Communicating What Matters

Understanding and Sharing ATE Project Outcomes and Impact

Begins at 1 p.m. Eastern

EvaluATE

EvaluATE
evalu-ate.org

Slides are available at:
evalu-ate.org/webinar/oct25

OUR *Vision*

EvaluATE envisions an ATE community in which evaluation is valued, systematic, and used to improve the education of technicians in high-tech fields.

OUR *Mission*

EvaluATE's mission is to engage the ATE community with information, expertise, and tools to advance high-quality evaluation.

EvaluATE

Materials

Communicating
What Matters
*Understanding and Sharing ATE
Project Outcomes and Impact*

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EvaluATE

Slides

Recording

Introductions

Samantha Hooker

Brianna Hooks Singletary

Megan Lopez

Behind the Scenes

Maureen Green

Lyssa Becho

J Hyde

Thank You

Candiya
Mann

Advanced Technological Education Program

www.nsf.gov/ate

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Hello

Brianna

Megan

Agenda

》》 Focusing on Outcomes & Impact
   What, when, and why?

》》 Developing Meaningful Outcomes

》》 Strategies for Measuring Impact

》》 Communicating Your Project's Story

The Value of Evaluating Outcomes and Impact
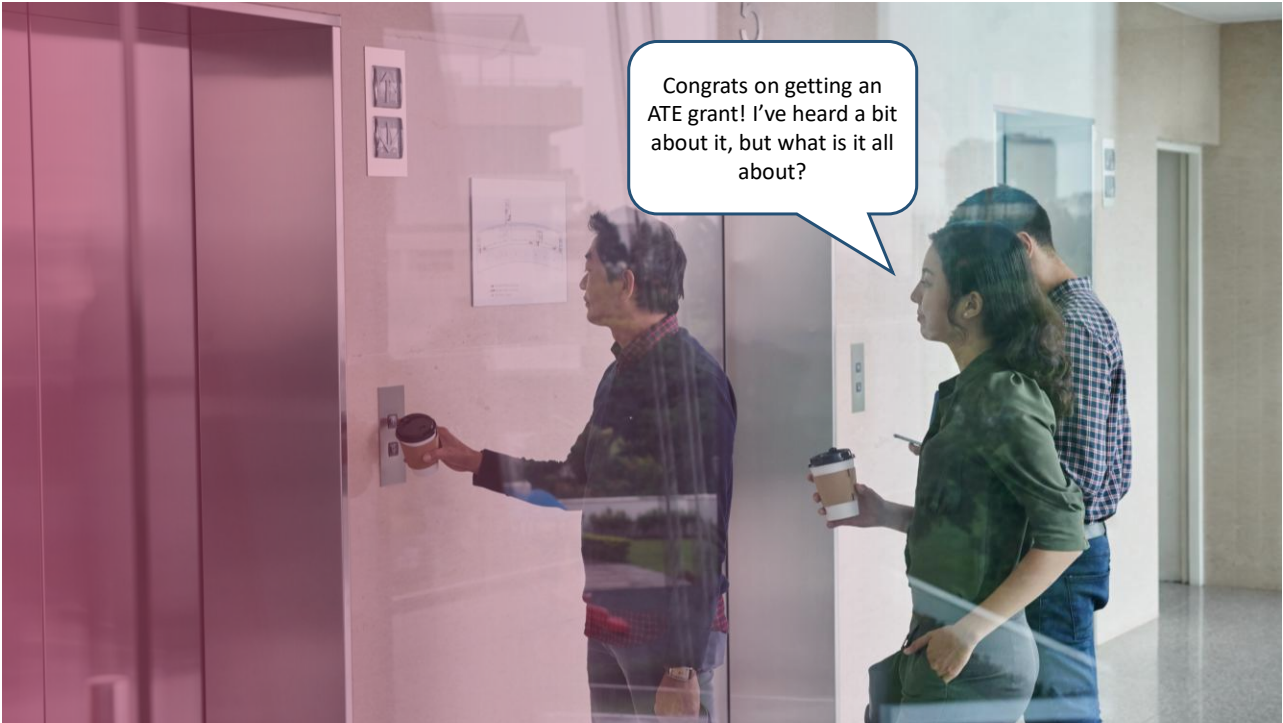
EvaluATE

Chat Question

If you had to share about your **ATE project in 1 sentence**, what would you say?

