NSF ATE CENTERS

Communities of Practice: Secrets of Successful Implementations Part I

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February 25, 2016
Webinar will begin at 3pm ET

CCTA | CENTERS COLLABORATIVE FOR TECHNICAL ASSISTANCE

Webinar Details

- For this webinar you will be in listen only mode using your computer or phone

- Please ask questions via the question window

- This webinar is being recorded – you will be sent a recording link
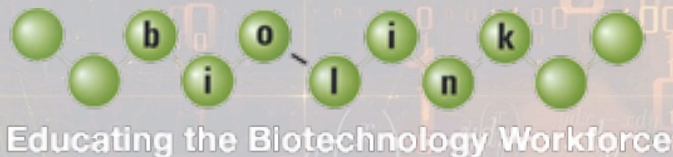
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CCTA | CENTERS COLLABORATIVE FOR TECHNICAL ASSISTANCE

With Additional Support by the ATE Collaborative Impact Project

ATE CENTERS

The CCTA IS Led By

- **National Center for Convergence Technology (CTC)** based at Collin College in Frisco, TX (lead)

- **South Carolina ATE National Resource Center (SCATE)** based at Florence Darlington Technical College in Florence, SC

- **Florida ATE Center (FLATE)** based at Hillsborough Community College in Tampa, FL

- **Bio-Link Next Generation National ATE Center for Biotechnology and Life Sciences (Bio-Link)** based at City College of San Francisco in San Francisco, CA

- **Networks Resource Center** based at the Maricopa Community College District in Phoenix, AZ

CCTA Purpose

- Respond to a request from the Department of Labor (DOL) to the NSF to have ATE Centers provide technical assistance services to DOL TAACCCT grantees
  - Success coaching
  - In-person convenings
  - Knowledge management /best practices
  - Peer-to-peer learning

CCTA Activities are Relevant for:

- Department of Labor grants
- National Science Foundation Projects and Centers
- Workforce-oriented programs of all kinds

Deliverables

- Topical Webinars and Teleconferences On
  - Existing and new solutions
  - Live/recorded with attendee Q&A
  - Archived on www.atecentral.net
- Other online media including videos and transcripts

Deliverables Continued

- Invitations to regional discipline-specific conferences

- Identify and document best practices

- Host convenings

PRESENTERS

Marilyn Barger
P I & Executive Director
Florida Advanced
Technological Education
Center (FLATE)

Mr. Jim Hyder
Professional Consultant

Barbara Lopez
Research Engineer
University of New Mexico

Poll #1: Your Affiliation

A. I am involved with an NSF grant

B. I am involved with a TAACCCT grant

C. Both

D. Neither

Agenda

- Introductions and Overview
- What is a CoP
    Definition & Characteristics
- Are you REALLY a CoP?
- CoP vs. other models
- Case Studies
- Evaluation of CoPs
- Questions and Closure

This webinar will provide an overview of the characteristics of a strong Community of Practice, including how to get one started, and how to keep it going/growing. Two examples from ATE will be highlighted

Learning Objectives

At the end of this webinar, participants will:

    1. Be able to define and characterize a CoP;

    2. Be able to differentiate between a CoP, CoI, Network, and a Project Team;

    3. Be INTRODUCED to evaluating the effectiveness of a CoP;

    4. Have resources for follow up.

What is a CoP?

A Community of Practice (CoP) is a group of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis

(*from Communities of Practice 2002 by E. Wenger, R. McDeromott, & W Snyder).

What is a CoP?

A **group of people** who **share** a concern; a set of problems; or a **passion** about a topic,

AND

who **deepen their knowledge and expertise** in this area

BY

ongoing interactions

*(*from Communities of Practice 2002 by E. Wenger, R. McDeromott, & W Snyder).*

What is a CoP?

"Without passion, genuine striving for deepening of knowledge, and cultivation of relationships, you are not a Community of Practice" - *Hyder*

