How to work with external evaluators:

A white paper for the physics education community

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About the Authors

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Introduction

This white paper provides an overview of the purpose and process of working with an external evaluator. It is intended for new or experienced PIs, primarily on educational grants funded by the NSF, but many of the messages are relevant for other types of grants. This paper is written by two experienced external evaluation consultants but includes perspectives from a variety of evaluators and project PIs.

Summary

Project evaluation provides an independent, objective, and purposeful assessment of whether a project has achieved its goals. While evaluation can provide a summative, end-of-project assessment of the degree of success, the real power of evaluation lies in its formative purpose; evaluation provides feedback to support continuous improvement and decision-making in a project. This is one key difference between evaluation and research -- evaluation is done in service of the project's success, rather in service of contributing to generalized knowledge about the world.

Professional evaluators bring a wide variety of expertise in evaluation methods, frameworks, processes, and the domain of the project itself. Evaluators can be found within academia, or

within independently-run businesses. Finding the right fit between the evaluator and your project is critical in terms of the evaluator's knowledge but also in terms of the working relationship.

It's best to bring an evaluator into a project early in the grant proposal-writing project, to ensure that they can weigh in appropriately on the evaluation scope and budget, and that expectations are clear on all sides. The evaluation budget should be appropriate for the scope of the evaluation, and the evaluator's business structure and level of involvement, but a rule of thumb is to spend about 5-15% of the project budget on evaluation. Planning an evaluation requires identifying the scope and purpose of the evaluation, writing evaluation questions and methods, and integrating the evaluation and research appropriately. This is something that an evaluator, and your program officer, can help with.

Throughout the project, effective collaboration with your evaluator will help you get the most value from their engagement, ensure the working relationship goes smoothly, and maintains the professional integrity of the project. Ideally, the evaluation is a partnership between the evaluator and the program team. This requires setting clear expectations, maintaining regular communication, responding appropriately to changes in the project or evaluation, ensuring the evaluator has access to project data, and responding to evaluation feedback. You should expect ethical behavior from your evaluator, and should also treat your evaluator ethically. Such open, respectful communication and collaboration ensures that the evaluator, the evaluation, and the project are set up for success.

The rest of this white paper outlines in more detail how these tasks can be accomplished, and why they are important.

What is project evaluation and how can it help you?

Speaking broadly, project evaluation is an objective assessment of a project. Evaluation provides both a feedback mechanism to improve the project and an examination of the degree to which it has achieved its goals. Evaluators use a variety of strategic and purposeful data sources (e.g., surveys, interviews, document review, tracking outputs, etc.) to identify project successes, challenges, and provide recommendations for improvement and sustainability. The nature of evaluations and evaluators varies widely. A great introduction to evaluation can be found in this short course intended for PIs: Evaluation for Leaders course.

- *Evaluations, and the programs themselves, are most successful when clients are eager to learn from the evaluation results to inform their planning and decision-making processes. - Heather Thiry, EER CU Boulder; experienced evaluator*

The power of formative evaluation

Why evaluate? One answer is "because the NSF requires us to," but that should be unsatisfactory for most of us. While one purpose of evaluation is certainly to provide measurement and accountability for project impacts (*summative* evaluation) most experienced

evaluators and PIs (and likely program officers) see the most critical role of evaluation as supporting continuous improvement and decision-making in a project (*formative* evaluation).

- *My purpose is to help a great project decide what it needs to do to be even MORE great. This is actually what it means to be a formative evaluator. And I know that the project already rocks or I wouldn't have taken the job. So people should not be nervous about me. I'm not here to rat them out. I'm here to make them look good — to themselves, more than anyone, but to anyone. And I'm here to help make them BE as good as they want to appear. - Rachel Scherr, University of Washington Bothell; experienced PI and evaluator*

Evaluators can be thought of as a "critical friend;" the inquiry and outside perspective of the evaluator can help the project team work through important issues in a supportive way. A good evaluator will help project leaders think through their goals and strategies, how to measure those goals, and the implications of data and results.

