



Give Your Proposal a Competitive Edge with a
GREAT EVALUATION PLAN
The webinar will begin at 1 pm Eastern




ATECENTRAL
SUPPORTING ADVANCED TECHNOLOGICAL EDUCATION

www.atecentral.net

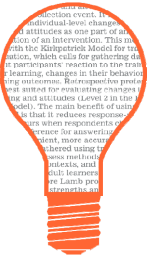





Webinars



Resource Library




Blog



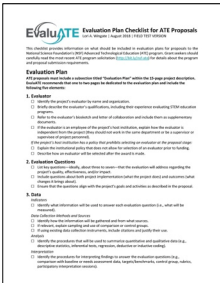
ATE Survey Data

www.evalu-ate.org


Materials



Slides



Evaluation Plan Checklist and Other Resources



Recording

Introductions



Mike
Lesiecki



Lori
Wingate



Behind the Scenes



Emma
Perk



Lyssa
Wilson Becho



Sharon
Gusky



Cynthia
Williams



Janet
Pinhorn



Shannon
Payne





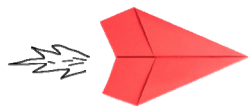
This material is based upon work supported by the National Science Foundation under grant number 1600992.

Any opinions, findings, and conclusions or recommendations expressed in this material are those of the presenters and do not necessarily reflect the views of NSF.

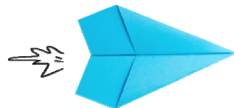
Webinar Overview



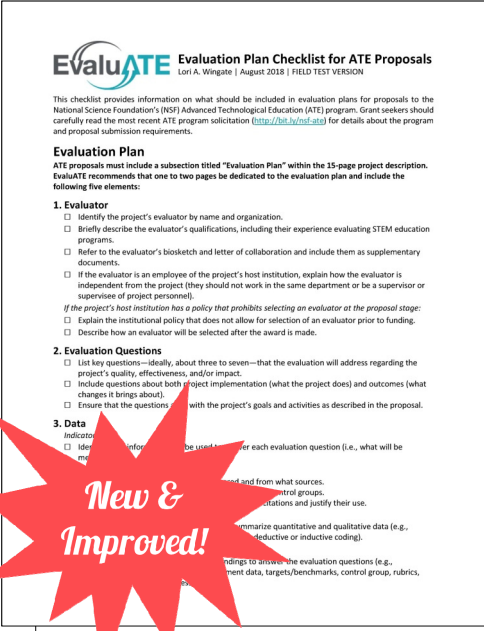
Lori
Wingate



1 Essential Elements
of an ATE Proposal
Evaluation Plan



2 Integrating Evaluation
Throughout a Proposal



EvaluATE Evaluation Plan Checklist for ATE Proposals
Lori A. Wingate | August 2018 | FIELD TEST VERSION

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://hstc.nsf.gov>) 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 that one to two pages be dedicated to the evaluation plan and include 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 them 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 regarding the project's quality, effectiveness, and/or impact.
- 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.

3. Data Indicators

- Identify information to be used to answer each evaluation question (i.e., what will be measured).
- Identify data sources and from what sources.
- Identify control groups.
- Justify their use.
- Summarize quantitative and qualitative data (e.g., descriptive or inductive coding).
- Identify findings to answer the evaluation questions (e.g., assessment data, targets/benchmarks, control group, rubrics).

RESOURCE

Evaluation Plan Checklist for ATE Proposals

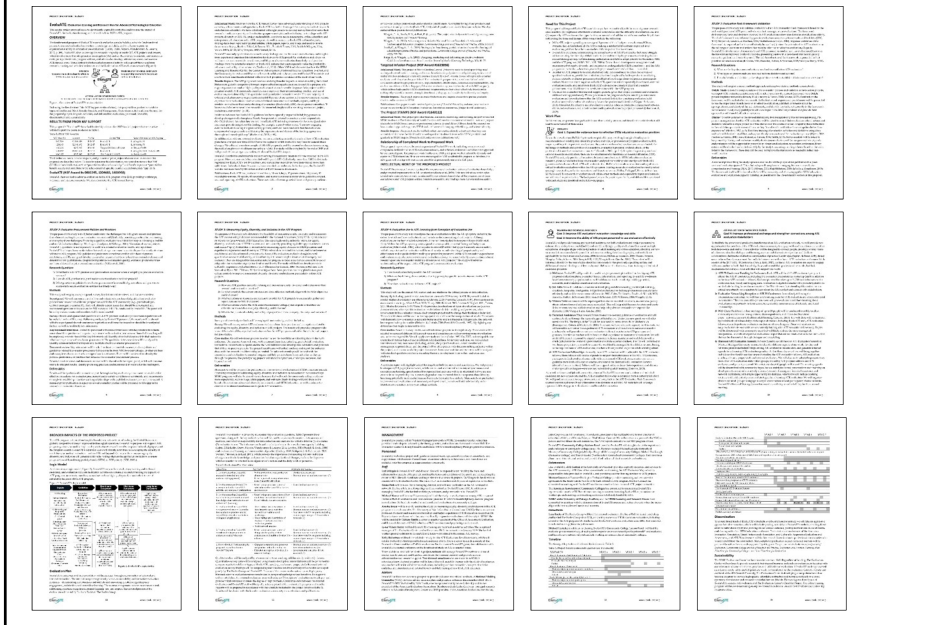
New & Improved!



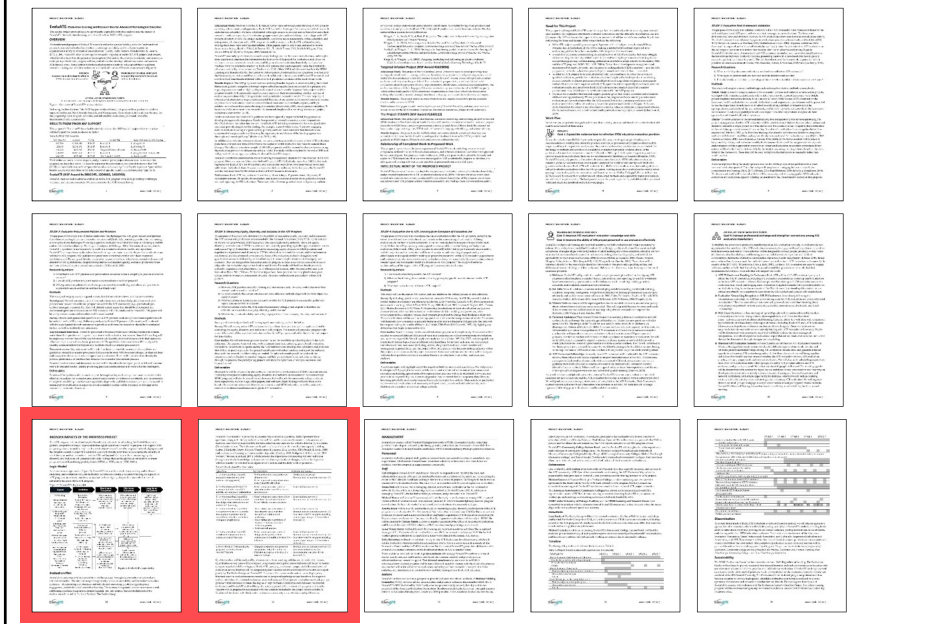


1 Essential Elements of an ATE Proposal Evaluation Plan

Project Description (15 pages)

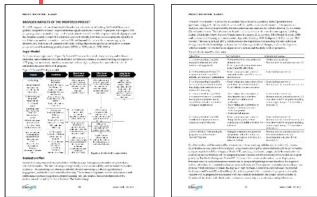


Evaluation Plan (1-2 pages)



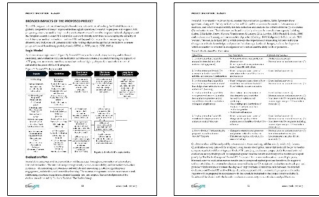
Evaluation Plan (1-2 pages)

- 1 Evaluator
- 2 Evaluation Questions
- 3 Data
- 4 Communication and Use
- 5 Timeline



Evaluator

Evaluation Plan → **1** **Evaluator**



- Identify the project’s evaluator
- Describe the evaluator’s qualifications
- Refer to the evaluator’s biosketch and letter of collaboration



The funds to support an evaluator independent of the project or center must be requested...