Deepen knowledge

Share a passion

Ongoing interaction

CoP
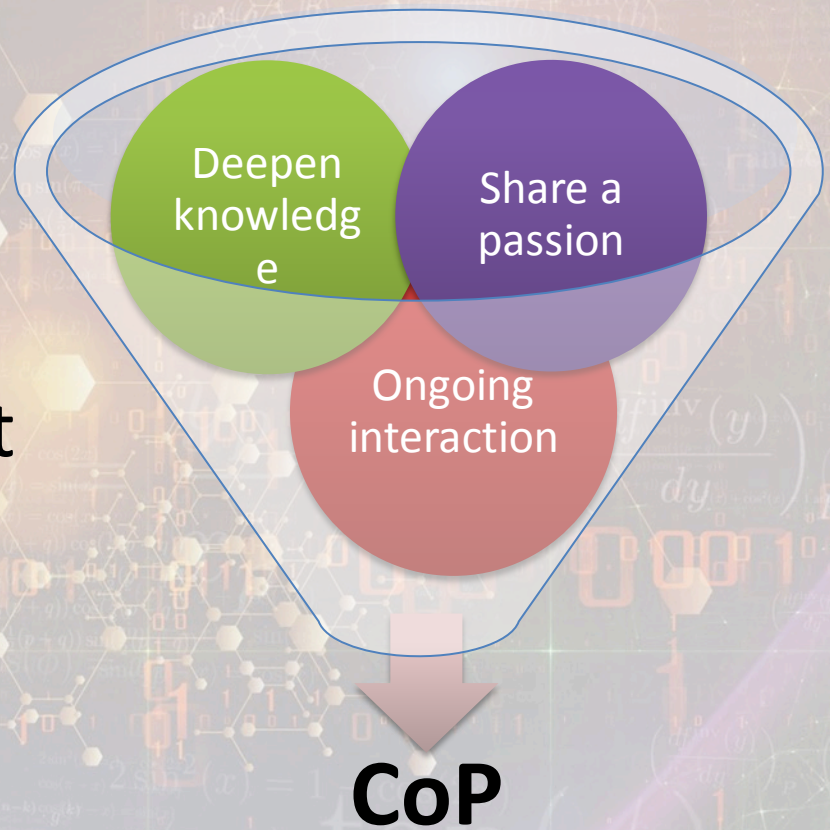
Characterizing the **HEART** of CoP

The "intellectual" structural characteristics of a community of practice are again redefined to a **domain** of knowledge, a **idea** of community and a **notion** of practice:

- A **domain** of knowledge creates the common ground, *inspires members to participate*, guides their learning and *gives meaning* to their actions.
- The **idea** of a community creates the *social fabric* for that learning. A strong community *fosters* **interactions** and *encourages a willingness* to *share* ideas.
- While the domain provides the general area of interest for the community, the **notion** of practice is the specific focus around which the community develops, shares and maintains its core of knowledge.

Characterizing the **HEART** of CoP

The **attitudinal** characteristics, the "secret sauce", remain as:

- Passion
- Genuinely striving for deepening of knowledge and Expertise
- Interacting on a regular basis – "cultivating"

Are you **REALLY** a CoP?

… or are you a **Project Team** or **Network**?

… or are you a **Community of Interest**?

Sometimes we learn about what we ARE by comparing ourselves to what we AREN'T…It's really ok to be something OTHER than a CoP!

NOTE: A Social Network is a topic unto itself that, frankly, is an overused phrase. To see the complexity of this topic, visit: https://en.wikipedia.org/wiki/Social_network

Networks vs. Communities

"The **network** aspect refers to the set of relationships, personal interactions, and connections among participants, viewed as a set of nodes and links, with its affordances for information flows and helpful linkages."

http://wenger-trayner.com/resources/communities-versus-networks/

"The **community** aspect refers to the development of a shared identity around a topic that represents a collective intention—however tacit and distributed—to steward a domain of knowledge and to sustain learning about it."

Project **Team** vs. **CoP**

A project **team** is:

- driven by deliverables
- **defined by role or task**;
- designated members who remain consistent in their roles
- dissolved or repurposed once its mission or goal is achieved.
- Example: We have likely ALL been part of a Project Team!

A **CoP** is:

- "organically" created,
- as many objectives or informal "goals" as there are members;
- defined by the knowledge of the members;
- exists as long as the members believe they have something to contribute to, or gain, from it.

Community of Interest (**CoI**) vs. **CoP**

A **CoI** is:
- a group of people that share information and discusses a particular topic that interests them;
- not necessarily "experts" or "practitioners" of the topic
- common interests and exchanges of information, ask questions,
- not dependent upon expertise - Personal Example: Hyder's Salmon Flies

A **CoP** is:
- active "**practitioners**," but not necessarily "experts".
- not appropriate for non-practitioners;
- practitioners share tips and best practices, ask questions of their colleagues, and provide support for each other.
- Membership of a CoP is dependent on

Summary/Key Phrases

- Community of Practice– practitioners, organic, passion, genuine striving for deepening of knowledge, and cultivation of relationships;

- Networks – nodes, linkages, information flows;

- Project Team – Driven by deliverables; defined by roles and tasks;

