

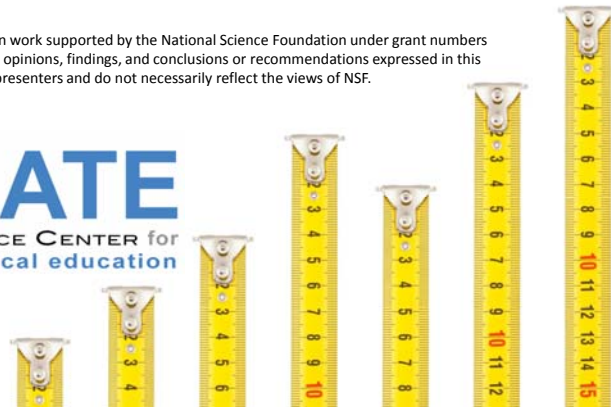
ATE Evaluation: Measuring Reaction, Learning, Behavior, and Results

November 28, 2012



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EvaluATE
EVALUATION RESOURCE CENTER for
advanced technological education



Introductions

**Krystin
Martens**



**Lori
Wingate**



**Jo Ann
Balsamo**



Krystin



Handout



Krystin

Available from
[www.evaluate.org/
 resources](http://www.evaluate.org/resources)

Keyword search:
Measuring



Objectives



Krystin

By the end of the webinar, you will

1. Know how to organize evaluation questions around Kirkpatrick Model for Evaluation
2. Be able to select appropriate data collection methods for evaluation at each level
3. Know how to improve data quality
4. Be inspired to revisit and revise your evaluation plan



**Regional
Center for
Nuclear
Education &
Training
Evaluation
Strategies**



Jo Ann Balsamo

RCNET's Mission

To make sure the demand for skilled nuclear technicians is met in a standardized and systematic way.



Jo Ann

RCNET's Goals

1. Provide standardized nuclear curriculum packages.
2. Develop, categorize, and maintain a learning repository for nuclear curriculum.
3. Provide professional development for educators.
4. Embed unique training systems and 21st century technologies into the classroom.
5. Provide career and academic pathways.
6. Provide career assistance.
7. Promote nuclear energy and nuclear careers.



Nuclear Workforce Projections

Aging Workforce

Over 40% of the current nuclear workforce will be eligible to retire in the next 5 years

New Construction


Licenses to build 30 new nuclear power plants have been requested.

Natural Attrition

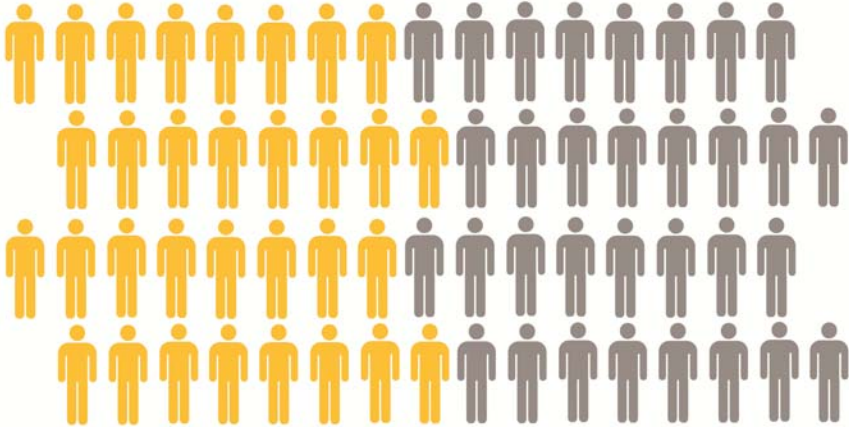
Other Industries & Overseas Competition



Nuclear Workforce Projections




Jo Ann


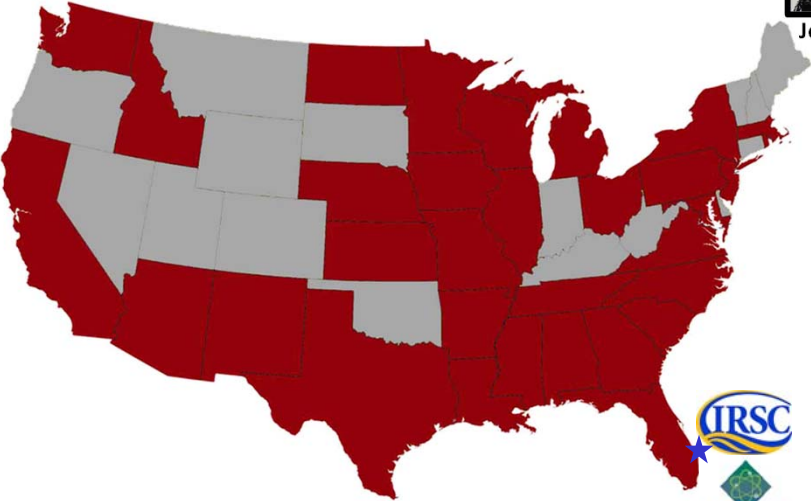


Over 41,000 workers needed by 2030!

