

# The Nuts and Bolts of ATE Evaluation Reporting

May 15, 2013



**EvaluATE**  
EVALUATION RESOURCE CENTER for  
advanced technological education



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## Introductions



Jason

Jason  
Burkhardt



Lori  
Wingate



Krystin  
Martens



Michael  
Lesiecki




Tracy  
Pixler-Anderson





# Materials



**Webinar Handout**  
**The Nuts and Bolts of ATE Evaluation Reporting**  
 by Jason Burkhardt, Michael Lesniak, Krystal Markens, and Lori Wirtgen

This material is based upon work supported by the National Science Foundation under Grant No. D0961121. The content reflects the views of the authors and not necessarily those of NSF.

The recording, slides and handout for this webinar are available from [www.evaluate-ate.org/events/may\\_2013/](http://www.evaluate-ate.org/events/may_2013/)

**Outline for an Effective Evaluation Report**

**Executive Summary:** 1-2 page, independent of any findings

**Introduction:** Background and context of evaluation and project evaluated

**Key Evaluation Questions/Outcomes:** The focus of the evaluation stated as questions or objectives

**Methodology:** Description of the indicators, data sources and collection methods, and analysis and interpretive processes

**Findings:** Any results organized by evaluation question/objective

**Conclusions:** Description of factors that may have influenced the results; if important steps

**Recommendations:** Suggestions for improvement grounded in evidence

**References:** List of works cited

**Appendix:** Instruments, detailed results, additional information about methods, if necessary

To learn more about this report approach to report, see Evaluation Methodology Review: The Nuts and Bolts of Good Evaluation by Jane Davidson (June, 2005)

**NSF Annual and Project Outcomes Reports**

Research.gov offers central annual reports to help you with project reporting and other tasks - visit <http://www.research.gov/>

NSF's Evaluation Toolkit has also created a document that lists all the annual reporting categories and includes research.gov's direction about what should go into each section. See [www.evaluate-ate.org/](http://www.evaluate-ate.org/)

Integrate what evaluation results into the Accomplishments section of your annual report, where you are asked to describe "key outcomes."

For information on meeting reporting requirements, check out [www.evaluate-ate.org/](http://www.evaluate-ate.org/) and [www.evaluate-ate.org/events/may\\_2013/](http://www.evaluate-ate.org/events/may_2013/)

**Beyond Reporting**

Evaluation should add value to projects. Beyond traditional reporting, evaluation results should be used to improve projects, to support decisions to redirect resources (if needed), for dissemination, and provide evidence about whether and how projects should continue or expand.


**Engage:** Carefully consider evaluator's recommendations, review all qualitative feedback for opportunities for improvement, track down results by participant type to find out who is most and least well-served, and make time to review and reflect on evaluation results.

**Advocate:** If major changes are needed to increase project effectiveness, use evaluation results to support decisions. Be sure to track with program officers about significant changes.

**Disseminate:** Create "highlight reports" for public consumption, write up evaluation findings in a highly public forum, and work with your organization's media groups to develop press releases. For an example of a "highlight report" see one by the Marine Advanced Technology Education Center at [www.evaluate-ate.org/](http://www.evaluate-ate.org/). For public press releases, check out the list of center-based education-related journals created by the University of Wisconsin's Center for Education and Workforce: [www.evaluate-ate.org/resources/center\\_for\\_education\\_and\\_workforce/](http://www.evaluate-ate.org/resources/center_for_education_and_workforce/)

NOTE: If you apply for additional funding from NSF or other sources, you should use your evaluation results to build a case for funding or to modify the project, as the findings warrant.

**Evaluate** www.evaluate-ate.org | (518) 587-5899 | Western Michigan University



**Jason**

← Handout

- Slides
- Recording

Available from  
[www.evaluate-ate.org/events/may\\_2013](http://www.evaluate-ate.org/events/may_2013)

or the **Recent Additions**  
 section of our homepage  
 (through April 2012)

# Objectives



Jason

By the end of the webinar, you will

1. Know the key elements of an evaluation report and how to organize them effectively
2. Understand the new NSF requirements for Annual, Final, and Outcomes reporting
3. Know how to integrate your evaluation results into those reports
4. Be able to identify ways your evaluation can bring additional value to your projects



Introductions & Housekeeping



Part 1: Elements of an Effective Evaluation Report



Question Break



Part 2: NSF Reporting Requirements



Question Break



Part 3: Beyond Reporting



Question Break

Closing Remarks & Evaluation Survey



**Krystin**

## **E**lements of an **E**ffective ATE **E**valuation Report



## **D**iscussion Topics



**Krystin**

**Common pitfalls** in evaluation reporting

**Components and organization** of an evaluation report


**Characteristics** of a good evaluation report

# Common Pitfalls


in evaluation reporting

A man and a woman in business attire are looking at a book together. The woman is pointing at the book with a pen, and the man is looking down at it. They appear to be in a professional setting, possibly a meeting or a classroom.

# Common Pitfalls



Krystin




Organizing by data source

Presenting every data point

Not providing sufficient resolutions to an evaluation question/objective

A collage of four images: a group of people in business attire, a building with a dome, a chalkboard with mathematical symbols and equations, and a signpost with two arrows pointing in opposite directions, labeled 'QUESTIONS' and 'ANSWERS'.