- Community of Interest – Not experts or practitioners, just interested.
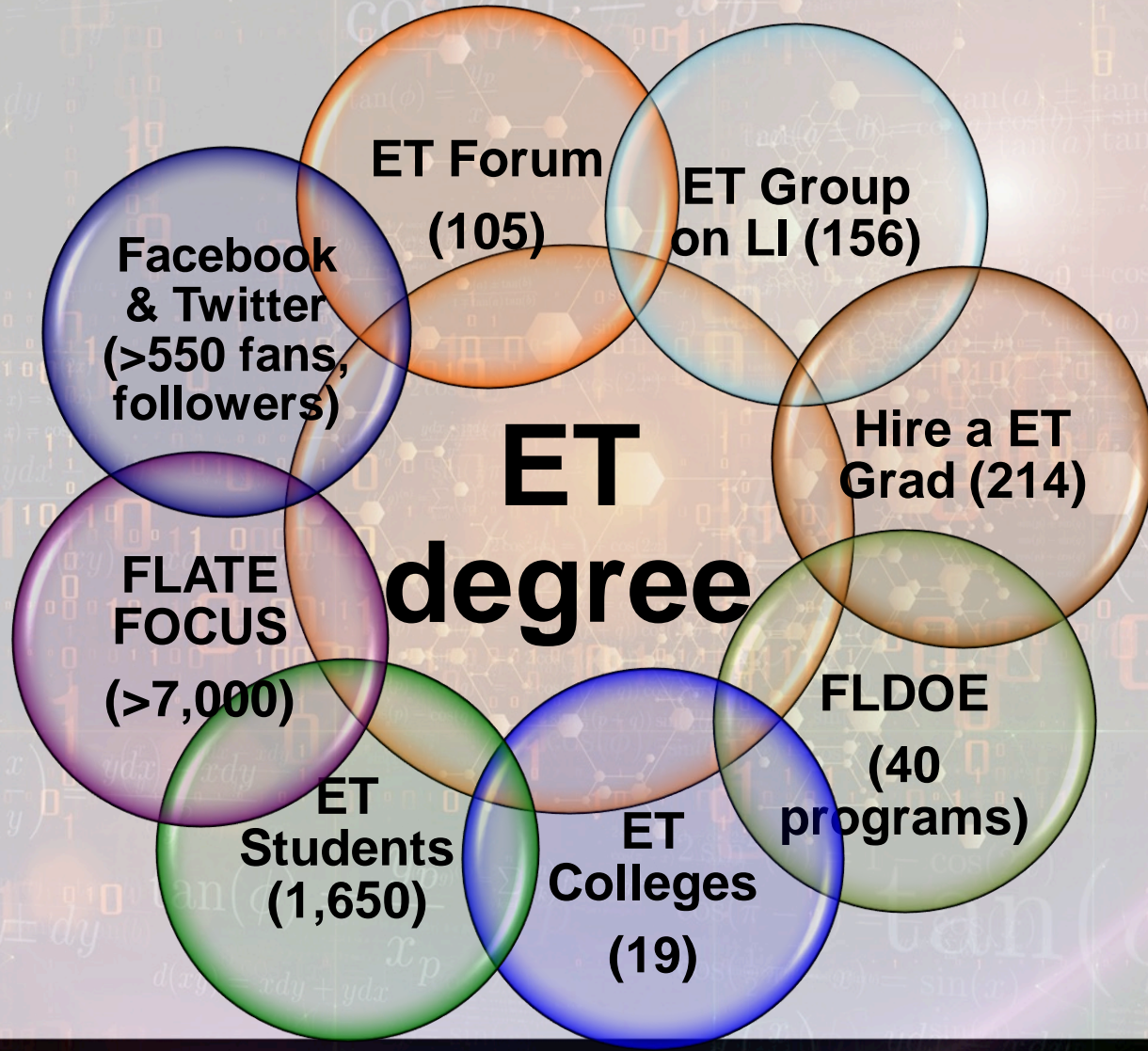
Questions?

FLATE: Florida Advanced Technological Education Center of Excellence
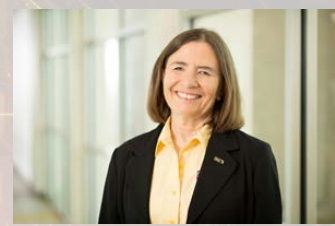
- Regional ATE Center of Excellence in Florida

- Supporting manufacturing technician education

- Created model articulated, credentialed A.S. pathways to manufacturing technician jobs

- Degree now in 19 of 25 state & community colleges

Our Community of Practice

ET Forum (105)

ET Group on LI (156)

Facebook & Twitter (>550 fans, followers)

ET degree

Hire a ET Grad (214)

FLATE FOCUS (>7,000)

FLDOE (40 programs)

ET Students (1,650)

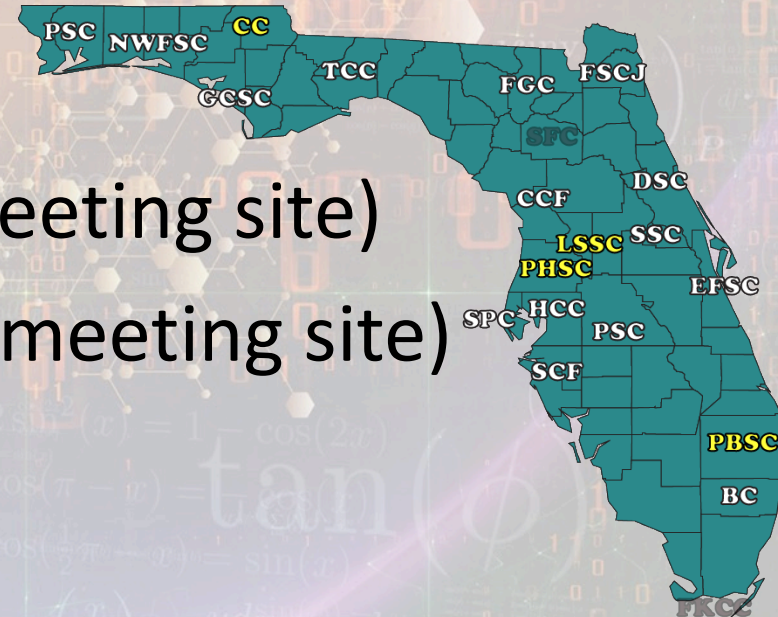ET Colleges (19)

