



The State of Evaluation in the Advanced Technological Education (ATE) Program

2025

ACKNOWLEDGEMENTS

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INTRODUCTION

Purpose

This report provides an overview of evaluation practice and use in the National Science Foundation's ATE program. It aims to:

1. Continue and extend the work of the inaugural report, [*The State of Evaluation in the Advanced Technological Education Program*](#) (Marshall, Becho, & López, 2023), and capture how evaluations are planned, evidence is collected, data are interpreted, and evaluative findings are used and reported on across ATE projects¹.
2. Share insights about ATE principal investigators' and evaluators' broad ideas about how to better facilitate, strengthen, or build upon ATE evaluation and opportunities for responding to persistent challenges and advancing high-quality ATE evaluation.
3. Build understanding of current evaluation practices to support data-informed discussions on the role of evaluation in ATE, strategies for sustaining and enhancing evaluations, and potential innovations in evaluation practices.

Audience

This report's audience includes ATE evaluators, principal investigators and project staff, National Science Foundation (NSF) program officers, and others who are responsible for supporting or interested in evaluation within the ATE community.

Unless specified, all types of ATE grants – projects, centers, small scale projects, and consortia – are referred to as projects throughout this report.

Data Sources

The findings presented in this report draw from data collected by EvaluATE, primarily during 2023 and 2024, to provide a current snapshot of activities and findings. Occasionally, data from 2008, 2013, and 2018 are also integrated to provide a historical context and benchmarks of 15 years, 10 years, and 5 years ago, respectively. Data collection mechanisms included EvaluATE's surveys of ATE principal investigators and of ATE evaluators, and documentation collected from the 2023 ATE Evaluation Summit facilitated by EvaluATE.

Survey of ATE principal investigators: Administered by EvaluATE, this annual monitoring survey asks about the activities and achievements of ATE projects and centers during the previous year. In 2024, 96% ($n = 312$) of principal investigators with active grants ($n = 325$) completed the survey about their grants' activities and accomplishments in 2023. In 2023, 94% ($n = 38$) of principal investigators completed the survey, and 92% ($n = 364$) did so in 2022.

EvaluATE's survey of ATE evaluators: This biennial survey is administered to all evaluators identified by principal investigators as being affiliated with an active ATE grant. It aims to build understanding of practices and perceptions in ATE evaluation. In 2024, of 146 identified ATE evaluators, 46% ($n = 67$) completed the survey.

¹Unless specified, all types of ATE grants – projects, centers, small scale projects, and consortia – are referred to as projects throughout this report.

KEY FINDINGS

Who are ATE evaluators, and how do they engage with ATE evaluation?

- **Evaluator Demographics:** Most ATE evaluators identify as women and white, hold advanced degrees, and have participated in formal and/or informal educational opportunities about evaluation. Their median length of evaluation experience is 12 years. This report’s key findings about evaluator demographics vary little from those analyzed in 2023, suggesting consistency in ATE evaluator characteristics over time.
- **Evaluator Engagement:** ATE projects continue to engage evaluators; 97% reported having an evaluator in place in 2024. Of project evaluators, 90% were external to the project. In 2024, 77% of ATE principal investigators reported meeting with their evaluator more than once per quarter, and one-third were in contact monthly or more.
- **Expectations of Evaluators and principal investigators:** Evaluator and principal investigator expectations become more aligned after funding, with 93% of evaluators reporting strong alignment once a project is underway, compared to 70% during the proposal stage. This suggests that for any given ATE project time is needed for evaluators and principal investigators to familiarize themselves with the project, clarify their roles, and understand the function of evaluation within ATE.

How are ATE evaluations planned?

- **Collaboration in Evaluation Planning:** Most ATE evaluators reported taking the lead in developing the evaluation plan but asking for input from project staff (77%). Only some said they are solely responsible (9%) or that the project staff takes the lead (14%). Most evaluators (96%) reported that project staff are involved in developing evaluation objectives, and 95% said project staff engage in the process by helping to identify which outcomes to evaluate.
- **Factors that Influence Evaluation Planning:** Nearly all evaluators prioritize aligning the evaluation plan with project-prioritized outcomes, NSF requirements, and data availability. Other significant factors include alignment with the plan laid out in the ATE proposal, feasibility with regard to resources, and planned evaluation use.

How is evidence gathered in ATE evaluations?

- **Guiding Evaluative Questions:** Evaluators primarily collect evidence to determine what difference was made (96%) and how well the project performed (91%). Fewer evaluators (61%) aim to answer the question “How much did we do?”
- **Common Data Collection Methods:** ATE evaluators most frequently use surveys (94%), interviews (88%), existing-data analysis (85%), and document reviews (84%) to gather evidence. Additional methods, such as project records, observations, and focus groups, are used less often. Only 31% reported using validated tools, highlighting a potential need for more accessible and relevant standardized evaluation instruments.

KEY FINDINGS

Continued.

How are data interpreted in ATE evaluations?

- **Comparative Strategies:** Nearly all ATE evaluators (96%) compare project performance data to targets or goals, while 76% compare data to historical or baseline metrics. Fewer evaluators use external benchmarks, such as public datasets (24%) or similar programs (19%).
- **Engagement and Participatory Approaches:** More than half of evaluators (54%) incorporate participatory sensemaking with project staff and key interest holders to interpret data, and 48% use rubrics to guide analysis and recommendations.

How are data used and reported on?

- **Perceived Utility of Evaluation & Evaluator Relationships:** Most ATE principal investigators (86%) find their interactions with evaluators and the resulting evaluation findings valuable or essential to their work. These perceptions are supported by evaluators, with over 90% reporting positive, transparent working relationships that enable honest feedback—conditions that facilitate meaningful evaluation use.
- **Presence and Use of Evaluation Reports:** Most projects receive evaluation reports, typically in both written and oral formats, though about 10%–12% of projects report receiving no report at all. Reports are primarily shared with NSF (61%), faculty or staff (54%), and institutional leadership (49%), while dissemination to broader audiences such as students and the public remains less common (3% and 10%, respectively).

- **Use of Evaluation Findings:** Evaluation is used to inform changes in project goals or activities (46%) and occasionally influences broader actions: applying for new grants (24%), institutional advocacy (17%), and increasing evaluation literacy (33%). The use of evaluation findings for changing curriculum content or outreach strategies is lower than in previous years.

What are ATE interest holders' hopes, worries, and ideas for ATE evaluation?

- Participants in the 2023 ATE Evaluation Summit engaged in several discussions about their hopes, concerns, and ideas for ATE evaluation. From these, we identified eight opportunities to better facilitate, strengthen, or build upon ATE evaluation. Collectively, these reflect the diverse perspectives of evaluators, project staff, and other ATE interest holders, and their shared commitment to improving evaluation quality and impact.
- **Opportunities to Support ATE Projects, Project Staff, and Evaluators:** Participants identified opportunities to strengthen ATE evaluation by increasing startup support, building evaluator competency through collaboration and professional development, clarifying evaluation focus and purpose, aligning reporting with use, and fostering strong evaluator–project staff relationships built on trust and shared understanding.
- **Opportunities to Support and Advance the ATE Program's Impact:** Participants emphasized the importance of building evaluation capacity across all levels, promoting knowledge sharing and application across projects, and leveraging NSF's influence to deepen engagement and enhance the overall impact of the ATE program.

WHO ARE ATE EVALUATORS, AND HOW DO THEY ENGAGE WITH ATE EVALUATION?

This section provides a snapshot of ATE evaluators' characteristics and the frequency of their involvement with ATE evaluation.