# Report Components



**Krystin**

FRONT MATTER	Title page
EXECUTIVE SUMMARY	Acknowledgements
INTRODUCTION	Table of contents
EVALUATION QUESTIONS	Lists of figures
METHODOLOGY	List of tables
FINDINGS	
CONCLUSIONS	
LIMITATIONS	
RECOMMENDATIONS	
REFERENCES	
APPENDICES	


# Report Components



**Krystin**

FRONT MATTER	Succinct report summary (1-2 pages)
EXECUTIVE SUMMARY	Context of project and evaluation
INTRODUCTION	Organize by evaluation questions
EVALUATION QUESTIONS	Answer each evaluation question
METHODOLOGY	Most important recommendations
FINDINGS	Most important limitations
CONCLUSIONS	
LIMITATIONS	
RECOMMENDATIONS	
REFERENCES	
APPENDICES	


# Report Components



**Krystin**

FRONT MATTER	Background of evaluation team
EXECUTIVE SUMMARY	Context of the ATE project or center
<b>INTRODUCTION</b>	Main audience for evaluation
EVALUATION QUESTIONS	
METHODOLOGY	
FINDINGS	
CONCLUSIONS	
LIMITATIONS	
RECOMMENDATIONS	
REFERENCES	
APPENDICES	


# Report Components



**Krystin**

FRONT MATTER	About a project's reach, quality, and effectiveness <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     → <b>Example</b>                      To what extent has the project increased interdisciplinary collaboration among faculty?                 </div>
EXECUTIVE SUMMARY	
INTRODUCTION	
<b>EVALUATION QUESTIONS</b>	Typically require multiple data sources and methods to answer <div style="display: inline-block; vertical-align: middle; margin-left: 10px;">                     → <b>Example</b>                      How effectively has engaged underrepresented minority students?                 </div>
METHODOLOGY	
FINDINGS	
CONCLUSIONS	
LIMITATIONS	
RECOMMENDATIONS	
REFERENCES	
APPENDICES	

# Report Components




**Krystin**

FRONT MATTER	<p>Important questions that frame the evaluation</p> <p>3 to 7 key questions</p> <p>Questions lead to actionable answers</p> <p>Questions are relevant to the information needs of the most important users</p>
EXECUTIVE SUMMARY	
INTRODUCTION	
<b>EVALUATION QUESTIONS</b>	
METHODOLOGY	
FINDINGS	
CONCLUSIONS	
LIMITATIONS	
RECOMMENDATIONS	
REFERENCES	
APPENDICES	

- E. Jane Davidson

# Report Components




**Krystin**

FRONT MATTER	<p>Indicators</p> <p>Data sources and methods</p> <p>Data management and analysis</p> <p>Interpretation</p>
EXECUTIVE SUMMARY	
INTRODUCTION	
<b>METHODOLOGY</b>	
FINDINGS	
CONCLUSIONS	
LIMITATIONS	
RECOMMENDATIONS	
REFERENCES	
APPENDICES	



# Report Components




**Krystin**

FRONT MATTER
EXECUTIVE SUMMARY
INTRODUCTION
EVALUATION QUESTIONS
METHODOLOGY
<b>FINDINGS</b>
CONCLUSIONS
LIMITATIONS
RECOMMENDATIONS
REFERENCES
APPENDICES

Organize by key evaluation questions  
 Start each section with answers  
 Base findings on data/evidence  
 Use graphics  
 Combine evidence  
 Use reasoning

- E. Jane Davidson

# Report Components




**Krystin**

FRONT MATTER
EXECUTIVE SUMMARY
INTRODUCTION
EVALUATION QUESTIONS
METHODOLOGY
FINDINGS
<b>CONCLUSIONS</b>
LIMITATIONS
RECOMMENDATIONS
REFERENCES
APPENDICES

Only include if a higher level synthesis of the findings has occurred


# Report Components



**Krystin**

FRONT MATTER	State important limitations only
EXECUTIVE SUMMARY	
INTRODUCTION	
EVALUATION QUESTIONS	
METHODOLOGY	
FINDINGS	
CONCLUSIONS	
<b>LIMITATIONS</b>	
RECOMMENDATIONS	
REFERENCES	
APPENDICES	

# Report Components




**Krystin**

FRONT MATTER	Ground in evidence Forecast cost and difficulty
EXECUTIVE SUMMARY	
INTRODUCTION	
EVALUATION QUESTIONS	
METHODOLOGY	
FINDINGS	
CONCLUSIONS	
LIMITATIONS	
<b>RECOMMENDATIONS</b>	
REFERENCES	
APPENDICES	

Cost	Difficulty		
	Low	Medium	High
Low			
Medium			
High			


# Report Components



**Krystin**

FRONT MATTER	<h2>Be sure to cite your sources</h2> <p>Canadian Health Services Research Foundation (2008) in Patton, M. Q. (2012). <i>Essentials of utilization-focused evaluation</i>. Thousand Oaks, CA: Sage.</p> <p>Davidson, E. J. (2005). <i>Evaluation methodology basics: The nuts and bolts of sound evaluation</i>. Thousand Oaks, CA: Sage.</p> <p>Patton, M. Q. (2012). <i>Essentials of utilization-focused evaluation</i>. Thousand Oaks, CA: Sage.</p>
EXECUTIVE SUMMARY	
INTRODUCTION	
EVALUATION QUESTIONS	
METHODOLOGY	
FINDINGS	
CONCLUSIONS	
LIMITATIONS	
RECOMMENDATIONS	
REFERENCES	
APPENDICES	