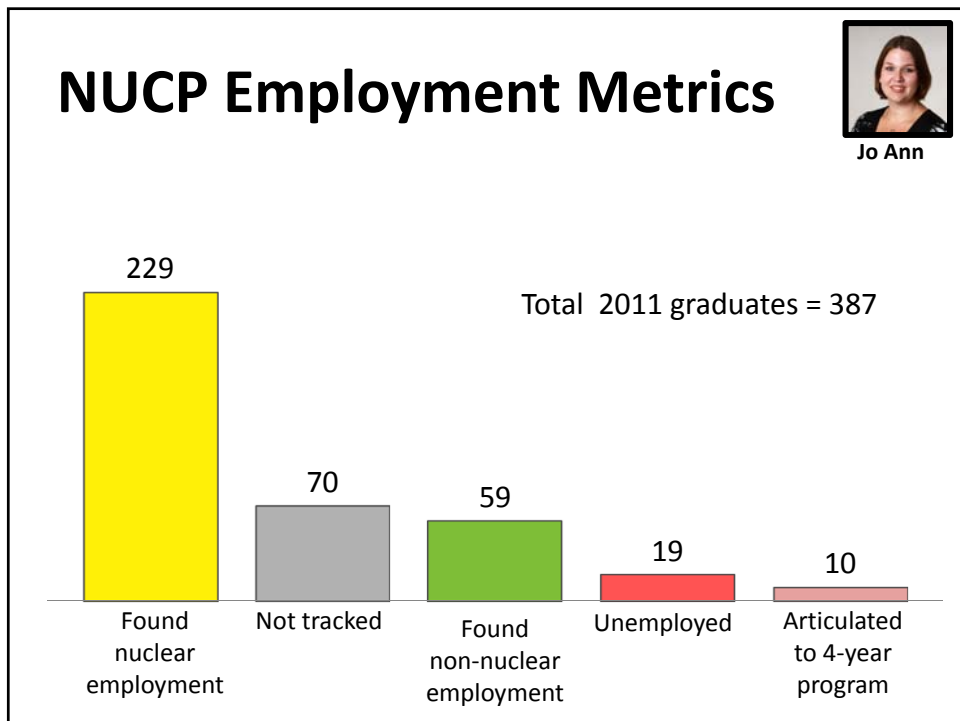
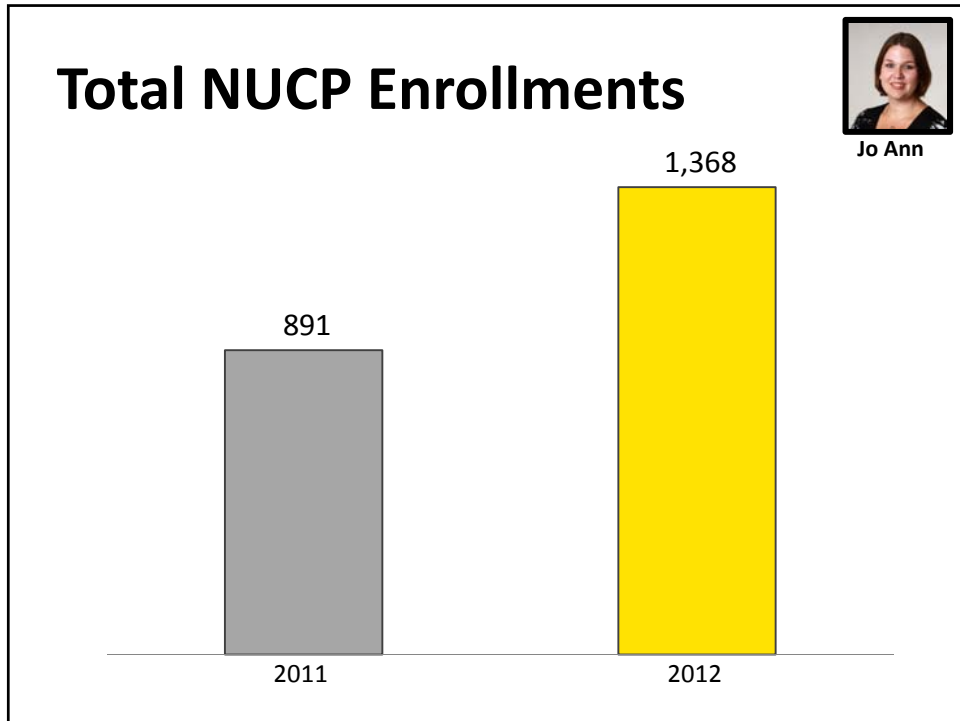
RCNET Partners