Our Community of Practice

Our Community of Practice

Who we are:

- all levels engineering technology educators

- technical education/training resource vendors

- FLDOE rep/s

- industry partners (local to meeting site)

- K-12 CTE educators (local to meeting site)

Florida's Forum on Engineering Technology

Who we are; what we do; how we do it

- started meeting informally in late 1990's
  - to address a "statewide articulation" DOE question for electronics engineering technology
  - 4-6 colleges sent reps
- Continued semi-annual meetings
  - meet at different colleges; semi-annually; 1.5 days
  - no officers, no by-laws, no mou's or moa's, no $
  - chair (meeting organizer) + local host
  - **Everyone** contributes to agendas
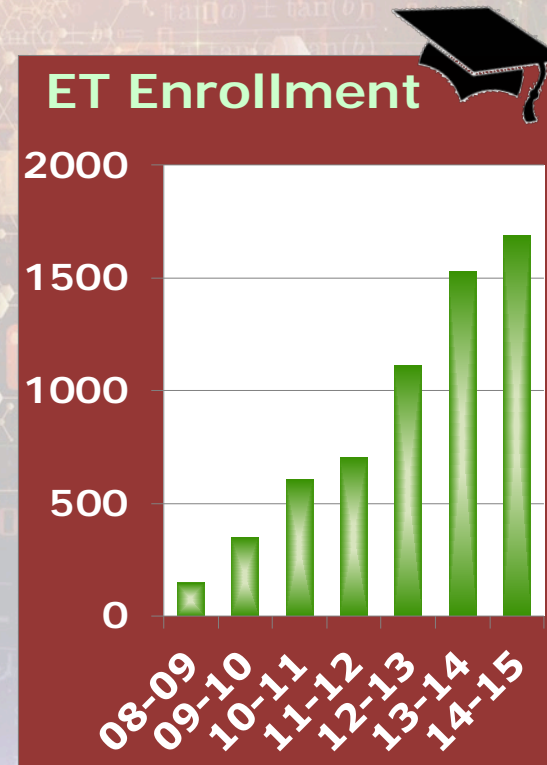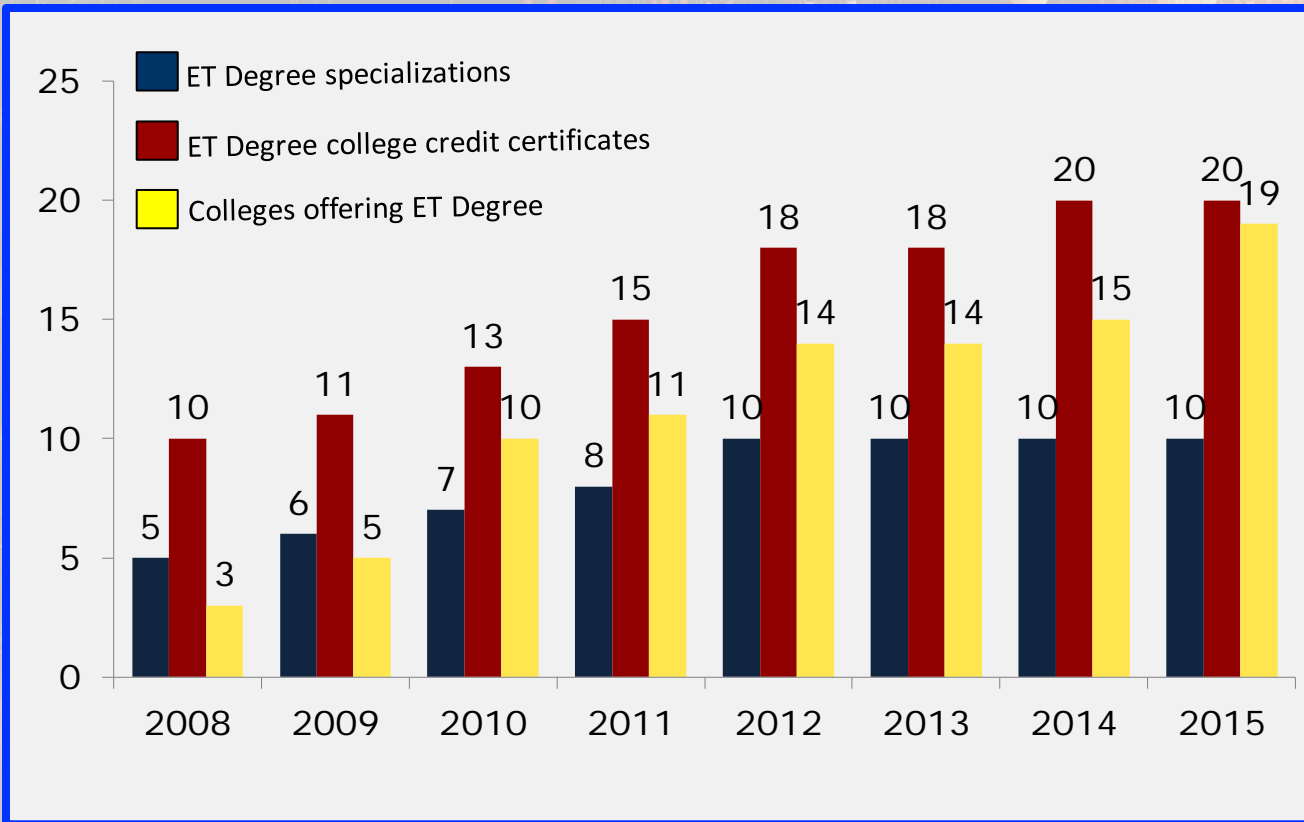
Florida's Forum on Engineering Technology