# Report Components



**Krystin**

FRONT MATTER	<h2>Instruments</h2> <p>(surveys, interview protocols, etc.)</p> <h2>Detailed results</h2> <p>(can be organized by data method/source)</p> <h2>Further discussion of methodology</h2> <p>(if desired and appropriate)</p>
EXECUTIVE SUMMARY	
INTRODUCTION	
EVALUATION QUESTIONS	
METHODOLOGY	
FINDINGS	
CONCLUSIONS	
LIMITATIONS	
RECOMMENDATIONS	
REFERENCES	
APPENDICES	


# Report Layers



**Krystin**

FRONT MATTER	President of institution
EXECUTIVE SUMMARY	Dean of college
INTRODUCTION	Chair of department
EVALUATION QUESTIONS	Dissemination to others
METHODOLOGY	
FINDINGS	
CONCLUSIONS	
LIMITATIONS	
RECOMMENDATIONS	
REFERENCES	
APPENDICES	


# Report Layers



**Krystin**

FRONT MATTER	Project Staff
EXECUTIVE SUMMARY	NSF Program Officer
INTRODUCTION	Use in NSF reporting
EVALUATION QUESTIONS	Advocacy
METHODOLOGY	New funding opportunities
FINDINGS	
CONCLUSIONS	
LIMITATIONS	
RECOMMENDATIONS	
REFERENCES	
APPENDICES	


# Report Layers



**Krystin**

FRONT MATTER	Project Staff
EXECUTIVE SUMMARY	Other like projects
INTRODUCTION	NSF Program Officer
EVALUATION QUESTIONS	President of Institution
METHODOLOGY	Dean of College
FINDINGS	Chair of Department
CONCLUSIONS	Dissemination to others
LIMITATIONS	
RECOMMENDATIONS	
REFERENCES	
APPENDICES	


# Report Layers



**Krystin**

FRONT MATTER	PI
EXECUTIVE SUMMARY	Co-PIs
INTRODUCTION	Project staff
EVALUATION QUESTIONS	Doubters
METHODOLOGY	
FINDINGS	
CONCLUSIONS	
LIMITATIONS	
RECOMMENDATIONS	
REFERENCES	
APPENDICES	

# Report Layers




**Krystin**


FRONT MATTER	1 page per item
EXECUTIVE SUMMARY	1-2 pages
INTRODUCTION	1-2 pages
EVALUATION QUESTIONS	½ - 1 page
METHODOLOGY	2-5 pages
FINDINGS	3-9 pages
CONCLUSIONS	0-3 pages
LIMITATIONS	½-1 page
RECOMMENDATIONS	0-3 pages
REFERENCES	1-2 pages
APPENDICES	Whatever it takes +

**about  
10 to 35  
pages**

# Report Characteristics



**Krystin**

FRONT MATTER	
EXECUTIVE SUMMARY	
INTRODUCTION	
EVALUATION QUESTIONS	
METHODOLOGY	
FINDINGS	
CONCLUSIONS	
LIMITATIONS	
RECOMMENDATIONS	
REFERENCES	
APPENDICES	

Well organized  
Clear  
Concise  
Readable  
Relevant to users  
Credible and transparent



**Mike**

## **NSF Annual and Project Outcomes Reports**



## **New NSF Reporting Requirements**

- Project outcomes reports
- Conversion of reporting system to Research.gov



NIH Gallery Image

## Quiz



Mike

Which statement is correct?

- A. Annual reports are due within 90 days prior to budget end date
- B. Final reports are due on the award expiration date of the grant
- C. Project Outcomes reports need to be approved by the Program Officer
- D. All of the above



## NSF Requirements



Mike

- Annual reports are due within 90 days prior to budget end period
- Final reports must be submitted within 90 days following the expiration
- Annual reports individually address each reporting year
- Final report should only address the last year



# Grant Reporting




**Mike**














# Research.gov



**Mike**

For More Information

- 
[Project Report Preview](#)  
 This document previews the new project report format, questions, and screen shots and can be used to help your organization prepare for the transition.
- 
[Project Reporting Fact Sheet](#)  
 In March 2013, NSF will completely transfer all project reporting from FastLane to Research.gov.
- 
[Project Report Frequently Asked Questions for Research Organizations](#)  
 Background on reporting requirements and answers to common technical questions.
- 
[Project Reporting Getting Started Guide](#)  
 Prepare and submit your Final, Annual, and Interim Project Reports on Research.gov.
- 
[Project Reports On Research.gov-What's In It For Me?](#)  
 Presented January 2013
- 
[Project Outcomes Report Fact Sheet](#)  
 Principal Investigators can find all the facts to prepare and submit the Project Outcomes Report for the General Public, a brief summary for the public that describes the intellectual merit and broader impacts of their NSF-funded research project.
- 
[NSF Project Report Template](#)  
 This template allows PIs and Co-PIs to plan for their final, annual, and interim project reporting requirements offline. PIs should not use this form to meet their reporting requirements, and instead must use text boxes to complete their reports on Research.gov.

