

Welcome to MATEC NetWorks Webinar

Evaluating Student Impact

NetWorks is an NSF-funded ATE Resource Center supporting faculty in Semiconductor, Automated Manufacturing, and Electronics education

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**MARICOPA
COMMUNITY
COLLEGES**

NetWorks is a part of MATEC, a member of
the Division of Academic and Student Affairs
at the
Maricopa Community Colleges.



National
Science
Foundation

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National Science Foundation.
DUE-0501626



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Poll

Raise hand/smile/clap



1 Participant

Chat

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Joined on February 25, 2009 at 1:08 PM

Chat



Send to This Room

Audio



Whiteboard - Main Room

15/29 Welcome to MATEC NetWorks Webinar Follow Moderator Roam

Welcome to MATEC NetWorks Webinar

Whiteboard

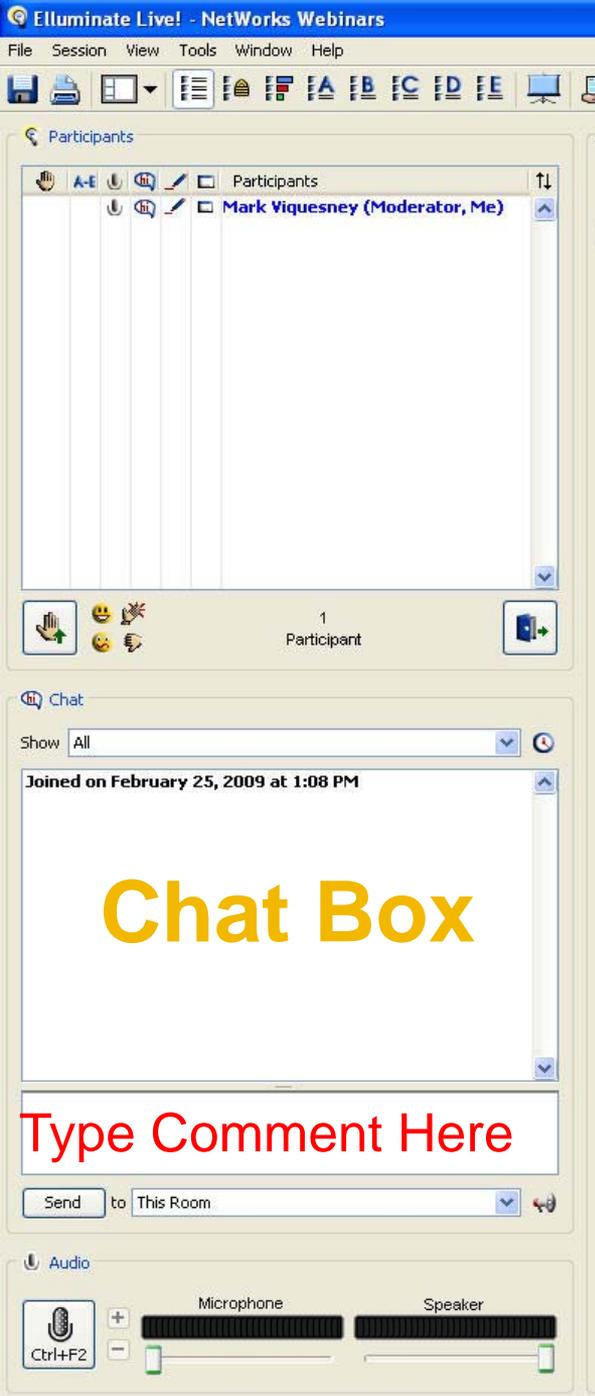
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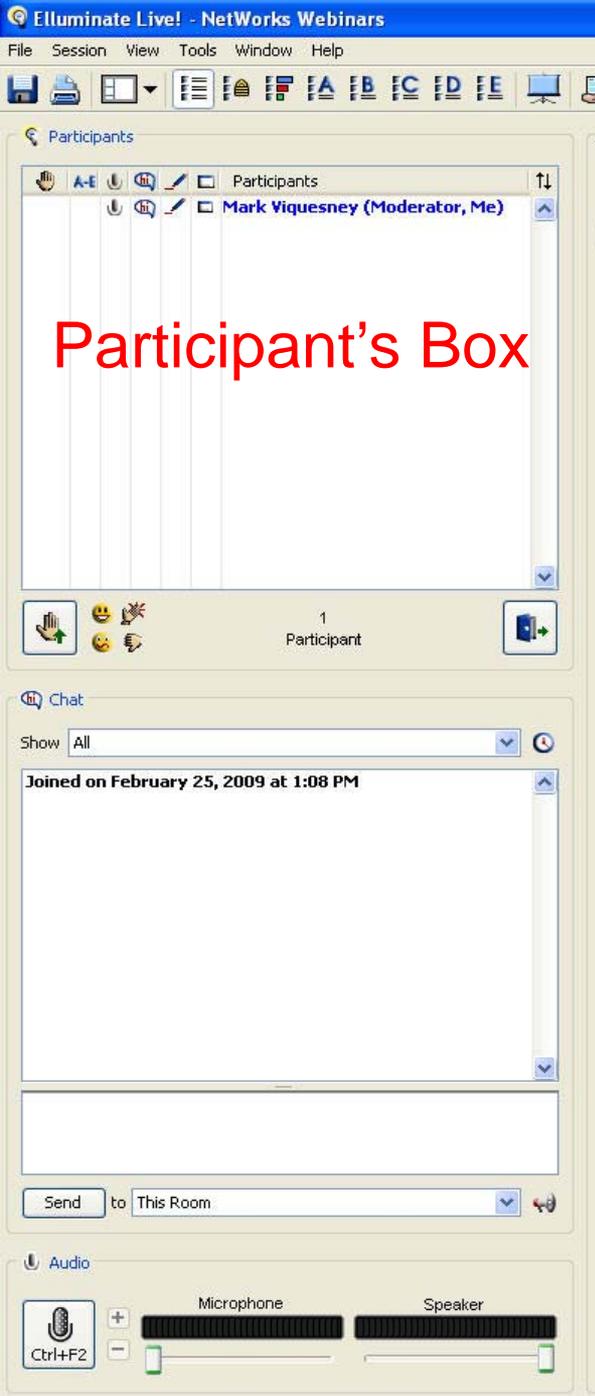