Evaluators are professionals

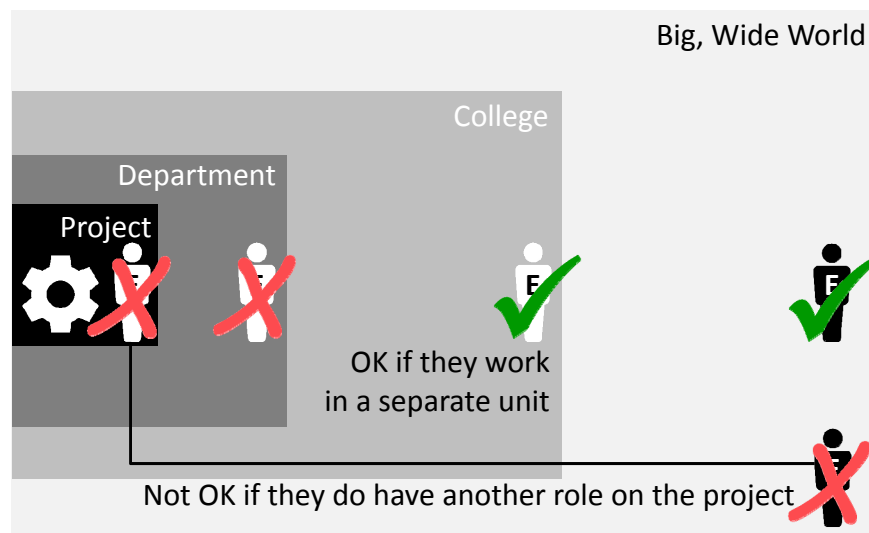


Photo credit: American Evaluation Association | www.eval.org

A qualified ATE evaluator will have...

- ✓ Experience evaluating STEM education projects
- ✓ Strong research skills
- ✓ Strong communication skills and a service orientation
- ✓ Understanding of NSF and 2-year-college contexts

What counts as independent?



How to Find an Evaluator

American Evaluation Association's evaluator directory

ATE evaluator map

Local universities

Recommendations from colleagues



POLL: Which proposal has the best description of the evaluator?

Proposal A


Delores Stormborn will lead the project's external evaluation. She has a Ph.D. in social psychology and is CEO at The Stormborn Evaluation Group. She has conducted 20 STEM education evaluations, including several in the ATE program. Dr. Stormborn's biosketch and commitment letter are included in the supplementary documents section of this proposal.

Proposal B

Lannister University's Center for Evaluation will conduct the project's evaluation. This Center has been a leading evaluation service provider since 1975 and has several prominent evaluators on its staff, as well as a cadre of capable graduate students. When the project is funded, we will work with the evaluators there to further develop and implement the project's evaluation plan.

Proposal C

Julia Snow will serve as this project's external evaluator. She leads the college's faculty development center, providing guidance to instruction and assessment. She serves as chair of the college's Student Success Committee, and has coordinated data collection for several federal grants.



Finding and Selecting an Evaluator for Advanced Technological Education (ATE) Proposals
Lori A. Wingate | July 2017 | www.evaluate-ate.org

ATE PROPOSERS SHOULD CAREFULLY READ THE ATE PROGRAM SOLICITATION: 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 EvaluateATE blog (bit.ly/2017ATE) and newsletter article (bit.ly/2017ATE).

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.
Here are three sources for locating a potential evaluator:
 - Ask colleagues for recommendations. If you know someone with a grant that has an evaluation component, ask for the evaluator's name and contact information.
 - Use the American Evaluation Association's evaluator directory (bit.ly/2017ATE). It's searchable by state and keyword.
 - Use ATE Central's evaluator map (bit.ly/2017ATE). This interactive map can be used to identify evaluators by location and the types of ATE projects they evaluate.

Most ATE projects employ evaluators based outside of their home institutions. However, program rules do allow grant recipients to contract with an evaluator who is employed by the project's home institution, as long as the evaluator is independent of the project. That is, the evaluator should not work in the same unit

This evaluation's Board of Directors work supported by the National Science Foundation under Grant No. 1502982. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

RESOURCE

Finding and Selecting an Evaluator for ATE Proposals

Evaluator Biographical Sketch Template for National Science Foundation (NSF) Proposals

This template was created by EvaluateATE (evaluate-ate.org). It is based on the National Science Foundation's guidelines for preparing biographical sketches for senior project personnel, which are available at bit.ly/2017NSF. The information about what evaluators should include in Products and Synergistic Activities sections are EvaluateATE's suggestions, not NSF requirements. The biosketch must not exceed two pages.

Evaluator's Name

PROFESSIONAL PREPARATION
(List academic degrees and any pertinent certificates.)

| Institution | Location | Major | Degree | Year |
|---------------------------|----------|-------|-------------|------|
| Undergraduate Institution | Location | Major | Degree | Year |
| Graduate Institution | Location | Area | Certificate | Year |

APPOINTMENTS
(List employment history in reverse chronological order.)

| Dates | Job Title | Employer |
|-------|-----------|----------|
| | | |

PRODUCTS
(List up to ten products that demonstrate your experience and competence in evaluation and knowledge of the proposed project's discipline. Examples may include publications, reports, and evaluation tools. All products must be citable and accessible. Include full reference information, including URL, if available.)

SYNERGISTIC ACTIVITIES
(In paragraph form, list up to five examples that demonstrate your expertise in evaluation, especially as it pertains to the proposal. Examples may include ongoing or completed evaluations; development or adaptation of evaluation tools; leadership roles in the evaluation field; and invited lectures, presentations, or workshops on evaluation. If you have prior experience working in the proposal's discipline, describe that as well.)

RESOURCE

Evaluator Biographical Sketch Template for NSF Proposals



Evaluation Plan → **2 Evaluation Questions**



- List the key questions that the evaluation will address
- Include questions about both project implementation and outcomes
- Ensure that questions align with the project's goals and activities

Logic Models

The top left diagram shows a flow from **INPUTS** (e.g., NSF funding, industry advisory board) through **ACTIVITIES** (e.g., Develop course curriculum, introduce video) to **OUTPUTS** (e.g., Course materials, International index), then to **SHORT-TERM OUTCOMES** (e.g., Students enroll in course, Student interest in learning), **MID-TERM OUTCOMES** (e.g., Enrollment in engineering programs increases, Number of graduates from engineering program increases), and finally to **LONG-TERM OUTCOMES** (e.g., Regional demand for technicians, Student interest in learning).

The top right diagram is a grid with columns for **Activity**, **Short-Term Outcome**, **Mid-Term Outcome**, and **Long-Term Outcome**, with various descriptive boxes for each cell.

