



Evaluation & Reporting

Improving Performance and
Demonstrating Impact

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The Big Idea

Evaluation is not something you do after your project is funded.

It is something you design into your proposal from the start.



Build evaluation into proposal design

Reviewers look for clear, measurable outcomes tied to activities



Evaluation improves your project

Formative feedback helps you course-correct during implementation



Reporting becomes easier

When data collection is planned from day one, reports write themselves



Demonstrate impact to NSF

Compelling evidence of outcomes strengthens future proposals

Key Topics



Logic Models & Theory of Change



Formative vs. Summative Evaluation



Developing Measurable Outcomes



Data Collection Strategies



Feedback Loops & Continuous Improvement



NSF Reporting Requirements



Common Pitfalls to Avoid



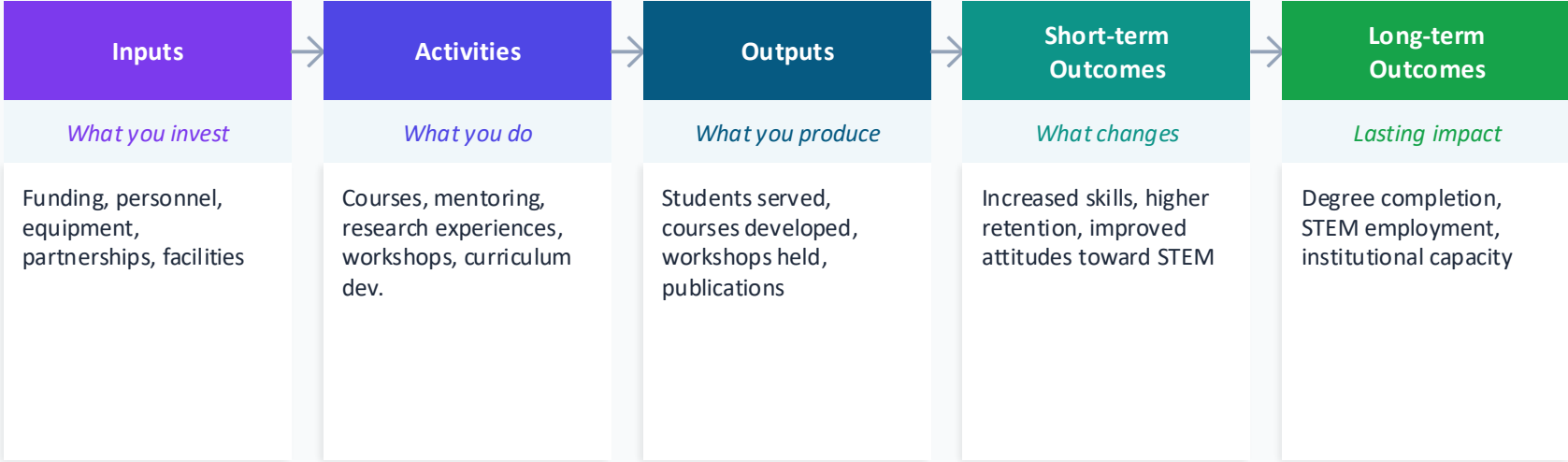
Building Evaluation Readiness



Demonstrating Impact

The Logic Model: Your Evaluation Blueprint

A logic model connects what you invest, what you do, and what changes as a result.



Your evaluation plan measures the connections between these elements. If you can't measure it, reconsider including it.

Two Types of Evaluation

Your proposal should describe both. Your project needs both.

Formative Evaluation

Purpose: Improve the project while it is running

When: Ongoing, throughout the award period

Methods: Surveys, focus groups, observations, advisory board feedback

Key Question: *"Is this working? What should we adjust?"*

Think of it as: *A GPS that recalculates as you go*

Summative Evaluation

Purpose: Determine whether the project achieved its goals

When: End of each year and at project close

Methods: Pre/post assessments, completion data, employment tracking, comparison data

Key Question: *"Did it work? What impact did it have?"*

Think of it as: *A final scorecard of results*

Essential Evaluation Elements for Your Proposal

Measurable Objectives

Specific, quantifiable targets tied to each project goal (e.g., "increase STEM retention from 55% to 70%")

Evaluation Plan

Who will evaluate, what methods will be used, when data will be collected, and how results will inform the project

Data Collection Timeline

When and how you will collect baseline data, ongoing metrics, and summative outcomes

Internal vs. External Evaluation

Whether you will use an internal evaluator, external evaluator, or both (NSF expects rigor and objectivity)

Dissemination Plan

How you will share findings with the broader community (publications, conferences, Project Outcomes Report)

Writing Measurable Outcomes

Strong outcomes are specific, measurable, and tied to your logic model.

Weak Outcomes

"Students will learn more about STEM"

Too vague; what does "learn more" mean?

"The project will be successful"

No measurable criteria for success

"We will increase diversity"

No baseline, no target, no timeframe

"Students will be more prepared"

How will you know? Prepared for what?