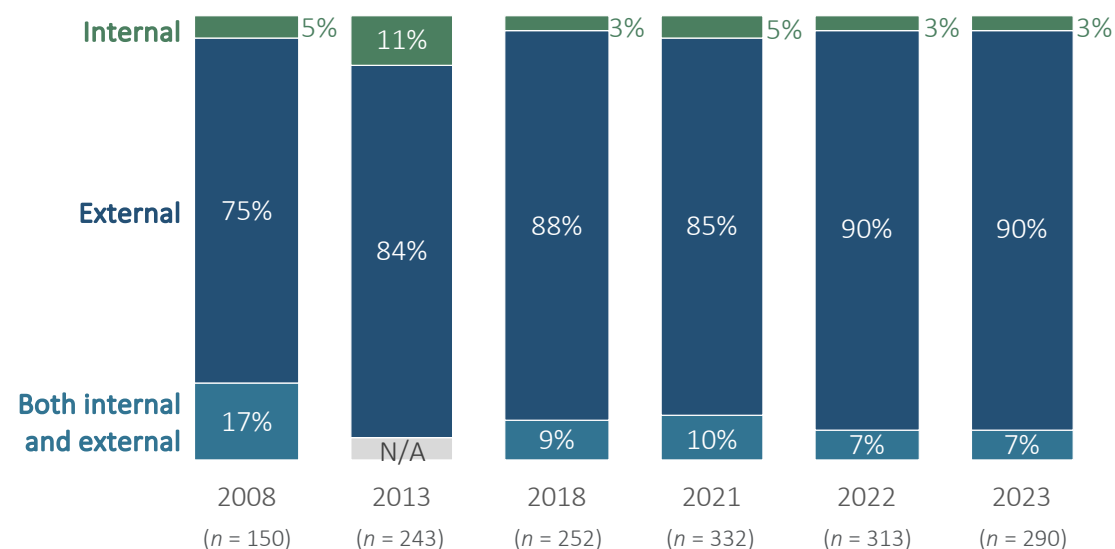
Characteristics of ATE Evaluators

According to the NSF [program solicitation for ATE](#), “All ATE-funded projects must be evaluated.” (NSF, 2024, p. 15). Historically, ATE projects have largely fulfilled this requirement: In surveys from 5, 10, and 15 years ago, 90%, 95%, and 97% of projects, respectively, have reported having an evaluator. This continues to be the case; in ATE’s 2021–2023 surveys of principal investigators, fewer than 10% of respondents reported their project not having an evaluator.

Across projects with an evaluator in place, the vast majority are external to the project (**Figure 1**). The rate at which projects involve external evaluators is as expected, since the NSF ATE solicitation requires every project proposal to include funds for an independent evaluator. Only a small percentage of ATE projects had only internal evaluators (3%–5% since 2022).

Of the small proportion of projects that did not have evaluators in place at the time that they completed the 2024 survey of principal investigators, several were in their first year of funding in 2023, were in a no-cost extension year, did not require an evaluator per their grant type, or were experiencing unexpected delays or changes in project implementation.

*Figure 1. Across recent years, the vast majority of ATE projects have an **external evaluator only** (85-90% of projects since 2022), and significantly fewer projects have **both an internal and external evaluator in place** (7-10% since 2022).*



Demographics of ATE Evaluators

Demographics reported in the 2024 survey of ATE evaluators were consistent with those reported across 2019–2021 in the 2023 report on the state of evaluation in ATE.



85% identified as white ($n = 66$).



65% identified as women ($n = 66$).



56% held doctoral degrees ($n = 66$).



71% had participated in formal or informal education on evaluation ($n = 66$).



The median length of evaluation experience was 12 years ($n = 67$).

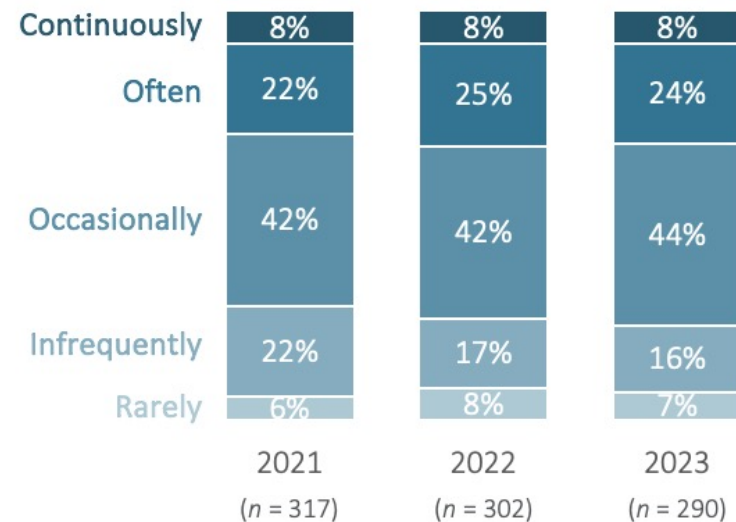


45% were based out of independent consultancy firms ($n = 67$).

Evaluator Engagement in ATE Evaluation

Evaluator engagement can enhance a project’s evaluation by fostering collaboration, ensuring contextual relevance, and improving the usefulness of findings for decision-making. Regular contact points between project staff and evaluators can increase engagement (CCHD, Ch. 36, Sec. 4). Most ATE principal investigators are consistently in contact with their evaluators. In the survey of ATE principal investigators, over 70% of project principal investigators reported being in contact with their evaluator *occasionally* (more than quarterly), *often* (two or three times a month), or *continuously* (at least once a week) in 2021–2023 (Figure 2). About a quarter of respondents reported meeting with their project evaluator somewhat inconsistently—once per quarter or less.

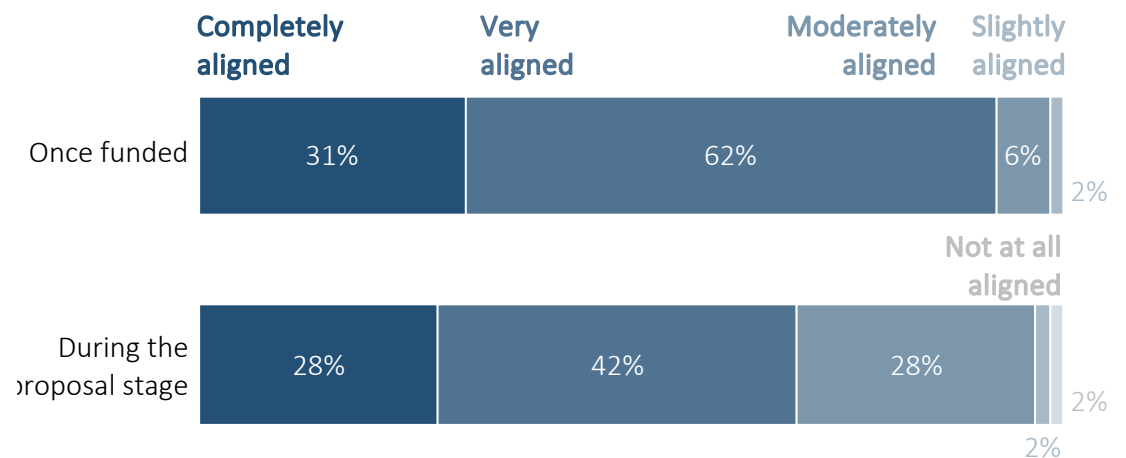
Figure 2. Since 2021, between 72-76% of ATE project staff report having consistent contact with their project's evaluator, meeting more than once a quarter.



Evaluator Engagement in ATE Evaluation cont.

Evaluators were asked to identify the extent to which their own expectations of their roles as evaluators typically align with the expectations held by project staff. Most evaluators (93%) reported that, once an ATE project was funded, program staff expectations were *completely aligned* (31%) or *very aligned* (62%) to their own. Only 7% reported that expectations were *moderately*, *slightly*, or *not at all* aligned during funded projects (Figure 3). This contrasts with perceptions of alignment during the proposal stage, where only 70% of evaluators report that expectations are typically *completely* (28%) or *very aligned* (42%), and 30% report they are *moderately*, *slightly*, or *not at all* aligned. This suggests that either evaluators or project staff, or both, require time to familiarize themselves with an ATE project, learn their respective roles on the project, and understand the role that evaluation plays in the ATE context.

Figure 3. More ATE evaluators felt that expectations associated with their roles were **completely** or **very aligned** after a project was funded compared (93%) compared to during the proposal stage (70%). (n = 65)



HOW ARE ATE EVALUATIONS PLANNED?

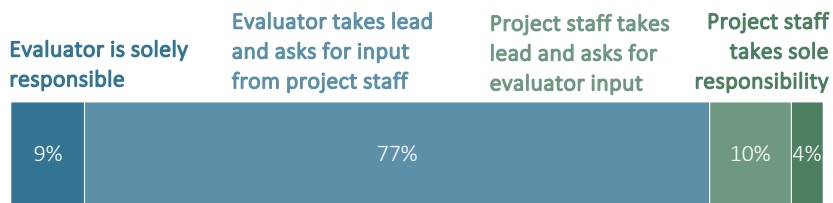
This section overviews who is involved in ATE evaluation planning, how outcomes are identified, and what factors influence planning-related decisions.

Roles & Responsibilities in Evaluation Plan Development

In ATE evaluations, who develops the evaluation plan might vary depending on several factors, including the project’s ability to contract with an evaluator, whether the grant is a first-time request or continuation of a previous one, and the project staff’s experience level with evaluation. Understanding these variations provides insight into the dynamics of evaluation planning and decision-making.