- *The greatest benefit of working with an effective evaluator is the opportunity to have a pair of "fresh eyes" looking carefully at the project's activities. For those deep in the trenches of a project, it is often too easy not to have a comprehensive, arms-length view of the project's activities and how they support, or fail to support, the project's goals and objectives. An effective evaluator helps the principal investigators sharpen their vision of the project, which then allows them to implement corrective actions when activities and goals diverge or when unforeseen circumstances arise. - Bob Hilborn, American Association of Physics Teachers; experienced PI*

Evaluation can help projects identify not just the challenges and problems, but also the successes in the project, helping a project maintain its momentum and vision.

- *One of the most fun parts of evaluation is getting to reflect back to the grant team all of the good work that they've accomplished. Sometimes it can be hard for them to see their growth when they're in the middle of a project. I've been able to say things like, "OK, you don't have the paper out yet, but goodness, look at all you've learned this year! It's awesome!" - Angela Little, Angela Little LLC, experienced evaluator*

- *I help a project identify its successes. We (as project PIs) often aren't really aware of what we're accomplishing, either because we're just scrambling to get through each week or because we lack perspective. I also help a project identify its problems. People are usually most aware of their problems, but they think that when they talk about them they are just complaining or "venting" to me, when I see them as identifying important obstacles to their continued success. - Rachel Scherr, University of Washington Bothell; experienced evaluator and PI*

A primary aim of the evaluation is to be useful to the project. In the words of senior evaluator Michael Quinn Patton, "the purpose of an evaluation is not to produce a report."

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Evaluative expertise

In addition to serving as a critical friend, the evaluation provides valuable expertise that may not be present in the project leadership to guide the project. For example, evaluators bring expertise in data collection and analysis, but also expertise in the particular domain of your project. For example, an evaluator with expertise in equity, the K-12 school system, or faculty professional development can bring valuable insight and connections to a project working in those areas. Later in the paper, we will discuss how to identify evaluators who have the right expertise to fit your particular project.

Evaluation vs. research

Research and evaluation have much in common: Both use similar data collection, analysis, and interpretation techniques. Research and evaluation teams might share data. Much of the difference is between the two is in the intention of the data collection, and the framing of the findings. Evaluation is focused on judging the quality of a project and helping it to maximize its success, whereas research is focused more on objectively, uncovering broader knowledge that may apply to other projects. For example, an evaluator might use a survey of website users in order to provide recommendations for the project on reaching a broad audience. Researchers might use the same survey results to investigate the perceptions of different audiences. The evaluation results are specific to the project goals, whereas the research results are more generalizable. That said, evaluation results can have broad implications, and research results can inform a project. You can read more about the varying distinctions between research and evaluation in this article.

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In sum, evaluators are professionals who bring expertise in appropriate processes and methods to help a project achieve success. While evaluators do provide summative evaluation of impact, the most bang for the buck can be achieved by leveraging the evaluator's role to provide feedback to help the project continue to improve in its quest for excellence.

Who are evaluators, and how can you find one?

There are many types of evaluators -- part-time, full-time, self-employed, employed at a private firm or academic institution, with or without formal training in evaluation. Regardless of their position or background, evaluators are assessment experts who want to bring that expertise to bear to help projects thrive.

- *I appreciate moments when I can bring my expertise to bear on a client's project and they value my input. I do evaluation work part-time and only take on projects that align with my educational research and/or programmatic design expertise. - Angela Little, Angela Little LLC, experienced evaluator.*

Evaluator training and credentials

There are diverse paths into evaluation, but many evaluators are trained in education research or evaluation. There are degree and technical programs devoted to training evaluation professionals (e.g., Western Michigan Ph.D. program). Like other professions, competent evaluators possess skills, education, and experience, and seek opportunities to develop those skills. Evaluators should be able to use social science methodologies to collect and analyze appropriate data to answer evaluation questions. This includes knowing the strengths and weaknesses of different methodologies and being able to conduct studies ethically. They can use the data to make recommendations and draw conclusions. The AEA Competencies outline additional professional practices that all evaluators should have.