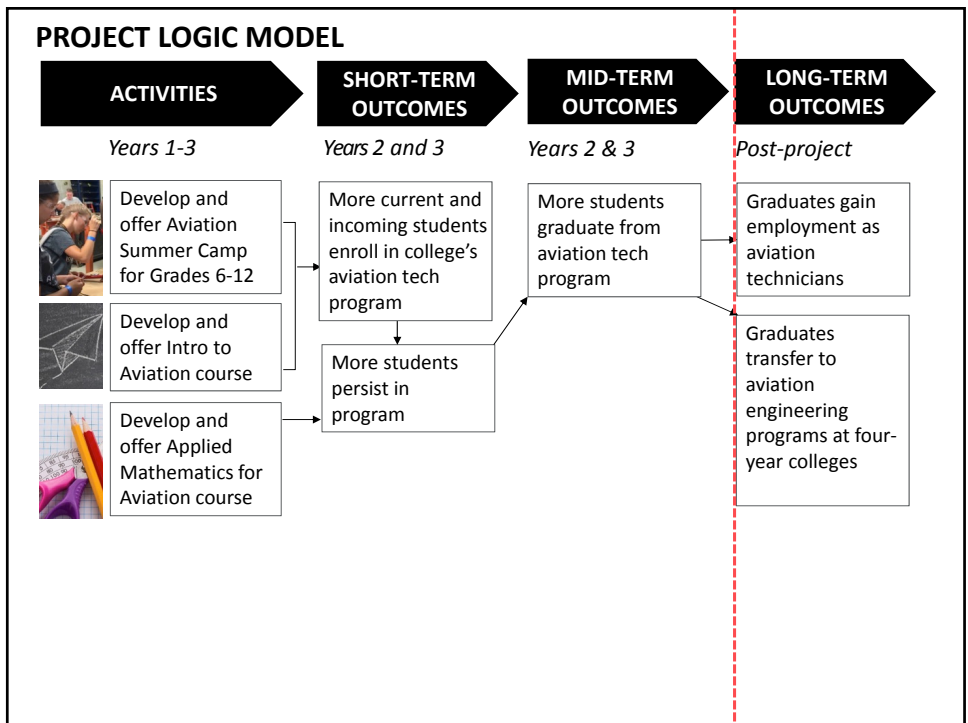
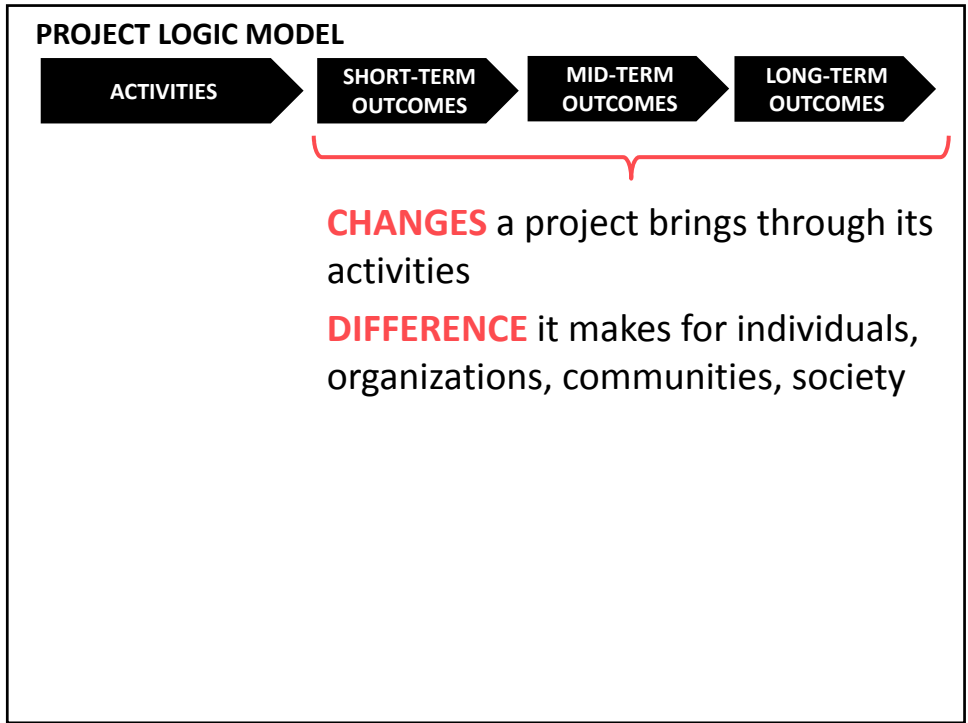
The middle section contains several detailed tables. One table lists **Activities** such as 'Develop course curriculum', 'Introduce video', 'Make presentations to faculty, advisors, and admissions committee', and 'Outreach to students with underrepresented groups'. Another table lists **Short-Term Outcomes** like 'Course materials', 'International index', 'Students enroll in course', and 'Student interest in learning'. A third table lists **Mid-Term Outcomes** such as 'Enrollment in engineering programs increases', 'Number of graduates from engineering program increases', and 'Regional demand for technicians'. A fourth table lists **Long-Term Outcomes** like 'Student interest in learning', 'Regional demand for technicians', and 'Enrollment in engineering programs increases'.




PROJECT LOGIC MODEL




ACTIVITIES → **SHORT-TERM OUTCOMES** → **MID-TERM OUTCOMES** → **LONG-TERM OUTCOMES**

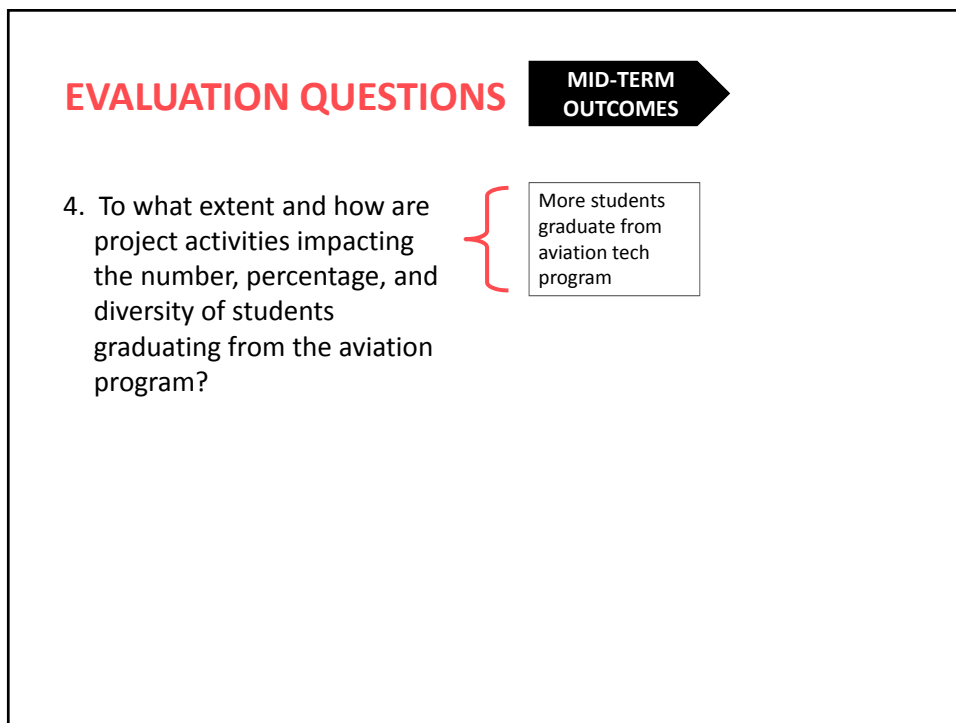
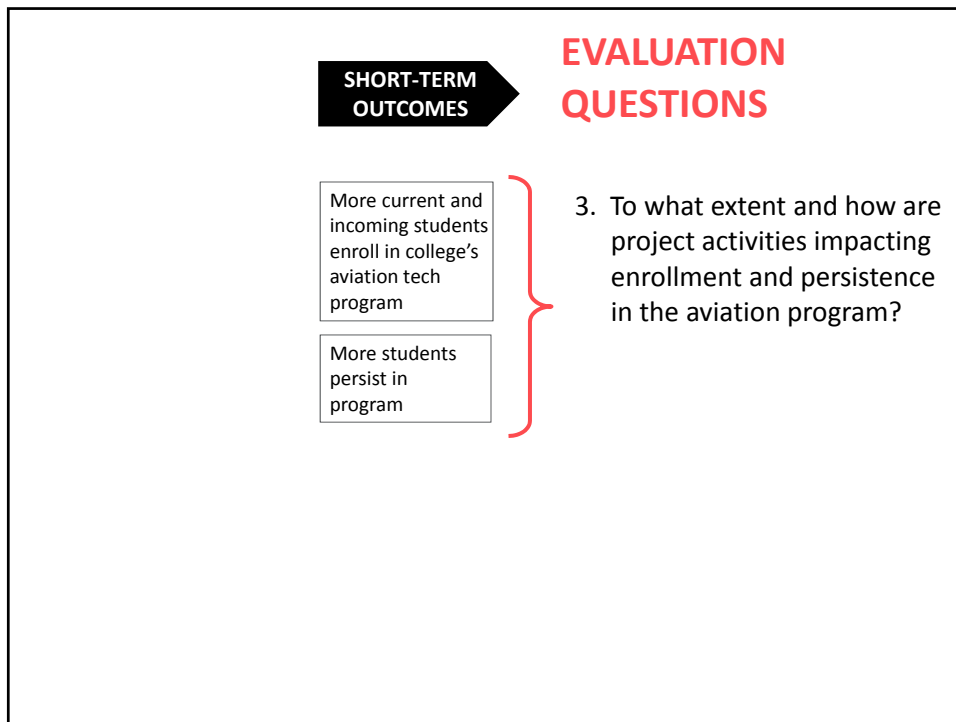
What the project **DOES, CREATES, DELIVERS**