Chat Box

In the **Chat Box**, please type the name of your school or organization, your location, and how many people are attending with you today.

KS



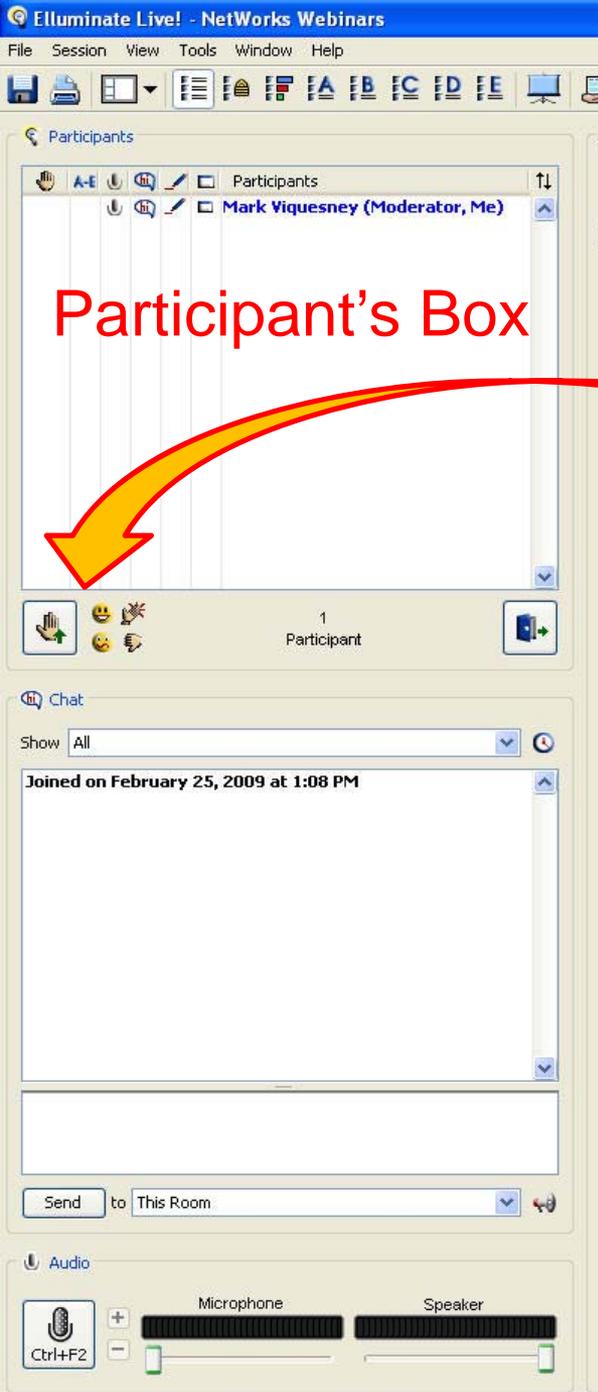


Participant's Box

Allows you to non-verbally respond to the presenter's comments.