# Research.gov



**Mike**

## My Desktop

▾
Project Reporting Dashboard

- \* [Annual, Final and Interim Report](#)  
View, complete and submit reporting requirements
- \* [Project Outcomes Report](#) : **4 Total**  
Due (0) | Overdue (0) | Submitted (0) | Not Yet Due (4)

# Research.gov



**Mike**

### Reporting Requirements

Report Type	Report Period Start	Report Period End	Status	Days Until Overdue	Report Overdue Date	Action
Annual	09/01/2011	08/31/2012	Approved	--	✓	<a href="#">View</a>
Outcomes	09/01/2012	08/31/2013	Not Yet Due	● 223 days	11/30/2013	<a href="#">Create/Edit</a>
Final	09/01/2012	08/31/2013	Not Yet Due	● 223 days	11/30/2013	<a href="#">Create/Edit</a>

# Research.gov



**Mike**

**Annual and final report components:**

**Report Content**


Cover
Accomplishments
Products
Participants
Impact
Changes/  
Problems
Special  
Requirements



Goals

- Major Activities
- Specific Objectives
- Significant Results
- Key Outcomes

# Research.gov




**Mike**

**Annual and final report components:**

**Report Content**

Cover
Accomplishments
Products
Participants
Impact
Changes/  
Problems
Special  
Requirements



- **Key outcomes:** the **evaluation** activities and report support this
- Evaluators can help PIs think in terms of outcomes
- An evaluation report can be appended here

## Opportunity

- The PI and evaluator can work together to create a section in the evaluation report that calls out key outcomes
- This will integrate directly into the PI's report



## Research.gov



Mike


Annual and final report components:

### Report Content



- This is the area to include goals associated with data management and access
- Typically the evaluator will be involved in the data management structure

# Research.gov



**Mike**

Annual and final report components:

**Report Content**

Cover	Accomplishments	Products	Participants	Impact	Changes/ Problems	Special Requirements
-------	-----------------	----------	--------------	--------	----------------------	-------------------------

↓

- Refers to impact on the discipline or other disciplines

# Research.gov



**Mike**

Annual and final report components:

**Report Content**

Cover	Accomplishments	Products	Participants	Impact	Changes/ Problems	Special Requirements
-------	-----------------	----------	--------------	--------	----------------------	-------------------------

↓

- Changes in the approach and reasons for change
- Guidelines for changes
- Changes can impact timing and expenditure

# Research.gov



Mike

Annual and final report components:

## Report Content



- The reality is midpoint corrections happen
- A report is credible if you face problems and challenges head on

# Changes/Problems



Mike

- The evaluator's input is critical here to help support the rationale and to identify unexpected outcomes

## Grant Management Tip: Federal Audit Identified Risk Areas



Mike

- Inaccurate effort reporting
- Misallocation of costs
- Excessive cost transfers
- Unallowable costs
- Inadequate subrecipient monitoring
- **Delinquent reporting to sponsor**



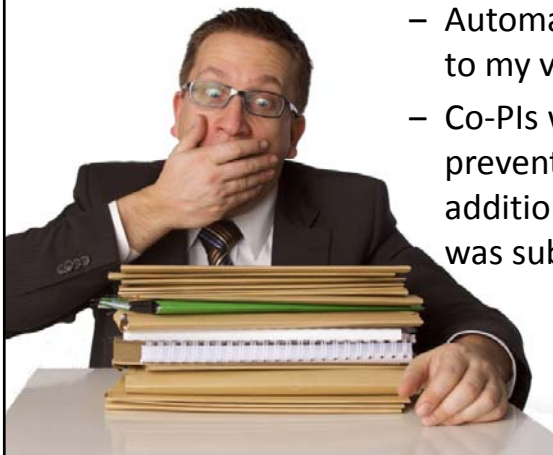
## As a PI



Mike

### I missed a report deadline!

- Automated notifications sent to my vice chancellor
- Co-PIs were notified and prevented from seeking additional grants until report was submitted



# Project Outcomes Reports



Mike

- Do not take the place of the annual or final project reports
- An overdue one will delay NSF actions on any other proposal or award related to the PI or co-PIs

# Project Outcomes Reports



Mike

- Brief summary (200-800 words)
- Specifically for the public
- Describes project outcomes or findings that address the **intellectual merit** and **broader impacts** of the work



Key outcomes emphasized in the evaluation report will totally support this

## Project Outcomes Report

### Intellectual Merit

### Broader Impacts



# Summary



**Mike**

## Report Content



- PI's responsibility to know the reporting system
- PIs and evaluators can work together to create timely and credible reports
- Change happens



**Lori**

# Beyond Reporting



## Evaluation Should add Value



Lori

**\$64,000,000**

Awarded annually to ATE grantees

**7%**

Average percentage of budget spent on evaluation

**\$4,480,000**

Estimated amount spent on evaluation annually

## Evaluation Uses Beyond Reporting



Lori



1. Improve



2. Redirect



3. Disseminate



4. Grow

# Improve



Lori

“You don’t have to be bad to get better.”

—Candi McKay



# Improve

“The most important purpose of evaluation is not to prove, but to improve.”

