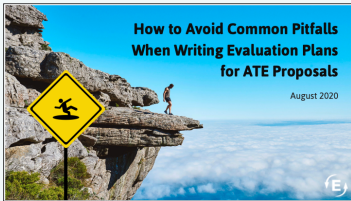
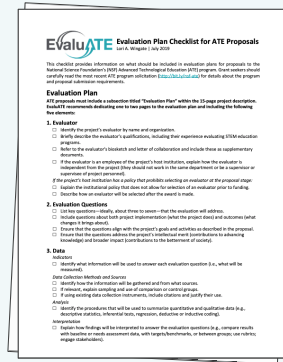


## Materials



Slides



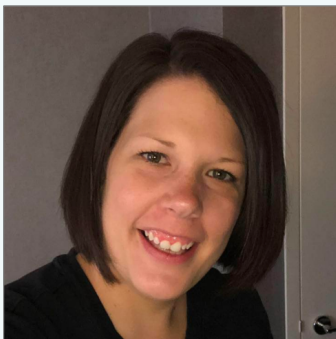
Additional Resources



Recording



## Introductions



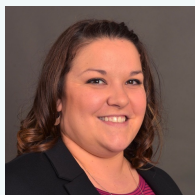
**Emma**  
Leeburg



**Lyssa**  
Wilson Becho



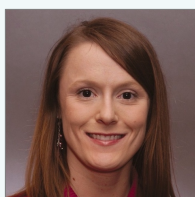
## Behind the Scenes



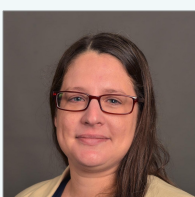
**Ana**  
Councill



**Lori**  
Wingate



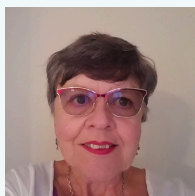
**Kelly**  
Robertson



**Valerie**  
Marshall



## Special Thank You



**Ann**  
Johnson

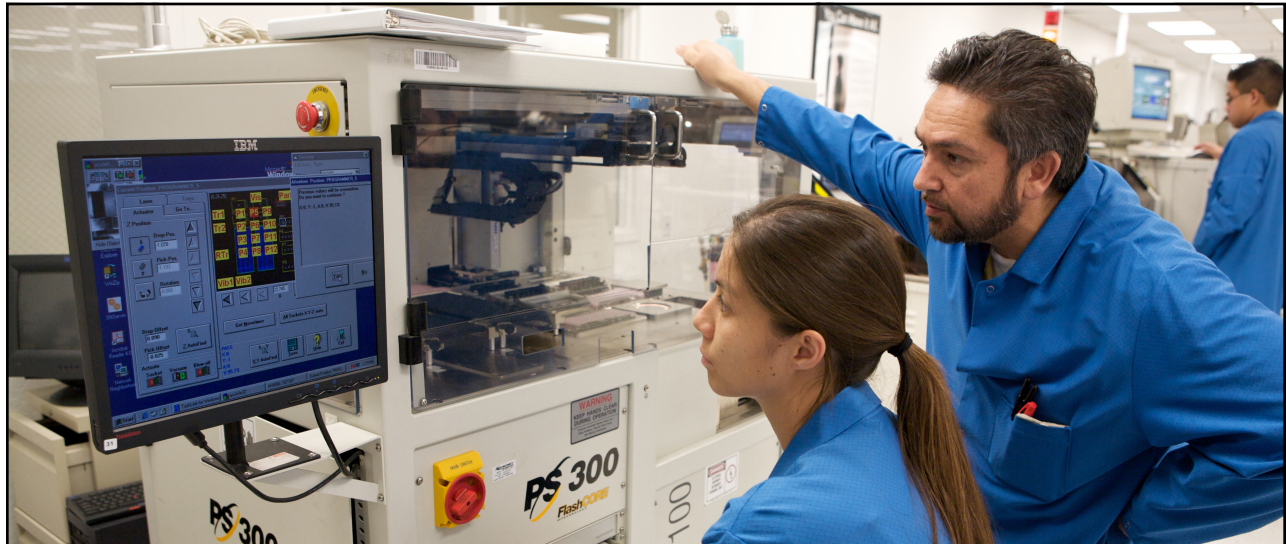


**Carolyn**  
Williams-  
Noren



**Laura**  
Waldman





## **Advanced Technological Education Program**

[www.nsf.gov/ate](http://www.nsf.gov/ate)



This material is based upon work supported by the National Science Foundation under Grants No. 1600992 and 1841783. The content reflects the views of the authors and not necessarily those of NSF.



# Hello



**Lyssa**

Wilson Becho



# Agenda

- ◆ Evaluation overview
- ◆ Pitfalls of evaluation plans in ATE proposals
- ◆ Toolkit and other resources



# Evaluation

A systematic determination of a project's quality and effectiveness.