Imagine you're waiting for the elevator with your colleagues

We developed this project in response to local industry demand for **technicians who can adapt to new technologies** and **keep the region's manufacturing sector competitive**.

We developed this project in response to local industry demand for **technicians who can adapt to new technologies** and **keep the region's manufacturing sector competitive**. Our new lab opportunities will **build students' skills and confidence** with the latest tools, **preparing them to meet industry needs**.

Thinking about Impact

WHEN WE TALK ABOUT IMPACT, WE'RE REALLY ASKING…

How does your project **contribute to immediate** and **broader changes** in individuals, education, the workforce, your community, or society as a whole?

Immediate Results vs. Broader Changes

Changes in…	Immediate Results *During your grant window*	Broader Changes *Beyond your grant*
Individuals	• Increased participation rates • Improved retention rates	Graduates experience upward mobility throughout their careers
Industry	• Increased # of filled internships • Reduction in on-boarding time for new hires	Summit Valley experiences a thriving economy

When to Think about Impact?

ACROSS ALL PHASES OF YOUR PROJECT'S LIFECYCLE

When to Think about Impact

IN THE PLANNING & PROPOSAL WRITING PHASES

» Align planned activities to the changes you hope to make

» Align planned activities to the need that inspired them

» Ensure that outcomes have the potential to contribute to broader changes

When to Think about Impact

IN THE GETTING STARTED & IMPLEMENTATION PHASES

» Measure & monitor progress towards intended outcomes for completed or in-progress activities

» Consider if changes made to project activities still align with intended outcomes & impact

Project Lifecycle: Proposal Development · Getting Started · Mid-Project + Annual Reporting · Closing Out

When to Think about Impact

IN THE CLOSING OUT OR SUNSETTING PHASE

» Determine if your project's accomplishments achieved its intended results

» Identify how those results addressed the needs you identified at the start

How are we better off as a result of this project?

Project Lifecycle: Proposal Development · Getting Started · Mid-Project + Annual Reporting · Closing Out

Let's Take a Look at a Case Example

TechSkills Advanced Manufacturing Initiative

〉〉〉 NSF ATE-funded project based at Summit Valley Community College

〉〉〉 Aims to enhance technician training in industrial automation

〉〉〉 Serves a mix of traditional students, adult learners, and veterans

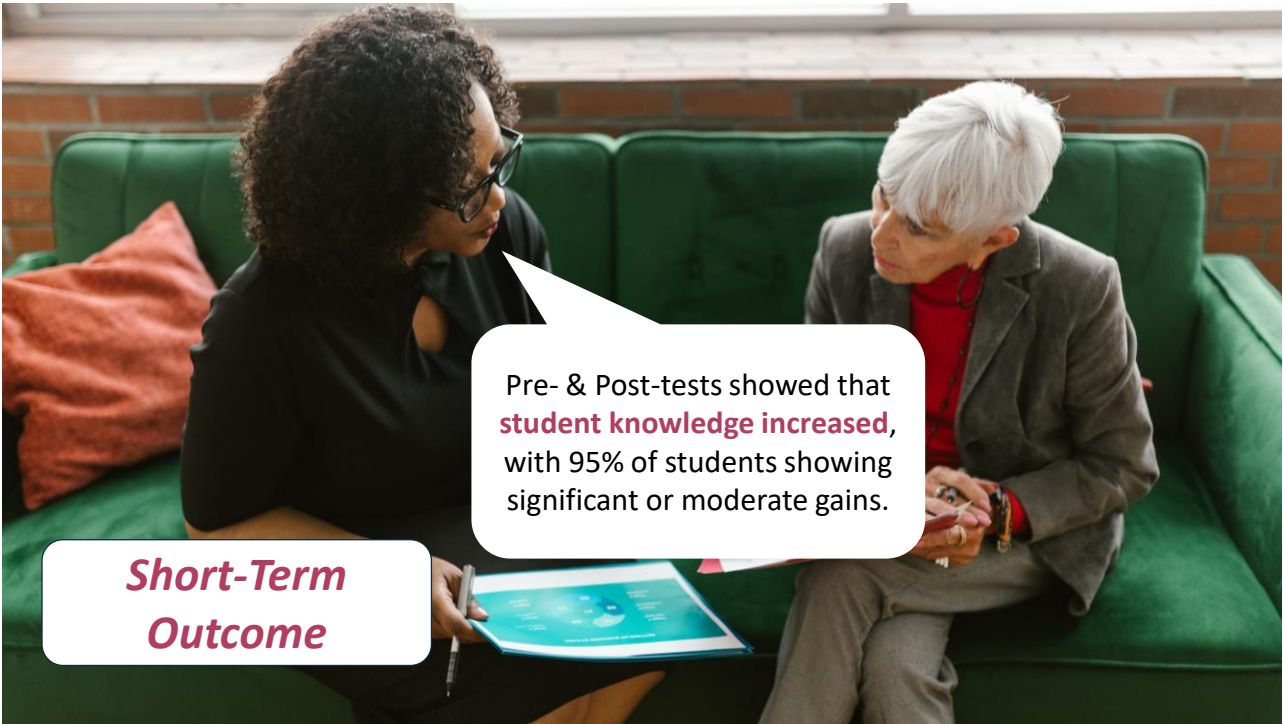〉〉〉 Emphasizes industry-aligned curriculum, hands-on labs, and work-based learning opportunities