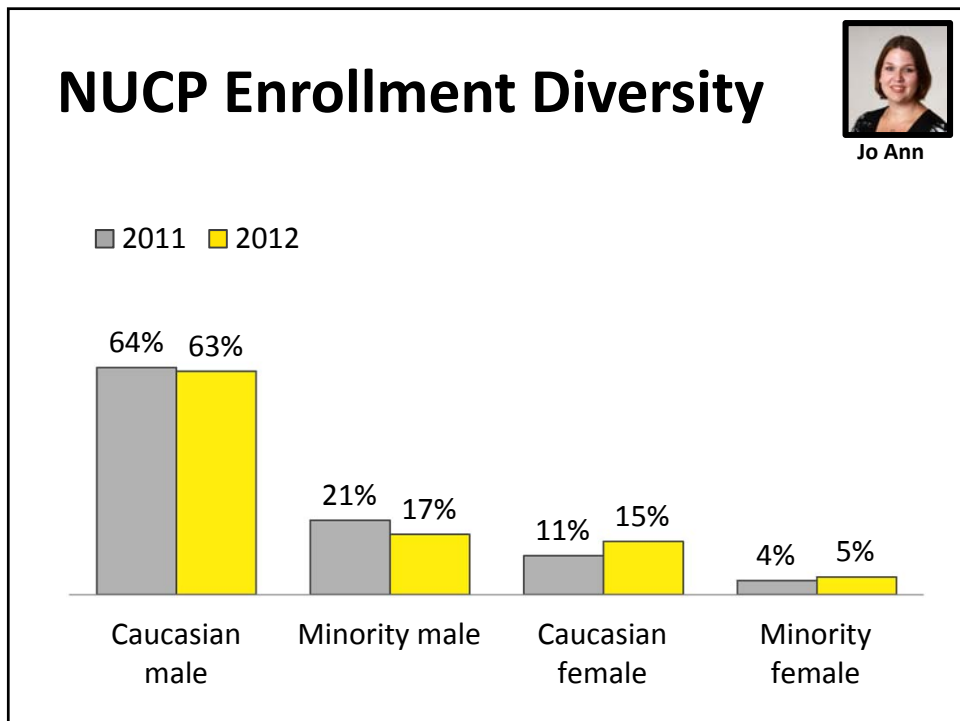
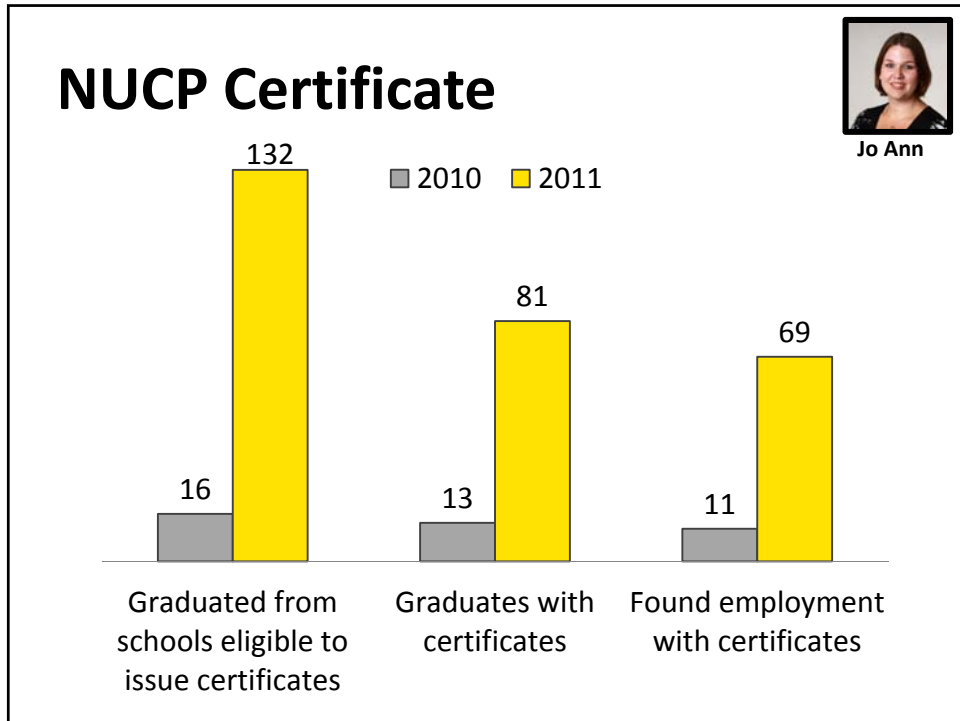