—Daniel Stufflebeam

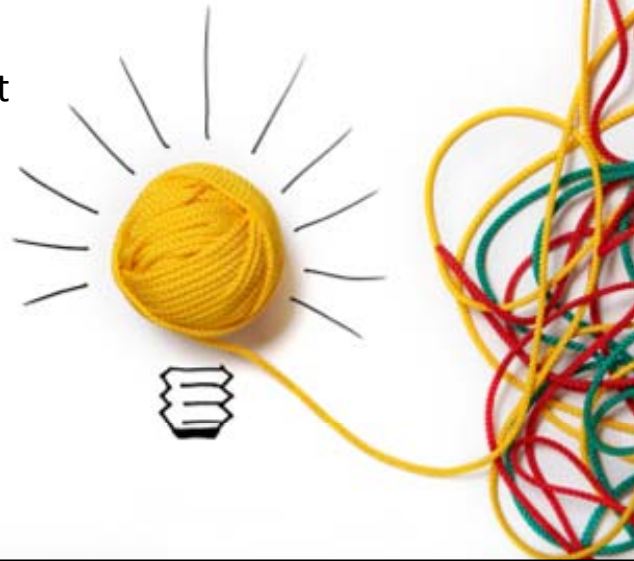


## Consider Recommendations



Lori

- Adoption not required
- **Should** be carefully considered



## Read Every Comment



Lori

**(especially the less favorable ones)**



# Read Every Comment



**Lori**

**Open-ended Comments**

“There could be more outreach to those preparing proposals.”

*Nunc arcu augue, dignissim in mattis at, auctor eu ligula. Aenean tempus ornare nisl, eget facilisis felis pretium ac. Fusce nulla ipsum, fringit sed varius pretium, vestibulum in risus. Maecan justo justo, sagittis in sodales id, pellentesque a dolor.*

*In hac habitasse platea dictumst. Proin tristique volutpat cursus.*

*Morbi vitae aliquam quam. Nulla ut quam eu magna fringilla fermentum. Vivamus risus libero, pellentesque at tristique eu, fringilla quis tellus. Curabitur laoreet sodales tellus, at elementum eros auctor id. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Cras ut pulvinar purus. Praesent libero urna, eleifend at fringilla in, fringilla et leo.*

*Fusce non massa et odio cursus dapibus eget eu lacus. Donec scelerisque enim nec sapien euismod sollicitudin.*

*Cras consectetur libero lacus, vel pharetra erat porttitor nec. Maecenas volutpat ligula quis dui euismod fermentum. Fusce ac metus eget turpis aliquam sed sed mi. Integer eget tortor ac odio dictum lobortis. Aliquam varius aliquam mattis.*


*In eget diam fermentum lacus faucibus trucidunt eu quis enim. Ut leo diam, pellentesque vitae sollicitudin eget, congue id enim. Duis metus felis, commodo nec venenatis vel, rutrum posuere lectus.*

*Donec vel ultricies velit. Nam ullamcorper dictum venenatis. Morbi et arcu tellus, quis dignissim justo. Class aptent taciti sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Cras ut pulvinar purus. Praesent libero urna, eleifend at fringilla in, fringilla et leo.*

*Aliquam adipiscing lacinia condimentum. Nam purus ante, sollicitudin sit amet pellentesque non, rhoncus sit amet velit. Praesent ultricies auctor quam eu auctor.*



# Read Every Comment



**Lori**

**Open-ended Comments**

“I would like to get more email notifications about when recorded webinars are available.”

*Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aliquam vel felis velit, a ornare elit. Phasellus ante massa, ultricies et mattis non, accumsan quis ante.*

*Sed sem est, ornare et laoreet id, dictum sed purus. Aliquam erat volutpat. Phasellus vel enim vitae odio dignissim molestie. Donec eros nibh, porttitor vitae sodales eu, conwalla sed libero. Cras rutrum tristique mattis. Nam ultricies mi nec massa elementum et venenatis diam elementum.*

*Vivamus vehicula sapien eget arcu rhoncus sed lacinia risus auctor.*


*Morbi tristique, orci ac pulvinar adipiscing, tellus odio accumsan lorem, quis lobortis nibh felis a elit. Nam justo magna, euismod ut molestie ac, conwalla in massa. Nullam vel ligula velit. Donec felis leo, euismod a placerat a, tempus sed quam. Nulla malesuada sagittis blandit. Maecenas id commodo augue.*

*Nunc arcu augue, dignissim in mattis at, auctor eu ligula. Aenean tempus ornare nisl, eget facilisis felis pretium ac. Fusce nulla ipsum, fringit sed varius pretium, vestibulum in risus. Maecan justo justo, sagittis in sodales id, pellentesque a dolor.*

*In hac habitasse platea dictumst. Proin tristique volutpat cursus.*

*Morbi vitae aliquam quam. Nulla ut quam eu magna fringilla fermentum. Vivamus risus libero, pellentesque at tristique eu, fringilla quis tellus. Curabitur laoreet sodales tellus, at elementum eros auctor id. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Cras ut pulvinar purus. Praesent libero urna, eleifend at fringilla in, fringilla et leo.*

*Donec vel ultricies velit. Nam ullamcorper dictum venenatis. Morbi et arcu tellus, quis dignissim justo. Class aptent taciti sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Cras ut pulvinar purus. Praesent libero urna, eleifend at fringilla in, fringilla et leo.*



## Read Every Comment



Lori

PIs and project staff, ask yourselves:

- What resonates with your perceptions of the project or information from other sources?
- Are any comments suggestive of a “blind spot” that needs to be investigated?