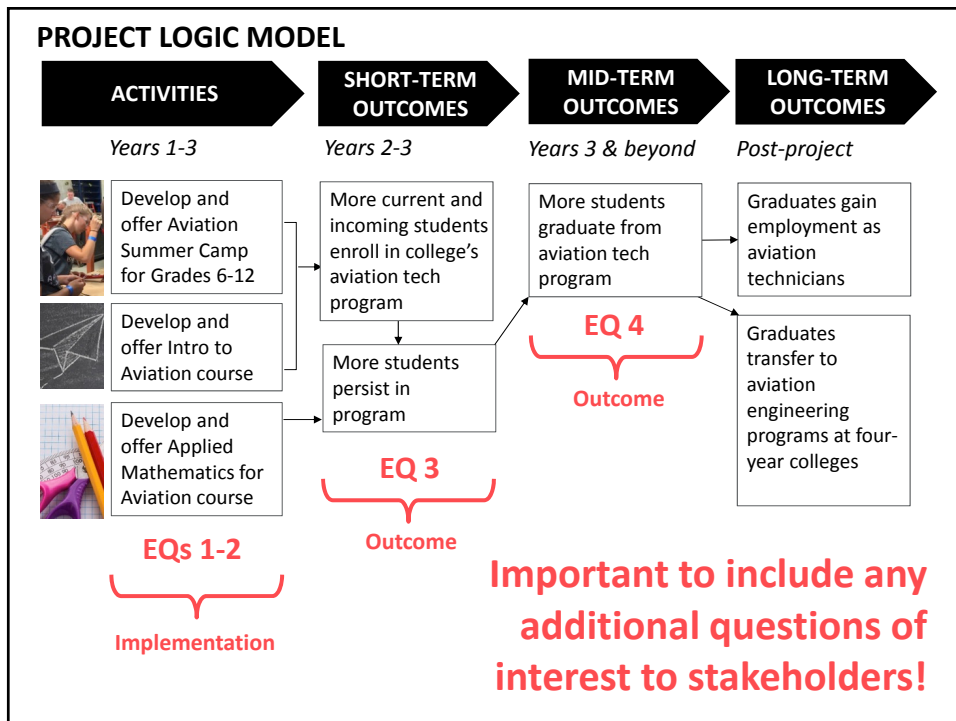
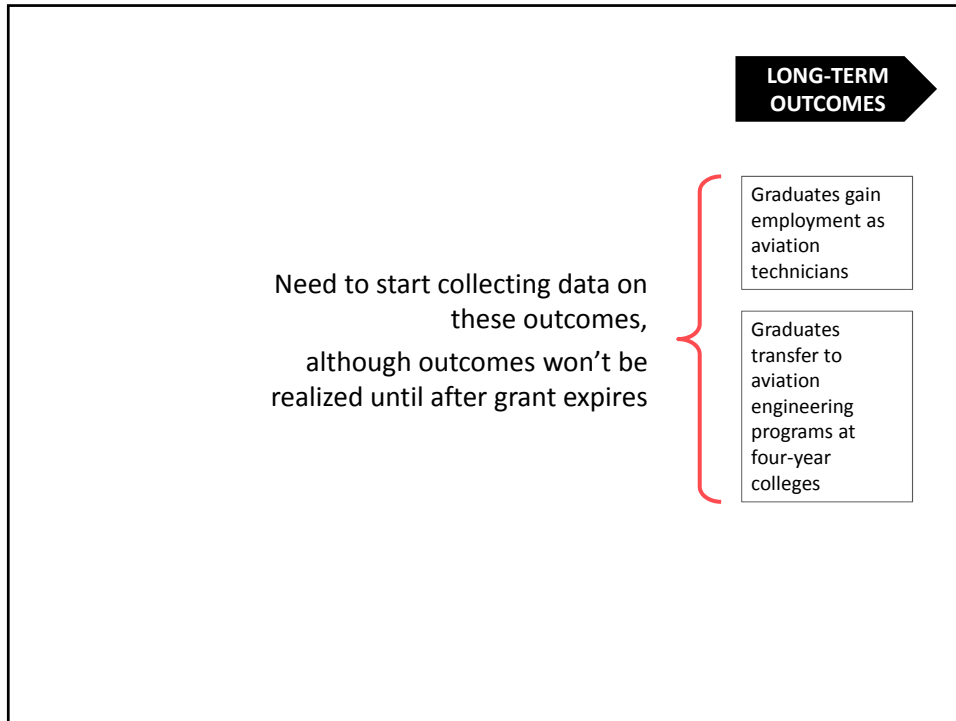
The diagram shows four black arrows pointing right, labeled 'ACTIVITIES', 'SHORT-TERM OUTCOMES', 'MID-TERM OUTCOMES', and 'LONG-TERM OUTCOMES'. A red bracket is drawn under the 'ACTIVITIES' arrow.



| ACTIVITIES | EVALUATION QUESTIONS |
|---|---|
|  Develop and offer aviation summer camp for grades 6-12 | 1. To what extent are the camp and courses achieving project targets in terms of student numbers, diversity, and satisfaction? 2. What are the strengths and weaknesses of the camp and courses? |
|  Develop and offer Intro to Aviation course | |
|  Develop and offer Applied Mathematics for Aviation course | |

| ACTIVITIES | |
|---|---|
|  Develop and offer aviation summer camp for grades 6-12 | |
|  Develop and offer Intro to Aviation course | An expert advisory panel will provide formative feedback to ensure courses meet academic standards and industry needs |
|  Develop and offer Applied Mathematics for Aviation course | |





Why not just ask if goals were achieved?

POLL

POSSIBLE PROJECT GOAL:
Offer an aviation summer camp for grades 6-12,
serving at least 50 students per year.

POLL

POSSIBLE PROJECT GOAL:
Expand marketing of the college's aviation technology program.

POLL

POSSIBLE PROJECT GOAL:
Increase the pool of graduates who are prepared for careers in aviation.

EVALUATION QUESTIONS CHECKLIST for Program Evaluation

Lori Wingate, The Evaluation Center | Daniela Schroeter, School of Public Affairs and Administration | Western Michigan University | 2015

Evaluation questions identify what aspects of a program will be investigated. They focus on the merit, worth, or significance of a program or particular aspects of a program. Unlike survey questions, they are not intended to derive single data points. Evaluation questions help to define the boundaries of an evaluation that are consistent with evaluation users' information needs, opportunities and constraints related to data collection, and available resources.


The purpose of this checklist is to aid in developing effective and appropriate evaluation questions and in assessing the quality of existing questions. It identifies characteristics of good evaluation questions, based on the relevant literature and our own experience with evaluation design, implementation, and use.

| <small>Evaluation questions SHOULD be...</small> | <small>Evaluation questions SHOULD NOT be...</small> |
|--|---|
| <p>□ EVALUATIVE Evaluative questions call for an appraisal of a program or aspects of it based on the factual and descriptive information gathered about it. Questions should be framed so they will yield answers that</p> <ul style="list-style-type: none"> • provide determinations of merit, worth, or significance, or enable evaluation users to readily reach such determinations on their own. • directly inform decisions about the program (e.g., how to improve or modify it; whether to continue, discontinue, expand, or reconfigure it). | <p>NON-EVALUATIVE Non-evaluative questions call only for factual information or discrete data points that do not readily translate into determinations of program merit, worth, or significance. Answers to these types of questions have limited potential to influence decisions, because they do not provide a frame of reference in relation to merit, worth, or significance.</p> |
| <p>□ PERTINENT Pertinent questions are clearly related to the program's substance and evaluation users' information needs. Questions should be directly relevant to</p> <ul style="list-style-type: none"> • the program's design, purpose, activities, or outcomes. • the purpose of the evaluation. • what evaluation users need to find out from the evaluation. | <p>PERIPHERAL Peripheral questions are about minor, irrelevant, or superficial aspects of the program or stakeholder interests.</p> |
| <p>□ REASONABLE Reasonable questions are linked to what a program can practically and realistically achieve or influence. Questions should be suitable with regard to the program's</p> <ul style="list-style-type: none"> • scope (reasonable limits of what or whom the program can influence). • maturity (the program's stage of development, such as whether it is just starting, fully developed and implemented, or preparing for closure). • resources (monetary and nonmonetary resources needed to implement and produce outcomes). | <p>UNREASONABLE Unreasonable questions are about things the program cannot realistically influence given its resources and the nature of the intervention.</p> |

www.wmich.edu/evaluation/checklists

RESOURCE

Evaluation Questions Checklist



Logic Model Template for ATE Projects & Centers

Lori A. Wingate | March 2016

This material is based upon work supported by the National Science Foundation under grant number 1248861. Any opinions, findings, and conclusions or recommendations expressed herein are those of the author and do not necessarily reflect the views of NSF.