Strong Outcomes

"75% of participants will pass gateway math within 2 semesters"

Specific, measurable, time-bound

"STEM retention will increase from 55% to 70% by Year 3"

Baseline, target, and timeframe included

"15 tribal students will complete REU placements annually"

Countable output tied to a specific activity

"Pre/post scores on math assessment will increase by 20%"

Clear measurement instrument and target

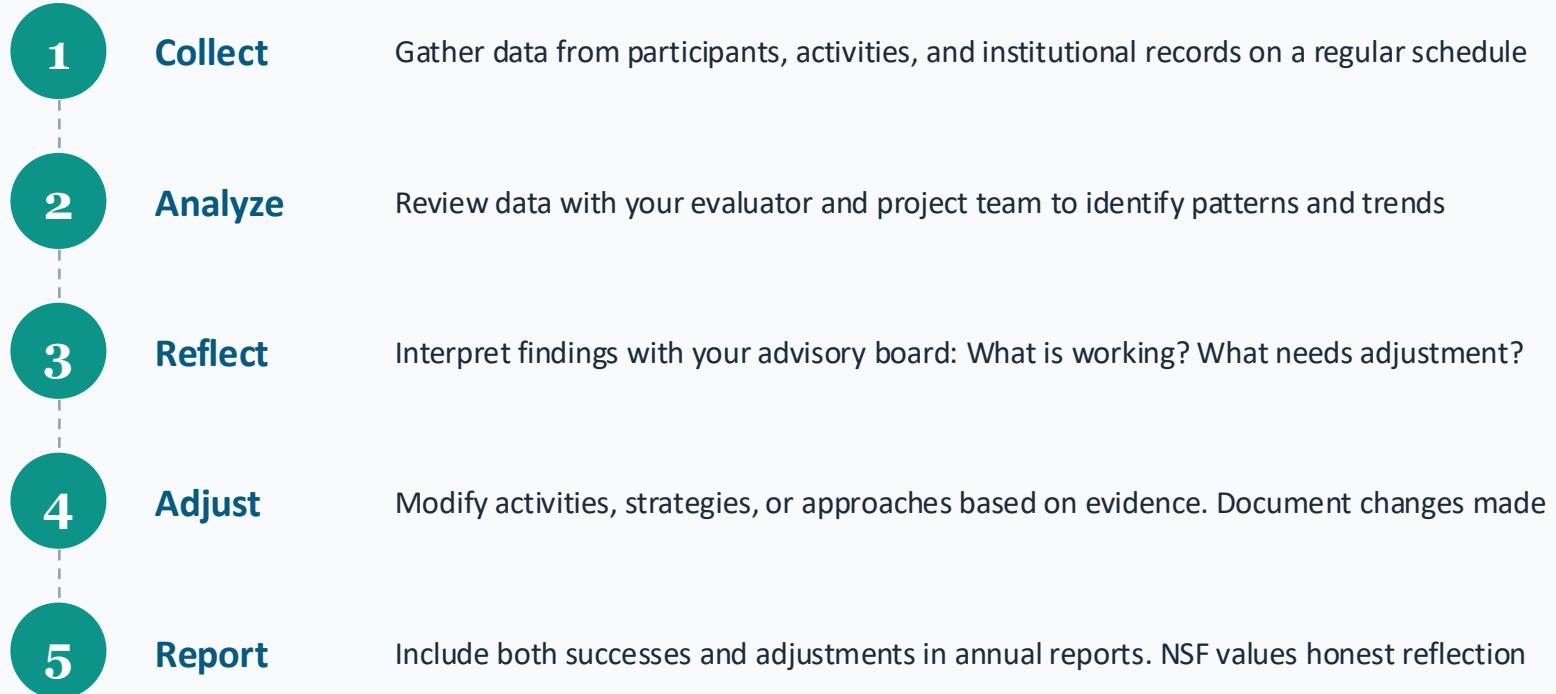
Data Collection Strategies

Plan your data collection before the project starts, not after.

Data Type	Examples	When to Collect
Baseline Data	Current retention rates, test scores, enrollment numbers, graduation rates	Before project launch (Year 0 or early Year 1)
Process Data	Attendance logs, participation counts, implementation fidelity, mentoring hours	Continuously throughout the project
Outcome Data	Pre/post assessments, course grades, retention/completion rates, survey results	End of each semester/year and at project close
Qualitative Data	Student interviews, focus groups, open-ended survey responses, case studies	At key milestones (e.g., mid-year, end of year)
Comparison Data	National benchmarks, peer institution rates, pre-project institutional data	At reporting periods for context

Tip: Build a data collection calendar and assign responsibility for each data point in your evaluation plan.

The Feedback Loop: Continuous Improvement



This cycle repeats each semester or year. Build it into your project management plan from the start.

NSF Reporting Requirements

PAPPG Chapter VII.D | All reports submitted via Research.gov

Annual Project Report (RPPR)

Due 90 days before end of budget period

Progress toward objectives, participant data, activities completed, evaluation findings, challenges encountered, and plans for the next period

Tip: Not cumulative. Write specifically for the current budget period.