72 students enrolled in courses with the **new curriculum** and **30 participated** in **work-based learning**. Of those students, **35% identified as Veterans**.

Outputs

Output
The immediate & direct results of actions taken.

"**72 students enrolled** in courses with the **new curriculum**."

Pre- & Post-tests showed that **student knowledge increased**, with 95% of students showing significant or moderate gains.

Short-Term Outcome

Output The immediate & direct results of actions taken.	"**72 students enrolled** in courses with the **new curriculum**."
Short-Term Outcome The intended results or changes that a project aims to achieve from the project's activities.	"Pre- & Post-tests showed that **student knowledge** moderately or significantly **increased**."

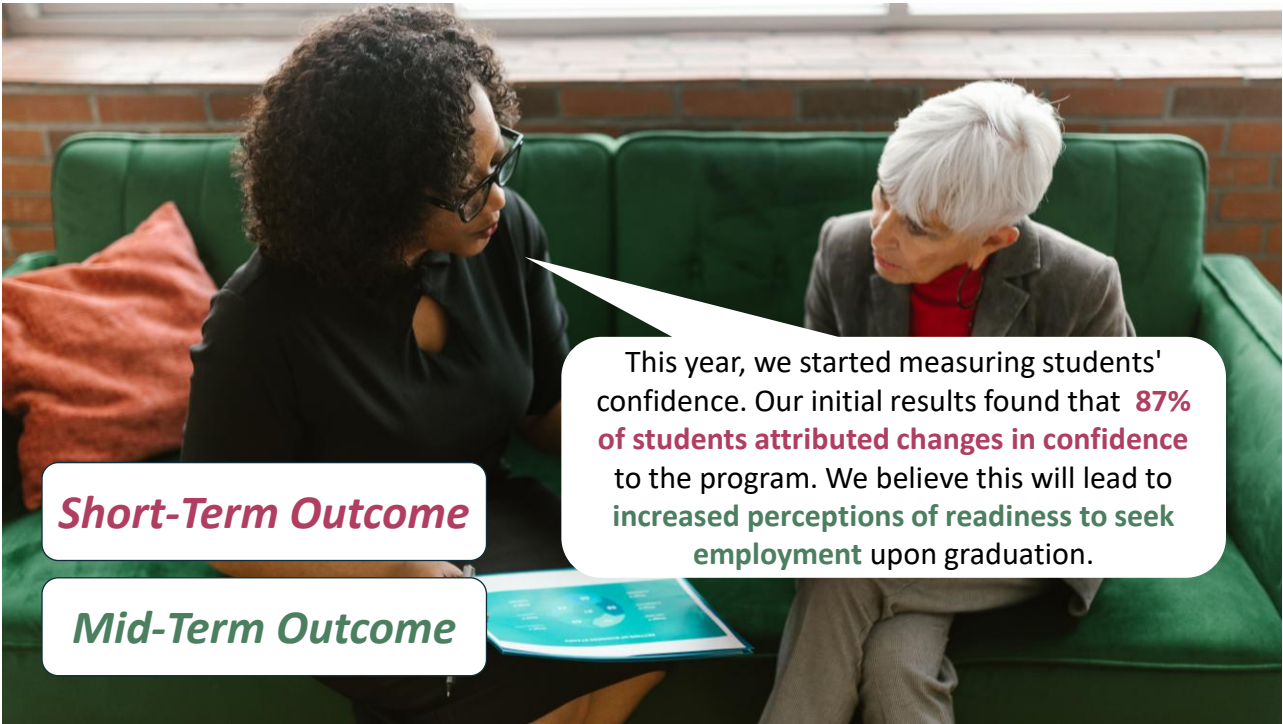|	
Output The immediate & direct results of actions taken.	"**72 students enrolled** in courses with the **new curriculum**."
Short-Term Outcome The intended results or changes that a project aims to achieve from the project's activities.	"Pre- & Post-tests showed that **student knowledge** moderately or significantly **increased**."
Mid-Term Outcome Changes that result from achieving the short-term outcomes.	"Among those who have completed the program, **86% passed their industry certification exam**."