# Evaluation

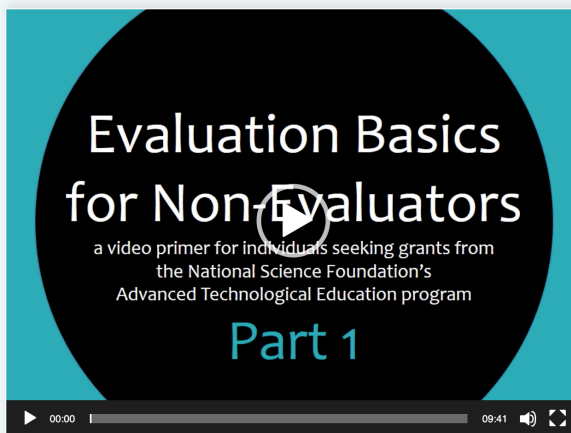




“If you don’t evaluate and assess your activities and outcomes you can’t know if the project was successful. It also provides the project team with data to convince others of the success of the project as well as contributing to the body of knowledge in that particular area of STEM.”

**Celeste Carter**   
ATE Program Director

## Learn about evaluation basics...



**“Evaluation Basics for  
Non-Evaluators” Video Series**



## Learn about what to include...

**EvaluATE** Evaluation Plan Checklist for ATE Proposals  
Lori A. Wingate | July 2019

This checklist provides information on what should be included in evaluation plans for proposals to the National Science Foundation's (NSF) Advanced Technological Education (ATE) program. Grant seekers should carefully read the most recent ATE program solicitation (<https://bit.ly/nsf-ate>) for details about the program and proposal submission requirements.

**Evaluation Plan**  
ATE proposals must include a subsection titled "Evaluation Plan" within the 15-page project description. EvaluATE recommends dedicating one to two pages to the evaluation plan and including the following five elements:

**1. Evaluator**

- Identify the project's evaluator by name and organization.
- Briefly describe the evaluator's qualifications, including their experience evaluating STEM education programs.
- Refer to the evaluator's biosketch and letter of collaboration and include these as supplementary documents.
- If the evaluator is an employee of the project's host institution, explain how the evaluator is independent from the project (they should not work in the same department or be a supervisor or supervisee of project personnel).

*If the project's host institution has a policy that prohibits selecting an evaluator at the proposal stage:*

- Explain the institutional policy that does not allow for selection of an evaluator prior to funding.
- Describe how an evaluator will be selected after the award is made.

**2. Evaluation Questions**

- List key questions—ideally, about three to seven—that the evaluation will address.
- Include questions about both project implementation (what the project does) and outcomes (what changes it brings about).
- Ensure that the questions align with the project's goals and activities as described in the proposal.
- Ensure that the questions address the project's intellectual merit (contributions to advancing knowledge) and broader impact (contributions to the betterment of society).