Jo Ann



39 colleges and universities | 28 secondary schools
24 industry partners | 13 agencies and other partners





Evaluation Strategy



Jo Ann

1. Top-down approach involving everyone
2. Sell your product
3. Get commitment
4. Standardize procedures and share best practices

Top-Down Approach



Jo Ann





Sell Your Product

Present...

- business plan
- ROI
- Break-even analysis

Jo Ann

Sell Your Product



Jo Ann

Saves resources

Improves throughput

Prepares us for the future

Sell Your Product



Jo Ann

MIAMI DADE COLLEGE
HOMESTEAD CAMPUS

MDC nuclear energy grads impress FPL

The first class graduated from a new nuclear energy program at the Homestead campus of Miami-Dade College — and already many are commanding \$50,000 salaries.

BY PRISCILLA GREER
prgreer@miamidade.edu

A dozen students who recently graduated from the Homestead campus Miami-Dade College already have jobs — and a starting salary of \$50,000.

They were the first to graduate from a pilot nuclear energy training program at the Homestead campus.

The 12 work at Florida Power & Light's Turkey Point nuclear power plant.

Two years ago, FPL approached the Homestead campus of Miami-Dade College about partnering to create an associate of science degree in electrical power technology to help meet a need for more workers in the nuclear power industry.

Now, armed with a degree, they begin an apprenticeship in instrumentation and control. As an electrical specialist, Suero will calibrate, repair and troubleshoot gauges.

He'll work in the plant's main reactor operating room, which creates steam from uranium fusion to turn turbine generators and produce local electricity.

He said that the job requires concentration and outdoor work. That means enduring heat and mosquitoes.

No sweat, Suero said. "They have a great program where they combine vocational experience and college to create a skilled worker," he said. "For the pay and benefits you get, it's great. There are very few companies that even offer that and it's almost like a godsend."

James Auld, FPL college coordinator, said that there's a general shortage of workers in science, technology, engineering and math and that various other pipelines are also being developed.

And as part of a national initiative, MDC may expand the pipeline program to include training for non-licensed operators. FPL also has a nuclear plant in Port St. Lucie, and at Turkey Point "we're going to be adding two more reactors, so we have a need for more employees," Auld said.

He said that these workers need to have mechanical aptitude and be good with their hands. He added that nuclear plants have "the most trained workforce of any industry" in the "extremely safe" workplace.

"We're extremely pleased"

looking for a pipeline of a new generation of workers," White said. "We set up the program with them and worked with subject matter experts at Turkey Power Plant and documents created at the Nuclear Academy."

"We put together a curriculum which is probably among the best in the nation."

The school has other company partnerships but this one is the strongest, White added.

"We're making this our new model because it's worked so well," he said. "We're kind of like proud parents watching our kids graduate. We've been with them consistently for over a year and a half."

FPL serves more than 4.4 million customers in 35 counties in Florida and works in 20 states.

with the Homestead campus training program, he added. "It's created for us a robust pipeline of highly educated and skilled workers."

Now that the word is out about the program, the Homestead campus is getting daily calls about it from "all over," said Thania Rice, MDC chairperson of the schools of business, computer information systems, engineering and community education at the Homestead campus.

And the graduates, some of whom will continue on to get their engineering degree while working, "are so happy because they are all getting jobs at the end, very well paid jobs," Rice added. "Lots of people have tried to get in with FPL. It's very, very tough to get in."

For program information, visit <http://www.ate.mdc.edu>.



Sell Your Product



Jo Ann

TCPALM
FLORIDA'S TREASURE COAST AND PALM BEACHES
www.tcpalm.com

FLORIDA'S TREASURE COAST AND PALM BEACHES

AUGUST 2011

“Partnership with FP&L provides graduates power plant jobs”




Get Commitment

Multi-year MOUs with industry partners to hire graduates


- Creates a sustainable commitment.
- Allows both colleges and industry to feel comfortable putting resources into program
- Creates instant pipeline of students



Jo Ann



Kirkpatrick Model for Evaluation



Lori Wingate

Why Kirkpatrick?