- *It is 100% worth it when you find a good evaluator with strong expertise. Night and day. - Wendy Adams, CO School of Mines; PI.*

Evaluators may be a member of the American Evaluation Association (AEA), a professional organization for evaluators, or participate in relevant special interest groups (SIGs) in their disciplinary professional societies (e.g., American Education Research Association [AERA] Research on Evaluation SIG). One of the best credentials is experience with similar projects.

Finding evaluators

Evaluators have a variety of business structures. Some structures, listed from more independent to more substantial include:
- Independent consultants who operate as single-entity businesses
- Faculty members evaluating projects in their area of expertise
- Evaluation centers associated with a university (e.g., Ethnography and Evaluation Research at University of Colorado, Boulder) employing multiple evaluators.
- Standalone valuation firms (e.g. WestEd) or smaller collaboratives employing multiple evaluators.

Within PER, there is a directory of physics education consultants who can work as evaluators. AEA has its directory of evaluators as well. You can also ask colleagues, especially those who have conducted similar projects.

Finding the *right* evaluator

Finding an evaluator who *fits* within the project takes more care. What does the project need? PIs should ensure that the evaluator has suitable skills and knowledge, works well with the team, and is able to work within the project's time requirements and constraints. The evaluation might be minimal and require an evaluator who meets with the project team once a year. For other projects, having an evaluator who can engage more fully routinely with the project is important. Some projects might benefit from having a local evaluator for more in-person work; for others, having a wider selection among the national pool of evaluators may be more beneficial. For larger projects, the evaluator may need to have adequate credentials to establish

credibility for the evaluation. For small projects, it may be okay to consider a newer person who shows potential (e.g., has some research experience in the area).

Although there is no formula for ensuring that the evaluator is a good fit for the project, the following are some indicators that the evaluator would work out well:
- The evaluator has expertise in the project's research area.
- The evaluator has expertise in the evaluation methods and populations proposed.
- The evaluator's expertise complements and supplements the expertise of the project leadership and advisory board.
- The evaluator's geographic location does not impede the evaluation.
- Stakeholders are likely to trust the evaluator and the evaluation products.
- The evaluator can devote the needed time to the evaluation.
- There is a good match of communication and collaboration styles between the PI and the evaluator.
- There are no conflicts of interest.

Some of this information can be found via the evaluator's website or recommendations from others. A conversation with a potential evaluator is always a must. If the evaluator will be helping you write the evaluation plan for the proposal, this can also be informative. At the end of the day, the PI simply needs to make sure that the evaluator will provide the information and guidance to make the project a success.

How do you write the evaluation into the proposal?

At the proposal stage, you will need to identify the evaluator, the general scope, and the budget for the evaluation. The best evaluations are planned collaboratively by the evaluator and the project team so that the evaluation is responsive to the needs and interests of the project while reflecting the expertise and approach of the particular evaluator. Once the project is funded, more detailed planning must be undertaken, including identifying expectations for the client-evaluator relationship.

Engaging the evaluator

It's best to bring in an evaluator as early as possible in the grant-writing process, to allow them to contribute meaningfully to the evaluation and project plan. It is not respectful to contact an evaluator a week before the proposal is due and ask them to sign on to a project and evaluation plan that they will not have the ability to help shape; such requests are usually a red flag to the evaluator that the client is not fully invested in the project evaluation. In the best scenario, the evaluator is engaged about 3-6 months before the proposal due date. This ensures there is a reasonable plan for the project in place, giving the evaluator a sense of where they might fit in, but with ample time for the evaluator to develop a plan. This is also a time for both parties to establish clear expectations for the partnership and discuss roles, though this will need to be revisited if the project is funded (see "At the start of the project," below). Engaging an evaluator

early also ensures that you beat other potential clients to the punch, as popular evaluators typically get many requests and may decline.

- *I have found the greatest reward in working with clients who engage the evaluator right at the beginning of conceptualizing the program so there is a clear plan embedded into the program for monitoring progress and making adjustments along the way. - Heather Thiry, Ethnography and Evaluation Research, University of Colorado Boulder; experienced evaluator.*

Evaluation budget

A big challenge that PIs (and evaluators) wrestle with is a reasonable budget for the evaluation as a whole, and for an hourly (or daily) rate for the evaluator.

