Build a Better ATE Proposal with Evaluation and Logic Models

August 15, 2012

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Introductions

Jason Burkhardt  Lori Wingate  Michael Lesiecki  Penny Billman  Connie Della-Piana

Laura Sanchez
Objectives

By the end of the webinar, you will

1. Understand how to prepare an ATE proposal that meets NSF’s requirements for evaluation
2. Know how to establish a working relationship with an external evaluator and what to expect from him or her
3. Be able to create a logic model to convey your proposed project’s activities and intended outcomes
4. Be able to align an evaluation plan with project goals

Evaluate Elements of ATE Proposals

Lori Wingate
Build a Better ATE Proposal with Evaluation and Logic Models

8/15/2012

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NSF Proposal

✓ Cover Sheet
✓ Project Summary
✓ Project Description
  (including Results from Prior NSF support)
✓ References Cited
✓ Biographical Sketches
✓ Budget & Budget Justification
  Current & Pending Support
  Facilities, Equipment & Other Resources
✓ Supplementary Documents
  (including Data Management Plan)

Advice from the trenches

Michael Lesiecki
PI, MATEC
Advice from the trenches

Penny Billman
Evaluator, REGS Consulting

Advice from the trenches

Connie Della-Piana
NSF program officer
Staffing and Funding the Evaluation
Lori Wingate

ATE Program Solicitation

“
The funds to support an evaluator independent of the project or center must be requested....”
ATE Program Solicitation

"The **funds** to support an evaluator independent of the project or center must be requested...."
Finding an Evaluator

Other ATE PIs
ATE Evaluator Directory
American Evaluation Association’s Evaluator Directory
Universities in your region

WANTED

EVALUATOR
- identifies professionally as an evaluator
- knowledgeable, experienced in data collection/analysis
- client-focused, responsive to context
- effective communicator, facilitator, manager
- REFERENCES REQUIRED
Finding an Evaluator

Both parties must clearly communicate needs and expectations.

Budgeting for Evaluation

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.
Budgeting for Evaluation

rule of thumb

10%

Budgeting for Evaluation

reality

8%
**Evaluation Budget Components**

- Time
- Travel
- Materials and other expenses
- Institutional indirect/overhead costs

**Time**

How many days does the evaluator need to spend in order to generate the needed evaluation deliverables and services?
Travel

Will the evaluator need to travel to
- attend the ATE PI conference, advisory committee meetings, or special project events?
- collect data from participants?
- meet with project staff to plan the evaluation or discuss results?

Materials and other expenses

Examples:
- Materials (e.g., paper for surveys, reports)
- Copying
- Incentives
- Survey hosting
Institutional Indirect/Overhead

Percentage of direct costs
Varies by organization

Comments
Michael Lesiecki
PI, MATEC
Logic Models
Lori Wingate

Logic Models

Visual depiction of project
Communication tool
Road map for evaluation
### Logic Model Example

**The Green Energy Technology (GET) Institute at Midwest Community College**

<table>
<thead>
<tr>
<th>Activities</th>
<th>Outputs</th>
<th>Short-Term Outcomes</th>
<th>Mid-Term Outcomes</th>
<th>Long-Term Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty workshops</td>
<td>Trained faculty</td>
<td>Increased student knowledge &amp; skills in green tech</td>
<td>Graduates enter green tech careers</td>
<td>Increased regional economic vitality</td>
</tr>
<tr>
<td>Follow-up support</td>
<td>Modules</td>
<td>Increased student interest in green tech careers</td>
<td>Regional demands for green technicians are met</td>
<td></td>
</tr>
<tr>
<td>Guest lectures</td>
<td>Model curriculum</td>
<td>Community colleges adopt curriculum</td>
<td>Enhanced national capacity for sustainable development</td>
<td></td>
</tr>
<tr>
<td>Field trips</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Campus-wide activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dissemination</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**What activities will be supported by your project?**

- Faculty workshops
- Follow-up support
- Guest lectures
- Field trips
- Campus-wide activities
- Dissemination
Logic Model Example

What tangible outputs will be generated from these activities?