## Disaggregate



Lori



# Disaggregate



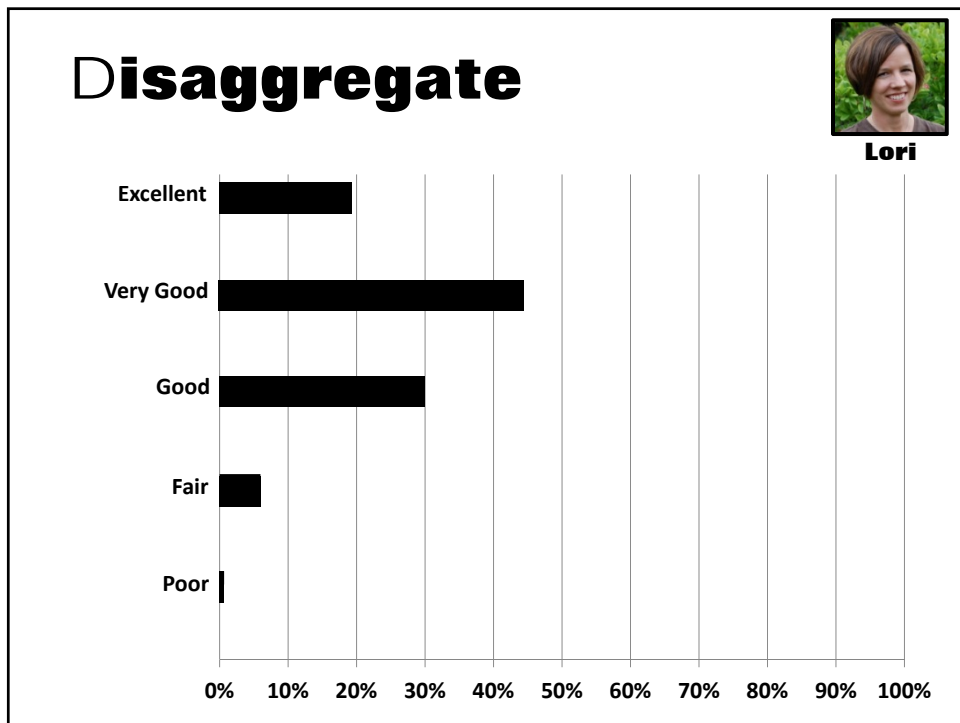
**Lori**

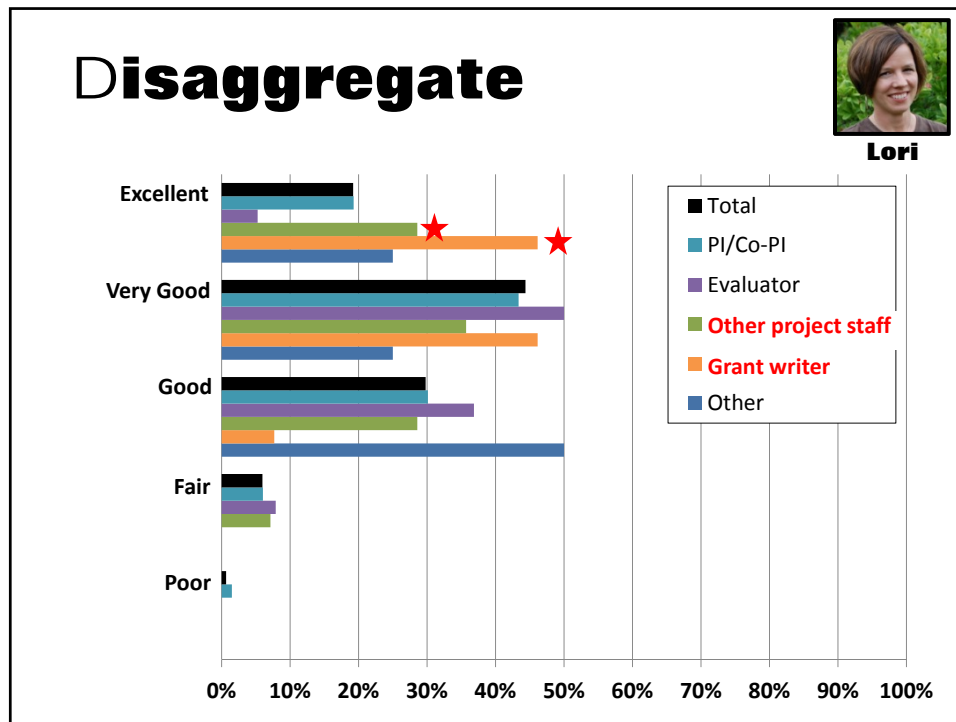
Is the program effective?

For what kinds of participants, in what ways, and under what conditions is the program most effective?

For whom is it least effective?

—Michael Quinn Patton, Utilization-Focused Evaluation, p, 541





## Make Time

- Put evaluation at the top of team meeting agendas and/or
- Set up special meetings to discuss and reflect on evaluation results





# Redirect

“Remember that significant changes in objectives and scope require prior approval of the agency.”