**3. Data Indicators**

## Evaluation Plan Checklist for ATE Proposals



## Learn about what to include...



**"Evaluation: The Secret Sauce in Your ATE Proposal" Video Series**



## Common Pitfalls in Evaluation Plans for Proposals

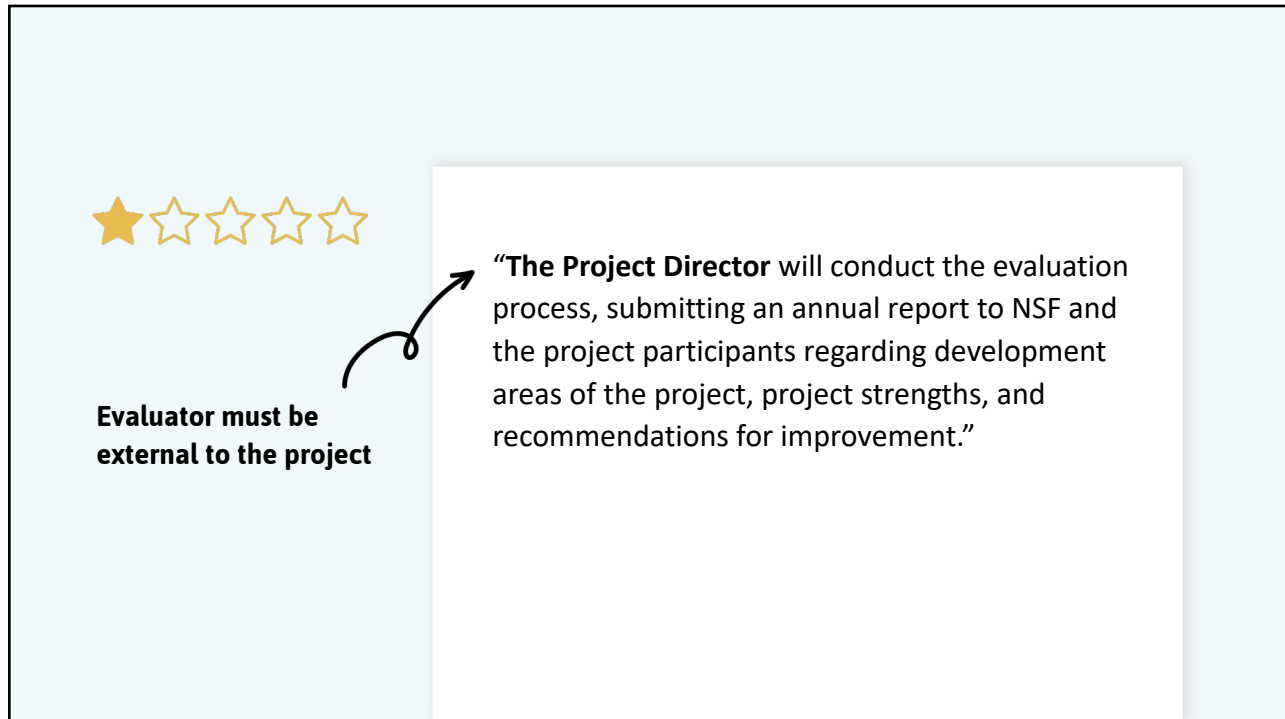
AND HOW TO AVOID THEM



PITFALL #1

### Choosing an evaluator who is internal to the project



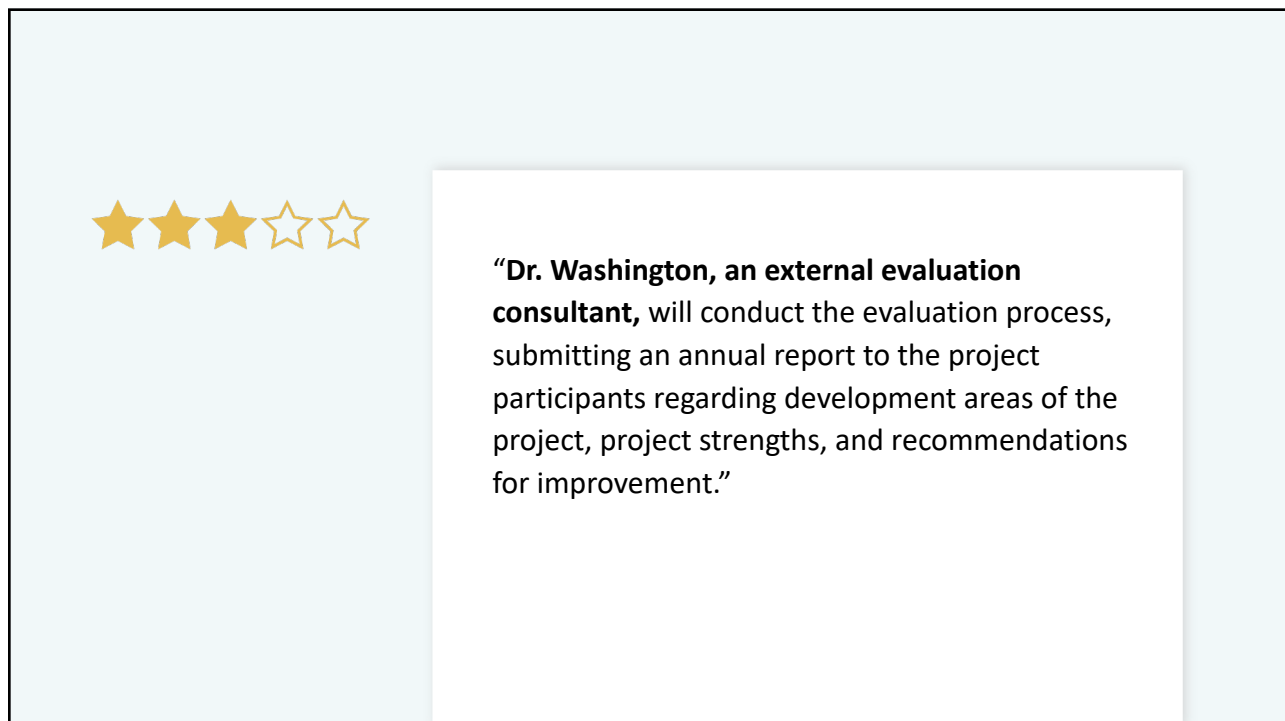


★☆☆☆☆

**Evaluator must be external to the project**

“**The Project Director** will conduct the evaluation process, submitting an annual report to NSF and the project participants regarding development areas of the project, project strengths, and recommendations for improvement.”

This slide illustrates a common pitfall in writing evaluation plans. It features a five-star rating (one solid star, four outlined stars) and a text box stating that the evaluator must be external to the project. An arrow points from this text to a quote where the project director is incorrectly identified as the evaluator.



★★★☆☆

“**Dr. Washington, an external evaluation consultant,** will conduct the evaluation process, submitting an annual report to the project participants regarding development areas of the project, project strengths, and recommendations for improvement.”

This slide illustrates the correct approach to writing evaluation plans. It features a five-star rating (three solid stars, two outlined stars) and a text box stating that an external evaluation consultant should conduct the evaluation. The quote identifies Dr. Washington as the external evaluation consultant.