- Trained faculty
- Modules
- Model curriculum

Logic Model Example

What do your project’s beneficiaries need to know or be able to do?

- Increased student knowledge & skills in green tech
- Increased student interest in green tech careers
- Community colleges adopt curriculum
Logic Model Example

What should people do differently because of your project?

Mid-Term Outcomes
- Graduates enter green tech careers
- Regional demands for green technicians are met

Logic Model Example

How are your project’s long-term goals aligned with the ATE program?

Long-Term Outcomes
- Increased regional economic vitality
- Enhanced national capacity for sustainable development
Logic Model Example

Double check your model:
Is it logical both forwards and backwards?

Logic Model + Evaluation

Whom did you reach? (who, how many)
What were participants’ reactions to the activities?
What is the quality/utility of the activities and products?
Logic Model + Evaluation

How did the activities affect participants’ knowledge, skills, abilities, or attitudes?

Short-Term Outcomes

Logic Model + Evaluation

To what extent did participants change their behavior because of what they learned?

What would have/have not happened in the absence of the project?

Mid-Term Outcomes
Logic Model + Evaluation

What is the cumulative effect of the project’s outcomes?

What aspects of the project are sustainable?

What was transformative about the project?

Comments

Penny Billman
Evaluator, REGS Consulting
Writing the Evaluation Section

Lori Wingate

Proposal Evaluation Section Outline

A. Identify evaluator and briefly describe his/her experience/expertise

B. Describe the evaluation plan:
   1. Specify the focus of the evaluation
   2. Describe the data collection plan
   3. Provide an overview of how the data will be analyzed and interpreted
   4. Identify what reports will be produced and when

C. Reference other elements of the proposal as appropriate (e.g., biosketch, logic model, data management plan)
1. Focus of the Evaluation

Align the evaluation’s focus with the project’s intended outcomes

Specify evaluation questions, e.g.,

To what extent did the students’ interest in green tech careers increase because of the project?

or evaluation objectives, e.g.,

The evaluation will determine the extent to which students’ interest in green tech careers increased because of the project.
1. Focus of the Evaluation

Logic Model + Evaluation

Whom did you reach? (who, how many)
What were participants’ reactions to the activities?
What products were created?
What is the quality/utility of the products?

Reach & Participation

Reaction
1. Focus of the Evaluation

- How did the activities affect participants’ knowledge, skills, abilities, or attitudes?
- To what extent did participants change their behavior because of what they learned?
- What would have/have not happened in the absence of the project?
1. Focus of the Evaluation

Lori

Logic Model + Evaluation

What is the cumulative effect of the project’s outcomes?
What aspects of the project are sustainable?
What was transformative about the project?

Results

1. Focus of the Evaluation

Lori

Activities Outputs Short-Term Outcomes Mid-Term Outcomes Long-Term Outcomes
Reach & Participation Learning Behavior Results
Reactions

1 2 3 4

4 Levels of the Kirkpatrick™ Model for Evaluation
Critical for accountability to NSF & other stakeholders, assessing broader impacts

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## 2. Data Collection Plan

**What** information do you need?

**How** will you collect it?

From **whom**?

**When**?

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### Data Collection

<table>
<thead>
<tr>
<th>Goal</th>
<th>Evaluation Question</th>
<th>Indicator</th>
<th>Measure/ Method</th>
<th>Data Source</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students’ interest in green tech careers increases</td>
<td>To what extent did students’ interest in green tech careers increase because of the project?</td>
<td>Change in course enrollment numbers</td>
<td>Institutional and departmental records</td>
<td>Experts in green tech</td>
<td>End of each semester</td>
</tr>
<tr>
<td>Students’ intent to pursue green tech job</td>
<td></td>
<td>In-class survey in retrospective pre-post format</td>
<td>Students in technician ed courses</td>
<td></td>
<td>End of each semester</td>
</tr>
<tr>
<td>Opinions of faculty and career center staff</td>
<td></td>
<td>Interviews</td>
<td>Sample of faculty/staff</td>
<td></td>
<td>Annually</td>
</tr>
<tr>
<td>Number/quality of employment interviews</td>
<td></td>
<td>Interviews</td>
<td>On-campus recruiters</td>
<td>Each visit</td>
<td></td>
</tr>
</tbody>
</table>

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Notes on Data Collection

Build a body of evidence
  Multiple data sources
  Qualitative & quantitative data
Embed data collection into regular project activities
Use existing data whenever possible
Use existing instruments when/if they match your needs

3. Analysis & Interpretation

How will you make sense of the data?
What sorts of comparisons will be made?
What counts as “success”?
4. Reporting

When and what types of reports will be issued?
How will results be shared?