# Redirect



**Lori**

Report Content

- Cover
- Accomplishments
- Products
- Participants
- Impact
- Changes/Problems
- Special Requirements

↓

“Describe any changes in approach during the reporting period and reasons for these changes.”

## Redirect

Prioritize effectiveness over fidelity



## Redirect



Lori

Was the project implemented as planned?

What are the lessons learned about what works and doesn't?


What significant changes are needed?

# Disseminate

Marketing  
Advocacy  
Publication

A woman in profile, wearing a light blue shirt, is shouting into a red and white megaphone. The megaphone is held in her right hand, and a coiled black cord is attached to the back. The background is plain white.


# Disseminate



**Lori**

**Intellectual Merit** “ Is the evaluation likely to provide useful information to the project and others? ”

**Broader Impacts** “ Will the project evaluation inform others through the communication of results? ”

The NSF logo features a blue globe with white continents, partially obscured by several golden gears of varying sizes. The letters 'NSF' are written in a large, white, serif font across the bottom of the globe.


# Disseminate




Highlights reports  
Journal articles  
Press releases



# Highlights Report





## Middle School Underwater Robotics: 2011 MATE Program Highlights

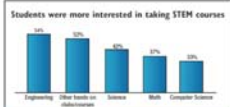
The Marine Advanced Technology Education (MATE) Center uses underwater robots (remotely operated vehicles or ROVs) as a way to get middle school students excited about learning science, technology, engineering, and math (STEM). The program also exposes students to STEM career opportunities and helps them to see the pathways to those careers.

2011 marked the second year of MATE's concerted effort to reach and engage middle school students. Here's what resulted, and what the project participants had to say.

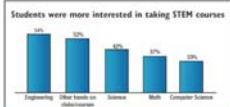
An independent evaluation\* found that after participating in the ROV program...

### Students are more interested in math and science

- 85% were more inclined to study math, science, computer science, and/or engineering.
- 80% knew more about careers in marine STEM.
- 64% were more interested in a marine STEM career.



### Students were more interested in taking STEM courses



### Teachers saw improvements in student learning

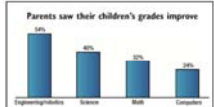
- 91% observed improvements in their students' STEM knowledge and skills.
- 95% also saw improvements in team building, critical thinking, and problem solving.

\*For additional details regarding the evaluation methodologies, please contact the MATE Center.

### Parents provided positive feedback

- 91% said that their children were more interested in science, technology, engineering, or math.
- 85% reported that their children were better able to work with others and that their child's self confidence had improved.
- 30% marked that their children were better organized.

### Parents saw their children's grades improve



### What participants had to say:

#### Students

*I really liked it. It helped me learn how to work as a team and try something new.*  
*I love ROV. It has inspired me to learn.*

#### Teachers

*Wow what amazing experience for all of my students. Phenomenal benefits for them included skill building in every aspect of their education.*  
*I've been so happy to see my students excited to spend more time at school.*

#### Parents

*More patience, improved problem solving skills.*  
*Taking more responsibility. Developing leadership skills.*  
*Thinking more about future careers.*

**For more information about the MATE Center and its ROV program, contact:**  
Jill Zierke  
MATE Associate Director & Competition Coordinator  
380 Fremont Street | Menlo Park, CA 94024 | (831) 646-3032  
jzandill@materobot.org  
www.matecenter.org

# Journal Articles



Lori

Publish findings in scholarly journals



# Journal Articles



Lori



- Life Sciences focus
- student engagement
  - efficacy of particular approaches to teaching

← Recommended by ATE PI Linnea Fletcher

## Journal Articles



Lori

Recommended by  
ATE PI Edgar Troudt →



JOURNAL OF THE SCHOLARSHIP OF TEACHING AND LEARNING

### “Wish List of Topic Areas”:

- Evidence-based teaching practices
- Peer review of teaching and learning
- Distance learning
- Diversity issues
- Designing cultures of learning
- Reflective learning
- Pedagogical theory
- Strategies to support and/or connect with first-generation college students

## Journal Articles




Lori



“ exchange of ideas, research, and empirically tested educational innovations ”

# Journal Articles



**Lori**

*Journal of the Scholarship of Teaching and Learning*, Vol. 12, No.2, June 2012, pp. 94 – 108.

## Peer partnerships in teaching: Evaluation of a voluntary model of professional development in tertiary education

Andrea Chester<sup>1</sup>

*Abstract: This paper describes work over a three-year period to develop a peer partnership approach to professional development at a dual sector university. The aim of the program, arising initially in one school and then piloted in 5 schools, was to support staff in their teaching practice. Emphasis was on the development of a sustainable model of professional development that could accommodate staff at all levels of teaching experience, including permanent and sessional staff in Higher Education and TAFE. Based on evidence from a university-wide survey of staff attitudes and feedback from initial trials, a five-stage model of voluntary, cross-disciplinary partnerships was developed. Quantitative results suggest the program had impact on pedagogy and skill development as well as enhancing collegial relationships between staff within schools. Suggestions for the future development of such programs are offered.*

*Keywords: reflective practice; professional development; peer review; peer feedback; staff*

The challenges that lie ahead for universities to deliver and continuously improve the quality of learning and teaching are complex and varied. Core to these challenges is the need to provide meaningful continuing professional development (CPD) for the academic workforce. Collaborative peer review, designed to document, critique and improve teaching offers a sustainable approach to CPD that builds collegial relationships and enhances educational capital

# Journal Articles



**Lori**

*Journal of the Scholarship of Teaching and Learning*, Vol. 12, No.2, June 2012, pp. 94 – 108.