PITFALL #1

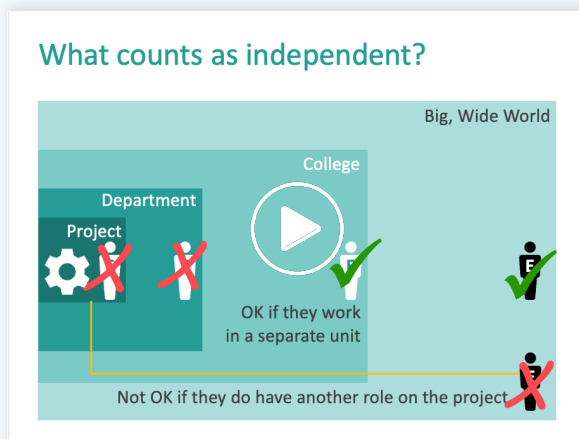
## Choosing an evaluator who is internal to the project

INSTEAD:

- ◆ Ensure the evaluator has no connection to or political influence over project or team members



## Learn more about evaluator independence...



**“Evaluation: The Secret Sauce in Your ATE Proposal” Video Series**

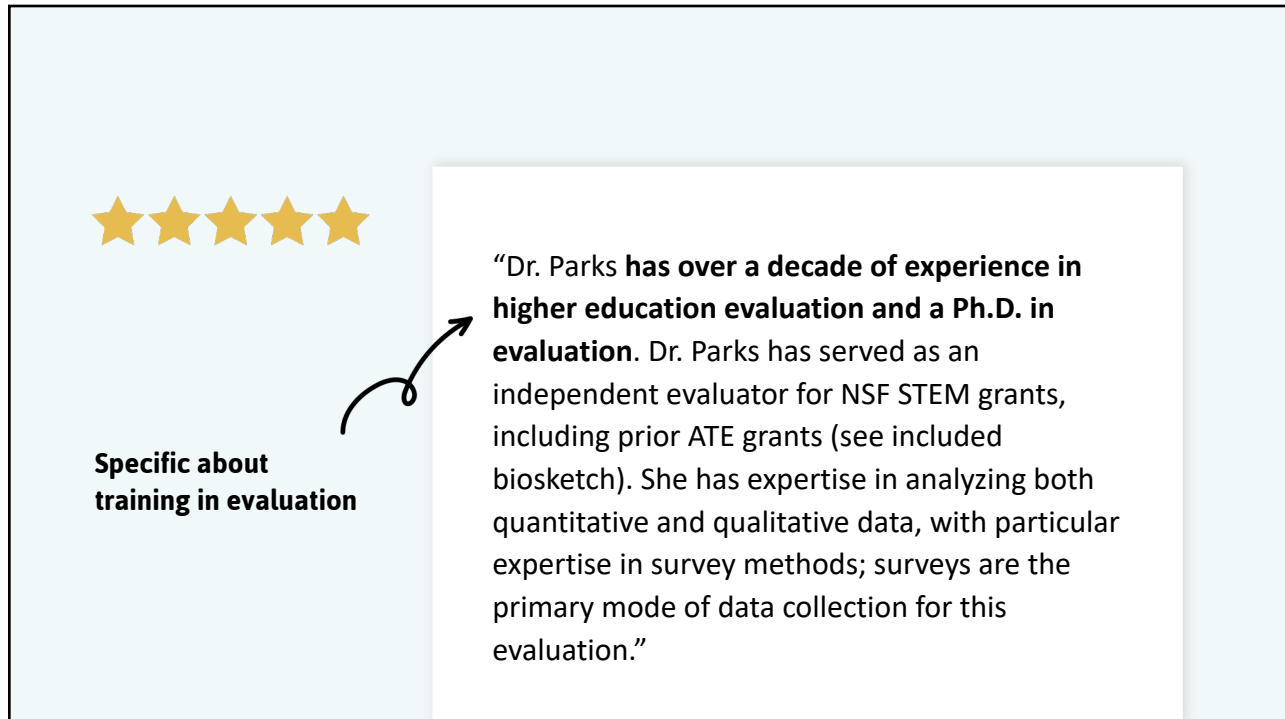
PITFALL #2

## No justification for choice of evaluator



Only vague reference  
to prior experience

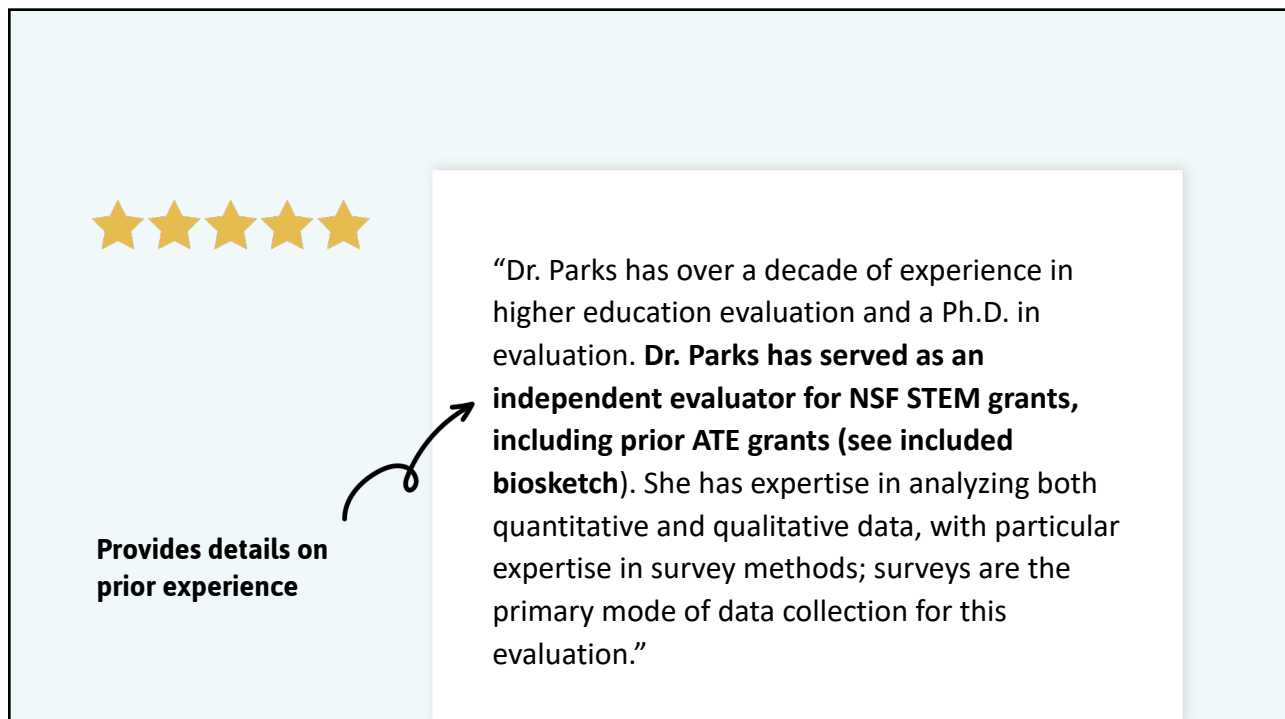
“Dr. Parks will conduct this evaluation. This evaluator has coordinated several prior evaluations for NSF grants.”



★ ★ ★ ★ ★

**Specific about training in evaluation**

“Dr. Parks **has over a decade of experience in higher education evaluation and a Ph.D. in evaluation.** Dr. Parks has served as an independent evaluator for NSF STEM grants, including prior ATE grants (see included biosketch). She has expertise in analyzing both quantitative and qualitative data, with particular expertise in survey methods; surveys are the primary mode of data collection for this evaluation.”



★ ★ ★ ★ ★

**Provides details on prior experience**

“Dr. Parks has over a decade of experience in higher education evaluation and a Ph.D. in evaluation. **Dr. Parks has served as an independent evaluator for NSF STEM grants, including prior ATE grants (see included biosketch).** She has expertise in analyzing both quantitative and qualitative data, with particular expertise in survey methods; surveys are the primary mode of data collection for this evaluation.”

★★★★★

**Matches methodological expertise to proposed evaluation plan**


“Dr. Parks has over a decade of experience in higher education evaluation and a Ph.D. in evaluation. Dr. Parks has served as an independent evaluator for NSF STEM grants, including prior ATE grants (see included biosketch). **She has expertise in analyzing both quantitative and qualitative data, with particular expertise in survey methods; surveys are the primary mode of data collection for this evaluation.**”

PITFALL #2

## No justification for choice of evaluator

INSTEAD:

- ◆ Address evaluator’s qualifications
- ◆ Showcase prior experience
- ◆ Match qualifications to evaluation plan



