

**A PRACTICAL APPROACH TO  
OUTCOME EVALUATION**  
*step-by-step*  
ATE PI Conference | October 27, 2016  
Lori Wingate  
**EvaluATE**

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**EvaluATE**  
Webinars | Newsletter | Blog | Resource Library  
[www.evalu-ate.org](http://www.evalu-ate.org)  
**THE EC W** WESTERN MICHIGAN UNIVERSITY  
This material is based upon work supported by the National Science Foundation under Grant No. 1600992. The content reflects the views of the authors and not necessarily those of NSF.

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**OUTCOME EVALUATION STEPS**

- 1 Define intended outcomes
- 2 Identify indicators, data sources, and collection methods
- 3 Gather evidence
- 4 Interpret results

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**1** Define intended outcomes

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*Outcomes*  
changes or benefits resulting from project activities and outputs, especially changes in knowledge, skill, behavior, and social or economic conditions

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For evaluation purposes, outcome statements should be *specific* about who will be affected and how

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For evaluation purposes,  
outcome statements should be  
*realistic*  
in relation to the scope and purpose of the project

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*Intended outcome*  
**Specific, realistic** statement about what is  
expected to **change** for individuals or groups  
other than the organization conducting the  
project

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**GOALS ≠ INTENDED  
OUTCOMES**

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 The project's long-term goal is to build a sustainable program to enhance community college process technology education by introducing new hands-on opportunities through use of light-weight extremely low-cost miniature industrial equipment with a small footprint that fits on a standard desktop or which can be taken home for use in homework assignments.

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 The goal of the project is to increase the supply of qualified cybersecurity professionals for industry and government.

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 The goals of this project are to increase adoption of geospatial technologies statewide and to expand access to education and training in geospatial technologies in support of industry and government, including transportation, oil and gas, local government, and others.

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“ This project has the overarching goal of increasing awareness of opportunities in science, technology, engineering, and mathematics (STEM) disciplines for women and underrepresented minorities.

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**LOGIC MODELS**

Useful for

- clarifying outcomes
- identifying short-, mid-, and long-term outcomes
- planning data collection
- reality checks

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*inputs*

resources and assets that will be used by the project

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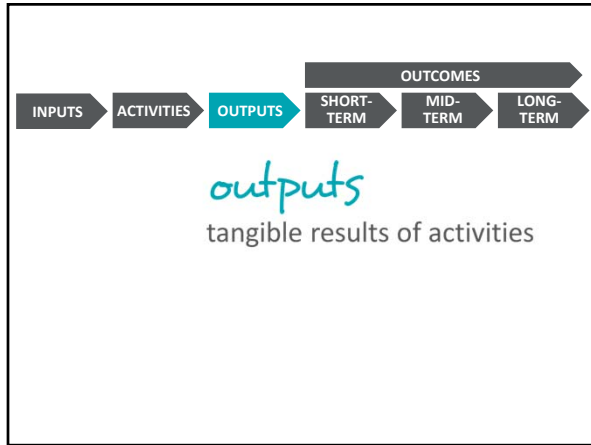
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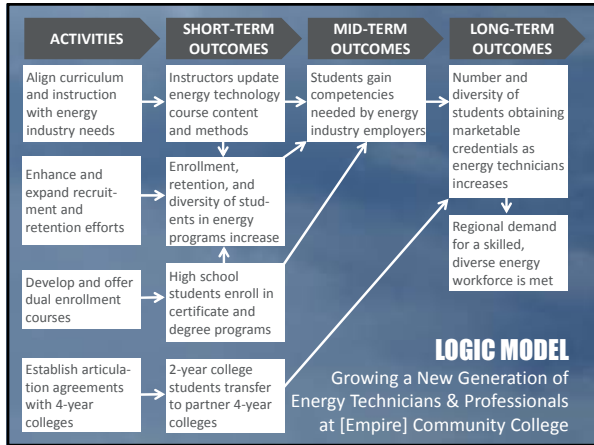
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Identify indicators, data sources, and collection methods

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**OUTCOME EVALUATION QUESTION 1:**  
To what extent are faculty aligning their courses and teaching methods with identified energy industry needs?

INDICATOR	DATA SOURCE & COLLECTION METHOD
Degree of alignment of course content with competencies	<ul style="list-style-type: none"> <li>Review of energy course syllabi by expert panel (before and after project)</li> <li>Survey of enrolled students regarding perceptions of course content and learning</li> </ul>
Changes in teaching methods	<ul style="list-style-type: none"> <li>Comparison of energy course syllabi over time (pre and post project) by external evaluator</li> <li>Interviews with faculty by external evaluator</li> </ul>

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**OUTCOME EVALUATION QUESTION 3:**  
To what extent are academic pathways being utilized by students?