Lori

Results of Prior NSF Support



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

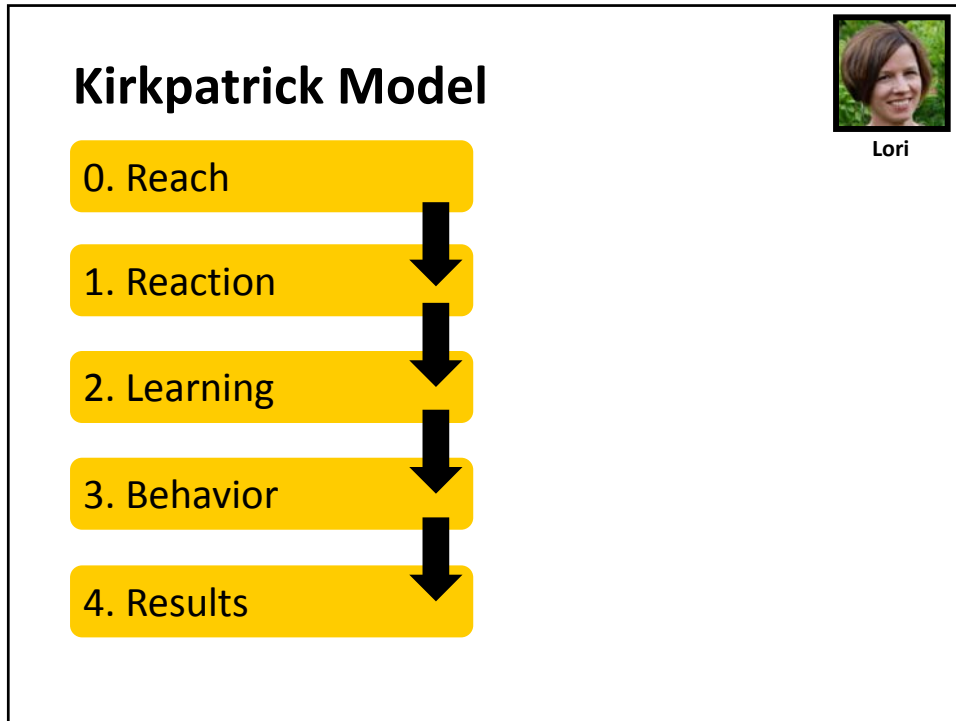


Results of Prior NSF Support



Lori

- 1st draft outline → NVC chairperson feedback:
“Your evidence is uneven.”
- Webinars
 - Workshops
 - Newsletter
 - Annual survey
 - Website



Level 0: Reach

The extent to which the intended audience was reached and involved



Lori

Level 0: Reach

“How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)?”


**NSF’s
BROADER
IMPACTS
review
criterion**

Lori



Level 1: Reaction

The extent to which participants react favorably to activities and products




Level 1: Reaction

Satisfaction

Engagement

Relevance



Level 2: Learning

The extent to which participants acquire the intended knowledge, skills, attitudes, *confidence or commitment*