Short-Term Outcome

This year, we started measuring students' confidence. Our initial results found that **87% of students attributed changes in confidence** to the program.

Output The immediate & direct results of actions taken.	"**72 students enrolled** in courses with the **new curriculum**."
Short-Term Outcome The intended results or changes that a project aims to achieve from the project's activities.	"Pre- & Post-tests showed that **student knowledge** moderately or significantly **increased**."
Mid-Term Outcome Changes that result from achieving the short-term outcomes.	"Among those who have completed the program, **86% passed their industry certification exam**."
Impact or Long-Term Outcome Broader changes that result from short- & mid-term outcomes that address the conditions that make the project necessary.	"This project has the potential to enhance **workforce preparedness among STEM technicians**."

When planning your project, should you…?

POLL QUESTION

Activities
Develop courses with a **new industry-aligned curriculum.**

Outputs
"**72 students enrolled** in courses with the **new curriculum**."

Short-Term Outcome
"Pre- & Post-tests showed that **student knowledge** moderately or significantly **increased**."

Mid-Term Outcome
"Among those who have completed the program, **86% passed their industry certification exam**."

Impact
"This project has the potential to enhance **workforce preparedness among STEM technicians**."

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Top Panel

When planning your project, should you…?

POLL QUESTION

Option A
Start with <u>activities</u> & work forward

Activities
Develop courses with a new industry-aligned curriculum.

Outputs

Short-Term Outco

Mid-Term Outc

Impact
"This project has the potential to enhance **workforce preparedness among STEM technicians**."

Bottom Panel

When planning your project, should you…?

POLL QUESTION

Option A
Start with <u>activities</u> & work forward

Option B
Start with <u>impact</u> & work backward

Activities
Develop courses with a new industry-aligned curriculum.

Outputs

Short-Term Outc

Mid-Term Outc

Impact
"This project has the potential to enhance **workforce preparedness among STEM technicians**."

When planning your project, should you…?

POLL QUESTION

Option A
Start with <u>activities</u> & work forward

Option B
Start with <u>impact</u> & work backward

Option C
Either way is fine!

Activities
Develop courses with a new industry-aligned curriculum.

Outputs
"72 students enrolled in courses with the new curriculum."

Short-Term Outcome
"Pre- & Post-tests showed that student knowledge moderately or significantly increased."

Mid-Term Outcome
"Among those who have completed the program, 86% passed their industry certification exam."