In the 2024 survey of ATE evaluators, respondents were asked to reflect on how the responsibility of developing an ATE proposal’s evaluation plan is typically assigned across their ATE project portfolio. Roughly three-quarters (77%, *n* = 67) of respondents reported that they, the evaluator, took the lead in evaluation plan development but that they sought input from project staff (Figure 4).

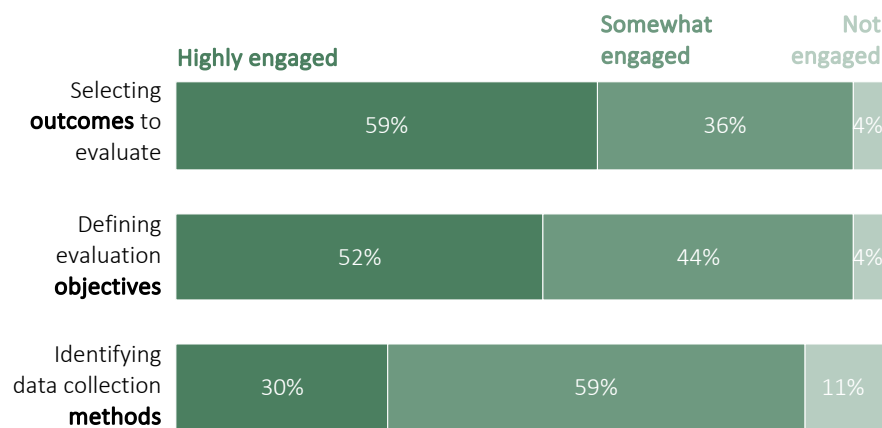
Figure 4. Most ATE evaluators reported taking the lead in developing an evaluation plan but asking for input from project staff (77%). Only some said they are solely responsible (9%) or that the project staff takes the lead (14%). (*n* = 67)



Conversely, 10% of respondents reported that project staff took the lead with input from an evaluator, and 9% reported that they, the evaluator, were solely responsible for development.

ATE evaluators reported that, during the planning stage of project evaluations, project staff are typically most engaged by defining evaluation objectives (52% *highly engaged*; 44% *somewhat engaged*) and selecting outcomes to evaluate (59% *highly engaged*; 36% *somewhat engaged*). They are less involved with identifying data collection methods (30% *highly engaged*; 59% *somewhat engaged*; Figure 5).

Figure 5. ATE Evaluators perceived the highest levels of engagement and collaboration among project staff when selecting which outcomes to evaluate (59% highly engaged) and defining evaluation objectives (52% highly engaged), tasks that typically occur during the evaluation planning phase. (*n* = 66)

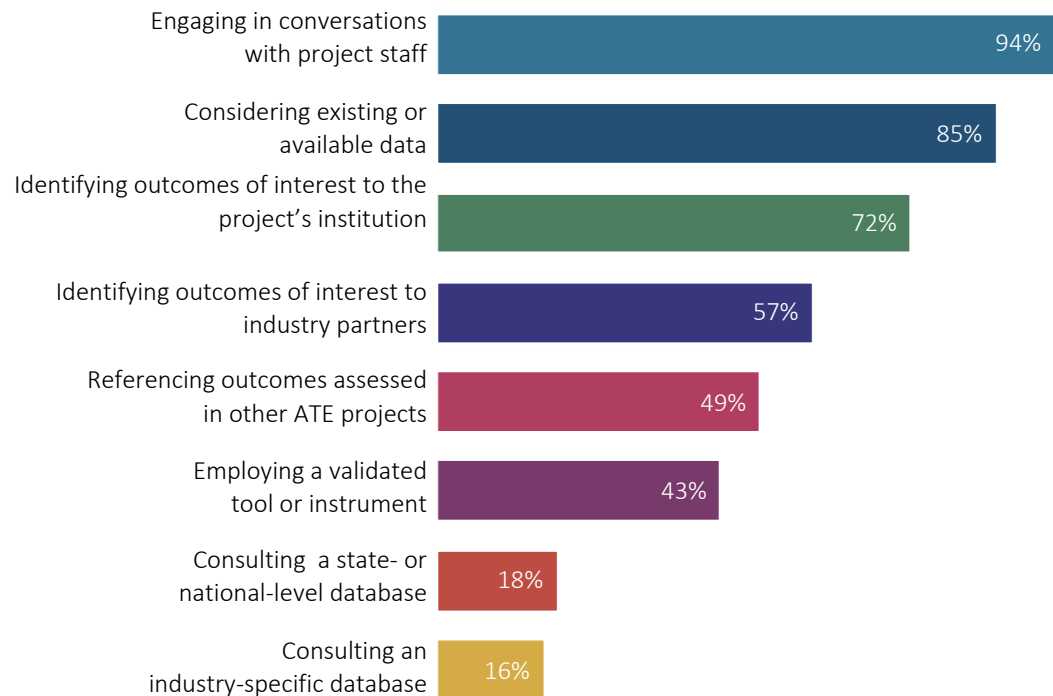


Identifying Outcomes for ATE Projects

The ATE grantee portfolio is characterized by its great diversity in project aims and activities. Collectively, projects aim to impact a wide variety of STEM disciplines, such as micro- and nanotechnologies and advanced manufacturing. Activity areas include program and course development and professional development for educators. Given this diversity, there is currently no predetermined set of outcomes that can assist every ATE project in identifying and measuring project impact specific to the activity areas for which it is funded. This makes outcomes development an important consideration when planning ATE evaluation.

ATE evaluators were asked to identify which strategies they typically use to identify outcomes to assess in ATE evaluations. Complementing the finding that ATE project staff are most highly engaged in the selection of outcomes to evaluate, 94% of ATE evaluators reported that outcomes development and selection are informed by engaging in conversations with project staff. Additionally, 85% of evaluators also reported using existing or readily available data, such as that routinely collected by institutions to identify outcomes, and 72% reported considering outcomes of interest to the project's home institution. Between 49% and 57% of respondents reported considering outcomes of interest to industry partners and referencing outcomes assessed across similar ATE projects. Few evaluators reported consulting state, national, or industry-specific databases to identify outcomes (16%–18%; [Figure 6](#)).

Figure 6. While various strategies are employed to identify and select outcomes for ATE evaluation, ATE evaluators reported that they most often relied on **conversations with project staff** (94%) and **existing or available data** (85%). (*n* = 67)

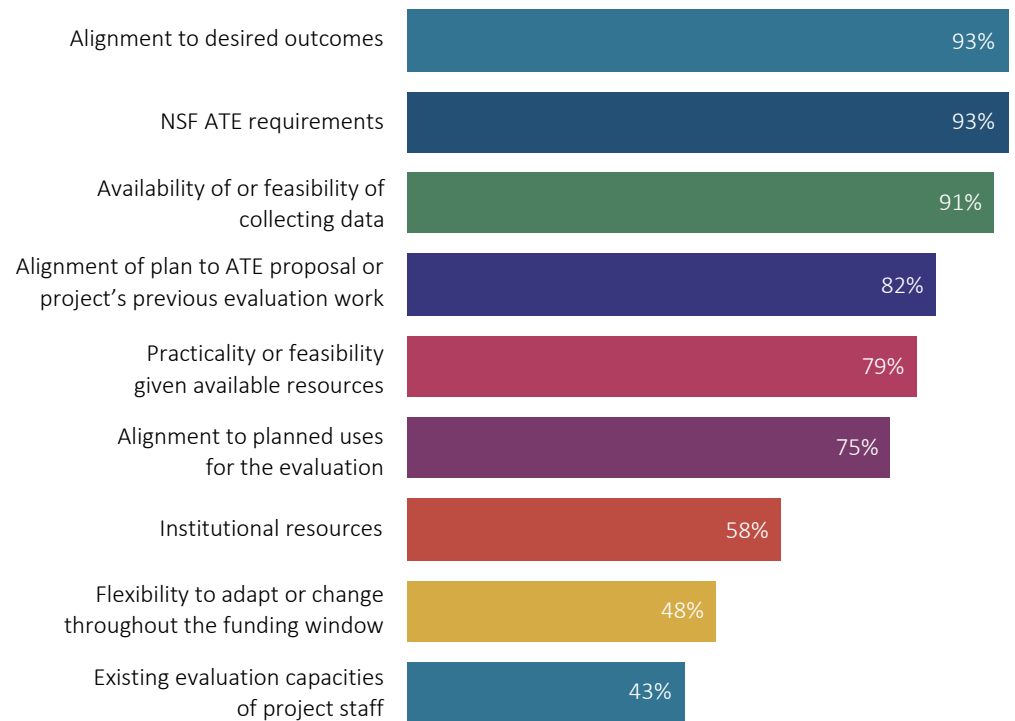


Factors Influencing Evaluation Planning, Decision-Making, and Design

When developing an evaluation plan, over 90% of evaluators reported that aligning a plan to the project’s desired outcomes, meeting NSF evaluation or reporting requirements, and the availability of or feasibility of collecting evaluation data were the most important factors that influenced their decision-making and evaluation design. Between 75% and 82% of evaluators reported that an evaluation plan’s alignment with their overall ATE proposal submission or previous evaluation work, overall practicality or feasibility given evaluation resources (e.g., budget, time constraints, etc.), and alignment to planned uses for evaluation were important factors that influenced evaluation planning processes (Figure 7).