What we do

- Share our *passion* for ET education
- *Deepen knowledge* of how to most effectively practice and provide ET education to students
- *Interact continually* among participants
- Solve problems
- Celebrate successes
- Mentor new colleagues

Florida's Forum on Engineering Technology

What we do

FORUM on Engineering Technology

ET Degree specializations
ET Degree college credit certificates
Colleges offering ET Degree

ET Enrollment
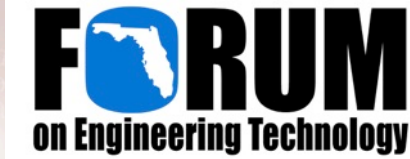
Florida's Forum on Engineering Technology

Problems & concerns we share, work on and solve

- Recruitment and retention issues
- Department of Ed mandates
- Online vs hands on teaching and learning
- Adding " what's new" to our curriculum
- Achieve consensus when needed
- Defining industry needs
- Share resources
- Track graduates

Florida's Forum on Engineering Technology

Passion – we continue to exist and continue to grow because the members believe they contribute and/or benefit (gain) from the Engineering Technology Forum

We love ET!

FORUM on Engineering Technology

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Florida's Forum on Engineering Technology

Deepen knowledge (by participation)

- share new programs, courses, strategies, projects
- learn new processes and procedures for FLDOE
- learn more about industry needs statewide
- reform statewide ET Degree
- align external standards to ET Degree
- tracking graduates – how to do?
- review, reform ET statewide common course numbering
- continuous benchmarking among programs

34th April 8-10, 2015
FLORUM
on Engineering Technology

Past Host Colleges
S 1996	University of Central Florida
S 1997	Seminole State College
F 1997	Gulf Coast State College
S 1998	State College of Florida - Manatee
F 1998	Indian River State College
S 1999	Valencia College
F 1999	No meeting
S 2000	Daytona State College
F 2000	No meeting
S 2001	Miami Community College
F 2001	No meeting
S 2002	Valencia College
F 2002	St. Petersburg College
S 2003	Gulf Coast State College
F 2003	Florida State College at Jacksonville
S 2004	Palm Beach State College
F 2004	No meeting
S 2005	Daytona State College
F 2005	Hillsborough Community College (Brandon)
S 2006	Indian River State College
F 2006	Valencia College
S 2007	Central Florida College
F 2007	Eastern Florida State College
S 2008	Pensacola State College
F 2008	Seminole State College
S 2009	St. Petersburg College
F 2009	Polk State College
S 2010	Florida State College at Jacksonville
F 2010	Tallahassee Community College
S 2011	Daytona State College
F 2011	Florida Gateway College
S 2012	Indian River State College
F 2012	State College of Florida - Manatee
S 2013	St. Petersburg College
F 2013	Hillsborough Community College
S 2014	Polk State College
F 2014	Gulf Coast State College
S 2015	Florida Keys Community College

BRAD JENKINS ET Forum Chair 1996-2015

ET FORUM IMPACT
Participation includes 25 of Florida's 28 State Colleges
- ✓ Leads reform of statewide A.S. curriculum
- ✓ Provides a platform for strong partnerships among colleges
- ✓ Reforms & organizes state ET common numbers
- ✓ Unifies input to Perkins IV implementation
- ✓ Supports CAPE and other CTE legislation
- ✓ Aligns external standards to student outcomes and frameworks
- ✓ Supports strong community of practice
- ✓ Brings state agencies together with educators
- ✓ Offers professional development opportunities
- ✓ Supports FLDOE review initiatives

We love ET!

