

RESOURCES FOR COMMON-SENSE EVALUATION

Coalition for Education and Outreach

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TYPES OF EVALUATION

Although there are many types of evaluation, there are three that are commonly used in education projects. A project may use one or a combination of these evaluation types:

- **Front-End:** focuses on gathering background information to inform the development of a project. Understanding of the audience and/or project type is critical.
- **Formative:** improvement-oriented (i.e. looks at the project's effectiveness at a particular point in time). Typically undertaken during the duration of a project prior to a summative evaluation (such as at the conclusion of a project phase).
- **Summative:** outcomes-oriented (i.e., determines the project's overall effectiveness and value). Typically done at the conclusion of a project.

WHAT KIND OF DATA IS COLLECTED?

A comprehensive evaluation project will include both **qualitative** and **quantitative** data collection. Some examples of common methods to collect that data are described below.

Method	Quantitative data expresses a quantity, amount, or range. Examples include:	Qualitative data describes characteristics and attributes. Examples include:
Survey	Answers to multiple choice, Likert scale, ranking questions	Open-response questions
Focus group	Frequency of certain items/topics/words etc. expressed	Open-response questions
Observation	Frequency of certain behaviors seen	Narrative description
Interview	Frequency of certain items/topics/words etc. expressed	Open-response questions

WHEN DO YOU NEED TO HIRE AN EVALUATOR?

You may need to hire an evaluator if:

- The funder requires it.
- Your project team does not have the capacity or knowledge related to carrying out an evaluation.
- Front-end and/or formative data is needed for further development.

If hiring an external evaluator is not required, having an evaluator on your project team can still be valuable to:

- Provide an objective view on program development.
- Focus fully on evaluation so that project team can focus on implementation.
- Highlight findings and results in a way that is compelling for funders and collaborators.

BUDGETING FOR AN EVALUATOR

There is no hard-and-fast rule about how much to budget for an evaluator, and the cost of doing evaluation depends on a wide range of factors such as IRB requirements, type of data collection, and instrument development. Past NSF recommendations have varied from 4%-12% of the total project budget. A good baseline to start with in proposal planning is **10% of the total project budget**. Tips for keeping the cost of evaluation down include:

- **Include evaluation in your project budget from the beginning**, and work with your evaluator to develop a plan as soon as possible to avoid costly surprises.
- **Use existing instruments** (find these in learning research literature, or find an evaluator who has expertise in existing instruments).
- Allocate some **evaluation-related administrative tasks to the project coordinator** or research assistant, such as recruiting participants and securing consent, distributing surveys, and arranging data collection (if using an external evaluator, these tasks should be decided on with your evaluator's input to avoid a conflict of interest or duplication of tasks).

HOW DO I FIND AN EVALUATOR?

At UC Berkeley:

- **Lawrence Hall of Science** (lawrencehallofscience.org) has a Research Group that can be a research partner and/or external evaluator on a wide range of formal and informal STEM education projects.
- **UC Berkeley BEAR Center** (bearcenter.berkeley.edu/) is a campus office that focuses on researching, developing, and disseminating educational assessment instruments as well as training graduate students in their use.

Databases:

- **American Evaluation Association** (eval.org/findanevaluator) is the national professional association for evaluators of all types. Their “Find an Evaluator” database connects users to Association members with a wide range of expertise.
- The **Center for Advancement of Informal Science Education** membership directory (informalscience.org/member-directory) includes hundreds of individuals working in the informal learning context (“informal” is defined as any project, activity, or setting that takes place outside of the context of a formal classroom). Site users can filter members by expertise in evaluation and a range of disciplines and environments.

OTHER RESOURCES

- **InformalScience.org**’s guide to designing an evaluation plan in informal settings (informalscience.org/evaluation) includes guides to finding and working with evaluators, developing an evaluation plan, and learning from and disseminating evaluation tools. The site also includes shared instruments that can be used across projects.
- **Common Guidelines for Education Research and Development** is a 2013 joint report from the Department of Education and National Science Foundation. The report delineates the difference between evaluation and research in federally-supported projects and provides guidance on the kind of external review that is a component of those projects.
- The **Community Resources for Science (CRS)** office has developed a list of evaluation resources including ways to find instruments, effectively communicate evaluation results, and more. See crscience.org/educators/AdvisoryCouncilResources.
- The **Cal Assessment Network** is a staff community of practice on the UC Berkeley campus that explores topics related to assessment, such as: how to create effective surveys, how to present data, and more. This group is well-suited for professionals who already have expertise in evaluation. See stafforg.berkeley.edu/organizations/communities-practice/can.
- **NSF DRL Resource Centers** are organizations funded by the NSF to support specific funding programs. These Centers often have ways to find evaluators, project and evaluation examples for their specific disciplines, and a wide range of other resources that may be helpful in developing an evaluation plan. These centers include:
 - **Center for Advancement of Informal Science Education (CAISE):** *Advancing Informal STEM Learning (AISL)* program (formerly the ISE program)
 - **Center for Innovative Research in CyberLearning (CIRCL):** *Cyberlearning* program (and other computer science-education projects across all NSF directorates)
 - **Community for Advancing Research in Discovery Education (CADRE):** *Discovery Research preK-12 (DRK-12)* program
 - **EvaluATE:** *Advanced Technological Education (ATE)* program
 - **MSPNet:** *Math and Science Partnerships and STEM + Computing K-12 Education (STEM+C)* programs
 - **STEM Learning and Research Center (STELAR):** *Innovative Technology Experiences for Students and Teachers (ITEST)* program