The final three factors were noted less often, but 43%–58% of evaluators reported that the availability of institutional resources (e.g., institutional research or grants management offices), maintaining flexibility to adapt or change evaluation plans or practices, and the existing capacities of project staff were most important to their evaluation planning processes.

Figure 7. When developing evaluation plans, ATE evaluators rated **alignment to desired outcomes, funder evaluation requirements, and feasibility of data collection** as most important to their decision-making and design process. (*n* = 67)

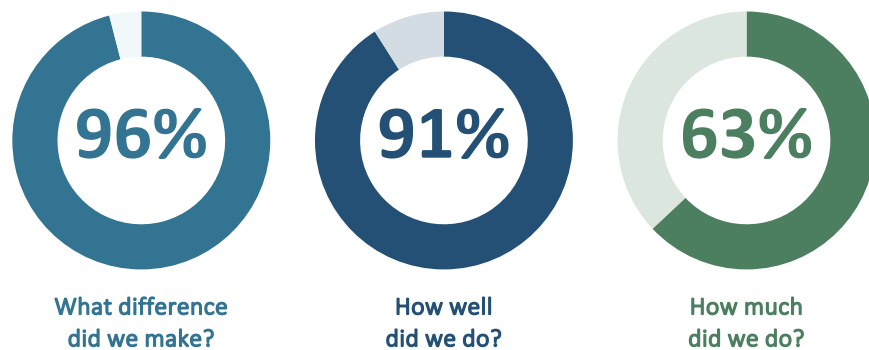


HOW IS EVIDENCE GATHERED IN ATE EVALUATIONS?

This section provides an overview of the approaches and methods used by evaluators to collect evidence in ATE evaluations.

Given the diversity in the scopes, contexts, disciplines, project types, and life cycles, among other characteristics of ATE projects, it is likely that there is also considerable variation in the approaches and methods used to evaluate ATE projects. In the survey of ATE evaluators, respondents were asked to describe their practices for gathering evidence across their ATE projects.

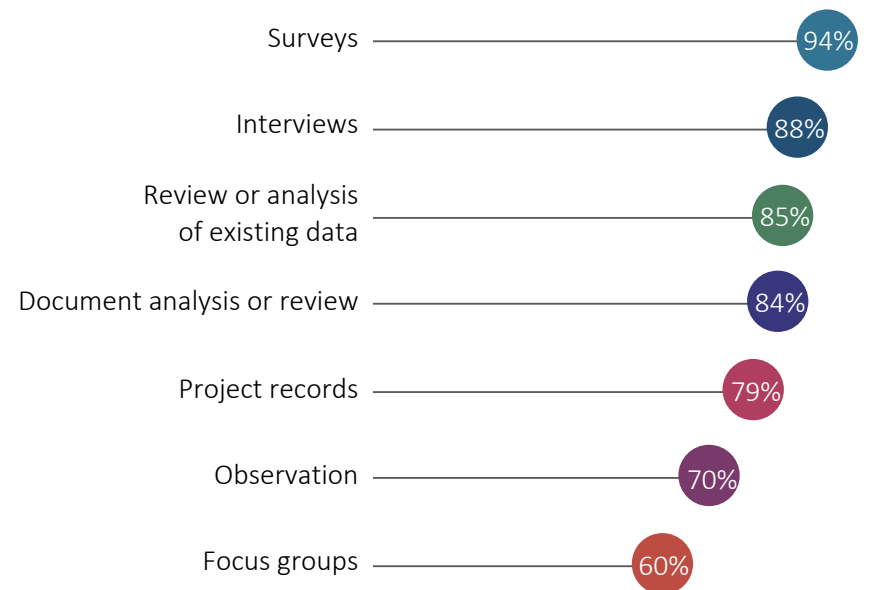
Figure 8. According to ATE evaluators, they most often aim to leverage data to answer the questions **What difference did we make?** (96%) and **How well did we do?** (91%). (n = 67)



To collect data that answers evaluative questions and to understand outcomes achievement, the vast majority of ATE evaluators use surveys (94%). Other common data collection methods include interviews (88%), a review or analysis of existing data (85%), and document analysis (84%). While less prevalent, project records, such as attendance logs or registration forms; observation; and focus groups, were also used as data collection methods in ATE evaluation.

While surveys are commonly utilized in ATE evaluations, only 31% of evaluators reported using a validated tool or instrument to evaluate ATE projects, suggesting that there may be a lack of applicable, relevant, and accessible validated tools available to ATE evaluators (Figure 9).

Figure 9. When selecting data collection methods, evaluators prioritized **surveys, interviews, and analysis of existing data** for their accessibility, reliability, and ability to capture key insights. (n = 67)



HOW ARE DATA INTERPRETED IN ATE EVALUATIONS?

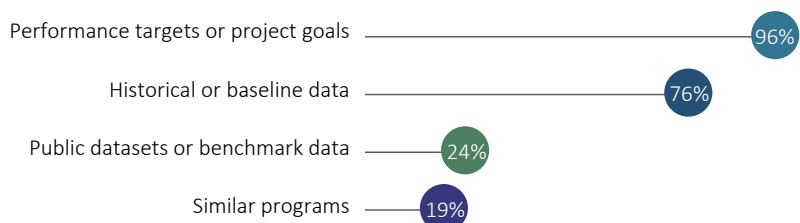
This section provides an overview of strategies employed to interpret or make sense of evaluation data.

The process of interpreting of evaluative data is a crucial step to meaningful and impactful evaluation practice. This refers to the process of sensemaking of analyzed data to answer evaluative questions. To engage in this process, evaluators might compare findings against benchmarks or relevant external data sources to bring context to the findings and make an evaluative conclusion. They might also use interpretation strategies that guide how meaning is constructed from that data, often through frameworks like rubrics or collaborative reflection processes. Among ATE evaluators, two highly prevalent strategies emerged for integrating comparative data. Specifically, 96% of evaluators reported that they compare project performance data to performance targets or project goals. Seventy-six percent reported that they compare performance data to historical or baseline data. Lesser-used comparison strategies included comparing project data to public datasets or benchmark data (24%) and to similar programs (19%; **Figure 10**).

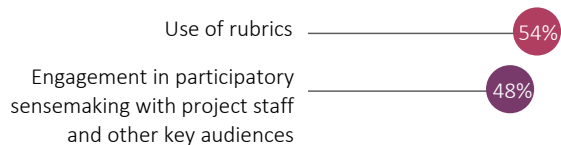
Figure 10. Most ATE evaluators report **comparing project performance to targets or project goals** (96%) and to **historical or baseline data** (76%) to inform evaluative conclusions. (n = 67)

Approximately half of ATE evaluators rely on interpretation strategies, such as use of **rubrics** (54%) and **participatory sensemaking** (48%) to inform conclusions. (n = 67)

Comparison Strategies

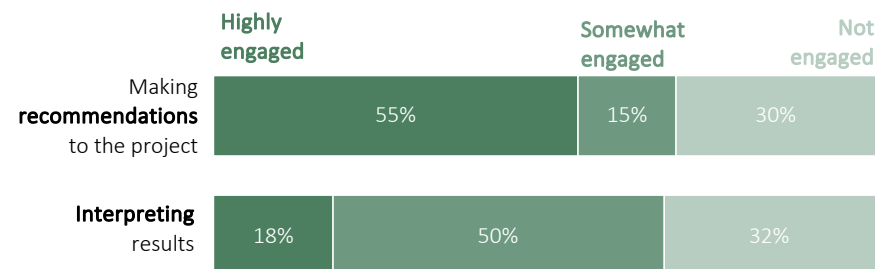


Interpretation Strategies



In response to the question about interpretation strategies, 54% of ATE evaluators reported using participatory sensemaking and 48% reporting using rubrics to reach evaluative conclusions and inform recommendations. This aligns with the perception among ATE evaluators that project staff, relative to other evaluation activities, tend to be less engaged in interpreting results (32% *highly engaged* and 50% *somewhat engaged*) and making recommendations to the project (30% *highly engaged* and 15% *somewhat engaged*) (**Figure 11**).