INDICATOR	DATA SOURCE & COLLECTION METHOD
Number and percentage of students in 2-year programs who intend to transfer to partner colleges	<ul style="list-style-type: none"> <li>Survey of students in 2-year degree programs, administered by faculty</li> </ul>
Number and percentage of students who obtained 2-year degrees who enrolled in partner colleges	<ul style="list-style-type: none"> <li>National Student Clearinghouse data</li> </ul>
Number of high school students in dual enrollment courses	<ul style="list-style-type: none"> <li>Institutional data</li> </ul>
Number and percentage of dual-enrolled who intend to pursue degree and certificate programs	<ul style="list-style-type: none"> <li>Survey of dual-enrolled students, administered by faculty</li> </ul>
Number and percentage of students obtaining dual credit who pursue degree and certificate programs	<ul style="list-style-type: none"> <li>Institutional data</li> </ul>

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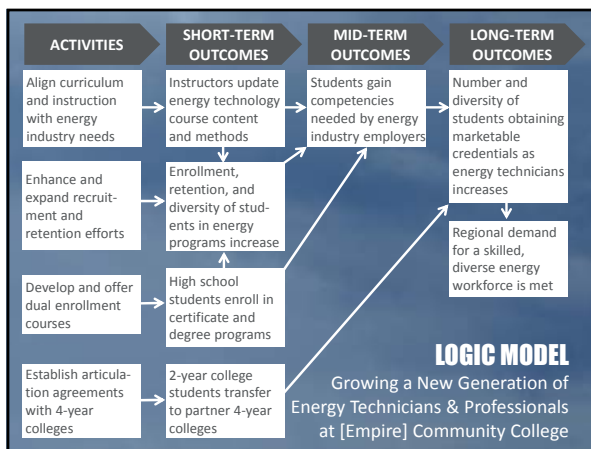
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## Gather evidence

- ✓ Communicate early and often with human data sources about the importance of their cooperation
- ✓ Ensure everyone understands their responsibilities related to data collection
- ✓ Pilot-test data collection instruments

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## Interpret results

Compare data with ...

- ✓ Targets
- ✓ Rubrics
- ✓ Past performance

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**TARGETS** *from Case, Objectives 3.1-3.4*

Indicator	Target	Result	Interpretation
Percentage of traditional-age students completing program	25%		
Number of veterans enrolled	5-10		
Percentage of women completing program	10%		
Percentage of underrepresented minority students completing program	10%		

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**RUBRIC** To what extent and how has the project affected enrollment, retention, and DIVERSITY of the college's energy programs?

Indicator	Below Target	On Target	Above Target
Percentage of traditional-age students completing program	Less than 23%	23-27%	More than 27%
Number of veterans enrolled	Fewer than 5	5-10	More than 10
Percentage of women completing program	Less than 8%	8-12%	More than 13%
Percentage of underrepresented minority students completing program	Less than 8%	8-12%	More than 13%

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**RUBRIC** To what extent and how has the project affected enrollment, retention, and DIVERSITY of the college's energy programs?

Indicator	No or negligible extent	Minimal extent	Moderate extent	Great extent
Percentage of traditional-age students completing program	12% or less (baseline)	13-19%	20-25%	26% or more
Number of veterans enrolled	0	1-4	5-10	11 or more
Percentage of women completing program	1% or less (baseline)	2-5%	6-10%	11% or more
Percentage of underrepresented minority students completing program	1% or less (baseline)	2-5%	6-10%	11% or more

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*Real-world Example from EvaluATE*

INDICATOR	DATA POINT FOR '15-16	EXCELLENT (5)	VERY GOOD (4)	GOOD (3)	FAIR (2)	POOR (1)
<i>Percentage of annual evaluation survey respondents who agree or strongly agree that EvaluATE has improved their understanding of ...</i>						
what should be included in an evaluation report	75%	90% or more	70%-89%	50%-69%	30-49%	29% or less
where to get information about evaluation	90%	90% or more	70%-89%	50%-69%	30-49%	29% or less
what NSF program officers expect from an evaluation	82%	90% or more	70%-89%	50%-69%	30-49%	29% or less
evaluation in general	83%	90% or more	70%-89%	50%-69%	30-49%	29% or less
how to incorporate evaluation into project planning	76%	90% or more	70%-89%	50%-69%	30-49%	29% or less
how to develop an evaluation plan	77%	90% or more	70%-89%	50%-69%	30-49%	29% or less
how to capture evidence of project impact	75%	90% or more	70%-89%	50%-69%	30-49%	29% or less
how to use evaluation results to inform project decision making	69%	90% or more	70%-89%	50%-69%	30-49%	29% or less
how to interpret results/draw conclusions	62%	90% or more	70%-89%	50%-69%	30-49%	29% or less

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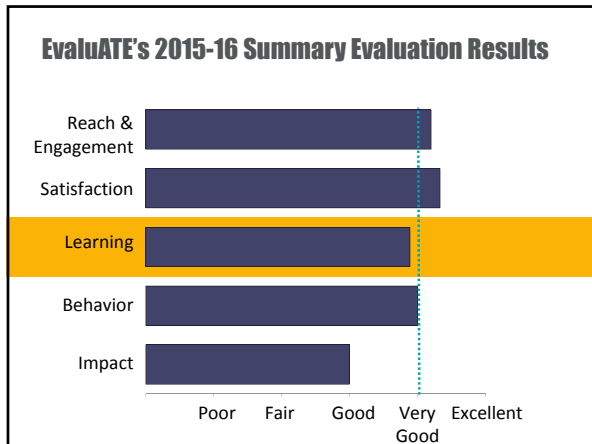
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- ### FINAL QUESTIONS?
- 1 Define intended outcomes
  - 2 Identify indicators, data sources, and collection methods
  - 3 Gather evidence
  - 4 Interpret results

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