## Learn more about evaluator qualifications...



**ATE PROPOSERS SHOULD CAREFULLY READ THE ATE PROGRAM SOLICITATION:** [bit.ly/2017ATE](http://bit.ly/2017ATE)

All ATE proposals are required to request "funds to support an evaluator independent of the project." Ideally, this *external evaluator* should be identified in the project proposal. The information in this guide is for individuals who are able to select and work with an external evaluator at the proposal stage. However, some institutions prohibit selecting an evaluator on a noncompetitive basis in advance of an award being made. Advice for individuals in that situation is provided in an EvaluATE blog ([bit.ly/rearick](http://bit.ly/rearick)) and newsletter article ([bit.ly/no-eval](http://bit.ly/no-eval)).

This guide includes advice on how to locate and select an external evaluator. It is not intended as a guide for developing an evaluation plan or contracting with an evaluator.

### 1. What is an external evaluator?

An external evaluator is the person who will lead the design and implementation of the evaluation of your ATE project. The evaluation will include systematic collection and analysis of evidence related to the quality, effectiveness, and impact of the project. To be *external*, the evaluator must be *independent of the project* (see Question 3).

### 2. When should I start working with an evaluator?

Proposal developers should contact an evaluator at least one month in advance of the proposal's due date—earlier if possible. A good evaluation plan should be closely aligned with the project's goals and activities. To achieve good alignment, the evaluator needs time to review a draft of the proposal, ask questions, and develop a sound evaluation plan. With short notice, some evaluators may offer to provide a generic evaluation plan. However, seasoned proposal reviewers will give your proposal a more favorable review if it has a well-integrated, tailored evaluation plan.

### 3. Where should I look for an evaluator?

There is no list of vetted or approved evaluators for NSF projects. It is up to the proposal developer (which is usually the principal investigator) to locate an evaluator and determine if they are qualified and right for a project.

