SMALL PROJECT EVALUATION

Principles & Practices

March 23, 2016

INTRODUCTIONS

Miranda Lee
Lori Wingate
Elaine Craft
Charlotte Forrest
Russell Cannon

evalu-ate.org
This material is based upon work supported by the National Science Foundation under grant number 1204683.

Any opinions, findings, and conclusions or recommendations expressed in this material are those of the presenters and do not necessarily reflect the views of NSF.

BEHIND THE SCENES

Mike Lesiecki  Janet Pinkorn  Tim Suchomski  Sharon Gusky  Dennis Faber
MATERIALS

Slides
Handout
Recording

www.evalu-ate.org/webinars/2016-mar/

1. SETTING THE STAGE
Tales from the Trenches
Question Break

2. EVALUATION SCOPE
Tales from the Trenches
Question Break

3. DATA COLLECTION & DIVISION OF LABOR
Tales from the Trenches
Question Break

4. WORKING WITH INSTITUTIONAL RESEARCH
Tales from the Trenches
Question Break

5. ATE PROGRAM & MENTOR-CONNECT
Tales from the Trenches
SETTING THE STAGE

Lori Wingate

systematic EVALUATION
the determination of something’s quality, value, or importance
1. Ask important questions about a project’s processes and outcomes.

2. Gather evidence that will help answer those questions.

3. Interpret data and answer the evaluation questions.

4. Use the information for accountability, improvement, and planning.

---

**Gwen Generickson**

soon to be a new ATE project principal investigator

**Bio-Inspired Solutions to Human Challenges**

$198,913 | 2016-19

This is a fictional project. Any resemblance to actual persons or projects is purely coincidental.
She’s been asked to submit a revised evaluation plan.

What’s the FIRST thing she should do to get started?
Read ATE program solicitation:

**EVALUATION:** All projects and centers carry out evaluative activities. The funds to support an evaluator independent of the project or center must be requested, and the requested funds must match the scope of the proposed evaluative activities.

**INTELLECTUAL MERIT:** Is the evaluation plan clearly tied to the project outcomes? Is the evaluation likely to provide useful information to the project and others?

The Project Description must begin with the subsection on **Results from Prior NSF Support** .... This subsection must contain specific outcomes and results including metrics to demonstrate the impact of the project activities.

---

**How much is it going to cost?**
10% Rule of thumb

CAUTION

The following budget examples are for illustrative purposes only. The information should not be construed as recommendations or guidelines for evaluator costs or time commitments.
## Bio-Inspired Solutions to Human Challenges Project Budget

<table>
<thead>
<tr>
<th>Category</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries &amp; Fringe Benefits</td>
<td>$103,500</td>
</tr>
<tr>
<td>Equipment</td>
<td>$12,000</td>
</tr>
<tr>
<td>Materials</td>
<td>$20,000</td>
</tr>
<tr>
<td>Travel</td>
<td>$3,600</td>
</tr>
<tr>
<td>Other – Evaluation Consultant</td>
<td>$13,910</td>
</tr>
<tr>
<td>Modified Total Direct Costs</td>
<td>$153,010</td>
</tr>
<tr>
<td>Indirect Costs (30%)</td>
<td>$45,903</td>
</tr>
<tr>
<td><strong>TOTAL PROJECT COST</strong></td>
<td><strong>$198,913</strong></td>
</tr>
</tbody>
</table>

*Total direct costs before external evaluation = $139,100 \times 10\% = $13,910*

---

But more effort will be required in Year 1 to set up the evaluation, so...

- Year 1: $4,800
- Year 2: $4,000
- Year 3: $3,600

$13,910 over 3 years = $4,637 per year
Bio-Inspired Solutions to Human Challenges Project Budget

<table>
<thead>
<tr>
<th>Category</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultant fees</td>
<td>$4,800</td>
<td>$4,000</td>
<td>$3,600</td>
</tr>
<tr>
<td>Travel</td>
<td>$500</td>
<td>$500</td>
<td>$500</td>
</tr>
<tr>
<td>TOTAL EVALUATION COST</td>
<td>$5,300</td>
<td>$4,500</td>
<td>$4,100</td>
</tr>
</tbody>
</table>

Annual site visits are important!