Impact
"This project has the potential to enhance workforce preparedness among STEM technicians."
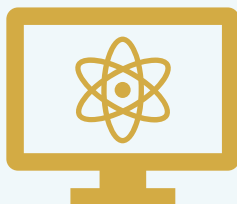
Identifying Meaningful Outcomes

EvaluATE

Identifying Meaningful Outcomes

Strategies

Align Outcomes and
Impacts with your ATE
Proposal

Align Outcomes with
NSF Solicitation &
ATE Priorities

Align Outcomes with
Industry-Specific Standards
or Frameworks

Identifying Meaningful Outcomes

STRATEGY #1

**Align Outcomes
and Impacts
with your ATE
Proposal**

Project Description

Project Activities
Activity 1

Activity 2

Identifying Meaningful Outcomes

STRATEGY #1

Align Outcomes and Impacts with your ATE Proposal

Outputs

Project Description

Project Activities
Activity 1

Activity 2

Identifying Meaningful Outcomes

STRATEGY #1

Align Outcomes and Impacts with your ATE Proposal
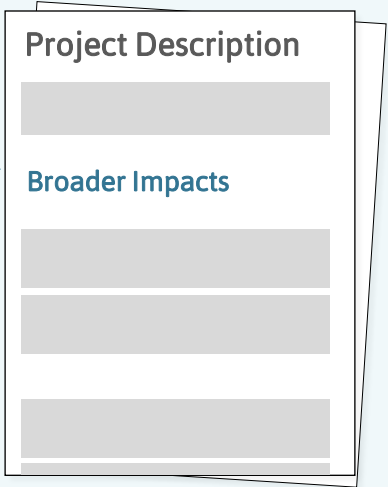
MID-TERM OUTCOMES

SHORT-TERM OUTCOMES

Project Description

Goals & Objectives

Identifying Meaningful Outcomes

STRATEGY #1

Align Outcomes and Impacts with your ATE Proposal

LONG-TERM OUTCOMES

Project Description

Broader Impacts

Identifying Meaningful Outcomes

STRATEGY #1

Align Outcomes and Impacts with your ATE Proposal

Activities

Short-Term & Mid-Term Outcomes

Outputs

Long-Term Impact
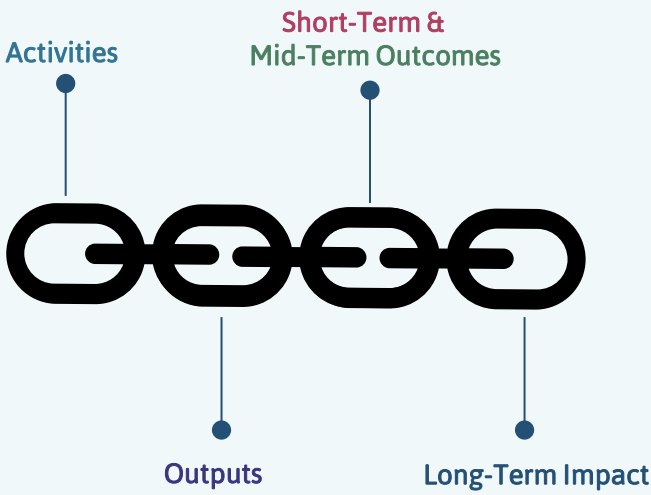
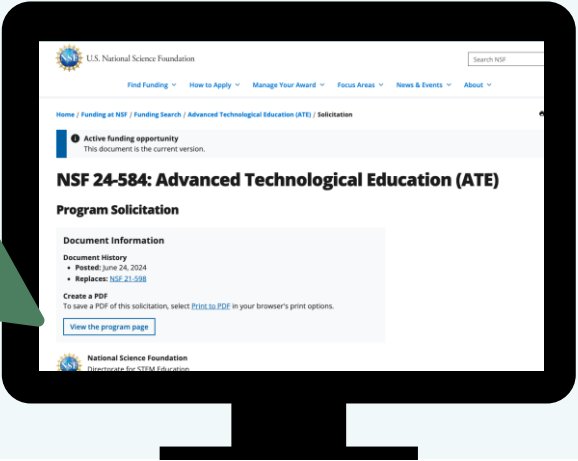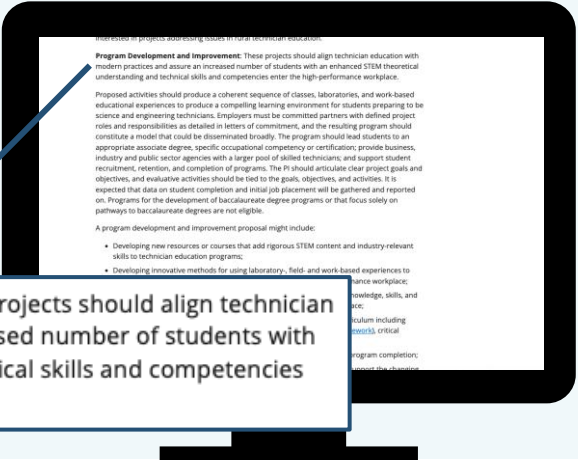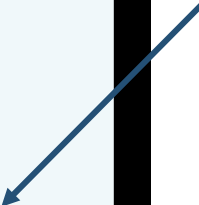# Identifying Meaningful Outcomes

