Proposal Evaluation Development

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VPRGS Coffee Break
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HELLO
MY NAME IS

(Your name here)
Science

Engineering
1. Intellectual merit
2. Broader impact
Evaluation and Evaluation
1. Develop something new

Strategies: Smart Clothing, Smart Girls: Engineering via Apparel Design

Development of an Interdisciplinary Course, Chemical Analysis in Chemical Ecology

Modeling Hydrologic Systems in Elementary Science (MoHSES)
2. Test for impact

Collaborative Research: The Impact of Early Algebra on Students' Algebra-Readiness

Identifying and Measuring the Implementation and Impact of STEM School Models

A Cluster-Randomized Trial of the Impact of Early Childhood Science Education
3. Scale up

CCLI: Scaling Up Undergraduate Research Experience through Student-led Class-wide Projects in an Introductory Materials Science

CalWomenTech Scale Up Project: Proven Tools Attract Women to STEM Training Programs

ITEST (Scale-Up) COMPUGIRLS SCALE-UP
4. Educate

Examining xylem vessel network structure and function in woody plants using developmental and intra-organismal systems.

Selective Thermal Processing of Biomass-derived Oxygenates by Catalytic Fast Pyrolysis

With outreach or student component
NSF Project Types

1. Develop something new
2. Test for impact
3. Scale up
4. Educate
“These plans should be for **formative** and **summative evaluations** that assess the impact of the project's activities, progress, and success in meeting goals.”
What kind of evaluation?
What kind of evaluation?
## Types of Evaluation

<table>
<thead>
<tr>
<th>Type of Evaluation</th>
<th>Formative</th>
<th></th>
<th></th>
<th></th>
<th>Summative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Proactive</td>
<td>Clarificative</td>
<td>Interactive</td>
<td>Monitoring</td>
<td>Outcome</td>
</tr>
<tr>
<td>When to use</td>
<td>Pre-project</td>
<td>Project development</td>
<td>Project implementation</td>
<td>Project implementation</td>
<td>Project implementation and post-project</td>
</tr>
<tr>
<td>Why use it?</td>
<td>To understand or clarify the need for the project</td>
<td>To make clear the theory of change that the project is based on</td>
<td>To improve the project’s design (continual improvement) as it is rolled out</td>
<td>To ensure that the project activities are being delivered efficiently and effectively</td>
<td>To assess whether the project has met its goals, whether there were any unintended consequences, what were the learnings, and how to improve</td>
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</tbody>
</table>
| Data Examples      | • Literature Review  
• Stakeholder Analysis  
• Problem / Solution tree analysis | • Logframe  
• Matrix  
• Program Logic | • Semi-structured Interview  
• Focus group  
• Project Diary | • Budget tracking  
• Time tracking  
• Questionnaire  
• Dartboard  
• Observation | • Metering  
• Audits or counts  
• Questionnaires  
• Deemed Savings  
• Footprint Calculators  
• Focus Group  
• Storytelling / Most Significant Change  
• Outcome Hierarchy |

Formative: Proactive

**PURPOSE:** Why is project needed?

**METHODS:**
- Lit review
- Stakeholder analysis
- Problem analysis
- Secondary data
- Gap analysis
**Formative: Clarification**

**Pre-Project** → **Project Development** → **Project Implementation** → **Post Project**

**PURPOSE:** What is project’s underlying theory?

**METHODS:** Logic modeling
Formative: Interactive

Pre-Project ➔ Project Development ➔ Project Implementation ➔ Post Project

PURPOSE: How do we improve?

METHODS:
  Interviews
  Focus groups
  Observations
  Project diaries
**Formative: Monitoring/Fidelity**

**PURPOSE:** Was the project implemented as intended?

**METHODS:**
- Logs
- Budget tracking
- Observations
- Surveys
Summative: Outcomes

Pre-Project → Project Development → Project Implementation → Post Project

PURPOSE: Did it work?

METHODS:
Surveys
Cost savings
Observations
Interviews/focus groups
Anything you can think of
Who is the evaluator?
Who is the evaluator?