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Participant's Box

Participant's Box

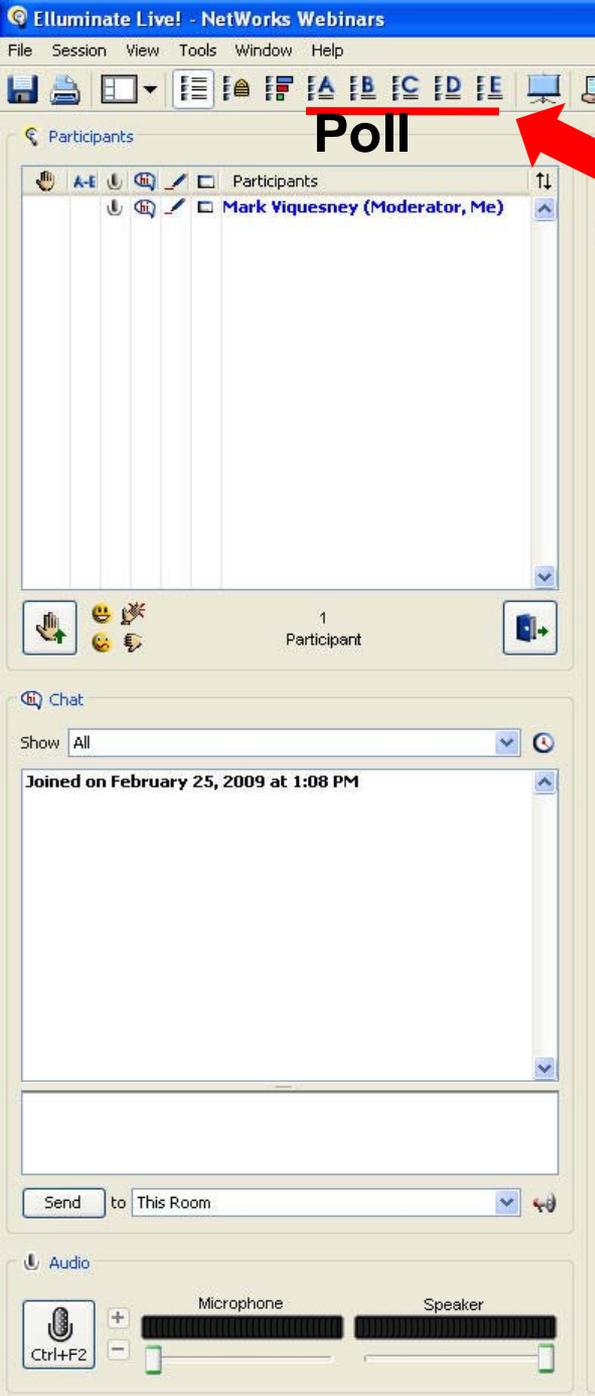
Smile



Let the presenter know if you like what they say with a smile or clap. Raise a hand if you have a question – and then type it into the chat box.

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Poll

Click A-E to take the Poll

This webinar will have a Poll. Please answer:
I heard about this webinar through:

- A. @matec
- B. Email from ETD list serv
- C. Email from NetWorks
- D. Friend or colleague
- E. Other (please type where in chat box)



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NetWorks Webinar Presenters

Michael Lesiecki: Director of MATEC



Michael Gragg: COO,
Worldwide Interactive Network



Peggie Weeks: Senior Evaluation Associate,
The Evaluation Center



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Outline: Evaluating Student Impact

- Test your Student Success IQ
- The problem as the panelists see it
- Mike Lesiecki: Use of the web to tease out impact data
- Peggie Weeks: Student learning, stories from the trenches, & useful evaluation resources
- Mike Gragg: How do business and industry measure ROI; how can we adapt them?



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What % of community college students attain a degree after three years?
(Community College Research Center data)

A. More than 50%

C. 15-25%

B. More than 25%

D. Less than 15%



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What % of students who enter a developmental course graduate with an associate's degree within three years?

A. Less than 50%

C. Less than 5%

B. Less than 10%

D. Less than 1%



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These statistics present a concerning but skewed picture of student performance

- It counts only a portion of students enrolled,
- It doesn't count transfers to four-year colleges, and
- It only looks at a three-year picture for students who usually take a longer time to complete their studies.

Tom Bailey, Community College Research Center



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Student Success at Community Colleges starts with a culture of evidence.



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According to the Lumina Foundation's Achieving the Dream Initiative, which of the following key indicators of student success is the most important?

- A. Completion of developmental education courses
- B. Completion of introductory-level, or "gatekeeper", college courses
- C. Completion of courses with a C or higher
- D. Persistence from term to term and year to year
- E. Attainment of a degree or certificate



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The problem and challenge as the panelists see it

Michael Gragg



Michael Lesiecki



Peggie Weeks



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The Challenge:

From a National Science Foundation Program Officer:

Impact: Your impact statements are mostly numbers of people served; What about the effect on the people you serve?

Could you give me some information about this?

What has happened because of your work and the specific activities?



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MATEC NetWorks One-Question Survey

Check the ways, if any, that your teaching has been enhanced and technology programs have been enriched as a result of accessing the NetWorks digital resource library:

	Response	Count	% Of Total Responses
1	Updated classroom instructional materials	68	54.4
2	Incorporated new classroom instructional materials	57	45.6
3	Modified pedagogical methods	21	16.8
4	Tried new pedagogical methods	37	29.6
5	Changed the way I assess student learning	25	20
6	Updated existing topics	66	52.8
7	Added new emerging technology topics	48	38.4
8.	Added a new activity to an existing course	45	36
9	Added a new course at our institution	13	10.4
10	Augmented current recruiting strategies	17	13.6
11	Implemented new recruiting strategies	8	6.4
12	Submitted resources to the NetWorks collection	28	22.4