STRATEGY #2

Align Outcomes with
NSF Solicitation &
ATE Priorities

Identifying Meaningful Outcomes

STRATEGY #2

Align Outcomes with
NSF Solicitation &
ATE Priorities

Program Development and Improvement: These projects should align technician education with modern practices to ensure an increased number of students with enhanced STEM theoretical understanding and technical skills and competencies enter the high-performance workplace.

Identifying Meaningful Outcomes

STRATEGY #2

Short-Term Outcomes

Align Outcomes with NSF Solicitation & ATE Priorities

Program Development and Improvement: These projects should align technician education with modern practices to ensure an increased number of students with enhanced STEM theoretical understanding and technical skills and competencies enter the high-performance workplace.

Identifying Meaningful Outcomes

STRATEGY #3

Align Outcomes with Industry-Specific Standards or Frameworks

⬡ Career & Technical Education Standards

🚗 Industry-Specific Frameworks

⚛ STEM Education Frameworks

💼 Workforce Readiness Frameworks

Identifying Outcomes for the
TechSkills Advanced Manufacturing Initiative

STRATEGY 1

Align Outcomes & Impact with your ATE Proposal

"…strengthen the regional manufacturing workforce by preparing highly skilled technicians who can adapt to rapid technological changes."

Project Description

Broader Impacts

Identifying Outcomes for the
TechSkills Advanced Manufacturing Initiative

STRATEGY 2

Align Outcomes with Industry-Specific Standards or Frameworks

A program development and improvement proposal might include:

- Developing new resources or courses that add rigorous STEM content and industry-relevant skills to technician education programs;

- Developing innovative methods for using laboratory-, field- and work-based experiences to improve students' understanding of basic principles and the high-performance workplace;

- Utilizing modern instrumentation and new technologies to address the knowledge, skills, and competencies needed for the evolving, converging, and emerging workplace;

Identifying Outcomes for the
TechSkills Advanced Manufacturing Initiative

STRATEGY 3

**Align Outcomes with NSF
Solicitation & ATE
Priorities**

National Initiative for
Cybersecurity Careers &
Studies (NICE) Framework
Competency Areas
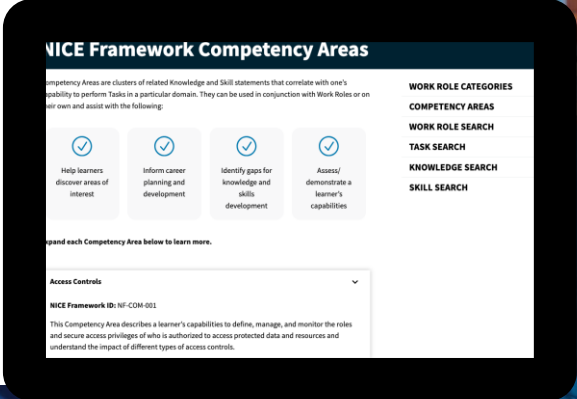
Identifying Meaningful Outcomes

RESOURCE
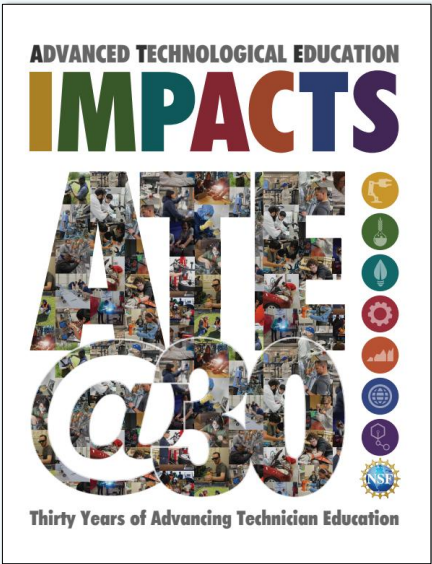
Strategies for Measuring Impact