Figure 11. ATE evaluators report that project staff tend to be less engaged in interpreting results and making recommendations to the project than activities in the evaluation planning phase. (n = 67)



HOW ARE DATA USED AND REPORTED ON?

This section provides an overview of how ATE evaluation use is perceived and prioritized, as well as strategies to report on ATE evaluation findings.

Perceptions of and Facilitators of Use

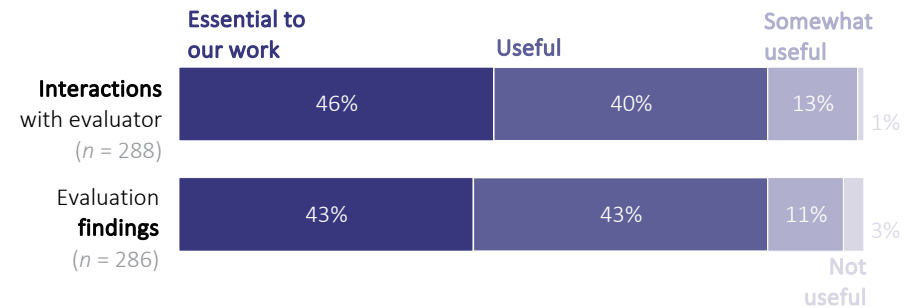
Principal investigators' perceptions of their evaluator interactions and the relevance of evaluation findings can influence how evaluation results are used and reported. In the 2024 survey of ATE principal investigators, 86% of principal investigators reported their interactions with their current evaluator were *useful* or *essential* to their work, while 14% described them as *somewhat useful* or *not useful*.

When elaborating, principal investigators—regardless of whether they selected *essential*, *useful*, or *somewhat useful*—valued interactions that could inform their project's activities or implementation.

Those who found interactions *essential* more often emphasized the evaluator's skills, knowledge, and understanding of their specific context, compared to those who said interactions were *useful*. Communication-related issues or needing more support were more commonly cited among those who found interactions *somewhat useful*. Of the three who said interactions were *not useful*, two indicated their project had not yet started, and one cited communication issues.

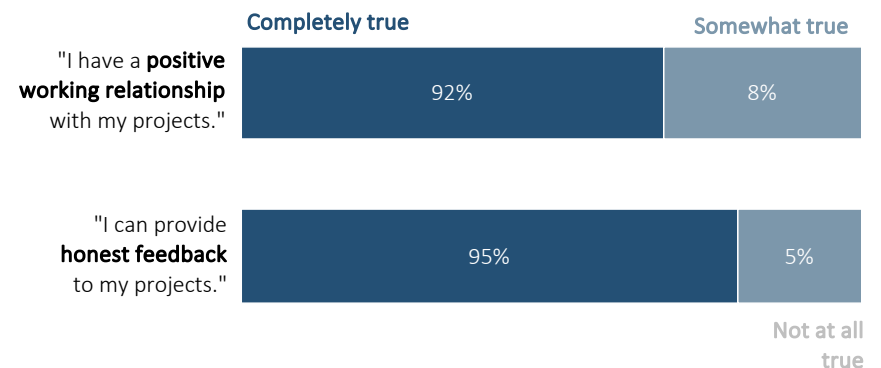
Similarly, 86% of principal investigators found evaluation *findings* to be *useful* or *essential* to their work, while 14% reported they were *somewhat useful* or *not useful* (Figure 12). Many found the findings insightful for current or future work and appreciated the "outside" perspective that evaluators provided. Those who found findings *somewhat useful* or *not useful* said they did not offer new information. Most who said findings were *not useful* noted their grant had recently begun and one cited a lack of new insights.

Figure 12. Both interactions with project evaluators and evaluation findings were regarded as **essential** or **useful** by 86% of principal investigators.



Having a positive working relationship characterized by honesty and transparency can facilitate utility of evaluation findings. In the 2024 survey of ATE evaluators, the vast majority of evaluators rated the statement, "I have a positive working relationship with my projects," as completely true (92%) compared to somewhat true (8%) or not at all true (0%). Similarly, the vast majority rated the statement, "I can provide honest feedback to my projects" as completely true (95%) compared to somewhat true (5%) or not at all true (0%; Figure 13).

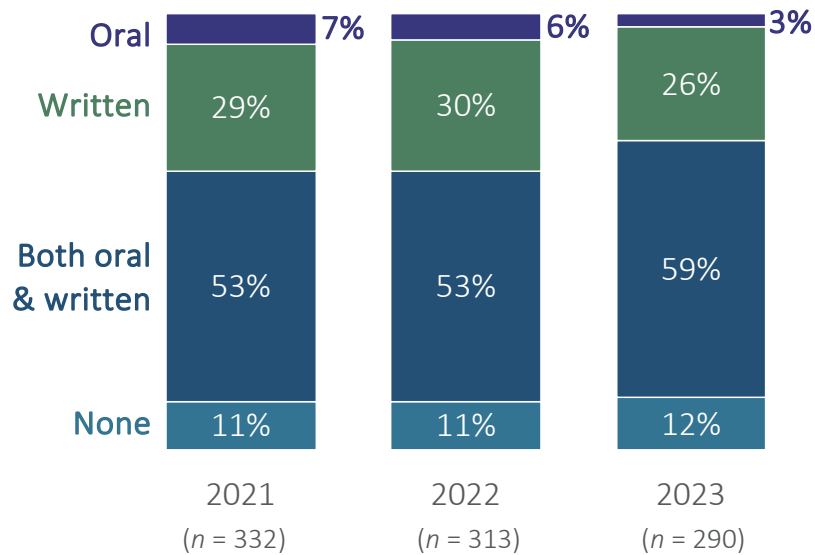
Figure 13. Ninety-two percent of evaluators completely agreed that they had a positive working relationship with project staff and 95% completely agreed that they could provide honest feedback to project staff. (n = 64)



Reporting

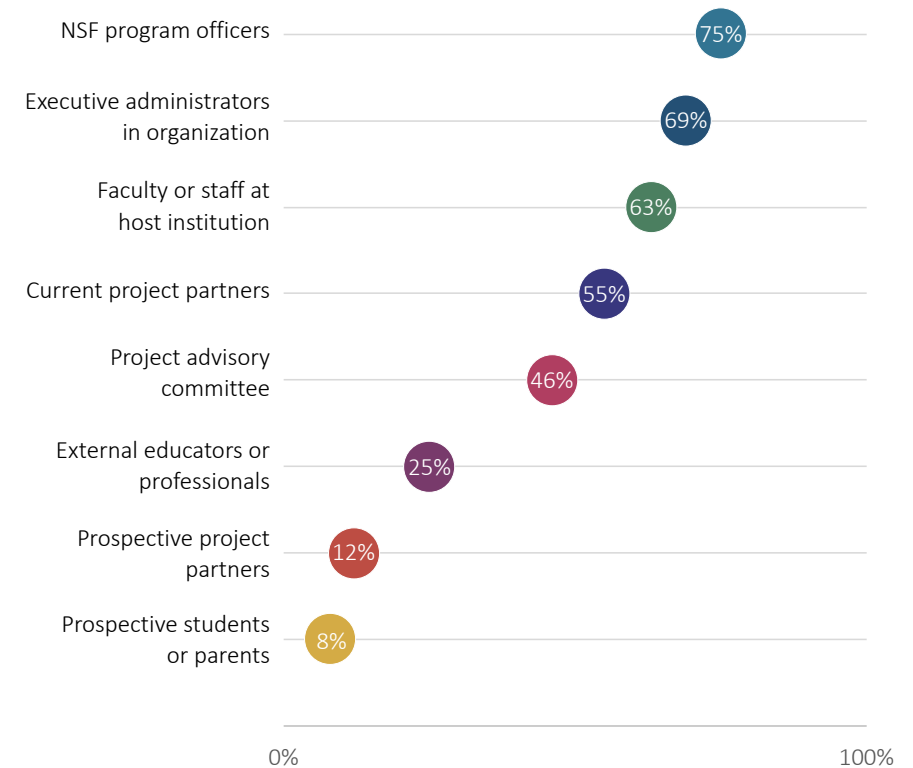
On average, just over half of ATE principal investigators reported receiving both oral and written evaluation reports from their project evaluator (between 53% and 59% from 2021 to 2023). Between 26% and 30% of principal investigators reported receiving a written report only, and 3%–7% reported receiving an oral report only. Among principal investigators surveyed, 11%–12% each year reported receiving no report (Figure 14).