Bio-Inspired Solutions to Human Challenges Project Budget

@ $100 per hour, how many days can the external evaluator devote to this project?
Bio-Inspired Solutions to Human Challenges Project Budget

<table>
<thead>
<tr>
<th>Category</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultant fees</td>
<td>$4,800</td>
<td>$4,000</td>
<td>$3,600</td>
</tr>
<tr>
<td>Travel</td>
<td>$500</td>
<td>$500</td>
<td>$500</td>
</tr>
<tr>
<td>TOTAL EVALUATION COST</td>
<td>$5,300</td>
<td>$4,500</td>
<td>$4,100</td>
</tr>
</tbody>
</table>

Year 1: $4,800 = 48 hours or 6 days
Year 2: $4,000 = 40 hours or 5 days
Year 3: $3,600 = 36 hours or 4.5 days

How I can use my evaluation resources efficiently?
ENHANCING EVALUATION EFFICIENCY

- Match the scope of the evaluation to the scope of the project.
- Involve the project team in monitoring the project and implementing the evaluation.
- Use institutional data to the extent possible.

TALES FROM THE TRENCHES
Elaine Craft
EVALUATION SCOPE

Lori Wingate

ENHANCING EVALUATION EFFICIENCY

- Match the scope of the evaluation to the scope of the project.
- Involve the project team in monitoring the project and implementing the evaluation.
- Use institutional data to the extent possible.
1. Ask important questions about a project’s processes and outcomes.

2. Gather evidence that will help answer those questions.

3. Interpret data and answer the evaluation questions.

4. Use the information for accountability, improvement, and planning.

EVALUATION
EVALUATION QUESTIONS

should be

☑ evaluative
☑ pertinent
☑ reasonable
☑ specific
☑ answerable

and the set of questions should be

☑ complete
SCI 152: Bio-Inspired Solutions to Human Challenges
Biology | Design | Economics | Engineering | Materials Science

Buteo College
Engineering Technology & Preengineering
60% female
15% female
Project Goal:

Attract female students to the course and motivate them to pursue degrees in engineering technology or preengineering.
ACTIVITIES
what a project does

- Develop course curriculum
- Develop overview video
- Make presentations to faculty, advisors, and admissions counselors
- Outreach to undeclared, female students
OUTPUTS
tangible products of activities

PROJECT LOGIC MODEL

ACTIVITIES  OUTPUTS  SHORT-TERM OUTCOMES  MID-TERM OUTCOMES

Develop course curriculum
Develop overview video
Make presentations to faculty, advisors, and admissions counselors
Outreach to undeclared, female students

Course materials
Promotional video

ACTIVITIES

evalu-ate.org
OUTCOMES

changes brought about through project activities and outputs

in knowledge, skills, attitudes, behaviors, policies, practices, broader conditions
**PROJECT LOGIC MODEL**

**ACTIVITIES**
- Develop course curriculum
- Develop overview video
- Make presentations to faculty, advisors, and admissions counselors
- Outreach to undeclared, female students

**OUTPUTS**
- Course materials
- Promotional video

**SHORT-TERM OUTCOMES**
- Students enroll in course
- Student interest in pursuing engineering-related degrees increases

**MID-TERM OUTCOMES**
- Enrollment in engineering programs increases
- Representation of women in STEM programs increases

---

**EVALUATION**

1. Ask important questions about a project’s processes and outcomes.
2. Gather evidence that will help answer those questions.
3. Interpret findings and answer the evaluation questions.
4. Use the information for accountability, improvement, and planning.

[evalu-ate.org](http://evalu-ate.org)
**EVALUATION QUESTIONS**

<table>
<thead>
<tr>
<th>ACTIVITIES</th>
<th>OUTPUTS</th>
<th>SHORT-TERM OUTCOMES</th>
<th>MID-TERM OUTCOMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop course curriculum</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Develop overview video</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Make presentations to faculty, advisors, and admissions counselors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outreach to undeclared, female students</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. How effective are the course promotion activities?

**EVALUATION QUESTIONS**

<table>
<thead>
<tr>
<th>ACTIVITIES</th>
<th>OUTPUTS</th>
<th>SHORT-TERM OUTCOMES</th>
<th>MID-TERM OUTCOMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop course curriculum</td>
<td>Course materials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Develop overview video</td>
<td>Promotional video</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Make presentations to faculty, advisors, and admissions counselors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outreach to undeclared, female students</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Gather ongoing critical feedback during development
2. To what extent is the course attracting the intended audience?