EvaluATE

Develop clear and measurable evaluation questions

Action verb
Improve
Increase
Strengthen
Expand

Develop clear and measurable evaluation questions

Action verb	Target population & setting
Improve	Adult learners at community colleges
Increase	Veterans transitioning into technical careers
Strengthen	First- gen college students in STEM
Expand	Women in advanced manufacturing pathways

Develop clear and measurable evaluation questions

Action verb	Target population & setting	Impact
Improve	Adult learners at community colleges	Industrial automation skills
Increase	Veterans transitioning into technical careers	Job placement rates
Strengthen	First- gen college students in STEM	Retention in technician programs
Expand	Women in advanced manufacturing pathways	Credentials or certifications earned

Set Yourself Up to Measure Impact

1. Develop clear and measurable evaluation questions
2. Collect baseline data before the intervention starts

Collect baseline data

EVALUATION	YEAR 1				YEAR 2				YEAR 3			
	Fall	Win.	Spr.	Sum.	Fall	Win.	Spr.	Sum.	Fall	Win.	Spr.	Sum.
Finalize evaluation plan	■											
Collect baseline data		■										
Draft and pilot surveys		■										
Survey camp participants and parents			■				■				■	
Follow-up survey of camp participants				■								
Survey AV 100 and AV 150 students					■	■		■		■		
Focus group with students												
Reports completed (Annual, Final)			■		■		■				■	
Evaluation feedback session			■			■					■	

Collect baseline data

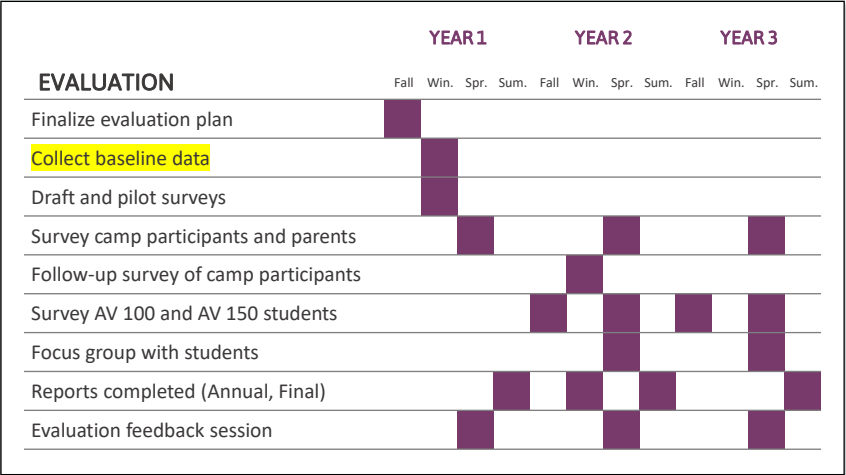| EVALUATION	YEAR 1				YEAR 2				YEAR 3			
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Survey camp participants and parents			■				■				■	
Follow-up survey of camp participants					■							
Survey AV 100 and AV 150 students				■			■	■			■	
Focus group with students							■					
Reports completed (Annual, Final)				■		■		■				■
Evaluation feedback session			■				■				■	

Set Yourself Up to Measure Impact

1. Develop clear and measurable evaluation questions
2. Collect baseline data before the intervention starts
3. Build in multiple data points

Collect baseline data

EVALUATION	YEAR 1				YEAR 2				YEAR 3			
	Fall	Win.	Spr.	Sum.	Fall	Win.	Spr.	Sum.	Fall	Win.	Spr.	Sum.
Finalize evaluation plan	■											
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Draft and pilot surveys			■									
Survey camp participants and parents				■			■				■	
Follow-up survey of camp participants					■							
Survey AV 100 and AV 150 students			■			■		■		■		
Focus group with students							■				■	
Reports completed (Annual, Final)				■		■		■				■
Evaluation feedback session		■					■			■		

Set Yourself Up to Measure Impact

1. Develop clear and measurable evaluation questions
2. Collect baseline data before the intervention starts
3. Build in multiple data points
4. Document possible alternative explanations

Document possible alternative explanations

What do we think would have happened if our program hadn't taken place?