Figure 14. In 2024, 85% of principal investigators received a **written evaluation report** from their evaluator, and 62% reported receiving an **oral report**.



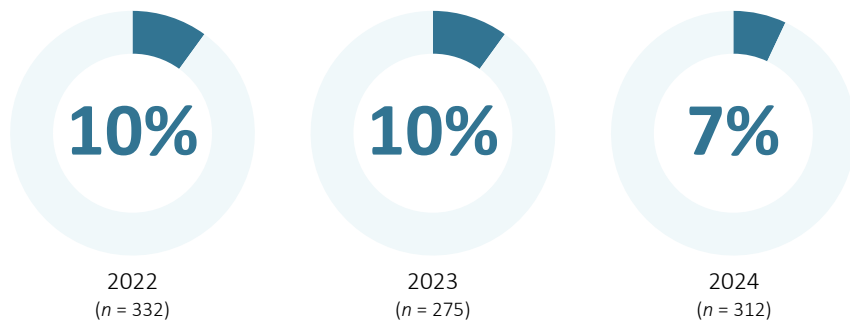
It is unsurprising that principal investigators most often reported sharing evaluation findings with NSF program officers—75% did in 2023, according to the survey of ATE principal investigators. Other frequent audiences for evaluation findings include executive staff of the host institution (69%) and faculty or staff of the host institution (63%). It is notable that only 8% of projects reported sharing evaluation findings with current or prospective students and parents (Figure 15).

Figure 15. In 2023, ATE principal investigators most commonly shared evaluation reports with **NSF, organizational administrators, faculty and staff at host institution, and project partners**. (n = 312)



The survey of ATE principal investigators asked principal investigators whether they publish information related to their project’s evaluation online in a publicly available format. Interestingly, at most 10% of projects reported doing so between 2021 and 2023 (Figure 16). Increasing this number could support the sharing of evaluation approaches, methods, tools, and outcomes across projects; learning across projects; and program-wide transparency.

Figure 16. At most 10% of ATE principal investigators reported making their evaluation findings publicly available online from 2021 through 2023.



Examples of Use

There are several ways evaluation findings can be leveraged to strengthen understanding of impact and identify opportunities for growth or improvement, beyond fulfilling reporting requirements. In the survey of ATE evaluators, 63% reported that they *strongly agreed* and 20% *agreed* that it is important that they help their projects translate what they learned from an evaluation into action (Figure 17).

Figure 17. In 2024, 83% of ATE evaluators **strongly agreed** or **agreed** that it is important to support ATE projects in translating what they learn from an evaluation into action. (n = 64)



Of these evaluators, 32 (58%) reported that they could provide an example of when their ATE evaluation made an important impact or led to a meaningful change in the ATE project being evaluated. Of the 32 evaluators who provided examples of evaluation use, use was most often aligned with informing project activities or implementation (n = 12).

“A process evaluation led to a change in the instructional delivery towards one which incorporated more hands-on approaches and more pre-recorded instruction spread over a longer period so that participants would have more time to engage with the content.”

“The project evaluation outcomes led to a full program review conducted by the institution, which led to a better understanding of the program by the college leadership and an improved quality of support for the program.”

“[When funding for the project abruptly changed], I worked with the principal investigators and looked at evaluation activities to date to identify opportunities to move forward within the changed circumstances.”

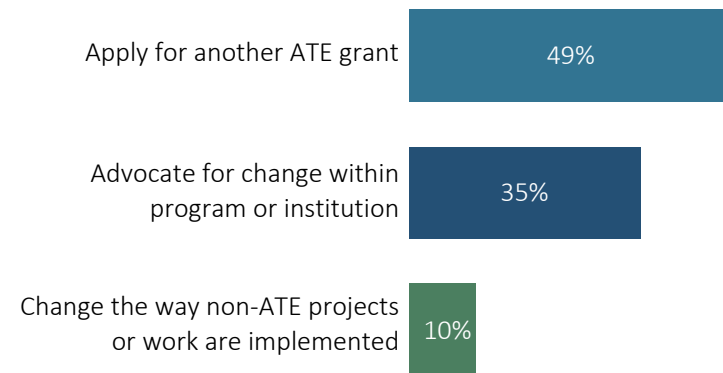
In the survey of ATE principal investigators, 26% of principal investigators reported altering the timing of project activities as a result of their evaluation findings or of working with their evaluator in 2023. The next most common reported uses were redesigning marketing, recruitment, or outreach activities (23%); changing the content of curriculum or training materials (17%); modifying project goals or objectives (17%); and modifying the target audience for project activities (12%; **Figure 18**).

Figure 18. Twenty-six percent or less of ATE principal investigators indicated making the following changes to their project as a result of evaluation findings or working with their evaluator in 2023. ($n = 312$)



In the survey of ATE principal investigators, many reported that working with their evaluator or their evaluation findings led to other actions as well in 2023. For example, almost half reported applying for another ATE grant, and 35% reported that the evaluation or evaluator led them to advocate for change with their program or institution (**Figure 19**).

Figure 10. Half of ATE principal investigators reported using their evaluation findings to apply for another grant ($n = 154$).



WHAT ARE INTEREST HOLDERS' HOPES, WORRIES, AND IDEAS FOR ATE EVALUATION?

This section describes opportunities—derived from interest holder-identified hopes, worries, and ideas—to better facilitate, strengthen, or build upon ATE evaluation.

In 2023, EvaluATE held its first [ATE Evaluation Summit](#), a 3-day virtual convening of 34 people, including ATE evaluators, principal investigators, project staff, grant specialists, and NSF program officers, who collectively represented a diverse set of relevant experiences, perspectives, and backgrounds. This discussion-driven event aimed to consider the current and future state of ATE evaluation.

Across multiple conversations within whole-group and breakout-room discussions, participants responded to several prompts on a virtual whiteboard, generating over 190 contributions, which EvaluATE staff coded and analyzed. This analysis resulted in **eight broad ideas about how to better facilitate, strengthen, or build upon ATE evaluation**. We present these ideas here as opportunities intended for all who are committed to advancing ATE evaluation—evaluators, principal investigators, project staff, grant administrators, NSF program officers, and other interest holders—who bring varied perspectives, hopes, and concerns, and who seek to improve the quality, usefulness, and impact of evaluation across the ATE community. This section will discuss these opportunities, including exemplary quotations about the interest-holder hopes and worries from which we derived them.

Opportunities to Support ATE Projects, Project Staff, and Evaluators

1 Increase and strengthen evaluation supports to ATE projects as they're getting started.

ATE project staff in the early stages of their grants—particularly during proposal writing and the first year of funding—face a range of challenges. **Participants noted that evaluation in some cases becomes an afterthought rather than a foundational element of project design.** When evaluation is considered early, there's greater alignment between project aims and the ways impact can be assessed. Without dedicated time and support up front, evaluation efforts may struggle to gain traction or miss opportunities to improve over time.

HOPE

"It would be nice if evaluation was part of proposal writing from the beginning; allow project goals to be crafted in a way that can be evaluated."

WORRY

"... there is no planning of the evaluation and no discussion of how an evaluation may have been limited and how the evaluation team addressed (or didn't) those limitations."

Finding and selecting the right evaluator can be a daunting task. Procurement procedures vary widely across institutions and often do not account for the collaborative nature of evaluation work. This misalignment between procurement policies and evaluation needs can create strain on both project staff and evaluators. **More guidance on developing requests for proposals, assessing fit, and understanding evaluation budgets could empower project teams and evaluators alike.**

HOPE

“There is a fair, valid, and effective way to vet ATE evaluators to make sure all projects get quality service.”

WORRY

“I’ll go out on a limb here as say the front end of ATE evaluations is deeply flawed: principal investigators or college procurement officers, who may not know anything about evaluation, are expected to find and select a qualified evaluator. Evaluators are expected to work for free to develop high-quality evaluation plans, in hopes that the project will be funded by NSF and they will make it through the procurement red tape. Colleges who can’t name an evaluator in their proposal are in competition with those who can. Procurement offices don’t always fully understand that evaluators are more partners than vendors.”