3. To what extent and how is the course influencing students’ interest in pursuing engineering-related degrees?

4. To what extent and how is the project contributing to enrollment in engineering and other STEM programs?
EVALUATION QUESTIONS

Bio-Inspired Solutions to Human Challenges Project

1. How effective are the course promotion activities?
2. To what extent is the course attracting the intended audience?
3. To what extent and how is the course influencing students’ interest in pursuing engineering-related degrees?
4. To what extent and how is the project contributing to enrollment in engineering and other STEM programs?
TALES FROM THE TRENCHES
Elaine Craft

DATA COLLECTION & DIVISION OF LABOR
Lori Wingate
ENHANCING EVALUATION EFFICIENCY

☑ Match the scope of the evaluation to the scope of the project.

☑ Involve the project team in monitoring the project and implementing the evaluation.

☑ Use institutional data to the extent possible.

---

Project Team
- Assist with data collection
- Maintain record of participants and partners
- Document project activities & accomplishments

External Evaluator
- Plan the evaluation
- Interpret results
- Facilitate use of results
- Develop/select data collection instruments
- Analyze data
- Write reports

evalu-ate.org
1. Ask important questions about a project’s processes and outcomes.

2. Gather evidence that will help answer those questions.

3. Interpret data and answer the evaluation questions.

4. Use the information for accountability, improvement, and planning.

---

**EVALUATION**
### Evaluation Question 1:
**How effective are the course promotion activities?**

<table>
<thead>
<tr>
<th>INDICATORS</th>
<th>DATA SOURCES/ METHODS</th>
<th>RESPONSIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course enrollment numbers (as proportion of capacity)</td>
<td>Institutional data</td>
<td>Obtained from college institutional research office by project team</td>
</tr>
<tr>
<td>Students’ reports of why they enrolled in the course</td>
<td>Survey of students who enroll in course</td>
<td><strong>Survey development:</strong> External evaluator with project team input</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Survey administration:</strong> Course instructors</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Analysis:</strong> External evaluator</td>
</tr>
</tbody>
</table>

### Evaluation Question 2:
**To what extent is the course attracting the intended audience?**

<table>
<thead>
<tr>
<th>INDICATORS</th>
<th>DATA SOURCES/ METHODS</th>
<th>RESPONSIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number and percentage of students who are female and/or undeclared majors</td>
<td>Survey of students who enroll in course</td>
<td><strong>Survey development:</strong> External evaluator with project team input</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Survey administration:</strong> Course instructors</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Analysis:</strong> External evaluator</td>
</tr>
</tbody>
</table>
### Evaluation Question 3:
To what extent and how is the course influencing students’ interest in pursuing engineering-related degrees

<table>
<thead>
<tr>
<th>INDICATORS</th>
<th>DATA SOURCES/ METHODS</th>
<th>RESPONSIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number and percentage of students indicate intent to pursue STEM degree</td>
<td>Survey of students who complete the course</td>
<td>Survey development: External evaluator with project team input</td>
</tr>
<tr>
<td>Students’ reports of the degree to which and how the course influenced their decisions about what to major in</td>
<td></td>
<td>Survey administration: Course instructors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Analysis: External evaluator</td>
</tr>
</tbody>
</table>

### Evaluation Question 4:
To what extent and how is the project contributing to enrollment in engineering and other STEM programs?

<table>
<thead>
<tr>
<th>INDICATORS</th>
<th>DATA SOURCES/ METHODS</th>
<th>RESPONSIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in enrollment trends</td>
<td>Institutional data</td>
<td><strong>External evaluator, project team, and IR office</strong>: define needed data</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>IR office</strong>: Supplies data to project team and evaluator</td>
</tr>
</tbody>
</table>
**Small Project Evaluation: Principles and Practices**

**Project Team**
- Assist with data collection
- Maintain record of participants and partners
- Document project activities & accomplishments

**External Evaluator**
- Plan the evaluation
- Develop/select data collection instruments
- Analyze data
- Interpret results
- Write reports
- Facilitate use of results

---

**TRACKING REACH & ENGAGEMENT**

Use spreadsheet or database software to keep a log of **WHO PARTICIPATED** and their
- key demographics
- contact information
- involvement in the project, including dates

**students – faculty – staff – partners – advisors**
PARTICIPANT & PARTNER DATA

Also needed for
- NSF annual reports
- ATE annual survey
Create a project resume that includes a project profile and record of activities, products, people, etc.

To learn more, see
www.evalu-ate.org/webinars/2015-may

The Project Description must begin with the subsection on **Results from Prior NSF Support** … This subsection must contain specific outcomes and results including metrics to demonstrate the impact of the project activities.
IR AS EVALUATION RESOURCE:
ALWAYS ASK THE ARCHIVIST

Who ARE they?
What do THEY know:
- What’s out there... and its limitations
- What ELSE is going on
- For many, social science methods and evaluation strategies feel like home

Source: Lucasfilm

Approach IR early
Start the conversation with the goals of the evaluation, not just the data elements.