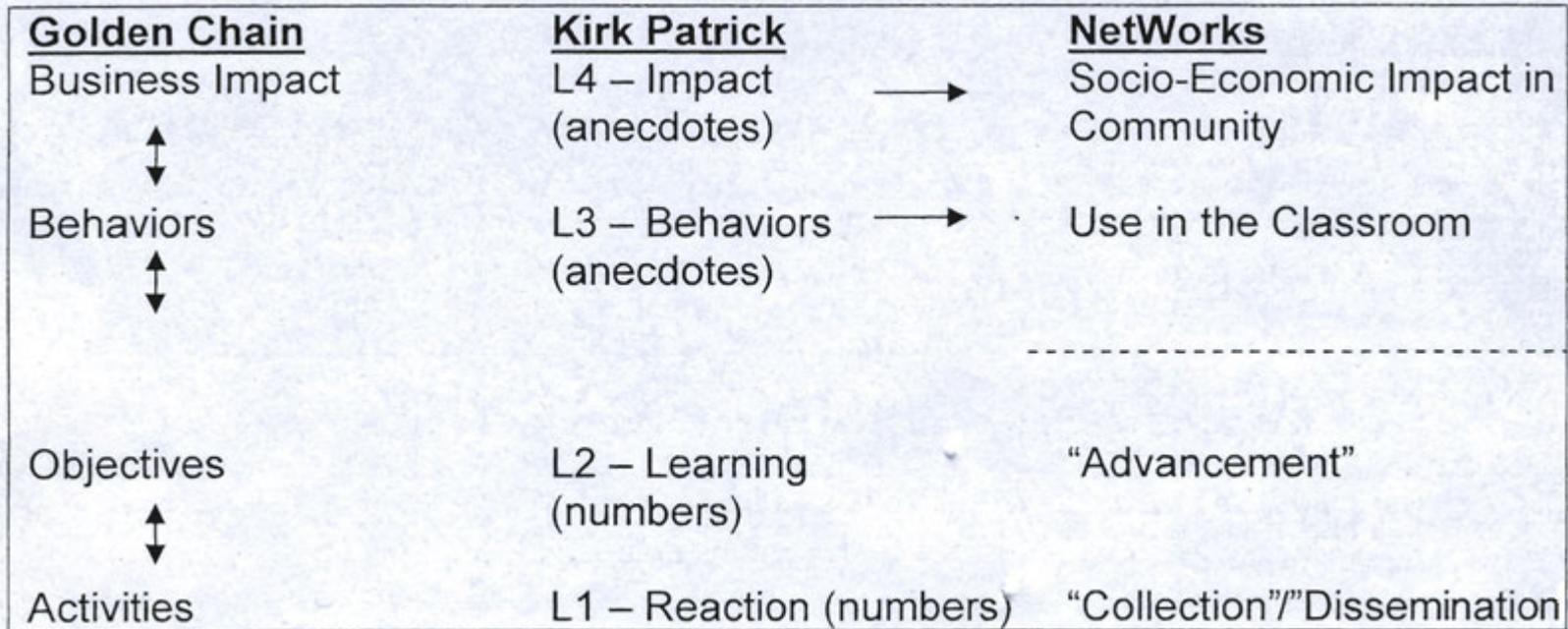
Discussion:

- What are known success models or methods that have strengthened student impact
 - And how are they measured?
- What type of strategies can we identify to increase and measure student impact?
- Consider the Kirkpatrick Model



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The Kirkpatrick Model Applied to Education*

- I. How participants react to the training. Were participants satisfied?
- II. To what extent did participants learn important content and concepts?
- III. To what extent have participants applied what they learned?
- IV. To what extent has student learning (and student outcomes) improved?

* Dr. Norena Badway, University of the Pacific



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Student Learning, Stories from the Trenches, and Useful Evaluation Resources

Peggie Weeks
peggie.weeks@wmich.edu



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Think of a time in your life when you learned something *really* well.

What did you learn?

When did you learn it?

How did you learn it?

Why do you think you learned it so well?



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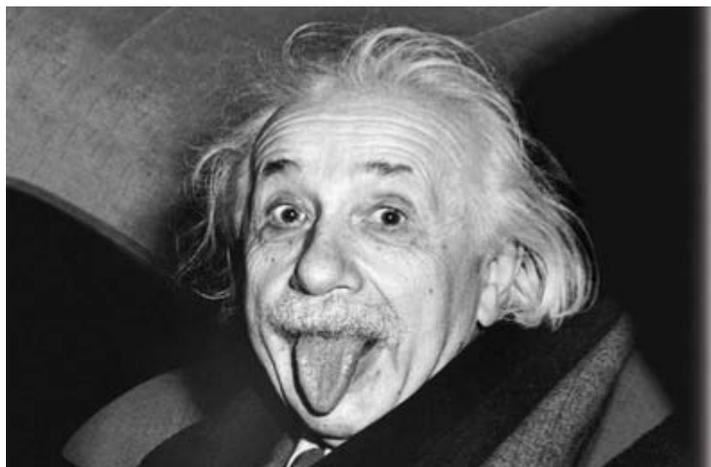
"I felt then that my brain was a way station for material going in one ear and (after the test) out the other. I could memorize very easily and so became valedictorian, but I was embarrassed even then that I understood much less than some other students who cared less about grades."

Understanding by Design, p.1



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As a student,
he was no Einstein.

CONFIDENCE

Pass It On.

VALUES.COM THE FOUNDATION
FOR A BETTER LIFE

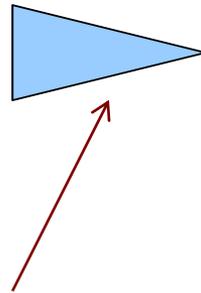


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Goal: Better Prepared Technicians

Input: You *do* something



Output: Students are *smarter*

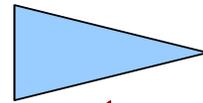


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Goal: Better Prepared Technicians

Input: You *do* something



Output: Students are *smarter*

**Black Box
of Evaluation**

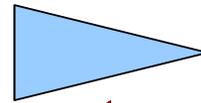


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Goal: Better Prepared Technicians