Ultimately, the overall budget for an evaluation should be appropriate for the nature, scope, and design of the project and its evaluation. Time and resources required vary widely by these factors. To give you a starting point, a common rule of thumb is that evaluation should comprise about 10-15% of the total project budget, according to NSF program officers and experienced PIs. This can vary widely; the average for the NSF-ATE program is 8% (see Evalu-ATE planning checklist), and nonprofits typically aim for 5-10% of the budget to be spent on evaluation with an average closer to 5% (see this report from Oak Foundation on evaluation at foundations). However, using a percentage of the overall budget is likely too simplistic (see this whitepaper on budgeting evaluations from AmeriCorps). In sum, you probably should aim for an evaluation budget close to 5-15% of the evaluation budget, modifying as appropriate for the evaluation at hand.

- *The NSF recommended budget percentage to be allocated to external evaluation always seemed unrealistically high to me until I experienced a quality evaluator whose contributions were well worth the expense. Adequate budget is necessary for the evaluator to stay apprised of the project's activities and to provide evaluation of various aspects of the project throughout the year. - Wendy Adams, CO School of Mines; PI*

Some evaluators bill by the project, and some by the day (to an agreed-upon budget maximum). A fairly typical rate for an evaluator is $1000/day as of the time of this paper. Factors such as discipline, expertise, seniority, business structure, and geographic area of work can impact this rate. Some evaluators may charge double this rate. Evaluation rates reflect the many costs incurred by evaluators to do the work. It also reflects the fact that a consultant only bills for the time spent directly working on a project. A full-time consultant may bill only 20 hours in a week.

- *Faculty don't often realize that high hourly rates are quite reasonable for a consultant. I've gotten pushback on rates before, from faculty who make double what I actually make in a year. It may seem high from an employed faculty perspective, but it is not in practice. A large amount of my time is spent dealing with documentation for tax purposes, organizing, emailing, etc. That 50% "overhead" that universities charge for*

helping you manage your grants? Consultants do all of that work themselves. In addition, I pay higher taxes, I pay for office space, and I pay into my own benefits (retirement, health care, etc.). - Anonymous; external evaluator

Evaluation scope and purpose

A big element of setting the budget is to identify the *scope* of the evaluation. What will be the main focus of the evaluator's efforts? The PI should not expect that the evaluator will be able to deeply evaluate all elements of the project -- there is always a trade-off between depth and breadth.

- *The biggest challenge in working with evaluators is setting reasonable limits on the scope of the evaluation work. A good project has many facets and it is often difficult to decide in advance which facets should be subject to detailed evaluation, given limited budgets and limited time the evaluator has available for a particular project. - Bob Hilborn, American Association of Physics Teachers; experienced PI*

Part of identifying scope (and budget) is determining the level of involvement of the evaluator, depending on the complexity of the project.

- *For larger, multi-year projects it's most helpful when an evaluator is embedded in the project and understands it well enough to see when strategies are working (or not) and to provide ongoing advice to the project so we can pivot appropriately. Evaluators that only provide annual evaluations miss the opportunity to help project staff see opportunities to adjust before it is too late to shift. - Theodore Hodapp, APS*

In addition to the evaluation scope, PIs should also think about the *purpose* of the evaluation. How will you use the results, and what kinds of decisions will you make as a result of the evaluation? Every evaluation has a purpose, though it may not be stated. Below is a set of possible purposes of the evaluation (see Better Evaluation: Purpose):
1. To determine stakeholder needs (e.g., what gaps the project might fill; *needs assessment*)
2. To generate accountability (e.g., ensure the project is doing what it promised to do; *monitoring evaluation*).
3. To inform project decision-making (e.g., determine how a project should engage participants; *formative assessment*).
4. To build internal team capacity in assessment (e.g., learn how to build and interpret surveys; *capacity building* or *empowerment evaluation*).
5. To demonstrate impact (e.g, document how the project has helped others and/or surface diverse perspectives; *impact evaluation*).
6. To evaluate the way in which a project is undertaken (e.g., team dynamics or fidelity of implementation; *process evaluation*).