Comments

Connie Della-Piana
Program officer, NSF
Putting it all Together
Lori Wingate

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**Cover Sheet**

Human Subjects

☐ Human Subjects (GPO II.D.4)
Exemption Subsection
IRB App. Date (MM/DD/YY)
Human Subjects Assurance Number

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**Project Summary**

1-page overview of the proposal’s INTELLECTUAL MERIT and BROADER IMPACTS

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[PROJECT SUMMARY: ATE Evaluation Resource Center]

**Intellectual Merit**

The project proposes to use a digital data collection and analysis method to improve the understanding of the effectiveness of technology-enhanced learning activities in educational settings. The method will involve the development of an evaluation tool that can be used to measure the impact of technology-enhanced learning on student learning outcomes. The tool will be tested in a series of case studies, and the results will be used to inform future research and policy decisions.

**Broader Impacts**

The project will have significant potential for impact by improving the implementation of technology-enhanced learning in educational settings. The evaluation tool will be made available to a wide audience, including educators, policymakers, and researchers, and will be used to inform and guide the development of technology-enhanced learning activities. The project will also have potential for impact by improving the understanding of the role of technology in education, and by informing the development of evidence-based policy decisions.
Project Summary

ATE-Specific INTELLECTUAL MERIT Criteria about Evaluation:

Is the evaluation plan clearly tied to the project outcomes?

Is the evaluation likely to provide useful information to the project and others?
Project Summary

ATE-Specific INTELLECTUAL MERIT Criteria about Evaluation:

Does the project provide for effective assessment of student learning?

Project Description

Results of prior NSF support

Rationale

Goals, objectives, deliverables, and activities

Timetable

Management plan

Roles and responsibilities of the PI, co-PI(s), and other senior personnel

Plan for sustainability after the period of NSF funding

Evaluation plan

Dissemination plan
Project Description

Results of prior NSF support specific outcomes and results including metrics to demonstrate the impact of the activities undertaken including evidence of the quality and effectiveness of the project's deliverables.

Evaluation plan Evaluation should demonstrate use in the classrooms and sustainable changes in practice of participating faculty and teachers. Changes in student learning outcomes as well as students' perceptions of technical careers should be measured.

(Professional development grants)
References Cited

Include references to the evaluation literature in your evaluation plan section.

Biographical Sketches

Get one for your evaluator.

Follow 2-page NSF format.

Include in Supplementary Documents section.
Budget & Budget Justification

Under “Other Direct Costs” identify
- evaluator’s daily rate
- time committed to the project
- travel costs
- materials costs
- institutional indirect/overhead, if applicable

Data Management Plan

“FastLane will not permit submission of a proposal that is missing a Data Management Plan.”
Data Management Plan

1. Types of Data
2. Standards for Data Format and Content
3. Policies for Access
4. Provisions for privacy, confidentiality, security, intellectual property
5. Policies and Provisions for Re-use, Redistribution, and the Production of Derivatives
6. Plans for Archiving and Preserving Access

Evaluation Plan Checklist for ATE Proposals

Organized by proposal component
Feedback very welcome!
EvaluATE Events

Webinar: ATE Evaluation 101
September 19 | 1-2:30 pm

ATE PI Pre-Conference Workshop
October 24 | 1-5 pm

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EvaluATE has funding available to assist 10 evaluators to attend—applications due 8/22!
Kirkpatrick Model Training

Online and in-person certificate and certification programs

www.kirkpatrickpartners.com

Thank You!