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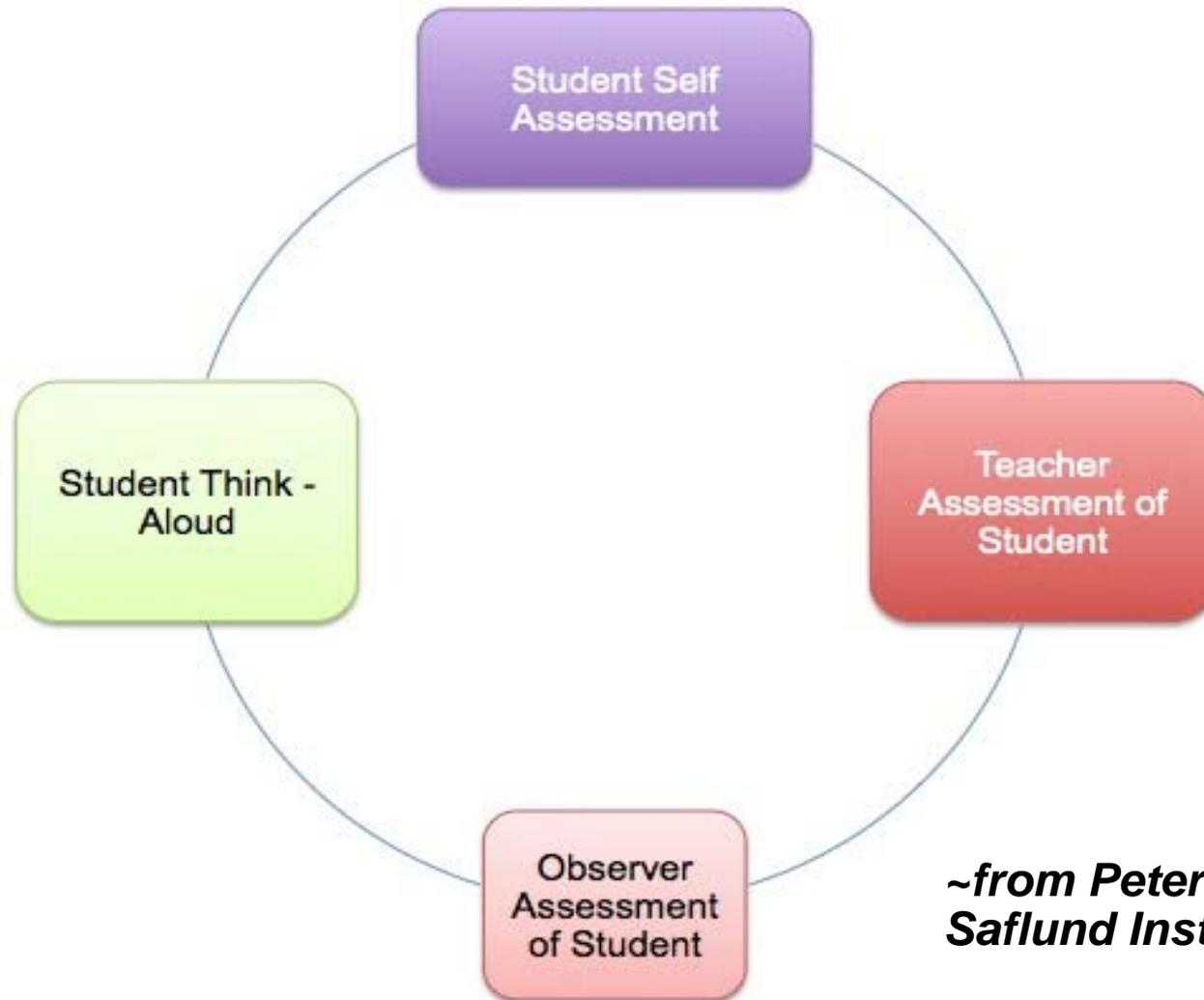
**Glass Box
of Evaluation**



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Quadrature View of Assessing Impact of Treatment on Student Performance



*~from Peter Saflund, the
Saflund Institute*

The Student Evaluation Standards, Gullickson et al, 2003

Evaluations should be:

- Ethical
- Useful
- Feasible
- Accurate



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Stories from the Trenches

- South Carolina Center of Excellence, Florence-Darlington Technical College
- Scenario-Based Learning, Foothills College
- Communication in Science Inquiry Project, Maricopa Community Colleges
- PHOTON Project-Based Learning, New England Board of Higher Education



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South Carolina Center of Excellence

- 8 years of longitudinal data:
retention, diversity, graduation rates
- Use of Work Keys to measure
student learning gains
- Anecdotal evidence (lots of it!)



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Scenario-Based Learning:

<http://elc.fhda.edu/>

- Simulations of authentic workplace problems
- Principled assessment
- Archived webinar: "How to Teach Your Students to Think for Themselves"
@ cccconfer.org (Archives, then Webinar tab, 2/9/10)



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Communications in Science Inquiry Project

- Pre post assessments
- Writing scientific explanations
- Student awareness



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PHOTON Project-Based Learning

- 21 photonics students, 4 instructors @ 4 community colleges
- Students' conceptual knowledge & problem-solving abilities improved markedly
- Students' intrinsic motivation increased significantly