More about these types of evaluation can be found at Better Evaluation. BetterEvaluation's Rainbow framework and the EvaluATE project provide guidance on how to plan and conduct

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evaluation activities, with consideration on what is being asked of whom and how evaluation data will be used.

The evaluation plan

Specific evaluation activities vary from project to project, determined by the project activities and evaluation questions. An evaluation plan will describe *what* will be evaluated, *who* will be asked to participate in the evaluation activity, *when* it will be evaluated, *how* it will be evaluated, and *why* these choices were made. The plan should be adequate to convince the reviewers that the evaluation has been well-thought-out.

An evaluation plan will likely include the following:
- Logic model or Theory of Change for the project (may appear elsewhere in proposal).[1]
- Evaluator expertise and suitability.
- The evaluation questions to be addressed.
- The evaluation methods.
- The overall evaluation framework, approach, and/or integration into the project.

Writing good evaluation questions takes practice. I (author SC) like to ask PIs, "What would success look like for this project?" That usually gives a good starting point for being able to describe evaluation questions that investigate the extent to which that success is achieved, such as:
- How well were the workshops implemented?
- How effective were different funding levels in creating change?
- How well was the project, or project activities, implemented? (E.g., how well were the workshops implemented?)
- How effective was the project in creating change? (E.g., how effective were the different levels of funding provided?)
- To what extent did the project's research provide new insights about the problem?
- Who has been impacted by the project and in what ways?

Many projects include a research component as well as an external evaluation. It is important to clearly delineate the areas that are under the purview of the research vs. evaluation to avoid redundancies. It is also equally important to indicate how the research and evaluation will communicate and work together (e.g., in sharing data).

The evaluator will likely be able to help you develop this evaluation plan. However, you should not expect that the evaluator will write the evaluation plan for you; this is something to directly discuss with the evaluator. Remember, if the evaluator is self-employed, it costs them money (not just time) to engage in grant writing, as this takes time away from paid work. If there are even modest funds available to support the evaluator's time in contributing to the grant proposal, such compensation can send a strong message to the evaluator about the value of

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[1] *Discussion of a project logic model or Theory of Change is beyond the scope of this article; see Resources at the end for more information.*

their contribution and help support the unpaid time. For myself (author SC), I often ask projects to draft the evaluation questions and a project logic model or Theory of Change; this gives me adequate fodder to refine the evaluation questions and devise appropriate evaluation methods and frameworks relatively efficiently.

In an NSF grant the evaluation plan usually comprises approximately a page of the proposal. The fee for the evaluator is typically included in "consultant services" although some evaluators can manage subawards. Independent consultants do not charge their own indirect costs (that is included in the consultant rate) but indirect costs from the PI's institution will apply. The consultant is not included as a PI; they are usually listed as "other personnel", and the evaluator submits a letter of commitment. This means it is not required to include a biosketch, but many people do so as a supplementary document. However, this process will vary depending on the nature of your evaluator (e.g. an independent consultant, evaluation firm, academic unit, etc.) and you should consult with your evaluator and/or institution on the best process for your situation.

Don't hesitate to ask your Program Officer for advice about the evaluation plan; there are no hard-and-fast rules here, and POs will differ in their perspectives on these issues.

How can you collaborate effectively with your project evaluator?

It is very important to communicate and collaborate with your evaluator throughout the lifetime of your project. Evaluators differ tremendously in their approaches to evaluation, as well as their personal and professional situation (including how they run their evaluation business). Their personal and professional situations can shift during the project, too. Thus, you will need to establish clear expectations, treat the evaluator as a respected member of the team, and communicate well. This will help maintain the professional integrity of all aspects of the work.

Ideally, evaluation is a partnership between the PI(s) and evaluator, with both honoring one another's expertise. Each brings a different lens to the project and ensures the project's evaluation is useful and works towards the project's success.

- *Many PIs are very focused on making their project a success, but they don't always realize that evaluation is a critical component of that success and that the evaluation relationship is a partnership. Evaluation is not necessarily a task that evaluators "do" for their clients, but a project that evaluators and clients undertake together. - Heather Thiry, Ethnography and Evaluation Research, University of Colorado Boulder; experienced evaluator*

At the start of the project

The start of the grant is a critical time for setting expectations.