## Finding and Selecting an Evaluator for ATE Proposals

PITFALL #3

## Overly general, cut-and-paste evaluation plan





★☆☆☆☆


**No explanation of how evaluation will be conducted**

“Project activities and deliverables will be assessed on a continuing basis. The evaluator will compile and present an assessment of project activities and progress towards project objectives to coincide with the project’s annual report to NSF. Research questions related to the project’s intended outcomes will guide data collection and analysis, and research findings will inform and encourage improved practice.”

★☆☆☆☆


**No identification of questions or evaluation criteria**

“Project activities and deliverables will be assessed on a continuing basis. The evaluator will compile and present an assessment of project activities and progress towards project objectives to coincide with the project’s annual report to NSF. Research questions related to the project’s intended outcomes will guide data collection and analysis, and research findings will inform and encourage improved practice.”



**References more detail in tables and figures**

“The project’s outcomes and implementation will be assessed through a mixed methods evaluation. The evaluation is driven by **six overarching evaluation questions, presented in Table 2**, along with the key indicators that will be used to answer each question, data sources, and methods. These evaluation questions are in direct response to the activities and outcomes described in **the project’s logic model found in Figure 3.**”



**Evaluation details in direct response to project activities and outcomes**

“The project’s outcomes and implementation will be assessed through a mixed methods evaluation. The evaluation is driven by six overarching evaluation questions, presented in Table 2, along with the key indicators that will be used to answer each question, data sources, and methods. **These evaluation questions are in direct response to the activities and outcomes described in the project’s logic model** found in Figure 3.”

PITFALL #3

## Overly general, cut-and-paste evaluation plan

INSTEAD:

- ◆ Be specific to project
- ◆ Expand on how evaluation activities match with project goals and outcomes
- ◆ Avoid vague, filler language



## Learn more about helpful hints for evaluation plans...

**EvaluATE** 10 Helpful Hints and 10 Fatal Flaws:  
Writing Better Evaluation Sections in Your Proposals  
Elizabeth Teles | June 2020 | [www.evaluate.org](http://www.evaluate.org)

What should be included in an ATE proposal's evaluation plan? What do reviewers want to see? While both of these are important questions, it is also important to make sure you have an evaluation plan in place from the beginning that will provide good information about how well your project is going and what impact you are having. Based on my experiences as a reviewer and participant in many panels, I recommend you consider these things when preparing the evaluation section of your ATE proposal. **A good evaluation plan almost always raises the proposal ratings.**

### 10 Helpful Hints

1. **Identify an evaluator in advance and include that person's name and qualifications in the proposal.** If possible, the evaluator should have experience and expertise in evaluating programs at two-year colleges and/or workforce-related projects. A few sentences should be included in the proposal itself about the evaluator's expertise. For ATE, a two-page vita should be included in the supplementary documents section and tailored, using the required NSF biographical sketch format, to demonstrate the evaluator's qualifications to evaluate this particular project. (See [NSF PAAPS 20-1](#) and EvaluATE's biosketch template <https://www.evaluate.org/resources/biosketch/> for guidance). If your institutional policy does not allow you to identify an evaluator prior to funding, it is still important to note the skills and qualifications you will be seeking in an evaluator in the evaluation section of the proposal. The evaluator should not be a co-principal investigator and should have independence from the project. For smaller projects, the evaluator could be in the institutional research office or other department at the institution, but the evaluator for larger projects should be external to the institution. (Note: Many other NSF programs do not allow supplementary documents.

## 10 Helpful Hints and 10 Fatal Flaws



PITFALL #4

**Unclear connections between  
project activities, evaluation  
methods, and measures**



★☆☆☆☆

**Assumes reader can infer which outcomes will be measured**

“This project will be evaluated through a comprehensive approach. Qualitative and quantitative data will be collected and triangulated to assess whether **outcomes identified in the logic model** were achieved. Surveys and interviews will be used to collect data.”

★☆☆☆☆

**Does not match methods, measures, and questions**

“This project will be evaluated through a comprehensive approach. Qualitative and quantitative data will be collected and triangulated to assess whether outcomes identified in the logic model were achieved. **Surveys and interviews will be used to collect data.**”

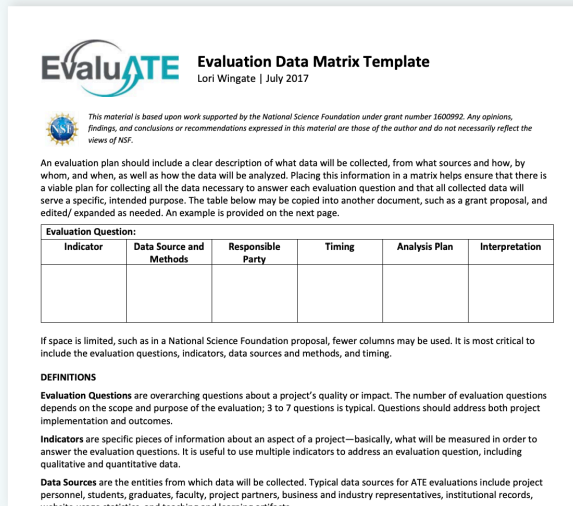
**Matches data source and measures**

“Data Collection and Methodologies: (1) student success data will be compared to student success rates over the life of the project; (2) student data will be collected to determine changes in enrollment, retention, and completion rates for students enrolled in courses and programs; (3) recruitment, retention, and placement efforts will be monitored and evaluated to determine impact on the pipeline of students from secondary schools and participation levels of women, veterans, and underrepresented minorities.”