<http://www.nebhe.org/content/view/257/190/>



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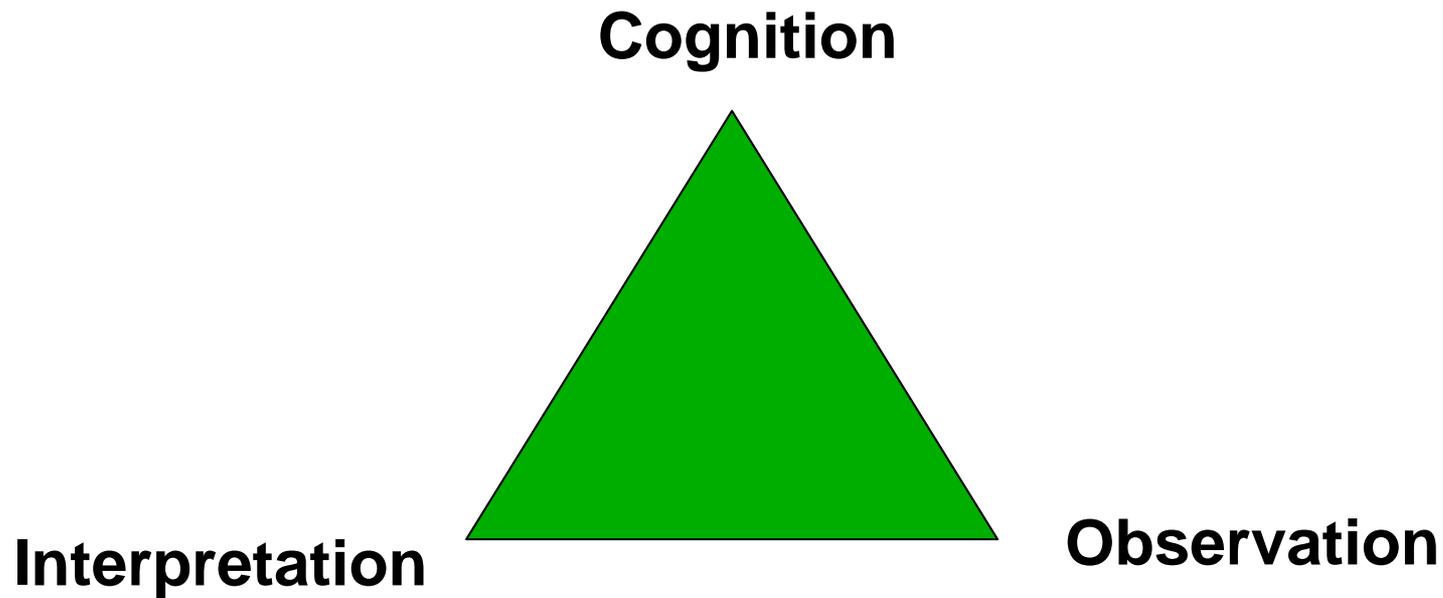
Useful Evaluation Resources



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Knowing What Students Know,
Pellegrino et al, National Academy Press, 2001



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Gloria Rogers:

<http://www.abet.org/assessment.shtml>

- ABET's assessment guru
- Example:
Assessment of Student Learning Outcomes
- "You don't have to be bad to get better."



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Assessing Impact, Killion, Corwin Press, 2008

Focus on K-12 professional development
evaluation, but applicable across all activities

Types of Changes	Question	Data Source	Data Collection Method	Data Analysis Method	Timeline	Responsible Party



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Akins & Barbuto: Assessing Team Building Skills

www.myteamskills.com

TEAM ASSESSMENTS ARE USED TO DETERMINE A PARTICIPATION GRADE FOR THE COURSE. PLEASE FILL OUT BOTH SIDES OF THE FORM.

Please recognize that this assessment is for positive reinforcement of excellent team practices and only serves in that capacity with your honest responses.

	#1 (self)	#2	#3	#4
Team Member Name				

Which team member is taking responsibility for submitting assigned materials by the specified deadline?

In a successful team, each individual team member comes prepared for and actively participates in the activity and is actively involved in any reporting out requirements. Reflect on the three statements below as they pertain to you and this activity. For each statement, circle the response that best represents your self-assessment.

4 – strongly agree 3 – agree somewhat 2 – disagree somewhat 1 – strongly disagree

Self Assessment	4	3	2	1
I came prepared for this activity by performing all pre-activity assignments such as pre-lab homework, reading in the textbook, and thoroughly reading the activity materials.				
I fully participated in this activity by determining how best to support the team. Forms of support include organizing personnel, providing communication, construction, note-taking, and measurements.				
I fully participated in meeting all reporting out requirements. I communicated with team members in and out of class. I collaborated to produce materials required for submission by the team.				

For each team member, circle the response that most closely represents your opinion.

Member #2	4	3	2	1
I really enjoyed working with this person, s/he is a great asset to the team, and I would like to be on a team with this person again.				
This team member has strong leadership potential and I would like to see them take on more of a leadership role in the team.				



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Understanding by Design, Wiggins & McTighe, ASCD, 2005

"To begin with the end in mind means to start with a clear understanding of your destination. It means to know where you're going so that you better understand where you are now so that the steps you take are always in the right direction."

—Stephen R. Covey, *The 7 Habits of Highly Effective People*, 1989, p. 98



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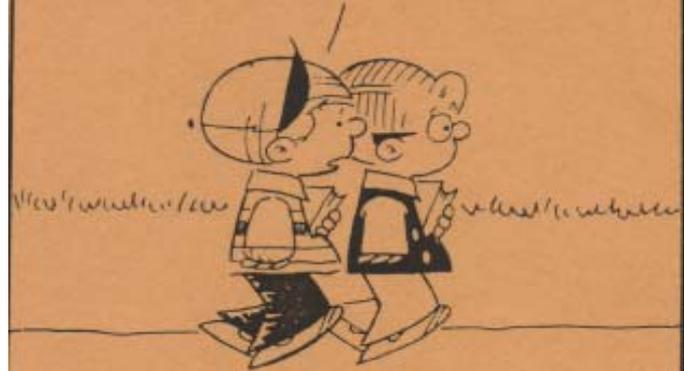
MRS. HACKABERRY SAYS
THAT TEACHING IS LIKE
OPENING CHILDREN'S HEADS...



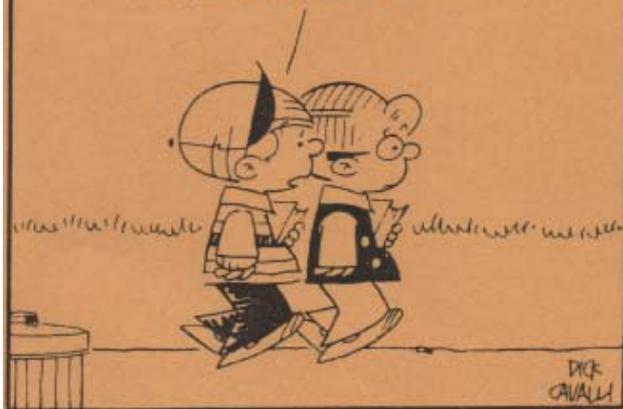
© 1988 by NEA, Inc.