Finally, once a grant has been funded, the early phase of an ATE project can often feel both exciting and overwhelming, especially for those new to ATE or grant funding. While trying to launch their core activities, teams must also build an evaluation framework from the ground up. **Though project-wide supports such as Mentor Connect and EvaluATE provide assistance, participants expressed that additional resources could help new projects build stronger foundations.** These kinds of investments can give evaluation the attention it deserves during a pivotal window.

HOPE

“Additional funding for evaluators for ‘new to ATE’ projects in the first year of funding.”

WORRY

“For projects in the Getting Started phase [i.e., the first 6–12 months] it feels like pestering project staff during this period about evaluation. The evaluator has to get pushy to get it going.”

2

Leverage professional development, collaboration, and knowledge sharing efforts to build and support evaluator competency.

ATE evaluators recognize the importance of continuous learning, collaboration, and professional development to enhance ATE evaluation. **There is strong interest in establishing structured opportunities for evaluators to build skills, exchange best practices, and support one another.** Many evaluators emphasize the need for ongoing forums, meetups, and communities of practice where they can connect with peers, share insights, and establish long-term professional relationships. There is also interest in strengthening partnerships with organizations like the American Evaluation Association’s STEM topical interest group to expand collaboration opportunities. In doing so, evaluators can enhance specific skills or tools of the trade in the context of ATE evaluation, in addition to skills that support their work with ATE project staff.

HOPE

“It would be nice if all evaluators are as good as the ones that I have had ... could ATE do something to ensure that?”

WORRY

“Lack of sharing between evaluators.”

Supporting evaluators who are new to ATE is another priority highlighted in discussions. **Summit participants highlight the need for an “on-ramp” that helps newcomers integrate into the ATE evaluation space, such as a mentorship program where experienced evaluators provide technical and soft-skills guidance.** They also want to see increased professional development and expanded learning opportunities for evaluators. A tangible example is the potential to include professional development funding in evaluation budgets. Many suggest incorporating panels, workshops, and an evaluation track at the ATE PI conference. Additionally, some are interested in credentialing to ensure that evaluators across ATE programs have a common skill set.

HOPE

“I hope that there is some kind of credentialing system for evaluators; evaluators have common skills.”

WORRY

“I would love to have a more formal way to mentor new evaluators in the ATE space.”

3

Enhance support and guidance around deciding what to evaluate in ATE projects and how.

Given the diversity across ATE projects, there is currently no unified set of outcomes that can assist ATE projects in identifying and measuring project impact specific to the activity areas for which they are funded. While this allows projects to evaluate their projects in a way that is flexible and context-based, it can also lead to challenges in determining what to evaluate and how to conduct evaluations effectively. Some evaluators highlight concerns about evaluations that focus solely on output data rather than deeper insights into program quality and effectiveness. For this reason, several participants want increased guidance about what to evaluate and how. Some would appreciate a common set of metrics to support idea generation and facilitate cross-project comparisons.

HOPE

“Common set of metrics to assist with rolling evaluation findings up.”

WORRY

“Failing to see who a program works for and with—and that outlier evaluations are not given attention.”

Similarly, there is no unified guidance on how to evaluate in ATE. As a result, evaluators and project staff have flexibility and the ability to leverage their own expertise in decision-making. However, participants would like to see increased guidance around ATE evaluation practice standards. **Additional support is desired to help projects as they navigate persistent evaluation challenges common across many project types, such as collecting participant follow-up longitudinally and tracking student participation.** While many want to advance the practice of and collaboration around high-quality ATE evaluation, some express concerns that ATE evaluations risk becoming overly standardized and losing contextual responsiveness with too much guidance. There is also an ongoing tension between ensuring depth and richness in data collection and avoiding excessive burden on projects. Taken together, however, many would like to move away from the assumption that ATE projects will “figure out” their ATE evaluation on their own. Instead, evaluators and project staff have an interest in increasing structured support, clearer guidance, and shared best practices to help ATE projects navigate evaluation decisions effectively.

HOPE

“Clearer expectations around what ATE evaluation should look like, the better.”

WORRY

“Tension between depth and richness of data and not overwhelming folks with data collection and becoming a burden.”

4

Create space and structure for project staff and evaluators to build strong relationships, define roles, and establish trust to facilitate meaningful, high-quality evaluation.

Summit participants underscore the importance of relational dynamics between project staff and evaluators as foundational to strong evaluation practice. Effective collaboration requires more than just technical alignment—it depends on active, consistent communication and the cultivation of honesty, transparency, and trust. When these elements are prioritized, they strengthen every stage of evaluation, from planning to reporting. However, building these relationships takes time—time that can be hard to come by amidst the many competing demands project staff face. Recognizing this tension, participants emphasize the need to intentionally create space early in a project for connection and trust-building. This could mean allocating more time up front or embedding informal check-ins and relationship-building moments into the evaluation timeline. Doing so not only supports a more thoughtful evaluation process, but also helps ensure evaluators are seen—and engaged—as true partners.

HOPE

“That there is a more direct connection and transparent communication between project staff, grants office, and the evaluator.”

WORRY

“Unquestioningly reporting whatever information and data are delivered by the project.”

Establishing clarity around roles and expectations was a recurring theme in Summit discussions, particularly regarding the relationship between project staff and evaluators. Participants value building a shared understanding early on about what evaluation is, what evaluators do, and how to maintain high standards throughout the project. This role clarity can help prevent misalignment, reduce tension, and lay the groundwork for effective collaboration. Once roles are established, revisiting them periodically ensures continued alignment as the project evolves.

HOPE

“Principal investigators have resources that let them know what to expect from the evaluator and how to hold the evaluator to a high standard.”

WORRY

“Evaluator becomes the project manager (trying to run the show, or expected to).”

At the same time, some participants recognize a tension that occurs when evaluators are under-integrated into a project. While evaluators are sometimes expected to take on responsibilities that go beyond their role, like project management, they are also at risk of being excluded entirely from meaningful project-level and evaluation discussions. **Striking the right balance means making space for evaluators to be “critical friends”—engaged, trusted collaborators whose insights support learning and improvement without overshadowing project leadership.**

HOPE

“It would be nice if the evaluator were thought of as ‘part of the team,’ a critical friend.”

WORRY

“On the part of the project team, doesn’t give an evaluator a seat at the table and doesn’t engage with the evaluation findings.”

5

Clarify the intended purposes and uses of ATE evaluation, and align reporting practices accordingly to ensure findings are meaningful and actionable and drive greater impact.

The opportunity to clarify the purpose and uses of ATE evaluations emerges across several recurring themes in the Summit data. **Participants express uncertainty about who the primary audience for ATE evaluation is—whether it’s project teams, NSF, or other interest holders.** This lack of clarity can lead to evaluations that are misaligned with the needs of those they are intended to serve most, perhaps limiting their usefulness and impact. Another commonly noted challenge is the underutilization of evaluation findings: Findings are not always shared in a way that encourages action, and evaluations may lack clear recommendations to support project improvement. Even when formative feedback is available, it’s not always used to inform decision-making, which weakens the overall value and learning potential of the evaluation. **Increasing guidance on the purposes of ATE evaluation, planning around evaluation use, and understanding who the primary audiences are could better support projects in leveraging evaluation for greater impact.**

HOPE

“ATE evaluations can help demonstrate that projects are responsive to business and industry needs.”

WORRY

“I’m concerned that evaluation data gets lost in the noise.”

Another key factor in supporting meaningful evaluation is the alignment of evaluation reporting with the needs of distinct and diverse audiences. Reporting methods and approaches often aim to address the diverse interests and needs of multiple audiences, but differences in what information is relevant or useful to each group—such as preferred formats, language, or level of detail—can create challenges in making findings meaningful and actionable. When reporting types or approaches fail to strike this balance, valuable data can get lost or diluted. These mismatches reduce the usefulness of evaluation, limiting its potential to support learning, improvement, and broader impact. Alternatively, **leveraging evaluation reporting practices in a way that is audience- and context-sensitive can help increase the perceived value and actual utility of evaluation practice.**

HOPE

“Evaluators share evaluation info with clients in a way that is easy to digest and usable (could help increase perceived value of evaluation).”

WORRY

“Spitting back data that the project collected.”

Finally, participants highlight the importance of emphasizing the value of evaluation, specifically the role it plays in demonstrating impact, understanding project goal attainment, and identifying areas for improvement or growth. However, many project teams lack clear examples of how evaluation has added value within ATE projects, making it harder to see its relevance during planning and implementation. Participants also **want to see increased sharing of examples of the value that evaluation brings to ATE projects, as well as clear and actionable examples of evaluation reporting and use.** Without accessible and compelling examples, the role of evaluation risks being undervalued or overlooked, particularly for those who are getting started with evaluation in their ATE projects.