- *One of the things we've learned over the years as an external evaluator is that on new projects, a setting expectations conversation is worth its weight in gold. The things we talk about during this conversation reflect on challenges we have had in past working relationships. We talk about communication expectations, how to handle conflict when it arises, how to handle changes to the scope of work, how they want to hear formative and summative feedback (e.g., verbally first, or written first), and how much or how little the evaluation will be involved with dissemination, among other things. - Evaluation team at the University of Washington Center for Evaluation & Research for STEM Equity*

This is also a time for surfacing assumptions and clarifying roles.

- *When you start working with an evaluator, you should clarify expectations about what the evaluator and the project team will be doing with respect to the evaluation and who will lead the evaluation process. Some evaluators tend to direct the evaluation process themselves, others expect the project team to determine what the evaluator should do, while others expect a more collaborative process in which the evaluator and project team plan the evaluation together. Any of these options can work well, but less experienced project leads or evaluators might not realize that these different possibilities exist, and may have different assumptions that are incompatible, so it is important to discuss the options explicitly and make sure you are on the same page with your evaluator. - Sam McKagan, PhysPort.org; experienced PI and occasional evaluator*

This is usually done through a series of conversations, culminating in a detailed written evaluation plan. This is also when a detailed, line-item budget and contract will be developed. Logistically, project leadership and evaluators have obligations in ensuring the evaluator is paid. Evaluators need to provide invoices to the appropriate person, and the leadership should ensure the evaluator is paid in a timely manner.

During the project

There are several ways in which a project PI can support and collaborate with the evaluator during the project.

Regular communication
The key to any successful collaboration is good communication. Expect to meet with your evaluator regularly; perhaps monthly for a large complex project, quarterly for a smaller project. These meetings establish a working relationship and identify any issues as soon as possible, including issues regarding the functioning of the project team or structure ("process" evaluation). Regular meetings help the evaluator keep well-connected to the project and its activities, identify challenges, and ensure the project is being implemented on schedule. These meetings also provide an opportunity for PIs to reflect on their work, respond to evaluation findings, and communicate about any project changes (see below). Other communication structures, such as shared notes, folders, or periodic reports can be valuable.

- *I have learned that an effective evaluator will contribute to the evolving shape of the project on an on-going basis. Previously I thought it was necessary to keep more of an arms-length relationship with the evaluator; but that approach really limits the potential effectiveness of the evaluator. During my first few projects, in practice the evaluation resulted in a once per year check that was extra work for the PI and did not affect the project activities. Having the evaluator well-connected to the project results in much more helpful input. - Wendy Adams, CO School of Mines*

Changes to a project or evaluation

As projects mature, unanticipated challenges, needs, or opportunities might arise that change the course of the evaluation. If there are needed changes to the evaluation plan, either from the project leadership or the evaluator's perspective, those should be discussed as soon as possible. As projects are frequently grant-funded, they have relatively short windows of opportunity to improve. Communicate clearly about these changes, and work with the evaluator to develop appropriate modifications to the evaluation plan.

- *Our center believes in being nimble in the evaluation to reflect changes in the projects. In one evaluation, we had originally planned a set of interviews with program participants, but the program wanted to put on an additional in-person workshop, which needed evaluation. We were able to cut the interviews, but include relevant questions on the workshop survey so that it was able to fulfill (at least partially) our broader evaluation goals. - Evaluation team at the University of Washington Center for Evaluation & Research for STEM Equity*

If the project budget or timeline changes, the project leadership should be mindful of how this impacts the evaluator and discuss whether the change is feasible given their other obligations. Evaluators are reliant on the agreed income, and have other projects to manage. Project leadership should do its best to abide by the contract with the evaluator. For example, if data collection is delayed by a semester, this may leave an evaluator without work. Even if this delay is within the parameters of your contract, it is considerate to discuss the implications with your evaluator and seek a solution (e.g., undertaking another portion of the work earlier to fill the gap).

Evaluators have a responsibility to implement the evaluation plan as discussed with project leadership and to do so reasonably on schedule -- and to communicate if this will not be possible. If an evaluator can no longer serve as the evaluator, they have an obligation to inform the PIs as soon as possible. If appropriate or desired, the evaluator can help the PIs find another suitable evaluator or the project.