A logic model is a visual depiction of what a project does and what changes it is expected to bring about. Developing a logic model is an important first step for project design and evaluation planning. This document is intended to provide general guidance to ATE program proposers and partners for developing their own project logic models. All parts of this document are editable. Populate the boxes in each column (adding and deleting boxes as necessary) with succinct statements that relate to the question prompts. To add text to a box, select the box and begin typing. To delete the extra content title, instructions, examples, etc. from this document or copy and paste the logic model elements into a new document for your use. To learn more about logic models, see the University of Wisconsin-Extension's Logic Model Resources at www.uwex.edu/ces/center/evaluation/evallogicmodel.html.

| <small>What new and existing resources will be used to support the project?</small> | <small>What are the measurable project goals?</small> | <small>What products will be created? (Typically, things that can be directly observed and that will continue to exist after the project ends)</small> | <small>What will occur as a direct result of the activities and outputs? (Typically, changes in knowledge, skills, attitudes)</small> | <small>What results should follow from the initial outcomes? (Typically, changes in behavior, policies, practice)</small> | <small>What results should follow from the initial outcomes? (Typically, changes in broader conditions)</small> |
|---|---|--|---|---|---|
| Inputs | Activities | Outputs | Short-Term Outcomes | Mid-Term Outcomes | Long-Term Outcomes |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

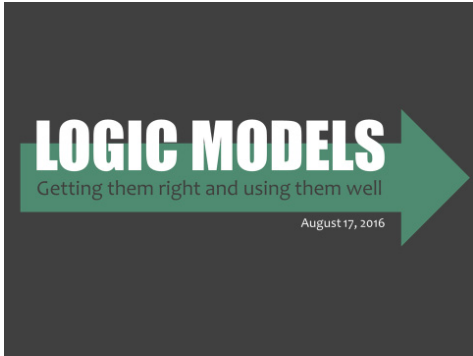
Below are examples of the types of information that might appear under each header of the logic model. When developing a project logic model, be as specific as possible in articulating the components of the model. For example, a project-specific short-term outcome might be phrased as "learners will be able to install, maintain, and troubleshoot high-vacuum systems."

| | | | | | |
|--|---|--|---|--|---|
| <ul style="list-style-type: none"> • NSF funding • Faculty • Advisory panel • Industry partners • In-kind contributions | <ul style="list-style-type: none"> • Establish regional partnerships • Develop curriculum • Conduct workshops • Provide research/field experience • Establish articulation agreement | <ul style="list-style-type: none"> • Curriculum materials developed • Policies created • Publications issued • New certifications • Tools/resources | <ul style="list-style-type: none"> • Faculty learn to use instructional technology • Students gain technical skills • Students receive technical careers increases | <ul style="list-style-type: none"> • Students persist in post-program • Faculty improve instruction • Colleges adopt and implement project • A more highly skilled and adaptable workforce | <ul style="list-style-type: none"> • Increased regional economic vitality • Increased diversity in the technical workforce • A more highly skilled and adaptable workforce |
|--|---|--|---|--|---|

www.evalu-ate.org | (268) 387-5922 | Western Michigan University


RESOURCE

Logic Model Template for ATE Projects



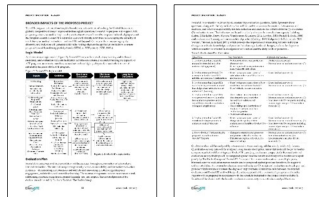
LOGIC MODELS
Getting them right and using them well
August 17, 2016

RESOURCE
Logic Models: Getting Them Right and Using Them Well
(webinar recording and handouts)



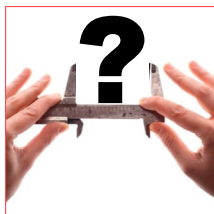
Data

Evaluation Plan → 3 Data

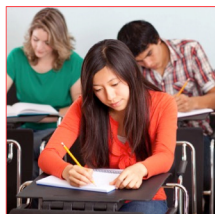


- What information will be used to answer the evaluation questions
- How the information will be obtained and from what sources
- Procedures for summarizing quantitative and qualitative data
- Procedures for interpreting findings to answer evaluation questions

Indicators



Data Collection Methods



Analysis



Interpretation



It's OK to sacrifice some detail

Must convey there is a **CONCRETE PLAN** for collecting and using evaluation data


CHAT: What’s your opinion of this description of the data that will be used in an evaluation?

The evaluation will utilize a mixed-methods approach in which quantitative and qualitative measures of performance will be used in both a formative and summative manner to gauge the merit and worth of the grant initiative. Methods will include surveys, interviews, and review of program records.

Data Matrix

Evaluation Question 3: To what extent and how are project activities impacting enrollment and persistence in the aviation program?

| Indicators | Data Sources and Methods | Analysis | Interpretation |
|--|----------------------------|---|--|
| Number of students in program who attended summer camp | Camp and admission records | Counts | Compare with project target of 5 per year |
| Number of students enrolled in program | Program records | Counts | Compare with project target of 5 per year |
| Students’ opinions about AV 100 course | Survey | Descriptive statistics Inductive coding of qualitative data | Compare results with rubric to judge degree of influence |
| Graduating students’ perceptions of what influenced decisions about their program of study | Focus group with students | Thematic coding to determine factors that increase or suppress interest in aviation program | Identify which, if any, factors can be influenced by the program |



EvaluATE Evaluation Data Matrix Template
Lori Wingate | July 2017

This material is based upon work supported by the National Science Foundation under grant number 1609502. 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.

| Evaluation Question: | | | | | |
|----------------------|-------------------------|-------------------|--------|---------------|----------------|
| 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.

Data Collection Methods are the means by which information will be gathered. Typical methods include surveys, focus groups, interviews, observations, and institutional database queries.

Responsible Parties are the individuals or organizations tasked with collecting the needed information. In many cases, data collection requires cooperation among multiple entities. For example, an external evaluator may be responsible for administering a survey, but a member of the project staff may need to supply the contact information.

Timing identifies when and how frequently data will be collected (e.g., at events, quarterly, annually). It is important to identify approximately when data collection will take place to ensure the information will be obtained when needed for reporting purposes and decision making and that the data collection schedule is conducive to other things taking place in project's context (e.g., other major data collection activities, semester schedules).


Analysis Plan how the quantitative and qualitative data will be summarized into meaningful, usable information.

Interpretation is how the analyzed data will be used to reach conclusions related to the evaluation questions.

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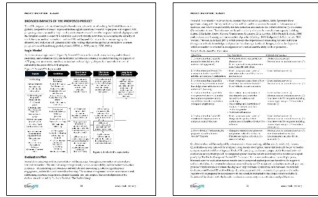
RESOURCE

Evaluation Data Matrix



Communication and Use

Evaluation Plan → **4** **Communication and Use**



- Identify what evaluation reports will be prepared
- Identify the frequency with which the evaluator will communicate with project team
- Describe how evaluation results will be shared with external audiences

ATE-Specific Review Criteria Related to Evaluation



- Is the evaluation likely to provide useful information to the project and others?
- Will the project evaluation inform others through the communication of results?

Planning for Evaluation Communication and Use



Formal reporting should occur at least annually

Project team should engage with evaluator regularly

Show commitment to using results for improvement

POLL: Which proposal has the best description of evaluation communication and use?

Proposal A

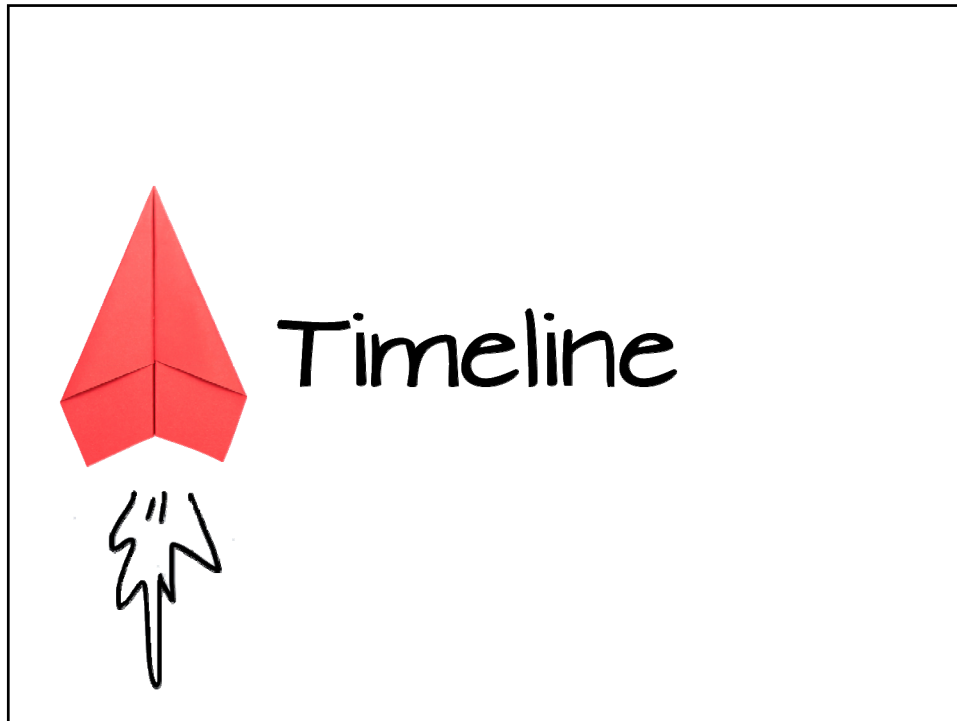
The evaluator will work with the project PI to prepare required annual reports submitted to NSF.