FLORIDA DEPARTMENT OF EDUCATION fldoe.org

http://fl-ate.org/programs/e-t-forum/

Participant Vote

- Is Florida's Forum on Engineering Technology most like a:
  1. CoP
 2. CoI
  3. Project Team
  4. Network

Who is SCME and what do we offer!
Southwest Center for Microsystems Education

- SCME – NSF funded center since 2004
- Grown a microtechnology community with known participants from
  - 26 states
  - Mexico, Canada, Ireland, UK, Germany, New Zealand, Australia, Slovakia, Singapore, & India
- Participants are instructors from
  - Some Middle Schools
  - Secondary Schools
  - Community Colleges
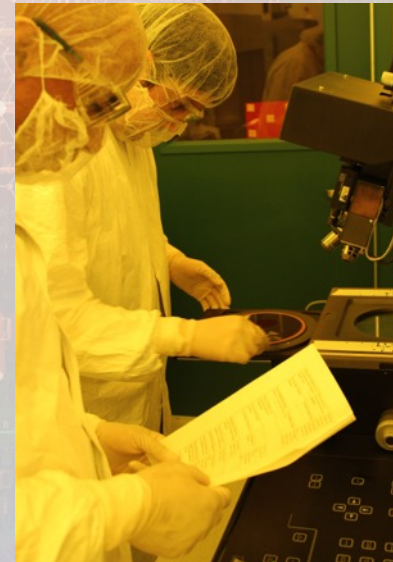 - 4 Year Colleges/University
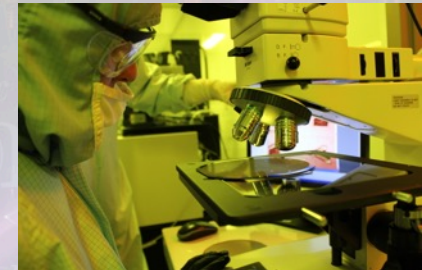
Who is SCME and what do we offer!
Southwest Center for Microsystems Education

- Over 50 Learning Modules

- Classroom 11 Kits

- SCME YouTube Channel

- Professional Development Workshops

- 5 day Pressure Sensor Workshop
  - Training in conjunction with partners
  - USF, UM, NDSCS, SLCC/Univ.Utah, CVCC

- Up next…..Hands-On*line* Academy

SCME Hands-on*line* Academy (HOLA)

- Career Pathways for MicroTechnology – February 1
- Crystallography w/Bulk Micromachining – March 1
- Microcantilevers – April 1
- BioMEMS Applications – May 1
- Micro Pressure Sensors– June 1
- Science of Thin Films – July 1

Southwest Center for Microsystems Education

Hands-on*line* Microsystems Academy

EXCITE YOUR STUDENTS
Engaging STEM activities

EXPERIENCE HANDS-ON*LINE* COURSES
Career Pathways in Microtech
Crystallography
Microcantilevers
BioMEMS Applications
Micro Pressure Sensors
Science of Thin Films

RECEIVE EDUCATIONAL RESOURCES
Hands-on kits for your classroom
Support materials

INTEGRATE MICROTECH TOPICS INTO YOUR CURRICULUM
24/7 online training
One-on-one coaching

REGISTER NOW!
NSF FUNDED: NO COST TO YOU!

http://bit.ly/1M2ryhd

SCME
Active User Community

- Actively engaged with SCME over the past 18 months
  - 360 active participants
  - Workshop attendance
  - Kit purchasers
- Growing rapidly with Hands-On*line* Academy
  - 75 Participants in total
  - 60 NEW participants
  - 21 states, 8 different countries
  - Discussion Forum format for assignments

SCME - User Community
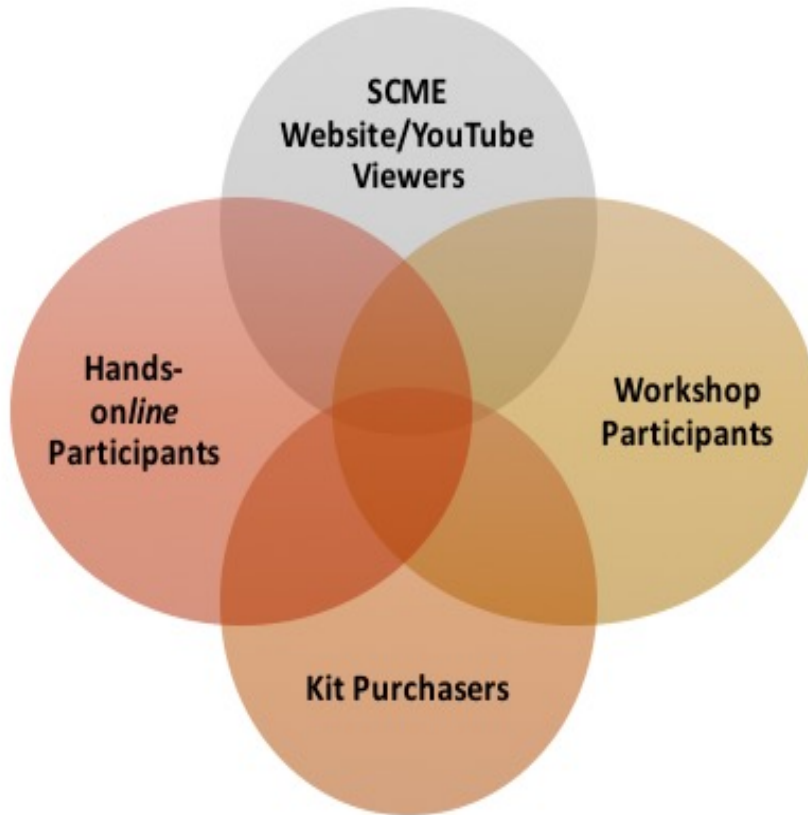
Website Visitors:
- 300,000 avg viewers/month
- 160,000 educational downloads
- 1000 registered subscribers