Data collection and research

Because the evaluator is external to the project, it is important that PIs provide them the information they will need to conduct the agreed-upon work, such as key dates, access to participants, and information on project activities.

- *I depend on clients to provide access to their students and program population for data collection and to fully engage with the evaluation findings. - Heather Thiry, Ethnography and Evaluation Research, University of Colorado Boulder; experienced evaluator*

As mentioned earlier, evaluators and researchers can (and do) share data. In the planning stages, some of the logistics who collects what (and when) may be discussed. Opportunities to share data, and coordinate timelines should be discussed if evaluation and research are using similar data sources.

- *It is also important to determine how research and evaluation interact and overlap and have open communication between the evaluator and any internal research team so that research and evaluation can be complementary and support each other, rather than duplicating efforts. Sam McKagan, PhysPort.org; experienced PI and occasional evaluator*

If the evaluator has contributed to research findings, consider offering them co-authorship on published work.

Responding to evaluation feedback
Once an evaluation study is completed, the evaluator and the project leadership should meet to discuss the results and potential implications. Project leadership may have questions to facilitate their understanding of the evaluation. They may also provide additional context for the evaluator to better understand the project. This kind of collaboration can provide new insights that may lead to more useful recommendations or pathways to take.

- *It is the project leader's responsibility to ensure that the evaluator is welcomed, but also given the freedom to speak up when they see issues and to assure them that project staff will be able to hear and act on feedback. - Theodore Hodapp, APS; experienced PI*

While they may not implement every recommendation, the project leadership should determine whether and how to address particular findings or recommendations. A written response to evaluation findings, which generates action items for the project leadership, is appropriate. It is typical practice to include the evaluation in annual reports to the grant-funding agencies such as the NSF. This blog post provides information on what should be provided in these reports.

Supporting your evaluator
Lastly, recognize that your evaluators are people who are working hard for your project's success. As described above, consider the financial implications of changes to the project and how they affect the evaluator. Evaluators are also often somewhat isolated due to the independent nature of evaluation work; it can be heartening for an evaluator to hear that their work is appreciated.

- *I really appreciate when my clients do little small things that send the message that they value me. For instance, one of my clients set me up in this pleasant BnB in town for my*

evaluation visit, thought of a nice restaurant to go to, and put some time in my schedule to take breaks. It was just clear that she spent some time thinking about how to make my visit pleasant and comfortable. - Angela Little, Angela Little LLC, experienced evaluator.

If you have enjoyed working with the evaluator, be sure to recommend them to other projects.

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In summary, evaluators and project leadership engage in a collaborative relationship. Projects are dynamic and thus experience changes, so some degree of flexibility is often needed for the project's evaluation. Open communication is key to ensure both the project's success and the satisfaction of both evaluators and PIs.

What are some ethical issues to consider in project evaluation?

In the following sections, we outline two specific ethical areas that tend to arise in evaluation. These are not the only ethical areas and each section is certainly not exhaustive, but these sections describe the more common ethical areas for consideration.

Ethics in evaluation studies

Evaluators should abide by certain ethical principles and standards of excellence. If project leadership feels that an evaluator is not doing so, they may wish to consult the American Evaluation Association's [Guiding Principles](#) for standards for the profession. The main principles are, directly quoted from the American Evaluation Association:
1. Systematic Inquiry: Evaluators conduct data-based inquiries that are thorough, methodical, and contextually relevant.
2. Competence: Evaluators provide skilled professional services to stakeholders.
3. Integrity: Evaluators behave with honesty and transparency in order to ensure the integrity of the evaluation.
4. Respect for People: Evaluators honor the dignity, well-being, and self-worth of individuals and acknowledge the influence of culture within and across groups.
5. Common Good and Equity: Evaluators strive to contribute to the common good and advancement of an equitable and just society.