Proposal B

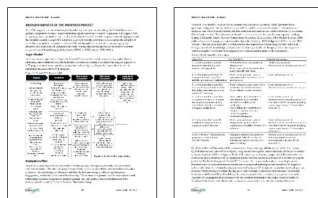
The evaluator will meet with the project team quarterly to share evaluation results and receive updates on the project. Interim evaluation reports will be used by project team to improve camps and courses. In the final year of the project, the project PI will collaborate with the evaluator to prepare a presentation about the project evaluation that the PI will present at national conferences.

Proposal C

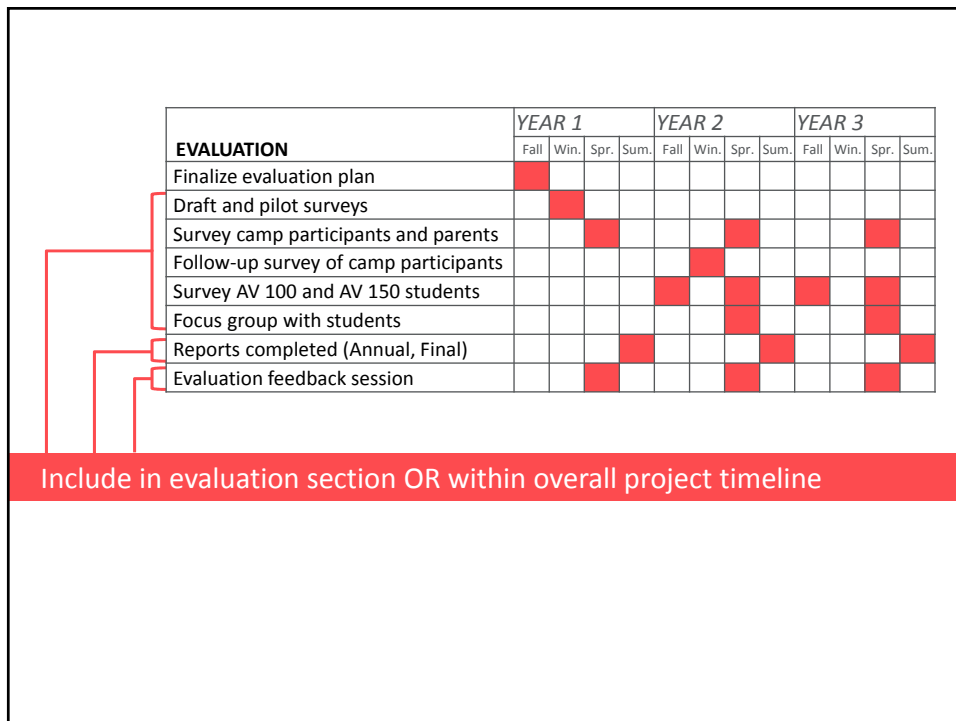
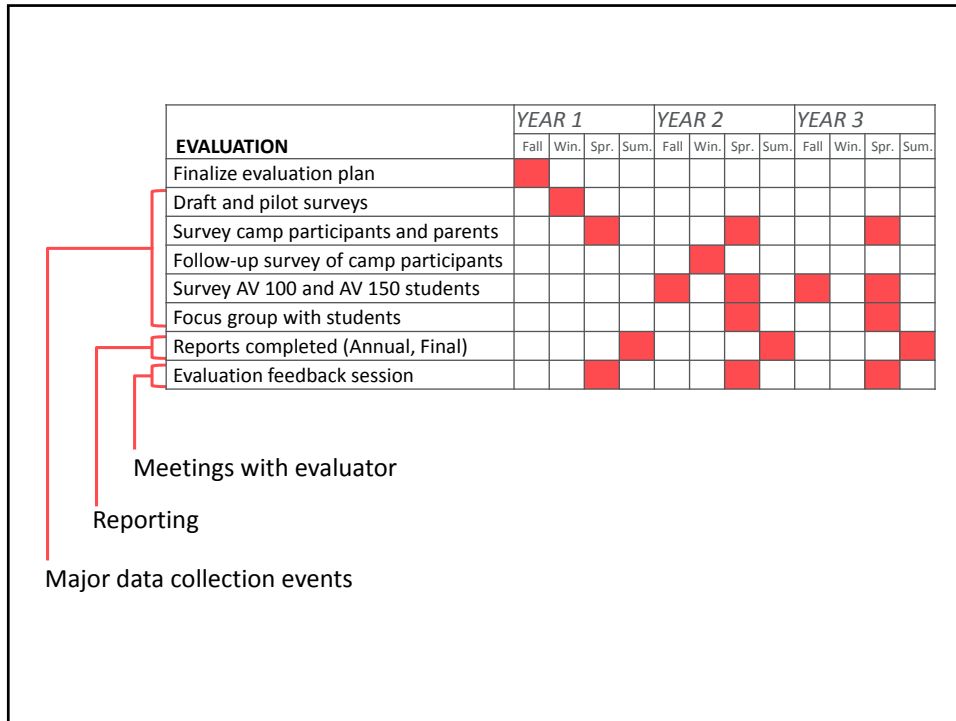
The evaluator will submit annual reports to the project PI and assist the project team in preparing evaluation results for inclusion in the project's annual report to NSF. Evaluation reports will be shared with the project's advisory committee.




Evaluation Plan → **5** **Timeline**



- Identify when key evaluation activities will occur in order to produce timely information





EvaluATE ATE Proposal Evaluation Plan Template
July 2017

This template is for use in preparing the evaluation plan sections for proposals to the National Science Foundation's Advanced Technological Education (ATE) program. It is based on the ATE Evaluation Planning Checklist (see <http://bit.ly/checklist-evaluation>), also developed by EvaluATE. It is aligned with the evaluation guidance included in the [2017 ATE Program Solicitation](#). All proposers should read the solicitation in full.

How to use this template: Replace the descriptions of what should go in each section below with relevant details about your proposed project's evaluation. Copy the text into your Project Description. The evaluation plan should comprise one to two pages of your proposal's 15-page Project Description.

This material is based upon work supported by the National Science Foundation under Grant No. 1605990. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

Evaluation Plan

Identify by name the person(s) who will lead the external evaluation of the project. Briefly describe their academic training and professional experience that qualifies them to serve as an external evaluator. Refer to the evaluator's biosketch and commitment letter and include those documents with the proposal's Supplementary Documents.

Evaluation Questions. Identify the focus of the evaluation by listing the evaluation questions. The questions should align with the project's purpose and address both implementation and outcomes. Examples of outcomes of interest to the ATE program include, but are not limited to, changes related to student learning, persistence, retention, graduation, and employment; faculty knowledge and pedagogical skills; broadening participation in STEM; meeting workforce needs; enhancing institutional capacity; and advancing knowledge about technician education. If the project has a logic model, refer to it and make sure the evaluation questions align with the logic model components.

Data Collection and Analysis. For each evaluation question, identify what will be measured, how the data will be collected and from what sources, and when. If specific published instruments will be used for data collection, describe and cite them (and include in References Cited section of proposal). Describe how data will be analyzed so that the evaluation questions can be answered. Placing this information in a table helps show linkages between the evaluation questions and the data, such as shown below (see EvaluATE's [Data Collection Planning Matrix](#) for additional details).

| Indicator | Data Source & Collection Method | Timing | Analysis | Interpretation |
|---|---|-----------------------------------|--|---|
| [what will be measured – ideally there will be more than one indicator per evaluation question] | [where the data will come from and how it will be obtained] | [when the data will be collected] | [how the qualitative and quantitative data will be transformed and summarized into usable information] | [procedures for using findings to answer the evaluation questions and reach evaluative conclusions] |

Reporting and Use. Identify the deliverables that will be produced by the evaluation after the project is funded, such as a detailed evaluation plan, data collection instruments, and reports. Identify when reports will be provided to the project and how the results will be used to inform project improvement.