Final Project Report

Due 120 days after award end date

Comprehensive summary of all outcomes, accomplishments, findings, and contributions over the full award period

Tip: This is your chance to tell the full story. Include quantitative and qualitative evidence.

Project Outcomes Report

Due 120 days after grant expiration

Written for the general public in plain language. Posted on NSF's website to communicate what the project achieved and why it matters.

Tip: Write this for a non-technical audience. Focus on impact, not jargon.

What Makes a Strong Annual Report?

Include

- Progress toward each stated objective with data
- Participant demographics and numbers served
- Key activities completed this period
- Evaluation results (both formative and summative)
- Changes made based on evaluation feedback
- Challenges encountered and how they were addressed
- Products and dissemination activities
- Plans for the next budget period

Avoid

- Repeating the proposal narrative instead of reporting results
- Listing activities without connecting them to outcomes
- Providing only anecdotal evidence with no data
- Ignoring challenges (reviewers and POs value honesty)
- Submitting late (overdue reports can hold up future funding)
- Cumulative reporting when the format is annual
- Leaving the Broader Impacts section blank or vague

Internal vs. External Evaluation

Most TCUP projects benefit from both. Budget accordingly.

	Internal Evaluator	External Evaluator
Who	PI, project staff, or institutional research office	Independent consultant or evaluator not affiliated with the project
Strengths	Deep institutional knowledge, real-time access to data, lower cost	Objectivity, credibility, methodological rigor, fresh perspective
Best For	Formative evaluation, ongoing monitoring, process tracking	Summative evaluation, impact assessment, NSF credibility
Budget	May use existing staff time (in-kind or budgeted)	Budget as a consultant or subaward line item (\$5K-\$25K+/year)

TCUP Tip: Engage your external evaluator during proposal development, not after the award. They can help sharpen your logic model and ensure your evaluation plan is feasible and rigorous. Include a letter of commitment from the evaluator in your proposal.



Common Evaluation Pitfalls

No baseline data collected

→ Establish baseline metrics before or at the start of the project

Evaluation is an afterthought

→ Design the evaluation plan alongside the project design, not after funding

Outcomes are vague or unmeasurable

→ Use specific, quantifiable targets with timeframes

Data collection is inconsistent

→ Create a data calendar and assign responsibility to specific people

Reports only list activities, not outcomes

→ Connect every activity to the outcomes it was designed to produce

Ignoring negative results

→ NSF values honest reporting. Explain what you learned and how you adapted

No evaluator in the budget

→ Include external evaluation costs; reviewers notice when it is missing

Aligning Evaluation with Broader Impacts

Your evaluation plan should capture evidence of both Intellectual Merit and Broader Impacts.

Intellectual Merit

How to measure:

- Student learning gains (pre/post assessments)
- Research outputs (publications, presentations)
- Curriculum changes and adoption rates
- Faculty development outcomes
- New knowledge generated about effective STEM pedagogy in tribal contexts

Broader Impacts

How to measure:

- Underrepresented student participation and retention rates
- Community engagement and outreach reach
- Transfer, degree completion, and employment placement
- Institutional capacity and infrastructure gains
- Partnerships developed or strengthened

Evaluation Readiness Checklist

Before you submit, verify your proposal addresses each of these:

- Logic model or theory of change clearly links inputs, activities, outputs, and outcomes
- Each objective has at least one measurable outcome with a specific target and timeframe
- Evaluation plan describes both formative and summative methods
- Baseline data sources are identified (or a plan to collect them is described)
- Data collection instruments and timeline are specified
- External evaluator is identified, with a letter of commitment and budget line item
- Plan for using evaluation results to improve the project is described
- Dissemination plan explains how findings will be shared beyond the institution
- Broader Impacts are connected to measurable evaluation criteria
- Budget includes adequate funding for evaluation (typically 5-10% of total award)

Key Takeaways

1

Start with the End in Mind

Design your evaluation plan alongside your project design, not as an afterthought

2

Make It Measurable

If you can't measure it, don't promise it. Use specific targets with baselines and timeframes

3

Collect Data from Day One

Establish baselines early, track progress continuously, and build a data collection calendar

4

Use Feedback to Improve

Formative evaluation is your project's steering wheel. Course-correct based on evidence

5

Be Honest in Reporting

NSF values transparency. Describe challenges and adjustments alongside successes

6

Tell a Compelling Story

Your reports and Project Outcomes Report should weave data into a narrative of impact

Resources

NSF Evaluation Resources	nsf.gov/od/oia/programs/evaluation	NSF's framework for program evaluation
PAPPG Chapter VII.D	nsf.gov/policies/pappg/24-1/ch-7-award-administration	Reporting requirements and deadlines
ATE Evaluation Resource Center	evalu-ate.org	Tools, templates, and guidance for STEM evaluation
Research.gov	research.gov	Submit annual, final, and project outcomes reports
2 CFR 200 Subpart D	ecfr.gov/current/title-2/part-200/subpart-D	Federal requirements for performance measurement
NSF Merit Review Criteria	nsf.gov/policies/pappg/24-1/ch-3-review	Intellectual Merit and Broader Impacts framework

Thank You

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