• The evaluator might be:
  – You (potential for bias)
  – Another unit/dept
  – An external evaluator (see resources)

• Be aware:
  – External evaluator may be required
  – Evaluators may or may not charge for evaluation plan development
  – Occasionally, meta-evaluation may be required (evaluation of the evaluation—foundation grants)
Developing the Evaluation Plan

• **What:** “[Formative] and/or [Summative] evaluation will be conducted...”

• **Why:** ...in order to [identify development] [monitor progress] [provide continuous feedback] [ensure fidelity] [assess impact] – tie to objectives

• **Who:** The evaluation will be conducted by...who has [previous experience] [content knowledge]

• **How:** Methods, analysis

• **When:** Timeline

• **Reporting/communication:** [Feedback reports at...intervals...to be used for...] [Final annual report ...]
### Table Logic Model

**Objective:**

<table>
<thead>
<tr>
<th>Pre-inputs (assumptions)</th>
<th>Inputs (activities)</th>
<th>Outputs</th>
<th>Initial outcomes</th>
<th>Intermediate outcomes</th>
<th>Long-term outcomes</th>
</tr>
</thead>
</table>
| What your activities need to be successful.  
  • Staffing  
  • Resources  
  • Expertise  
  • Partnerships  
  • Design  
  • Fit with intended impacts  
  • Leadership  
  • Dissemination strategies | The activities conducted that are expected to result in change.  
  • Service programs  
  • Education  
  • Information  
  • Support  
  • Connections | The immediate products of your inputs.  
  • # served  
  • # completed  
  • # offered  
  • # contacted  
  • # distributed  
  • # recruited  
  • $ generated | What you expect participants to get if they are exposed to the activities.  
  *Change in:*  
  • Knowledge  
  • Skills  
  • Resources  
  • Attitudes  
  • Behaviors (short-term) | If your participants show the intermediate outcomes, what you expect to then result.  
  *Change in:*  
  • Behaviors (long-term) | The ultimate goal. Usually affected by many other factors. **Very difficult to assess your impact at this level.**  
  • More vital communities  
  • Healthier, more successful individuals and families  
  • Sustainable practices |
### Example: Entrepreneurship Program

<table>
<thead>
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<th>Pre-inputs (assumptions)</th>
<th>Inputs (activities)</th>
<th>Immediate outcomes (outputs)</th>
<th>Intermediate outcomes</th>
<th>Long-term outcomes</th>
<th>Ultimate outcomes</th>
</tr>
</thead>
</table>
| • Organizations will partner  
• Team requirements are suitable  
• The training program is high-quality  
• Experienced coaches are identified | • Application process  
• Week-long training program  
• One year of coaching  
• Ongoing support | Teams will:  
• Develop and stabilize  
• Develop action plan and activities | • Effective team processes  
• Activities implemented  
• Expanded network of key community members supporting entrepreneurship | • More positive attitudes about entrepreneurship in community  
• Increased community leaders’ support  
• Implementation of supportive policies for entrepreneurs  
• Increased resources for entrepreneurs | • Increase in # new small business  
• Increase in # of new jobs  
• Increase in employment rate |
How Important is the Evaluation Plan?

- Critical! Should be integrated into grant planning from the beginning (not as an afterthought)

- Demonstrates:
  - Conceptual thinking; understanding of links between activities and outcomes
  - Effectiveness—the value of the work
  - Awareness of context and challenges
  - Capacity to do the work

- The point of evaluation is use.
Resources

Evaluation:
- CDC: http://www.cdc.gov/eval/
- NSF Online Evaluation Resource Library, oerl.sri.com
- American Evaluation Association, eval.org – see Learning section

Find an evaluator
- MSU Faculty partners—send message through CERC listserv (contact vanegere@msu.edu)
- The Evaluation Center (Western Michigan University) evaluator directory: http://ec.wmich.edu/evaldir/

Statistics
- Center for Statistical Training and Consulting (CSTAT): cstat.msu.edu, “Register for Consulting” button
Contact Information

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