[ALSO: Include evaluation activities in the project's Timetable elsewhere in the Project Description. Include pertinent details about staff responsibilities related to evaluation in the Management Plan section.]

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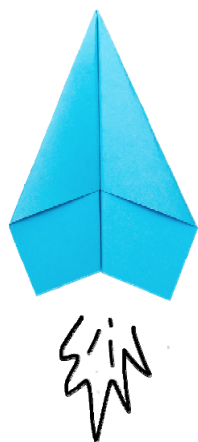
RESOURCE

Evaluation Plan Template


2 Integrating Evaluation Throughout a Proposal

Beyond the Evaluation Plan

- Results from Prior NSF Support
- Budget and Budget Justification
- Data Management Plan
- References





Results from
Prior NSF
Support




Results from Prior NSF Support

This subsection must contain **specific outcomes and results**, including metrics to demonstrate the impact of the project activities.

-  **Intellectual Merit**
advancement of knowledge
-  **Broader Impacts**
benefit to society

POLL: Which proposal has the best evidence of project outcomes?

| Proposal A | Proposal B | Proposal C |
|--|--|--|
| This project provided internships, mentoring, and advising to first-generation STEM students to increase retention and prepare them for the workforce or advanced degrees. | The project developed three lab manuals, provided 40 faculty with professional development, and served 125 students. | The project supported internships for 75 students, more than half of whom secured full-time positions at their internship sites. |



RESULTS FROM PRIOR NSF SUPPORT CHECKLIST
LEARNING GATE | OCTOBER 2018

If a PI or co-PI for an NSF proposal has received NSF funding in the past five years, information on the results of that funding must be included in the proposal, whether it relates to the current proposal or not. This section of the proposal is called Results from Prior NSF Support; details about what should be included are provided in the NSF Grant Proposal Guide (see <http://bit.ly/nsf-results>). The following is a synopsis of NSF's requirements and Evaluate's suggestions for this section of an ATE proposal.

REQUIREMENTS

- Limit to 5 pages or less
- Make it the first section of your proposal. If the proposal is for the renewal of an ATE center, it may be uploaded as a supplementary document rather than presented in the 15-page project description.
- Describe research and development products and how they have been made available to others.
- Clearly indicate the prior project's
 - o Title
 - o NSF award number
 - o Period of support
- Present results using these exact, distinct headings:
 - o Intellectual Merit
 - o Broader Impacts
- Provide complete bibliographic citations for all publications developed with NSF support, either in the narrative or in the separate references document. If there were no publications, state "No publications were produced under this award."

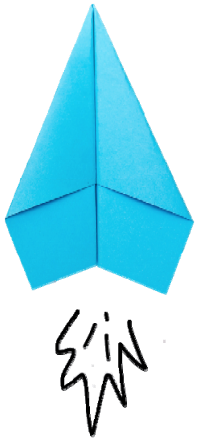
SUGGESTIONS

- Provide a brief factual account of what the project did, created, and who was engaged. A list of activities or deliverables is not sufficient evidence of intellectual merit or broader impacts, but it is important for reviewers to understand the nature and scope of your prior work.
- Present as much hard evidence as possible in describe the project's intellectual merit and broader impacts.
- Be forthright about what didn't work and lessons learned.
- Describe how the current proposal is building on the prior project's results.
- Describe what aspects of previously funded work are being sustained without NSF support.


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RESOURCE

NSF Prior Support Checklist




Budget and Budget Justification



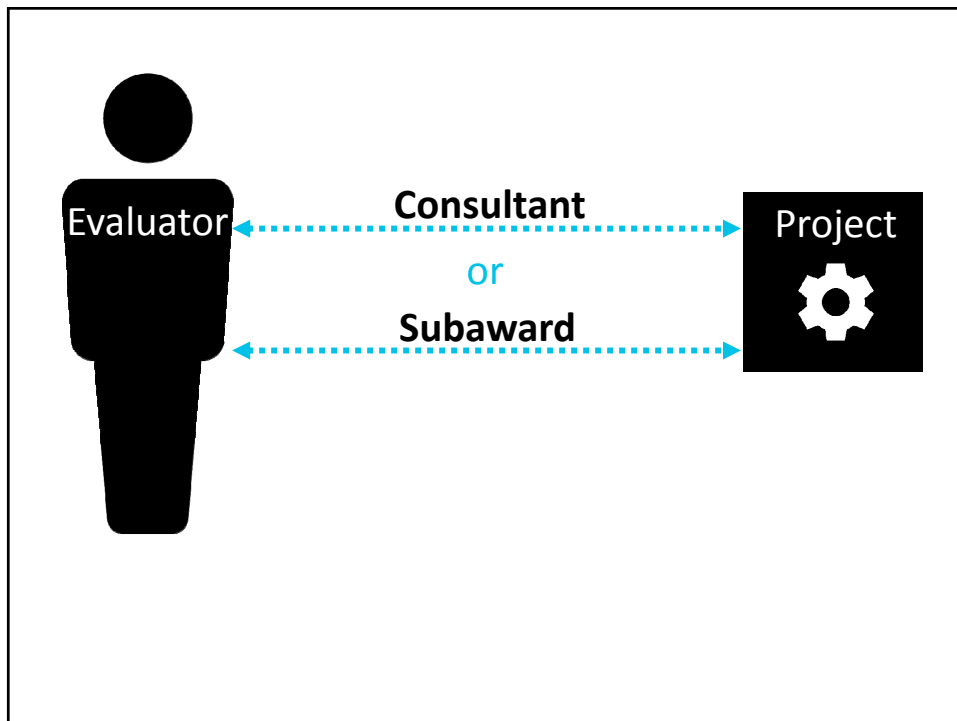
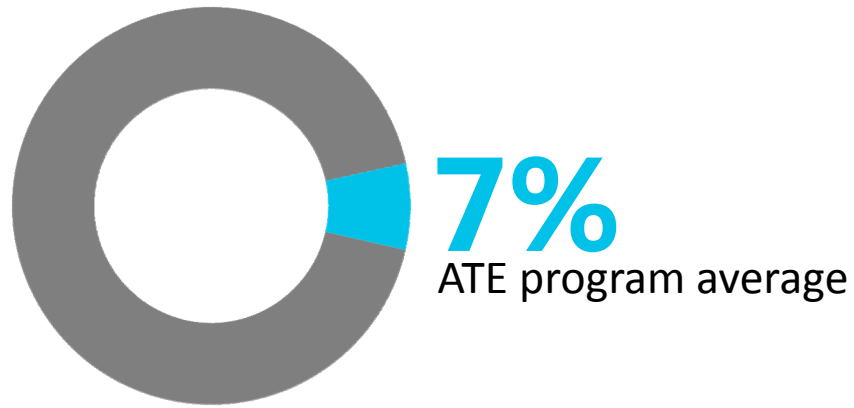
The **funds** to support an evaluator independent of the project or center must be requested. **The requested funds must match the scope** of the proposed evaluative activities.

