2016: 6.7</td>
</tr>
</tbody>
</table>

Table 2. Recruitment and Retention Data.

Shown over the past 5 years are the number of applicants, offers, and students who accepted the offer to attend UNM in participating PhD programs. Also shown is the average number of years to degree for students graduating in that year.

While recruitment and retention rates at UNM PhD programs are often below national averages, we expect QuIST to enhance student outcomes.
Telling a More Tangible Story with Clearly Organized Data

Table 5. Recruitment and retention outcomes in participating UNM departments for five years. Data are reported for PhD students. National data were obtained from the NSF Survey of Earned Doctorates.

<table>
<thead>
<tr>
<th>PhD Graduate Data</th>
<th># of Applications</th>
<th># of Offers</th>
<th># of Accepts</th>
<th>% Acceptance Rate</th>
<th>% Women</th>
<th>% Ethnically Underrepresented</th>
<th>% U.S. Citizen/P.R.</th>
<th>UNM PhD Time to Degree (yrs)</th>
<th>National PhD Time to Degree (yrs)</th>
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<tbody>
<tr>
<td><strong>Anthropology</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014-2015</td>
<td>75</td>
<td>22</td>
<td>18</td>
<td>24%</td>
<td>50%</td>
<td>17%</td>
<td>94%</td>
<td>12.4</td>
<td>7.7</td>
</tr>
<tr>
<td>2015-2016</td>
<td>61</td>
<td>18</td>
<td>14</td>
<td>23%</td>
<td>50%</td>
<td>14%</td>
<td>93%</td>
<td>10.4</td>
<td></td>
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<tr>
<td>2016-2017</td>
<td>56</td>
<td>22</td>
<td>18</td>
<td>32%</td>
<td>72%</td>
<td>11%</td>
<td>83%</td>
<td>8.5</td>
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<tr>
<td>2017-2018</td>
<td>46</td>
<td>15</td>
<td>13</td>
<td>28%</td>
<td>69%</td>
<td>31%</td>
<td>100%</td>
<td>7.1</td>
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<tr>
<td>2018-2019</td>
<td>29</td>
<td>12</td>
<td>10</td>
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<td>60%</td>
<td>20%</td>
<td>100%</td>
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<td></td>
<td></td>
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<tr>
<td>2014-2015</td>
<td>61</td>
<td>15</td>
<td>14</td>
<td>23%</td>
<td>50%</td>
<td>7%</td>
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<tr>
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<td>16</td>
<td>13</td>
<td>22%</td>
<td>54%</td>
<td>15%</td>
<td>100%</td>
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<tr>
<td>2016-2017</td>
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<td>12</td>
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<td>17%</td>
<td>92%</td>
<td>5.8</td>
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<tr>
<td>2017-2018</td>
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<td>17%</td>
<td>100%</td>
<td>6.7</td>
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<tr>
<td>2018-2019</td>
<td>55</td>
<td>21</td>
<td>19</td>
<td>35%</td>
<td>53%</td>
<td>16%</td>
<td>79%</td>
<td>5.8</td>
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<tr>
<td><strong>Earth and Planetary Science</strong></td>
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<tr>
<td>2014-2015</td>
<td>21</td>
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<td>19%</td>
<td>75%</td>
<td>0%</td>
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<td>4.0</td>
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<tr>
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<td>17%</td>
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<td>0%</td>
<td>100%</td>
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<tr>
<td>2016-2017</td>
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<td>9</td>
<td>24%</td>
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<td>0%</td>
<td>78%</td>
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<tr>
<td>2017-2018</td>
<td>31</td>
<td>7</td>
<td>6</td>
<td>19%</td>
<td>0%</td>
<td>0%</td>
<td>50%</td>
<td>5.6</td>
<td></td>
</tr>
<tr>
<td>2018-2019</td>
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<td>28%</td>
<td>44%</td>
<td>11%</td>
<td>89%</td>
<td>7.4</td>
<td></td>
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</tbody>
</table>
Tips to Keep in Mind

- Rearrange the data in a variety of ways.
- Ask whether the data is telling the story you want it to.
- Make sure the data is not overwhelming.
- Get feedback from others.
Questions?