Project Evaluation: Designing for the End

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Session Goals

• Share practical advice for assessing evaluation design vis-à-vis intended results
• Centering evaluation around learning
• Contextualizing findings towards meaningful data points
Agenda and Working Session

Discover and understand
Discover/understand one type of evaluation: process evaluation

Learn
Learn how process evaluation is designed and carried out, diving into key elements

Explore and discuss
Explore and discuss examples and resources

Contextualize
Contextualize learning and implications
1. The *Why* of Process Evaluation

Learning if the program/project went as planned …
Why process evaluation? What are its benefits?

Falling within formative and implementation evaluation, process evaluation:

• Helps assess whether a project, program, or effort is being “conducted as planned” (Frechtling, 2010)

• Allows for learning that can then be taken to heart and scale

Key benefits include understanding:

• What worked and how (e.g., for the people involved, under what conditions)?

• What didn’t work and why (e.g., to learn from and adjust)?

Why is process evaluation important?

Evaluation findings and learning can support:

- Scaling efforts
- Replication

“The education sciences don’t have a replication crisis, since we don’t replicate anything.’ We are working to fix this with a growing emphasis on replication of findings to accelerate evidence about what works for whom, under what conditions.”

– Mark Schneider, Director of IES

Relevant reference: Reflecting on Three Years at IES (Mark Schneider, Director of IES, April 7, 2021)
2. The *What* of Process Evaluation
What is process evaluation?

Follows:

• How an effort’s process and/or implementation plays out from original plans and through activities to outcomes.

Purpose (W.K. Kellogg Foundation, 2017):

• Understand if a strategy, initiative, or program is being implemented as planned [or in other words, according to process]
• Assessing if intended outputs are being produced
• Identifying an effort’s strengths/weaknesses [e.g., What worked well and what didn’t?]
• Informing adjustments for an effort [particularly important for formative approach]

What goes into process evaluation?

Key procedures and elements include:

• Developing a logic model and creating an evaluation plan
• Establishing process measures and progress monitoring
• Documenting and meaningfully disseminating findings (e.g., data visualizations)
3. Theory of Change / Logic Model
Theory of Change / Logic Model considerations

• *Theory of change* precedes program development as a way to determine the best intervention(s) for the desired outcome(s) and *why* the activities and interventions should create the outcomes they will.

• *Logic model* usually follows program development, as a way of describing the program and its intended outcomes.
  
  • *What* you expect to happen but not necessarily *why* it will happen.
  
  • Visual representation of the assumptions that underlie the structure of the program.
  
  • Connects your work to your expected outcomes.
  
  • Four key components: *Resources, Activities, Outputs, Outcomes*. 
So many examples to choose from:
So many examples to choose from:

Computer Science Colorado Learning and Identity Collaborative (CS-CLIC):
Theory of Change

Vision: Students, and particularly historically underrepresented students, will perceive rigorous computer science coursework as important, possible, and relevant.

Context
Why is this necessary?
- Structural and procedural barriers to AP Computer Science Principles enrollment
- Gaps for underrepresented student groups (enrollment and achievement)
- Perception gaps in beliefs about future selves

Change Levers
What is our approach?
- Build understanding of the current context
- Question rationalizations of the status quo, including the role of existing systems, process, and biases
- Utilize instructional approaches that increase student belongingness (e.g., relevant and engaging activities)
- Students critically examine role of computing in society

Educational Model
How will we get there?
- Classroom Instruction
  - Metacognition
  - Differentiation
  - Reciprocal teaching
  - Project-based learning
- Professional Learning
  - Networked improvement communities for collaboration
  - Classroom observations
  - Equity
- Systems/Processes
  - Root cause analysis
  - Removal of barriers
  - Youth partnership
  - Continuous improvement cycles
  - K-12 STEM pathway

Outcomes
What will success look like?
- Equitable access
- Equitable enrollment
- Equitable success
Road Map to Logic Models

Problem Statement
“What issue am I addressing?”

Resources
“What do I need?”

Activities
“What do I do?”

Outputs
“What happens immediately?”

Outcomes
“What are my goals?”
4. How is process evaluation carried out?

Connecting your logic model to progress monitoring and contextualizing findings
Build the process evaluation plan from the logic model:
Measure the connections/relationships (the "arrows") to draw inferences

- Are the patterns and timings observed in the data consistent with logic model expectations?
- Are there unexpected outliers that are worth further examination?

**Hypothetical and logical counterfactuals** – What would have happened otherwise?
  - Lay out other possible explanations for the observed changes: Can they be ruled out?
    What different configurations of contextual factors and/or program variations could produce the relevant/targeted outcomes?
  - Consider using other informants as a reference group and/or using the baseline as an estimate of the counterfactual at each step

- Relevant methods: *Qualitative Comparative Analysis; Comparative Case Studies; Process Tracing*

**Table Discussion: Logic Model Template**

**Problem Statement**: What is the challenge you most need to address?

**Outcomes**: What specific changes are you seeking?

**Activities & Outputs**: What improvement activities are likely to lead to those changes? What will happen immediately?

**Resources**: What human resources are needed to effectively implement the strategy/program?
Considerations: *Who benefits from understanding the impact of an intervention and why is that information useful?*

**Document the intervention**
- Detail the plan that was envisioned and the reality of what unfolded.
- Describe who was to benefit – a particular group of students in a particular context.
- Was this a pilot on the way to something larger? What were the strains of expansion?