1-22

AND POURING KNOWLEDGE
IN. SHE SAYS IF WE KEEP
OUR MOUTHS SHUT...



IT WON'T LEAK
OUT AGAIN.

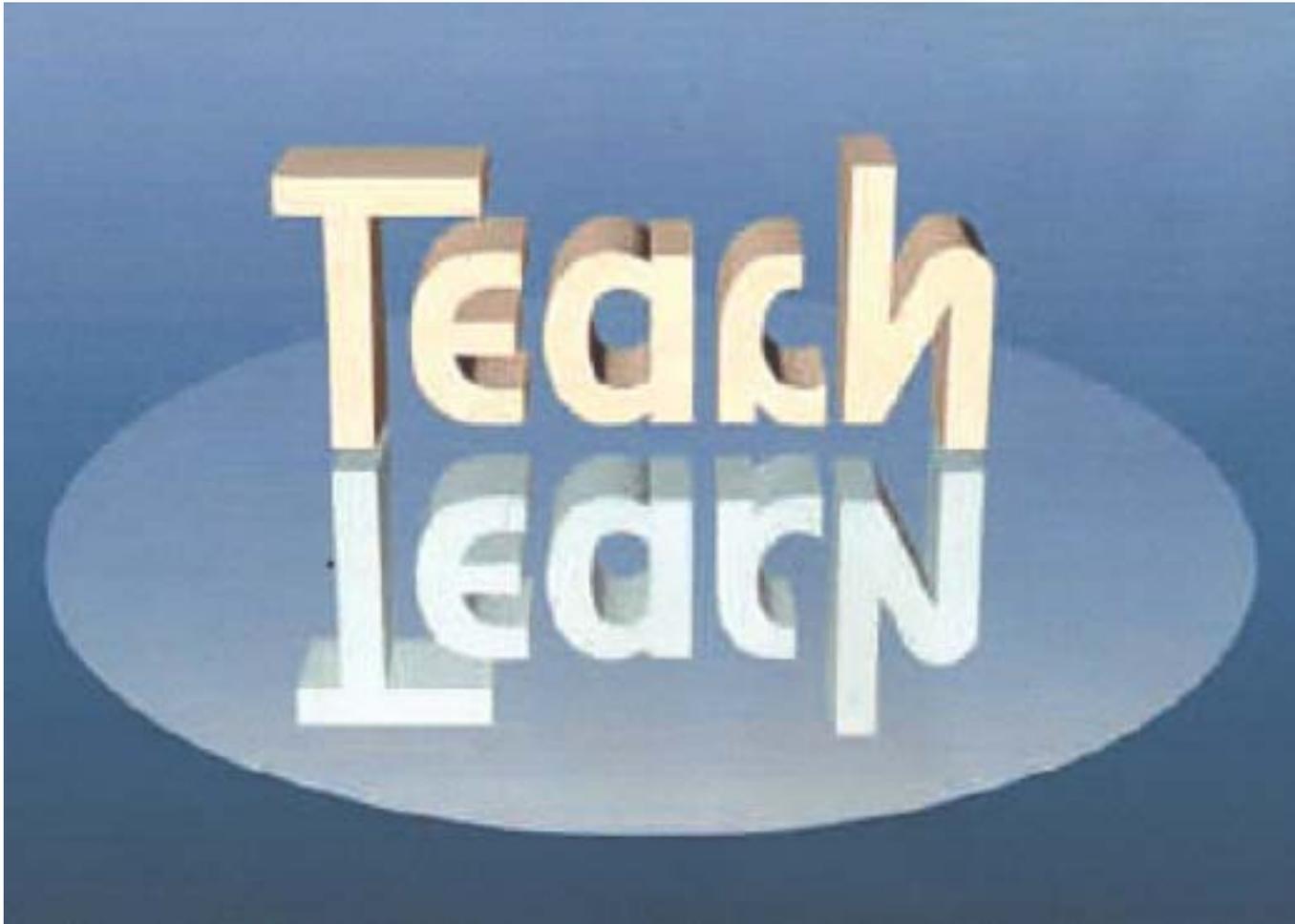


DICK
CAVALLI



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What will you *do*?



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Pay Attention!



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Pay Attention!

**~Thank you, Gary Long! RIT's
National Technical Institute for
the Deaf (NTID)**



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Who is the Primary Customer of my Program?

- A. Businesses that hire
- B. The College that promotes
- C. Students who enroll
- D. Faculty that develop, improve, deliver



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Why does Business and Industry Hire People?



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Quality Assurance vs. Quality Performance



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Case Study:

What is the Value of a Graduate using Curriculum Developed by a National Science Foundation Grant to the Center for the Advancement of Process Technology?