Level 3: Behavior

The extent to which participants apply what they learned



Level 3: Behavior

The extent to which participants *adopt intended behaviors*



Level 3: Behavior

Critical behaviors

key behaviors that need to be performed to bring about desired outcomes



Level 4: Results

The extent to which intended outcomes occur



Level 4: Results

Targeted outcomes

related to high-level
goals/project purpose



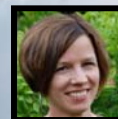
Lori



Level 4: Results


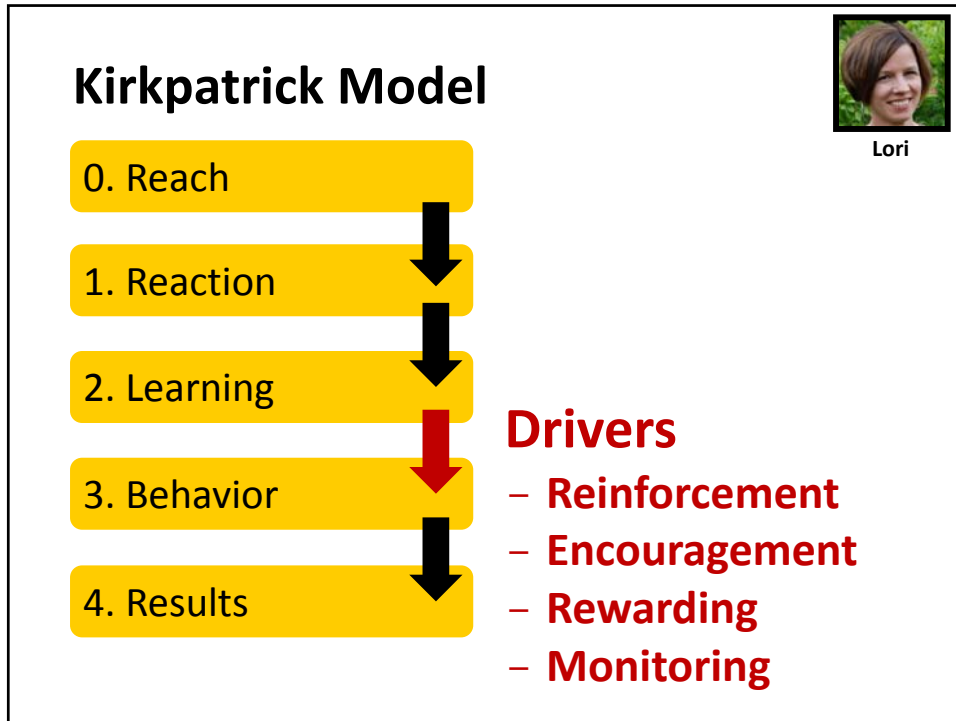
Targeted outcomes

What is going to be
different in advanced
technological education—
or the workforce—
because of your grant?



Lori





Reinforcement

Checklists

Follow-up modules

Online support

Refreshers


Reminders



Encouragement
Coaching
Mentoring

The image shows a woman with reddish-brown hair leaning over a desk to assist a man. They are both looking at a large document or book. The man is pointing at something on the page. A laptop is visible on the desk in the foreground.

Rewards
Recognition
Awards




Lori

The image shows a person's hands holding a large, clear, rectangular award trophy against a bright blue sky with white clouds. In the top right corner, there is a small inset photo of a woman with short brown hair, identified as Lori.




Monitoring

- Logs
- Surveys
- Periodic check-ins

“What gets measured, gets done.”

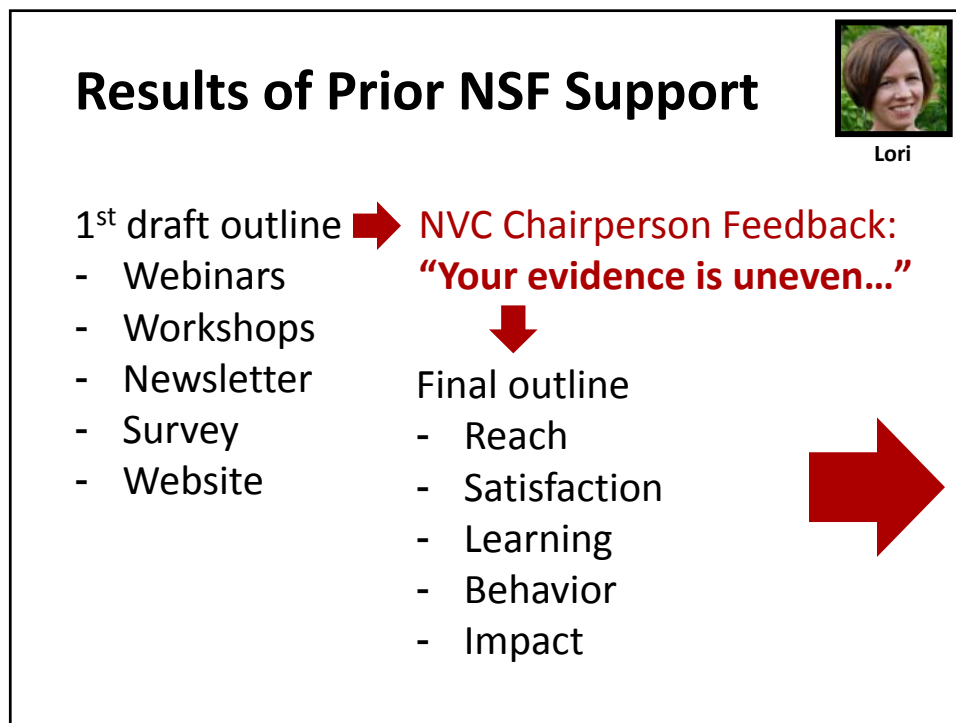
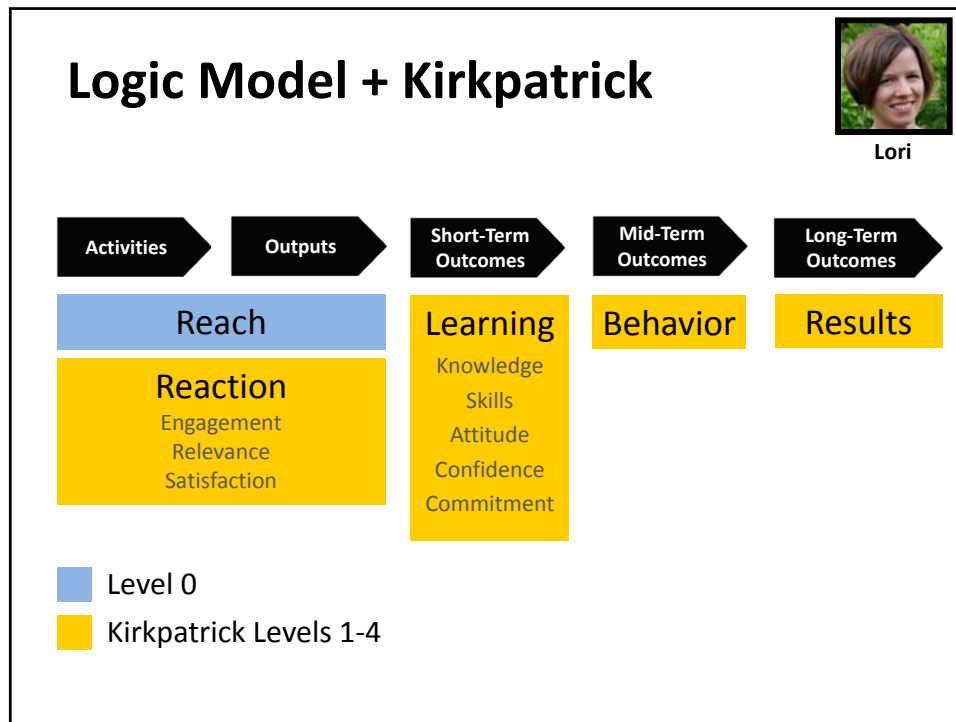
Kirkpatrick Model