Many of the ethical considerations for research also apply to evaluators, including:
● Confidentiality and protecting study participants. As evaluators are privy to information from study participants, it is vital that participants' identities are protected in any data collected and any work that uses the data. Study participants may fear retaliation or other negative consequences if they are linked to the evaluation data.
● IRB approval. Many evaluation studies do not need IRB approval, as they are not contributing to generalized knowledge. However, any data collected that may contribute

to research does need IRB approval. When in doubt, ask the IRB or research ethics office. It is better to err on the side of caution.
- Reporting responsibly. Regardless of whether the evaluation results in published work, all information that is shared with project leadership should maintain the best interests of stakeholders -- including protecting privacy and anonymity as appropriate.

Ethics in evaluator labor

Evaluators are paid for the work they do in conducting the evaluation, often at an hourly rate. As a result of working for an hourly rate, this means that many typical activities that PIs are expected to do, as part of their salaried job, may have financial implications for an independent evaluator. These activities can include: socializing in various settings (e.g., dinner with the project team); writing papers; serving as a peer reviewer for manuscripts; and serving on various committees or task forces.

- *Any volunteering/service that I do for the field doesn't count for me in any way. So, if I serve on a committee that takes a week of my time each year, I make a week less money that year. If you want consultants to remain active in the field, they need compensation. Either pay them for "service" work or pay them a high hourly rate when you work with them. - Anonymous; external evaluator*

Although the above activities have considerable value for a field, the evaluator, or the project being evaluated, they have tangible costs for the evaluator. Thus, they should not be expected unless explicitly built in.

Here are some recommendations for how evaluators and project leadership might navigate unpaid labor.
1. Engage in conversations with both project leadership and evaluators to develop a shared understanding and agreement on these additional activities. Given the power that project leadership has and the very real financial considerations at stake, particularly for those who are full-time evaluators, they should respect the boundaries that evaluators set with their work.
2. Build desired additional tasks in the cost of evaluation. It is easier for evaluators to agree to do these tasks if they are being financially compensated. Evaluators' rates might include relevant professional service. Service activities provide professional benefits for the evaluator by increasing knowledge and experience. These in turn can support the project being evaluated.
3. For project leadership and those asking for unpaid labor from evaluators, recognize and respect that evaluators are individuals with changing lives and varying interests. Each evaluator has different relationships with unpaid service for the profession. Some of it depends on what the service entails. Evaluators who might have in the past opted to work on a project for free may choose not to if their circumstances change. Similarly to the first recommendation, those asking for unpaid labor should engage in a conversation with evaluators and respect their decision.

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Conclusion

This paper describes a variety of details and important elements to consider when working with evaluators. Common themes are to clearly identify the needs of the project, find an evaluator whose expertise and approach suits those needs, and to foster a good working relationship between evaluators and project leadership. Fostering a good relationship among project leadership and evaluators through regular, open, and respectful communication sets the project's evaluation, as well the project, up for success.

Resources

1. **Evaluation for Leaders.** Short course to help leaders understand evaluation in 5-10 minute modules. http://evaluationforleaders.org
2. **Better evaluation.** An informational website aimed at improving evaluation practice, including easily digestible summaries of evaluation methods and frameworks. http:///betterevaluation.org
3. **EvaluaATE.** The evaluation support center for the NSF Advanced Technological Education (ATE), including resource materials, webinars, and a blog, plus an [evaluation planning checklis](http://evalu-ate.org)t. A valuable resource for all educational evaluations. http://evalu-ate.org.
4. **PhysPort Physics Education Consultants Directory.** A directory of consultants (including evaluators) in physics education. http://physport.org/consultants.
5. **American Evaluation Association.** Professional association for evaluators. http://eval.org.
6. **Developing an Effective Evaluation Plan.** Workbook from the Centers for Disease Control which provides a valuable guide to evaluation planning. https://www.cdc.gov/obesity/downloads/cdc-evaluation-workbook-508.pdf
7. **The NSF 2010 user friendly handbook for project evaluation**. A comprehensive guide to planning and undertaking an evaluation. https://www.evalu-ate.org/resources/doc-2010-nsfhandbook/
8. **Evaluation checklists.** Website from Western Michigan University compiling checklists on various elements of evaluation, including managing an evaluation, planning evaluation, collecting data, and evaluating the evaluation. https://wmich.edu/evaluation/checklists