HOPE

“It would be great if we had more examples of how evaluations brought value to projects.”

WORRY

“The value of evaluation will not be promoted or seen.”

Opportunities to Support and Advance the ATE Program's Impact

6 Prioritize building evaluation capacity at all levels of ATE to further increase program-wide impact.

Strengthening evaluation capacity across all levels of ATE—including project staff, evaluators, and NSF ATE program officers—can enhance both the impact and the sustainability of evaluation efforts. Several participants note that this would involve further **fostering a program-wide culture that sees evaluation as integral to project success rather than solely an NSF-guided requirement.** Participants highlight the need for clearer guidance on what high-quality evaluation entails, as well as more training and mentoring to build a shared understanding of evaluation's role. Additionally, increasing the presence of ATE 'evaluation champions'—or individuals who promote and advocate for evaluation within projects and the ATE program—could help ensure consistent engagement with evaluation and the utility of findings.

HOPE

"ATE projects can experience and see evaluation that is helpful."

WORRY

"Some principal investigators don't value evaluation: They look at [evaluators] as the 'add on,' 'bring us at the last minute,' and 'for cheap.' 'Anyone can evaluate,' is the general mentality for some."

Several participants note the role financial resources designated for evaluation play in supporting or constraining evaluation capacity. Some wonder if there could be standardized budgeting guidelines for evaluation, including the potential for a set percentage of award funds allocated to evaluation, to ensure projects can invest in meaningful evaluation activities. Some participants worry that lower budgets for evaluation can not only limit the effectiveness and quality of an evaluation, but also create inequitable conditions for potential evaluators who may have to undersell their skills and expertise or compete with evaluators who are willing to and able take lower-paying contracts.

HOPE

"I hope budgets allow meaningful evaluation."

WORRY

"Evaluators undersell their skills and expertise and are willing to work for less (for some, this work may be a side gig, so it may not matter as much)."

Addressing these challenges by prioritizing ATE evaluation capacity building efforts around evaluation training, mentoring, and financial support can help create a stronger, more embedded culture of evaluation within ATE, ultimately increasing program-wide impact.

HOPE

“To have enough resources and supports available to set up projects for success with evaluation as early as possible.”

WORRY

“There is a tension between wanting to build evaluation capacity during an ATE evaluation and limited resources.”

7

Increase program wide efforts to share knowledge and apply learnings across projects to enhance project and program impact.

A key opportunity for strengthening the ATE program lies in expanding efforts to share learnings across projects, particularly regarding evaluation findings and program impact. Participants strongly desire increased access to other projects’ evaluation reports; they’re concerned that valuable insights and outcomes are not being widely shared. The perceived impact of information sharing between projects is to improve upon project efficiency and effectiveness. Additionally, there is interest in exploring alternative ways to demonstrate evaluation impact beyond

traditional reports and increasing opportunities for more regular discussions between individuals involved in evaluation on ATE-specific evaluation practices.

HOPE

“It would be great if we could read/access other projects’ evaluation reports.”

WORRY

“The evaluation picture across sectors is too big to see at one time.”

Other approaches, such as conducting a meta-analysis of program impact or identifying and leveraging common outcomes and metrics in ATE, could help aggregate findings across projects, providing a clearer picture of ATE’s collective impact.

HOPE

“Interest around some kind of meta-analysis of evaluation findings across projects.”

WORRY

“Projects measure outcomes differently, cannot aggregate.”

8

Leverage NSF influence to facilitate and increase engagement around ATE evaluation.

Many Summit participants would like to see continued and expanded structures enacted by NSF that facilitate and support ATE evaluation. NSF's commitment to evaluation is noted in that it both requires evaluation and provides funding for evaluation across all projects. Additional commitment is noted through its funding of resource centers such as EvaluATE, the evaluation resource hub for ATE, and Mentor Connect, which provides resources to projects getting started with ATE evaluation. To further place structures around ATE evaluation, participants expressed a desire to receive increased guidance from NSF on how to budget for evaluation, particularly around how much should be budgeted and how to contract with an evaluator. Additional structures could include increased guidance around expectations for evaluation, its importance, and the role it plays within ATE projects, and when to get started with ATE evaluation.

HOPE

"I would like to hear more from the NSF on how they (specifically) define good evaluation and what informs their perspectives. I.e., not knowing what 'good evaluation' is in ATE."

WORRY

"Without guidance from NSF, assessing impact is unclear and complicated."

Additionally, participants see a need for increased engagement around evaluation among NSF program officers. Some wonder how closely program officers read the evaluation reports that are submitted to NSF annually. Many are interested in engaging in conversations around evaluation reports for the purposes of learning whether projects are meeting NSF expectations, sharing project successes, and troubleshooting ongoing challenges or concerns. Some participants are afraid that project challenges or unmet goals would be perceived negatively by program officers and could perhaps threaten continued or future funding opportunities. Therefore, the opportunity exists for NSF to increase communication around their perceived role with ATE evaluation within their project portfolios and clarify who they perceive the primary audiences of evaluation reports to be. Finally, regarding evaluation training, some expressed concerns that new or incoming program officers are not sufficiently trained in evaluation within the ATE context, leading to challenges in how they perceive and justify funding for high-quality, innovative evaluation within ATE projects.

HOPE

"NSF program officers comment on evaluation report if the evaluation report or outcomes are meeting expectations."

WORRY

"Fear from principal investigators that funding will be removed if [there are] negative evaluation findings."

LOOKING FORWARD

This report offers a detailed look at how evaluation is planned, implemented, and used across the ATE program, while also illuminating the perspectives, priorities, and wisdom of those most engaged in this work. The insights and opportunities presented reflect the collective expertise and deep commitment of the ATE community. Together, they reinforce the importance of continuously advocating for and strengthening context-driven, useful, and impactful evaluation practices that benefit individual projects and the entirety of the ATE program.

By establishing a shared understanding of current evaluation practices and surfacing community-driven experiences and dialogue, this report also provides a valuable opportunity to look ahead. It can serve as a jumping-off point to deepen the community's resolve to engage in, collaborate around, and leverage high-quality evaluation practices to advance the important goals of the ATE program—while also inspiring new initiatives that foster the conditions needed to support meaningful, sustained evaluation at every level of the program.

Examples of Actions to Advance ATE Evaluation

Possible actions for evaluators, principal investigators, and project staff

- Leverage reporting practices that are tailored to context and audience to enhance the utility and perceived value of evaluation.
- Share evaluation insights more widely—through community conversations, conference presentations, journal articles (like [*Journal of Advanced Technological Education*](#)), and published reports—to promote cross-project learning and visibility of evaluation's impact.
- Highlight and circulate concrete examples of how evaluation contributes to project improvement and success.
- Recognize how evolving expectations and knowledge around evaluation may influence how evaluation is viewed and practiced.
- Include time and space to build and maintain healthy, trusting, and positive working relationships among project staff and evaluators.

Possible actions for ATE projects that provide program support

- Prioritize developing new initiatives that respond directly to community-identified needs and interests, ensuring support efforts remain context-driven and timely.
- Strengthen opportunities for peer learning through communities of practice, mentoring, and structured spaces for skill-building and knowledge exchange.
- Create more opportunities for evaluators and project staff to share evaluation use, reporting, and impact examples.
- Develop targeted resources to address common evaluation challenges, such as tracking longitudinal outcomes and monitoring student participation.
- Establish clear “on-ramps” for those new to ATE evaluation, such as mentorship programs offering technical and relational guidance from experienced evaluators.

Possible actions for NSF Program Officers

- Continue prioritizing evaluation in funding decisions and supporting evaluation-related resources that strengthen project success and learning.
- Consider ways to embed additional support for evaluation across the lifecycle of ATE projects, especially for those in early stages.
- Explore opportunities to provide clearer guidance around the purposes and intended uses of ATE evaluation to help projects better align their efforts with program goals and audience needs.

Sustaining and strengthening evaluation across the program will require a continued, shared commitment to viewing it as a catalyst for learning, improvement, and impact. The long-standing contributions of evaluators, principal investigators, project staff, grant administrators, and NSF program officers already demonstrate the power of evaluation to drive project success and foster meaningful, collaborative progress. When evaluation is embraced as an integral part of each project—rather than viewed solely as a reporting requirement—the ATE community is even better positioned to enhance the effectiveness of its efforts. In doing so, ATE evaluation will continue to support the program’s ultimate goal: advancing “the education and success of technicians in the high-technology fields that are essential to our nation’s economy” (NSF, 2024, p. 3).



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