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Solicit and Embrace Employer-Driven Program Performance Assessments



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How Programs Thrive

Know your Customer

Understand your Consumer

Stay in the Dialogue

Learn while you are Educating

Understand Q.A. vs. Q.P. assessment

Begin with the End in Mind



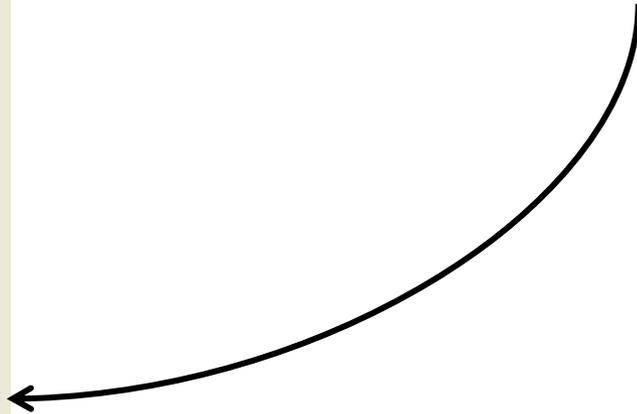
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Questions and Comments

Type them in
your chat
window



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SEARCH RESULTS

Searched For: **electronics**

Results 1 - 10 of 243

AC Electronics
A page filled with over 80 learning objects including Oscilloscopes, Capacitors, Inductors, Transformers, and more.

Electronics Infoline
This website has exciting electronics, components, and information for electronics enthusiasts. This website is great for students and hobbyists.

Systems View of Electronics
Today, the greater part of a tech's work involves working with systems containing many ICs, plug-in modules, sub-systems, and more.

Electronics Circuits
The first courses taught in most 2-year technical schools are electrical theory, current, voltage sources, and more.

Electronics Labs
Welcome to Electronics Lab! Here you can find tutorials, videos, and downloads. I hope you enjoy the tour.

DC Electronics
A website with many learning objects on DC circuits, Ohm's Law, Magnetism, Parallel Circuits, Series Circuits, and more.

Electronics Tutorials, Electronics materials
Link to more than 90 tutorials that are available through optical communication. Animations and more.

Introduction to Electronics
The dictionary defines electronics as a branch of physics and engineering that deals with the properties and uses of electronic devices.



RECORD

[Edit This Resource](#)

Title: [Work Ready Electronics](#)
Alternate Title: WRE
Url: <http://www.work-readyelectronics.org>

Description: Set of online resources for faculty instructing electronics courses in areas such as AC and DC circuits, Switch mode power supplies, Data Conversion, Wireless Communication, and others.

WRE

Classification: [Electrical Engineering -- Circuit Theory](#)
[Electrical Engineering -- Communications](#)
[Electrical Engineering -- Controls and Systems](#)
[Electrical Engineering -- Electronics](#)
[Professional Development -- Career and Personal Development](#)

Date Issued: 2006-06-19

Resource Type: [Unit/Module](#)

Audience: [Industry Personnel](#)
[Government Personnel](#)



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What Is It?



Events

Can you guess what this image is?



- If you guess correctly, you will be entered into a prize drawing.
 - [EMAIL](#) your answer before 12/31/09.
- The answer & winner will be revealed in the Jan./Feb. [@MATEC](#)

TECHSPECTIVES BLOG

Join a discussion or start your own at [TECHSPECTIVES](#)

[THIS FRIDAY - FREE WEBINAR](#)

by Mark Viquesney - Dec 08, 2009

This semester I had a very interesting group of students - One student was in

▶ [THIS FRIDAY - FREE WEBINAR](#)

[ON THE WINGS OF A BUTTERFLY](#)

[REACHING AND TEACHING ACROSS GENERATIONS - FREE WEBINAR DECEMBER](#)

[10 EMERGING TECHS FOR 2010](#)

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- ▶ [RECOMMENDED LINKS](#)
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December 11 th	REACHING AND TEACHING ACROSS GENERATIONS
February 12 th	EVALUATING STUDENT IMPACT
March 12 th	INDUSTRY EXPECTATIONS OF GRADUATES
April 9 th	CONVERGING TECHNOLOGIES CAREER EXPLORATION
May 14 th	REVITALIZING ELECTRONICS PROGRAMS
June 10 th	RECRUITING DIVERSE POPULATIONS

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July 26-29 Orlando, FL

Check the website as details continue to develop

WWW.HIGHIMPACT-TEC.ORG

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Webinar	Date	Link
Nanotechnology in the Classroom Laboratory	11/13/09	VIEW
Sustaining Technical Programs	10/09/09	VIEW
Energy Utilization	09/11/09	VIEW
Teaching and Learning with i-Technologies	08/14/09	VIEW
Developing Strong Evaluations for ATE Projects Part II	07/10/09	VIEW
Developing Strong Evaluations for ATE Projects Part I	07/09/09	VIEW
Learning Objects: What are they? How do I use them?	06/18/09	VIEW
Electronics 2010: eSyst Update 6	05/15/09	VIEW
Making Your Program Flexible	04/17/09	VIEW



Webinar Recordings

To access this recording, visit

www.matecnetworks.org,

Keyword Search:

“webinar Evaluating Student Impact”



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NetWorks Upcoming Webinars

March 12: Industry Expectations of Graduates

April 9: Converging Technologies Career Exploration

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Evaluat|e

EVALUATION RESOURCE CENTER *for*
advanced technological education

Evaluat|e Webinar: March 17

Evaluation Data

Register at

www.evalu-ate.org/events



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HI TEC

Join Us in Orlando, FL
July 26-29, 2010

Visit www.highimpact-tec.org as more details develop



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If you attended the live version of this
1.5 hour webinar and would like a
certificate of participation, please email
darlene.cieplinski@domail.maricopa.edu



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How Can We Better Serve You?

Whether you are joining us live or watching the recorded version of this webinar, please take 1 minute to provide your feedback and suggestions.

<http://questionpro.com/t/ABkVkZF5Gb>



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