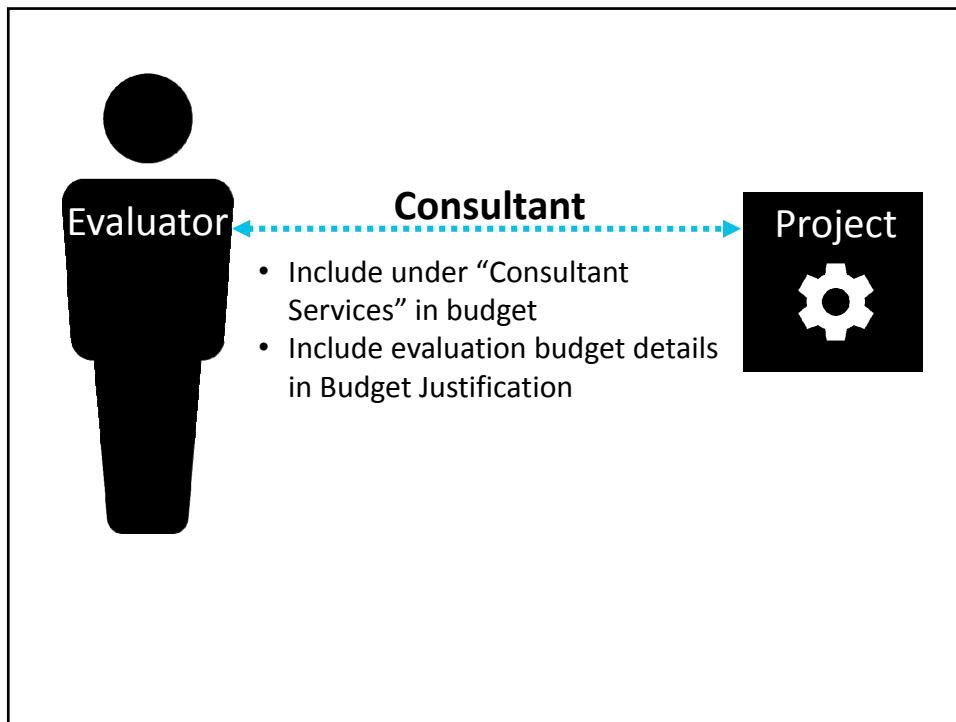
Budgeting for Evaluation



10%
rule of thumb

Budgeting for Evaluation





Budget Justification for Evaluator-as-Consultant:

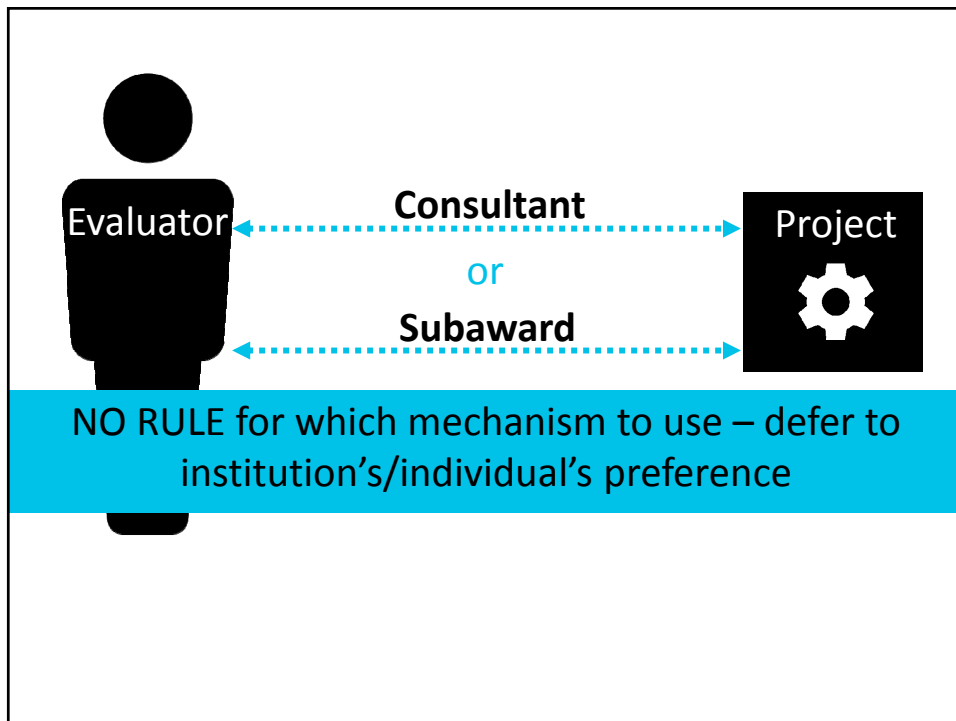
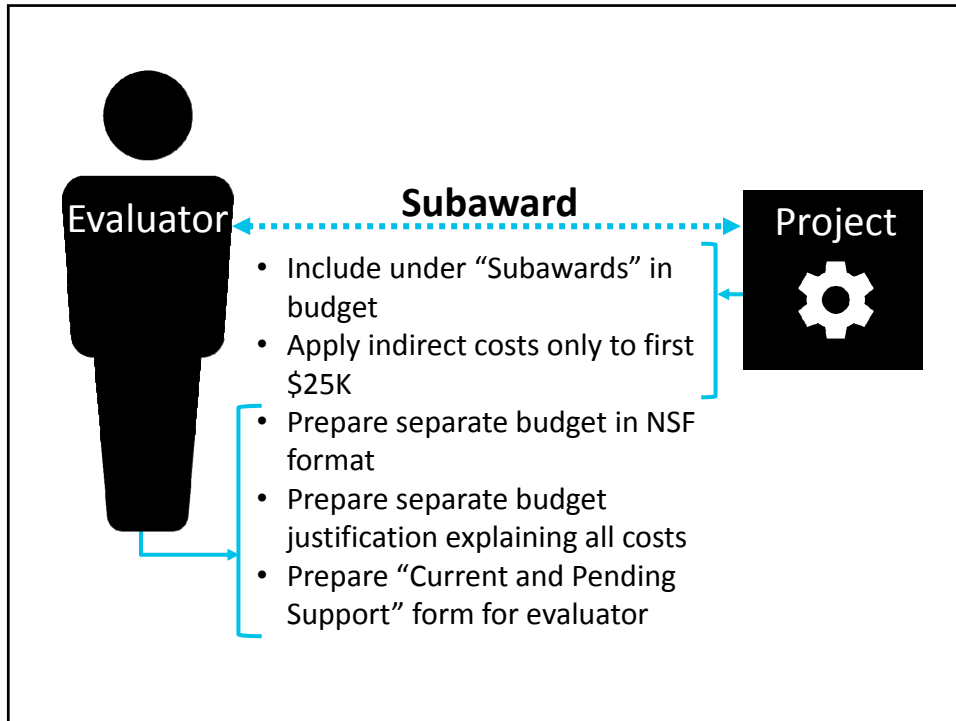


Evaluator’s daily rate

Time committed to project

Major tasks and deliverables

- **DO NOT** give just a lump sum
- **DO** show individual pay rates

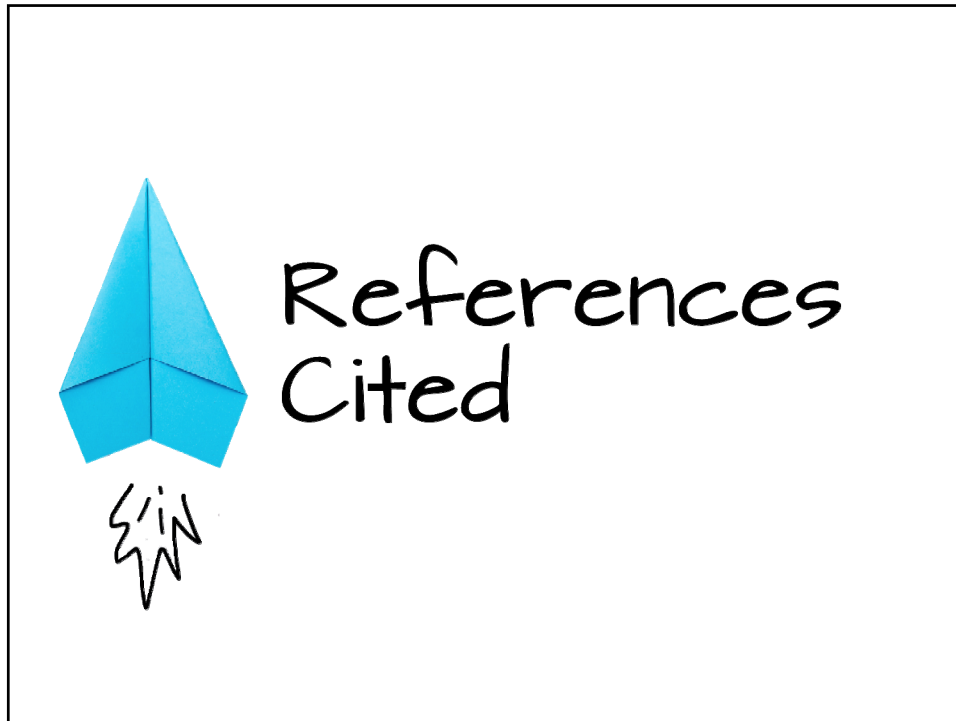




Data Management Plan Requirements

- Types of **data** and other materials to be produced
- Format of the **data**
- Policies for access and sharing **data**
- Policies for use of **data** by others
- Plans for archiving **data** for preserving access

} Include evaluation data



Include references to evaluation literature

Justify evaluation approach

Justify use of instruments and methods

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