CBE—Life Sciences Education  
Vol. 11, 364–377, Winter 2012

## Developing a Test of Scientific Literacy Skills (TOSLS): Measuring Undergraduates' Evaluation of Scientific Information and Arguments

Cara Gormally,<sup>\*</sup> Peggy Brickman,<sup>†</sup> and Mary Lutz<sup>‡</sup>

<sup>\*</sup>Georgia Institute of Technology, School of Biology, Atlanta, GA 30322; <sup>†</sup>Department of Plant Biology and <sup>‡</sup>Department of Educational Psychology and Instructional Technology, University of Georgia, Athens, GA 30602

Submitted March 14, 2012; Revised July 19, 2012; Accepted July 19, 2012  
Monitoring Editor: Elisa Stone

Life sciences faculty agree that developing scientific literacy is an integral part of undergraduate education and report that they teach these skills. However, few measures of scientific literacy are available to assess students' proficiency in using scientific literacy skills to solve scenarios in and beyond the undergraduate biology classroom. In this paper, we describe the development, validation, and testing of the Test of Scientific Literacy Skills (TOSLS) in five general education biology classes at three undergraduate institutions. The test measures skills related to major aspects of scientific literacy: recognizing and analyzing the use of methods of inquiry that lead to scientific knowledge and the ability to organize, analyze, and interpret quantitative data and scientific information. Measures of validity included correspondence between items and scientific literacy goals of the National Research Council and Project 2061, findings from a survey of biology faculty, expert biology educator reviews, student interviews, and statistical analyses. Classroom testing contexts varied both in terms of student demographics and pedagogical approaches. We propose that biology instructors can use the TOSLS to evaluate their students' proficiencies in using scientific literacy skills and to document the impacts of curricular reform on students' scientific literacy.

# Journal Articles



**Lori**

*Journal of the Scholarship of Teaching and Learning*, Vol. 12, No.2, June 2012, pp. 94 – 108.

CBE—Life Sciences Education  
Vol. 11, 364-377, Winter 2012

Community College Journal of Research and Practice, 25: 573-590, 2001  
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1066-8926/01 \$12.00 + .00



## ENHANCING INSTRUCTIONAL PROGRAMS THROUGH EVALUATION: TRANSLATING THEORY INTO PRACTICE

**Janet C. Perry**  
Fox Valley Technical College, Appleton, Wisconsin, USA

*This article describes an instructional program evaluation process used at Fox Valley Technical College, Appleton, Wisconsin. Evidence indicates that this is a valuable process which can be used to enhance instructional programs. This evidence was uncovered during a recent evaluation designed to determine appropriate changes*

# Journal Articles



**Lori**

*Journal of the Scholarship of Teaching and Learning*, Vol. 12, No.2, June 2012, pp. 94 – 108.

CBE—Life Sciences Education  
Vol. 11, 364-377, Winter 2012

Community College Journal of Research and Practice, 25: 573-590, 2001  
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1066-8926/01 \$12.00 + .00



CBE—Life Sciences Education  
Vol. 9, 119-132, Summer 2010

## Promoting Undergraduate Interest, Preparedness, and Professional Pursuit in the Sciences: An Outcomes Evaluation of the SURE Program at Emory University

**Benjamin Junge,\* Catherine Quiñones,† Jakub Kakietek,‡ Daniel Teodorescu,§  
and Pat Marsteller†**

\*Department of Anthropology, State University of New York/New Paltz, New Paltz, NY 12561; †Center for Science Education, ‡Department of Political Science, and §Provost's Office, Emory University, Atlanta, GA 30322

Submitted August 14, 2009; Revised January 6, 2010; Accepted January 17, 2010  
Monitoring Editor: Debra Tomasek



# Press Releases



Lori

- Identify the person on campus in charge of public relations
- Ask him or her for the protocol for generating press releases



# Grow



Lori

Requests for funding to continue, expand



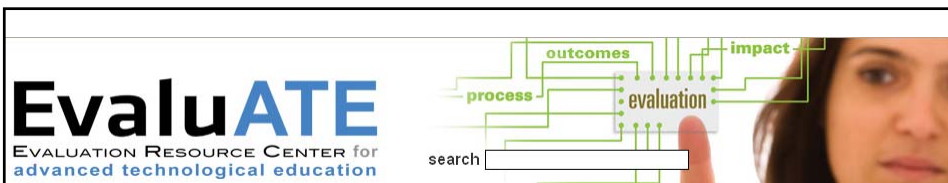
## Grow



Lori

“ The Project Description must begin with the subsection on **Results of Prior Support....** This subsection must contain specific outcomes and results including metrics to demonstrate the impact of the activities undertaken including **evidence of the quality and effectiveness** of the project's deliverables. ”

—ATE Program Solicitation



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