YouTube Viewers:
- 12,000 views/month

Workshop participants/Kit purchasers
- secondary, 2yr, 4yr college
- Immediate Value assessment
- Applied Value assessment

Hands-online participants
- More frequent feedback
- Foster working community

Community Case Study - Ivy Tech

- Building a Macro Pressure Sensor Model Kit
  - Built an Arduino UNO module
  - Wrote LabView code to interface with modified Pressure Sensor Model
- Dynamic Cantilever Kit
  - Built custom strain gauges using silver ink
  - Built Arduino UNO module and wrote LabView code to interface with the cantilever
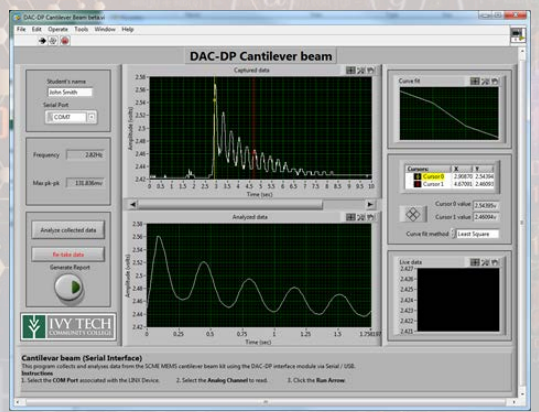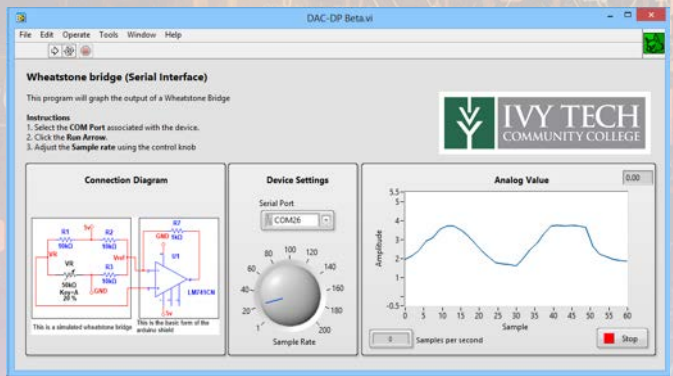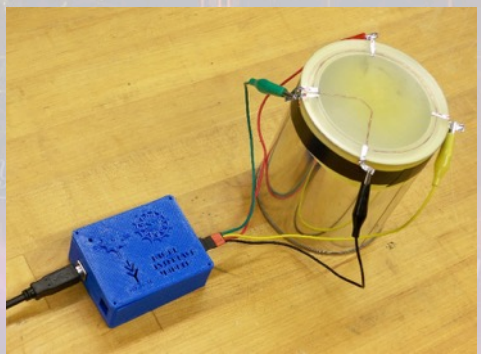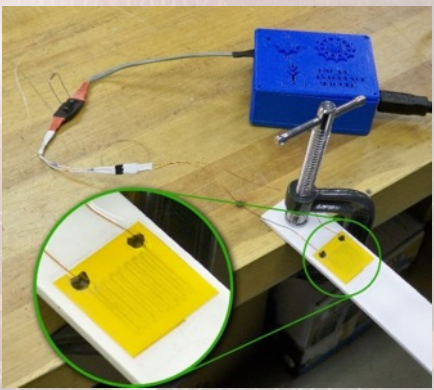
Community Case Study
Dublin Institute of Technology (DIT)

- January 2015 SCME received an order for one of each of our kits.
- Barb was able to work with 2 DIT classes training them on our Dynamic Cantilever Kit & Pressure Sensor Model Kit
- Bill Reddington from DIT traveled to Albuquerque to attend our 5 day pressure sensor workshop
- He has referred us to several of his colleagues
  - Now we have 7 more community participants from Ireland, Germany, and England

Participant Vote

- Is SCME most like a:
  1. CoP
  2. CoI
  3. Project Team
  4. Network

Questions?