**Align evaluation questions and data sources with project objectives or activities**

Relevant Project Activities(s)	Evaluation Questions	Data Collection Sources
Activities #2 & #3	What effect is the project having on student enrollment and retention?	<ul style="list-style-type: none"> <li>institutional enrollment data</li> </ul>
Activities #4	What effect is the project having on women and other underrepresented groups' enrollment and retention?	<ul style="list-style-type: none"> <li>institutional enrollment data</li> <li>student surveys</li> <li>interviews</li> </ul>

# Learn more about evaluation data matrixes...



**Evalu<sup>ATE</sup>** Evaluation Data Matrix Template  
Lori Wingate | July 2017

This material is based upon work supported by the National Science Foundation under grant number 1609992. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author and do not necessarily reflect the views of NSF.

An evaluation plan should include a clear description of what data will be collected, from what sources and how, by whom, and when, as well as how the data will be analyzed. Placing this information in a matrix helps ensure that there is a viable plan for collecting all the data necessary to answer each evaluation question and that all collected data will serve a specific, intended purpose. The table below may be copied into another document, such as a grant proposal, and edited/ expanded as needed. An example is provided on the next page.

Indicator	Data Source and Methods	Responsible Party	Timing	Analysis Plan	Interpretation

If space is limited, such as in a National Science Foundation proposal, fewer columns may be used. It is most critical to include the evaluation questions, indicators, data sources and methods, and timing.

**DEFINITIONS**

**Evaluation Questions** are overarching questions about a project's quality or impact. The number of evaluation questions depends on the scope and purpose of the evaluation; 3 to 7 questions is typical. Questions should address both project implementation and outcomes.

**Indicators** are specific pieces of information about an aspect of a project—basically, what will be measured in order to answer the evaluation questions. It is useful to use multiple indicators to address an evaluation question, including qualitative and quantitative data.

**Data Sources** are the entities from which data will be collected. Typical data sources for ATE evaluations include project personnel, students, graduates, faculty, project partners, business and industry representatives, institutional records, website usage statistics, and teaching and learning artifacts.

## Evaluation Data Matrix Template

### PITFALL #4

# Unclear connections between project goals, evaluation methods, and measures

INSTEAD:

- ◆ Match project activities, data collection methods, and evaluation criteria
- ◆ Use a table to connect pieces

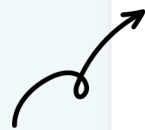


PITFALL #5

## Only asking about the easy things





**Only measuring  
counts of completed  
activities & satisfaction**



“This evaluation will measure the project’s anticipated outcomes: creation of an advisory board; production of comprehensive documentation based on planning activities; along with students’ satisfaction and overall experience in courses.”





**Goes beyond outputs or short-term outcomes** 


“The evaluation will focus on the program’s impact on student academic success and career choice outcomes. The evaluation will track student degree completion rates and course grades, and will conduct an analysis to help determine whether certain factors predict student success in the program. The surveys will ask students to rate their overall experience with the program, share their current/future career goals, and describe the skills they have gained in the past year. After graduating, students will also be invited to complete a survey about their current job placement and plans for the future.”

PITFALL #5

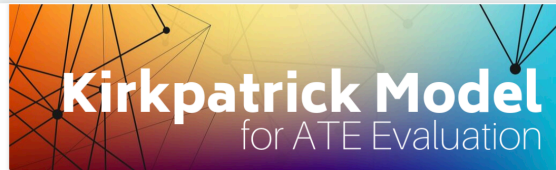
**Only asking about the easy things**

INSTEAD:

- ◆ Go beyond outputs and short-term outcomes
- ◆ Consider asking about both the project’s process and its outcomes



## Learn more about the Kirkpatrick model...



The Kirkpatrick Model is an evaluation framework organized around four levels of impact: reaction, learning, behavior, and results. It was developed more than 50 years ago by Jim's father, Dr. Don Kirkpatrick, specifically for evaluating training initiatives in business settings. For decades, it has been widely believed that the four levels are applicable only to evaluating the effectiveness of corporate training programs. However, we and



Level 1	Level 2	Level 3	Level 4
Reaction	Learning	Behavior	Results

**"Kirkpatrick Model for  
ATE Evaluation" Blog**

PITFALL #6

**No discussion of how  
evaluation will be used**



★☆☆☆☆

**Only reference to project staff receiving evaluation reports**

“All of the materials produced under this project, including the logic model documentation, evaluations, curriculum, and other documentation will be stored on a network server.”


This slide illustrates a common pitfall in writing evaluation plans. It features a light blue background with a white rectangular box on the right containing a quote. To the left of the box, there are five yellow stars, with the first one filled and the others outlined. Below the stars, the text 'Only reference to project staff receiving evaluation reports' is written in bold. A black arrow points from this text to the quote in the white box.