Lori

0. Reach
1. Reaction
2. Learning
3. Behavior
4. Results

Collect data to build a chain of evidence



Results of Prior NSF Support



Lori

“ The proposal does an admirable job of establishing credibility and documenting an enviable record of achievement. The proposed activities are well-described and there is evidence of reflection and responsiveness to input from internal and external evaluation. ”

-- Anonymous NSF Reviewer #1



**Data:
Collection,
Quality,
Interpretation**



Lori Wingate

Measuring Reaction

Observation

Surveys

Interviews

Focus groups



Measuring Learning

Survey

Knowledge test

Demonstration

Simulation

Role play



Measuring Behavior

Interviews
Surveys
Observation
Third-party
feedback



Measuring Results

Institutional data
Employment
data
Employer
feedback



Example Questions



Lori

Please indicate the extent to which you agree or disagree with each statement:

The webinar held my interest.

Engagement

The webinar's content is relevant to my work.

I would recommend this webinar to colleagues engaged in similar work.

The webinar increased my knowledge of evaluation.

I will use what I learned from this webinar in my work.

Example Questions



Lori

Please indicate the extent to which you agree or disagree with each statement:

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The webinar's content is relevant to my work.

Relevance

I would recommend this webinar to colleagues engaged in similar work.

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Example questions



Lori

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Satisfaction

Example questions



Lori

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Knowledge

Example Questions



Lori

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Intent to use

Example Questions



Lori

Please indicate the extent to which you agree or disagree with each statement:

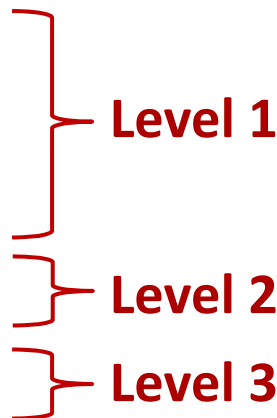
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Data Quality