Come bearing documentation:
- plan
- requirements
- definitions
- dates

If they aren’t mandated, come to an agreement.
INSTITUTIONAL DATA: THE CLASSICS

“Source of Record”
- IPEDS, External Reporting
- Imperfect, but as good as it gets

Student Demographics
- Race/Ethnicity, Sex, Low-Income Status, Age, Veteran Status, Incoming Test Scores

Enrollment
- Courses, FT/PT Status, GPA, Major/Minor, Retention, Graduation

INSTITUTIONAL DATA: OUTSIDE THE BOX

Surveys
- May be tied to student ID or student groups
- Surveys focused on Admitted Students, New Students, First Year/Senior Engagement, Graduating Students, and Alumni are common
INSTITUTIONAL DATA: OUTSIDE THE BOX

Lists of Student Support Services and Concurrent Interventions
– Partners, confounders, opportunities for embedding and assessing

INSTITUTIONAL DATA: OUTSIDE THE BOX

Data on Student Behavior
– Card-swipe systems, club membership
AND BEYOND...

National Student Clearinghouse Submissions
State Longitudinal Datasets
Rankings

EXAMPLE

Bio-Inspired Solutions to Human Challenges
$198,913 | 2016-19
Buteo Community College
Demographics
– Campus, engineering, existing intro-courses? (baseline)
– Of new course (outcome of outreach)

Retention
in course at institution to STEM major to STEM degree
Transfer
- National Student Clearinghouse or data sharing agreement

www.studentclearinghouse.org

Entering student beliefs, student activities, graduating student intent
- Campus survey paired with program survey
- Course evaluations?
TALES FROM THE TRENCHES
Elaine Craft

THE ATE PROGRAM & MENTOR-CONNECT
Charlotte Forrest
ATE PROGRAM

focuses on strengthening technician education at the postsecondary and secondary levels for the high-technology fields that drive our nation's economy

ATE PROGRAM

Regional Centers
Support Centers
Planning Grants
Centers
Targeted Research
National Centers
Planning
Exploratory Research
Full-Scale Research
Program Dev. & Improvement
Educational Materials Dev.
Professional Dev. for Educators
Teacher Preparation
Business & Entrepreneurial Skills Dev.
Leadership Capacity Building
ATE Coordination Networks
Conferences & Workshops
Small Grants for Institutions New to ATE
Projects
BROADENING THE BASE OF COMMUNITY COLLEGES INVOLVED IN ATE

- Only community college campuses that have not had an ATE award in the past 10 years may apply
- $200,000 over 3 years
- 12-20 awards made per year

PROPOSAL SUCCESS RATES (APPROXIMATE)

- 65% of all ATE small grant proposals are funded
- 22% to 34% of all ATE proposals are funded

Source: Celeste Carter (personal communication, 2016)
**SOME FULL-SCALE PROJECTS EVOLVE INTO CENTERS**

Evaluation is essential for growth!

**MENTOR-CONNECT**

provides comprehensive and interactive support for leadership development and knowledge transfer by developing and supporting potential, current and former grantees

Applications available this summer at

[www.mentor-connect.org](http://www.mentor-connect.org)
### GETTING HELP FROM MENTOR-CONNECT

<table>
<thead>
<tr>
<th>Mentor-Connect Mentes</th>
<th>Everyone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worksheet to guide development of project focus and rationale</td>
<td>✓</td>
</tr>
<tr>
<td>2 workshops on grant writing and leadership skills</td>
<td>✓</td>
</tr>
<tr>
<td>ATE mentor for personalized assistance with grant development and submission</td>
<td>✓</td>
</tr>
<tr>
<td>3 technical assistance webinars</td>
<td>✓</td>
</tr>
<tr>
<td>Online resources (e.g., samples, checklists, guidelines, tutorials, webinar recordings)</td>
<td>✓</td>
</tr>
<tr>
<td>Help desk access (phone, email)</td>
<td>✓</td>
</tr>
</tbody>
</table>

### EvaluATE’s NEXT WEBINAR:

**Meeting Requirements, Exceeding Expectations: Understanding the Role of Evaluation in Federal Grants**

May 25 | 1:2:30 p.m.

Register at [www.evalu-ate.org/webinars](http://www.evalu-ate.org/webinars)
Thank You!

www.evalu-ate.org

www.mentor-connect.org