★☆☆☆☆

**Report for compliance purposes only**

“A report will be prepared and provided for inclusion with the project’s final report to the National Science Foundation.”

This slide illustrates another common pitfall. It has the same layout as the first slide, with a light blue background and a white box containing a quote. To the left, there are five yellow stars (one filled, four outlined) and the text 'Report for compliance purposes only' in bold. A black arrow points from this text to the quote in the white box.



**Regular consultation with evaluator for project improvement**


“The PI will consult regularly (at minimum, once per quarter) with the evaluator. The evaluator will take part in annual face-to-face meetings and provide ongoing feedback throughout the project on the quality of project activities and products.”

PITFALL #6

**No discussion of how evaluation will be used**

INSTEAD:

- ◆ Acknowledge how project staff will use evaluation findings for project improvement



# Learn more about evaluation use...



## Blog: Three Questions to Spur Action from Your Evaluation Report

Posted on March 4, 2020 by [Lori Wingate in Blog](#)  
Executive Director, The Evaluation Center at Western Michigan University

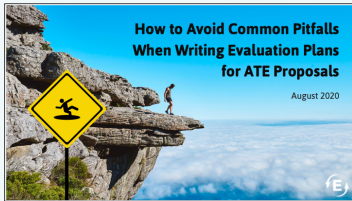


## “Three Questions to Spur Action from Your Evaluation Report” Blog

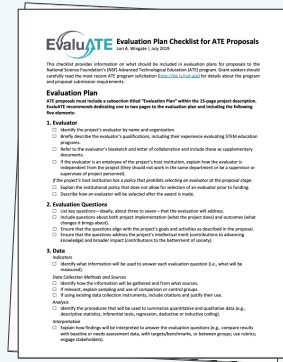
Evaluators are urged to make their evaluations and useful. Project staff are encouraged to use their evaluations. An obvious way to support these aims is for evaluators to develop recommendations based on evidence and for project staff to follow those recommendations (if they agree with them, of course). But not all reports have



# Materials



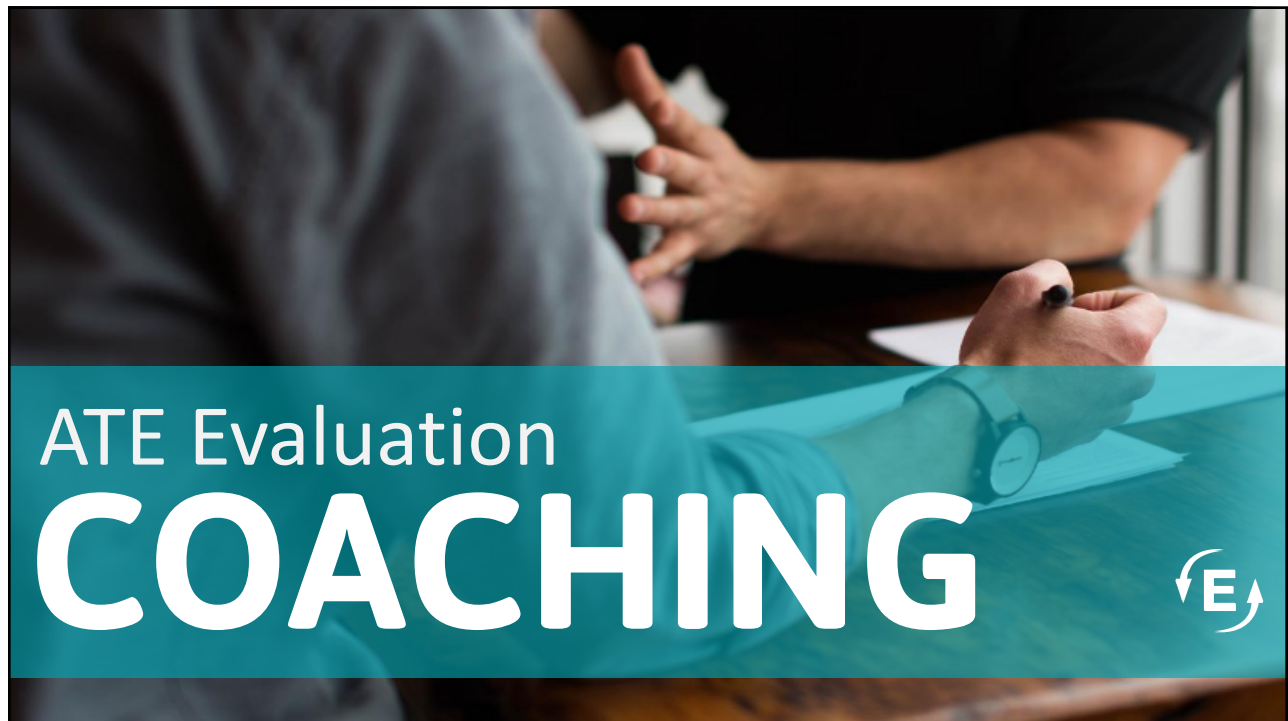
Slides



Additional Resources



Recording





AUGUST 26  
**WEBCHATS**



EvaluATE Slack  
**COMMUNITY**