Could anything else have caused the change we are seeing?

How confident are we that our work made a real difference?

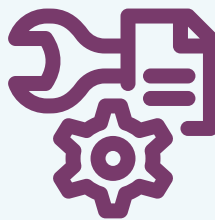*What evidence do we have that links our efforts to the results?*

Set Yourself Up to Measure Impact

1. Develop clear and measurable evaluation questions
2. Collect baseline data before the intervention starts
3. Build in multiple data points
4. Document possible alternative explanations
5. Budget appropriately

Budget Appropriately

Evaluator time & expertise

Data tools & systems
(e.g., survey software, transcription, dashboards)

Personnel support

Communicating your Project's Story

EvaluATE

Clarifying Who You're Talking To

Faculty

Students

Your Project Story

Funders & Policymakers

Industry Partners

When sharing your project's story, which best describes your current approach?

POLL QUESTION

Option A

We focus on reporting required results and general updates.

Option B

We highlight achievements to show progress and build interest.

Option C

We craft stories and visuals that connect data to what matters most for each audience.

When sharing your project's story, which best describes your current approach?

POLL QUESTION

Option A

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We craft stories and visuals that connect data to what matters most for each audience.

Shaping Your Message

What are their top priorities or concerns?

What information would be most relevant or beneficial for them to understand?

How are they likely to use this information when making decisions?

Shaping Your Message

FUNDERS & POLICYMAKERS

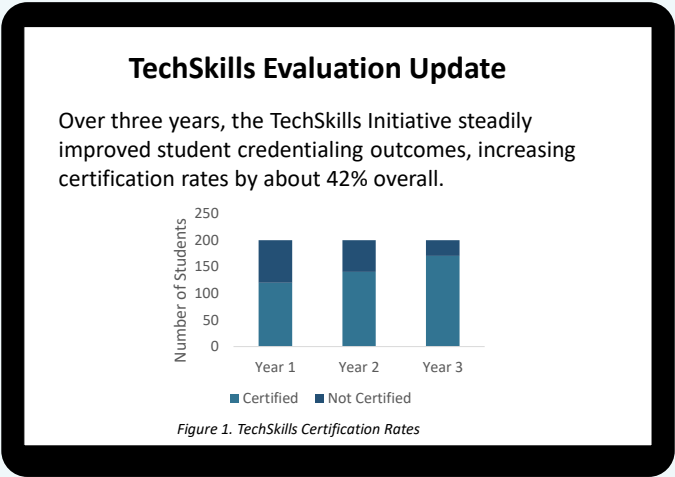|	
What are their top priorities or concerns?	• Alignment with NSF ATE goals • Evidence of broader impacts • Sustainability • Contribution to the knowledge base
What information would be most relevant or beneficial for them to understand?	• Data on retention, credential attainment, technician job placement • Student success stories tied to industry demand • Plans for scaling or sustaining work beyond the grant
How are they likely to use this information when making decisions?	• Shape STEM and workforce policy recommendations • Justify continued or increased NSF ATE funding levels • Inform workforce development initiatives

Ways To Share

Progress reports
Data dashboards
Conference posters
Team presentations
Annual reports
Media releases
Policy briefs
Community presentations

Ways To Share

Frame story with data and evidence

TechSkills Evaluation Update

Over three years, the TechSkills Initiative steadily improved student credentialing outcomes, increasing certification rates by about 42% overall.

Figure 1. TechSkills Certification Rates

Ways To Share

Situate story within the bigger picture

TechSkills Evaluation Update

Maria, a TechSkills graduate, is now employed at Summit Automation. She is one of 40 graduates meeting critical workforce shortages in the region.

"Before TechSkills, I didn't think I could break into advanced manufacturing. Now I'm working full-time, earning a good wage, and building a future for my family."

– Maria, TechSkills Graduate

Next Steps

OVERVIEW

- Plan for or revisit your project plan to ensure that activities, outcomes, and intended impact logically connect.

- Pause to think about outcomes and impact at all project phases.

- Plan intentional data collection points throughout your project lifecycle.

- Tailor your project story to your audience.

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Through our website
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FEEDBACK SURVEY

HOW DID WE DO?