**Consider the investment**
- Given the time, effort and money, what is the justification for continuing the strategy?
- Were local conditions, staffing and leadership extraordinary in some way?

**Disseminate what was learned**
- Educators, students and policy makers continue to benefit from a body of evidence of effectiveness.
Progress monitoring:
Monitor implementation outcomes in addition to activities/outputs

- Track use/uptake of services; participation patterns and interactions among participants
  - Curated (real time) roster of participants and their relevant characteristics/demographics
  - Detailed recording of the dates/types of participation for each participant

- A *fidelity instrument* or *observational rubric* (with defined scoring criteria) can help reliably monitor dosage, adherence, quality, etc.

- Satisfaction and perceived relevance/usefulness can be effectively monitored via series of (brief online) *questionnaires* coupled with more targeted *structured interviews or focus groups*

- Carefully monitor program costs for *cost benefit analysis*

Relevant reference: *Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges & Research Agenda* *(Administration and Policy in Mental Health, 2010)*
Measurement and the underlying data collection

Describe the baseline
• What do we know about the students, the setting and the approach before the intervention started?
• How is the information being captured - qualitative as well as quantitative measures.

Explain the intervention
• How is the intervention designed to unfold – training and support, duration, mid-course corrections?

Document the contrast case
• What is the counterfactual condition – the “compared to what” explanation.
• Can baseline and outcome measurement be accomplished in the contrast condition?
Measurement and the underlying data collection

Measurement can be done in so many shapes and sizes

• Qualitative measures of initial conditions.
• Surveys of baseline and longer-range attitudes and dispositions.
• Focus Groups of student voices and teacher/professor insights.
• Observational rubrics in support of documenting classroom experiences.
• Interim measures of student understanding.
• Logs of implementation fidelity, against an intended implementation model.
• Assessments of student learning on standardized measures.
5. How can findings be further contextualized? Data visualization
Data visualization: Purpose and value

• What is data visualization?
  • “Data visualization is the process of graphically presenting data to reveal its patterns, trends, and meaning” (National Forum of Education Statistics, 2016)

• Purpose:
  • Data visuals should be and make data “accessible, accurate, and actionable” (National Forum of Education Statistics, 2016).

Why do data visualizations matter? (See REL Central’s Program Evaluation Toolkit)

- Provide displays and representations that can help with data interpretation and understanding [used in/for both analysis and dissemination, can show navigation and processes, indicates trends, etc.]
- Renders evaluation/research findings shareable and meaningful [e.g., as stories, graphics, etc.]
- Can engage multiple stakeholders
- Helps to “see” and further reflect on data

Relevant reference: Program Evaluation Toolkit, Module 8 Chapter 2 – Visualizing Your Data (REL Central, Institute of Education Sciences, 2022)
Types and Elements of Data Visualizations

Graphs, charts, infographics, and more

Uses color, icons, plots, mixes narrative
Data Visualization – Principles to Keep in Mind

Four key principles described in the Program Evaluation Toolkit (REL Central, 2022)

“Show the data, Reduce the clutter, Integrate text and visualizations, Portray the meaning accurately and ethically.”

Equity and access within visualizations (See WestEd’s Anti-Racist Evaluation Strategies):

• Be mindful of bias
• Use inclusive language
• Culturally appropriate targeting
• Balance perspectives
• Use images that are representative, avoid perpetuating stereotypes, culturally sensitive

Table Discussion: Measuring the implementation process
The Math Practical Measures example

- Screening measures can reflect practice & get collected, analyzed, and used within the daily work lives of practitioners
  - How are key routines and norms working?
  - How to get the voice of the user?
  - What data regularly let us know if we're heading in the right direction?
- Need shared understanding of good practice
- Focus on the details of enactment/use, complement other supports
Table Discussion: Exploring Data Visualization Elements

**REL West Data Visualization Example and REL Central Data Visualization Checklist**

- Data visualizations can tell meaningful, relevant stories.
  - How does REL West tell a data story in the example, *Data visualization can help educators address chronic absence*?

- Using information from the day’s session, and REL Central’s Data Visualization Checklist, how does the infographic address:
  - Key data visualization principles?
  - Issues of equity and access?
  - How can data visualization be valuable to you and your project?

<table>
<thead>
<tr>
<th>Key Data Visualization Principles</th>
<th>Issues of Equity and Access</th>
<th>How Can Data Visualization Be Valuable to You and Your Project</th>
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<tbody>
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**What is chronic absence?**

Students are typically considered chronically absent when they miss 10% of school days or more for any reason (excused or unexcused).

**How prevalent is it?**

Almost 6% of students (6% of students) are chronically absent, with even higher rates for schools in minority, low-income, and high schools.

**Why is it important?**

Chronic absence is associated with lower student achievement and higher dropout rates.

**How can you support and improve chronic absence?**

- **Start by examining local data to identify attendance patterns and trends in students who are chronically absent.**
  - Then look for patterns and changes in attendance rates to identify areas of concern.
  - Based on this information, provide targeted interventions and make improvements to the school culture and practices to meet the needs of students in your school.
  - Regularly monitor attendance or implementation.

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**Disaggregate Your Data**

Disaggregating data into more granular levels can help identify attendance patterns in specific groups of students. For example, you can look at attendance rates for students from different socio-economic backgrounds, or by grade level. This can help educators target interventions more effectively.
What questions do you have about evaluation design, learning, or contextualization?
Thank you for joining the workshop!
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