Lori Wingate

Ask Good Questions



Lori

Specific, unambiguous

Address topics about which respondents have knowledge/ opinions

Response options are exhaustive, mutually exclusive

For more tips,

- Google “good survey questions”**
- Join us at our next webinar on Jan. 16**



Collect Data from Captive Audiences



Lori



Follow Up



Lori






Data Interpretation



Lori Wingate

EvaluATE Example: Reach Evaluation Rubric



Reach Indicators (Level 0)	Excellent (5)	Very Good (4)	Good (3)	Fair (2)	Poor (1)	Data	Score
Percentage of active grants represented among workshop and webinar participants	≥75%	59%-74%	43%-58%	26%-42%	≤25%	51%	3
Number of workshop participants annually (last 12 months)	≥50	40-49	30-39	20-29	≤19	63	5
Average number of participants per webinar	≥75	59-74	43-58	26-42	≤25	55	3
Number of unique webinar participants	≥300	250-299	200-249	150-199	≤149	332	5
Percentage of evaluation survey respondents who report accessing EvaluATE resources at least once in the past year	≥90%	70%-89%	50%-69%	30-49%	≤29%	90%	5
Percentage of participants who attend more than 1 event	≥75%	59%-74%	43%-58%	26%-42%	≤25%	44%	3
Ratio of live webinar participants to viewings of recorded webinars	≥2:1	1.5-1.99:1	1-1.49:1	.5-.99:1	≤.49:1	1.95:1	4
Ratio of unique website visitors to size of target audience	≥4:1	3-3.99:1	2-2.99-1:1	1-1.99:1	≤.99:1	3.86:1	4

EvaluATE Example: Reach Evaluation Rubric



Lori

Weight	Reach Indicators (Level 0)
.3	Percentage of active grants represented among workshop and webinar participants
.025	Number of workshop participants annually (last 12 months)
.025	Average number of participants per webinar
.15	Number of unique webinar participants
.3	Percentage of evaluation survey respondents who report accessing EvaluATE resources at least once in the past year
.15	Percentage of participants who attend more than 1 event
.025	Ratio of live webinar participants to viewings of recorded webinars
.025	Ratio of unique website visitors to size of target audience

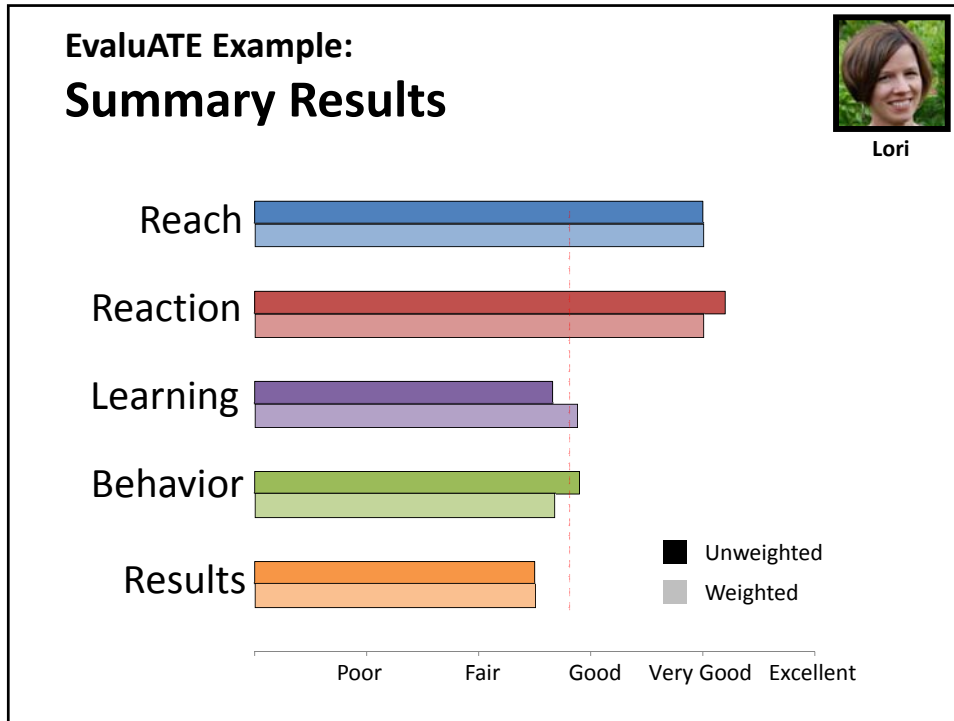
EvaluATE Example: Reach Evaluation Rubric



Lori

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.15	Percentage of participants who attend more than 1 event
.025	Ratio of live webinar participants to viewings of recorded webinars
.025	Ratio of unique website visitors to size of target audience

= 1



EvaluATE Events



Krystin

Developing Questions for Effective Surveys

January 16 | 1-2:30 p.m. EST

From Valuing to Visualization: Data Interpretation and Reporting

March 20 | 1-2:30 p.m. EST

www.evalu-ate.org/events



Kirkpatrick Resources



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Online and in-person workshops
Resource library
Books

www.kirkpatrickpartners.com

www.evalu-ate.org



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Resource Library
Evaluator Directory
Events (including past webinars)
Newsletters