

Reducing the Outcomes Angst

A Step-by-Step Approach to Identify What to Measure

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Webinar slides and recording are available at evalu-ate.org/events/reducing_the_outcomes_angst/

Evaluation Design

The United Way of America's publication, *Measuring Program Outcomes: A Practical Approach*, is a popular and straightforward guide to outcome evaluation. Copies are just \$5—order at www.unitedwaystore.com/product/measuring_program_outcomes_a_practical_approach/program_film.

The *Framework for Evaluating Impacts of Informal Science Education Projects* (aka the “Friedman Framework”) provides specific guidance for designing evaluations in informal science settings: caise.insci.org/uploads/docs/Eval_Framework.pdf.

The University of Massachusetts Donahue Institute has put forth a framework for evaluating STEM programs in their publication, *Increasing Student Interest in Science, Technology, Engineering, and Math (STEM)*: [digits.us.com/wp-content/themes/digits/Student-Interest-Programs-Using-Promising-Practices\(P3\).pdf](http://digits.us.com/wp-content/themes/digits/Student-Interest-Programs-Using-Promising-Practices(P3).pdf).

The Logic Model Guidebook by Lisa Wyatt Knowlton and Cynthia Phillips provides step-by-step instructions on logic model development. (Available from major online booksellers or at www.sagepub.com). EvaluATE has one-page logic model template for specifically for ATE projects (evalu-ate.org/resources/logic_model_template/). See the Dayton STEM Urban Academy logic model at therucksgroup.com/resources, where you'll find other resources referenced in this webinar.

Literature Review

Grounding an evaluation in the latest research in the field can improve the focus and relevance of an evaluation and its measures. Two excellent research literature databases are PsycINFO (www.apa.org/pubs/databases/psycinfo/index.aspx) and Web of Knowledge (webofknowledge.com). If evaluators don't have access to these databases from their own organizations, they might be able to negotiate access through the PI's institution for the duration of the evaluation.

Instrumentation

David Lopatto, Professor of Psychology at Grinnell College, has developed a small collection of instruments specifically for use in undergraduate STEM education contexts, with special focus on undergraduate research experiences: www.grinnell.edu/academic/psychology/faculty/dl.

The Reformed Teaching Observation Protocol Rubric (RTOP) is a tool for measuring alignment of instruction (K-20) with national science and math standards: physicsed.buffalostate.edu/AZTEC/RTOP/RTOP_full/.

The Institute of Education Sciences publication, *Measuring Student Engagement in Upper Elementary through High School*, reviews 21 instruments, with detailed information about their measures, purposes and uses, technical information, and psychometric properties: ies.ed.gov/ncee/edlabs/regions/southeast/pdf/REL_2011098.pdf.

Horizon Research's data collection manual for Local Systemic Change initiatives includes instruments and a host of supporting materials for measuring the impact of K-12 teacher professional development in science and math: www.horizon-research.com/LSC/manual/.

Beyond Measurement: Data Collection, Analysis, and Use

For tips for enhancing survey response rates and working with institutional research offices, see EvaluATE's archived webinar on Evaluation Data (evalu-ate.org/events/webinar_evaluation_data/). Our webinar on Making Sense of Your Evaluation Data (evalu-ate.org/events/webinar_making_sense/) reviews basic steps for quantitative and qualitative analysis.

Our webinar on Maximizing Evaluation Impact (evalu-ate.org/events/maximizing_impact_webinar/) provides guidance on communicating findings and facilitating use.