Evaluation of CoPs

Traditional/"Kirkpatrick"

- Reaction
- Learning
- Behaviors
- Results

"Value Creation-based"

- Immediate
- Potential
- Applied
- Realized
- Reframed

Value Definitions

- Immediate - It's the **"what did we get directly from this event/activity?"**

- Potential - It's the **"what is possible"** because of this experience question?

- Applied - It's the "what potential is **actually converted** to value"...think "output/outcomes"

Value Definitions

Realized - It's the "**value of the applied value…exponentially**"…think "outcomes/impacts".

It's the "what did we **change about ourselves** and/or how we do business" question.

References

A MUST HAVE RESOURCE: http://wenger-trayner.com/wp-content/uploads/2015/03/Start-up-guide-EN1.pdf
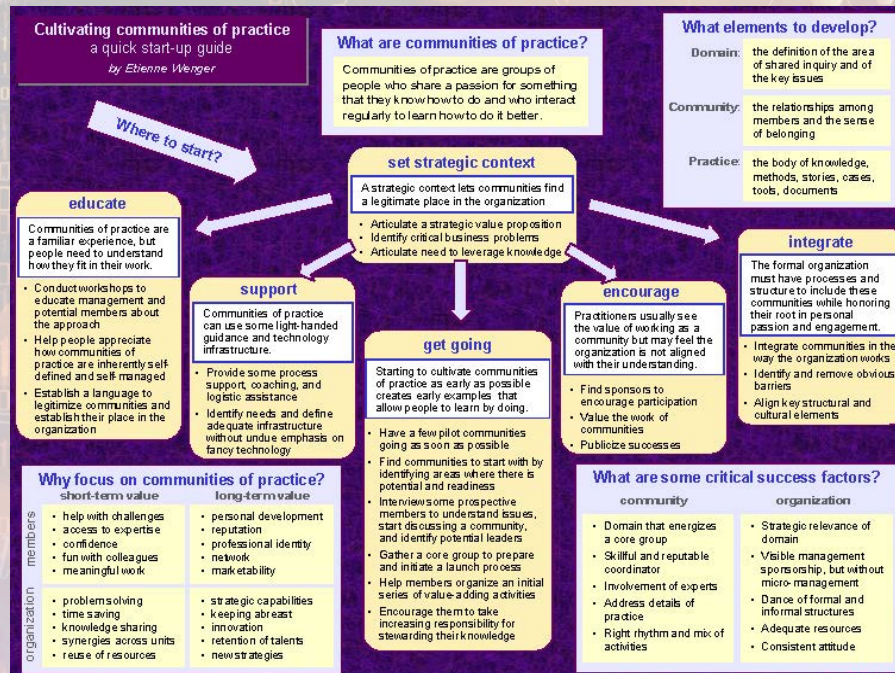
References

- Wenger, Etienne, Beverly Traynor, and Maarten de Laat, "Promoting and Assessing Value Creation in Communities and Networks: A Conceptual Framework," Ruud de Moor Centrum, 2011.

- http://wenger-trayner.com/wp-content/uploads/2011/12/11-04-Wenger_Trayner_DeLaat_Value_creation.pdf

- Kirkpatrick, Donald L. and James D Kirkpatrick, Evaluating Training Program: The Four Levels, Third Edition, Berrett-Koehler Publishers, Inc., 2006.

- Wenger, Etienne, Richard McDermott, and William M. Snyder, Cultivating Communities of Practice, Harvard Business Press, 2002. https://books.google.com/books?id=m1xZuNq9RygC&dq=cultivating+communities+of+practice&printsec=frontcover&q=&hl=en#v=onepage&q=cultivating%20communities%20of%20practice&f=false

Have We Met the Objectives?

Vote: Yes or No

At the end of this webinar, participants will:

1. Be able to define and characterize a CoP

2. Be able to differentiate between a CoP, CoI, Network, and a Project Team

3. Be INTRODUCED to evaluating the effectiveness of a CoP

4. Have resources for follow up

Join Us – All Webinars 3 pm Eastern

March 24, 2016 — Communities of Practice: Secrets of successful implementations Part II

The Convergence Technology Network started 11 years ago and has grown to have 46 member colleges from 16 states. This session will present best practices for creating, maintaining and growing a community of practice similar to the Convergence Technology Network. Member colleges will share the benefits they have received from being a part of a community of practice.

Presenters:

- **Ann Beheler**, Principal Investigator (PI),National Convergence Technology Center (CTC)

- **Helen Sullivan**, Director
National Convergence Technology Center at Collin College

- **For Other Upcoming Webinars See:**
http://www.atecenters.org/ccta

Register for HI-TEC and TAACCCT Convening

HI-TEC Conference July 27-28 in Pittsburgh, PA

Register at http://www.highimpact-tec.org/registration.php.

Free follow-up **TAACCCT technical assistance convening** for all TAACCCT grantees and others who can benefit on **Friday, July 29**.

WEBINAR SURVEY

Please take a moment to help us become better

Communities of Practice: Secrets of Successful Implementations Part I

Thanks For Attending

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