

## **Transforming Undergraduate Education in Engineering Phase III: Voices on Women's Participation and Retention**

June 12-13, 2015 | The W Seattle Hotel, Seattle, WA

### **Breakout Session I: Promising Practices in Engineering Education**

Agree?

Disagree?

Key Observations

What further ideas

Transform & not tweak!

Curriculum, reward structure, making engineering relevant – change the environment

Challenge ABET & professional societies include diversity explicitly

Adding difference, power & privilege student outcomes in all commissions

#### **Agree**

- Void means /mechanisms of publishing / sharing success and failures
- Institutional leaderships is necessary but not sufficient
- Evidence of transferability is required
- Data is important & needs to be collected to create a consistent dash board of common metrics a rich portrait of the landscape

#### **Disagree**

- Scale & evidence
- Unit of change
- That higher education needs to be engage in the disparities in equitable access

#### **Key observations**

It is a complex system we are trying to move/ change / impact

Grand challenge/ national impetrate we have to address the diversity issue for the good of the profession

Dinosaur faculty exist & we don't even try to change them

Need to engage all stake holders including industry, Pk-12 (the ecosystem)

Changing demographic is here now!

Institutionalization has to go beyond individuals & codified in policy.

We have avoided racism & sexism as root of underrepresent

- Parking Lot - Distinction between Research & Action Publish?
- Evaluation equal to outcome?
- What is success?
- And can that success be attributed to NSF
- Data has to be there now we have to root cause level and courage to discuss root causes
- TELL THE TRUTH
- Changes move slowly
  - Give up because of time
  - Counting successes
- Quantified from qualitative
  - Climate/ Environment
  - Not all experiencing same thing
- Institutional leadership
  - Drill down to problem potentially to change mode
  - Changes culture
- What is right
- Unite of Change: where , who accountability
  - Leadership
  - Department
  - Policies
- Institutionalize beyond individuals to culturalize to get traction
- Focus on "group"
- Engineering education – a unit of change?
- How does Eng. Educ. Cause change?
- Conversations are changing
- Charges: Sustainability?
  - How – seeing women by changing leadership
  - Cultural change – see skill set instead of gender
- Engineering helps people
  - This is just how we do business now
- Faulty challenges – legacy – u –
  - Early adopt new
  - should become part of team

- Putting things in place that live beyond individuals
- Doesn't see system of change
  - Accountability
  - Scalability
  - Critical mass one is disservice
  - Cluster hires or students can make for more success?
- How do we get to change to scale
- How do you cross-talk faculties –dialog
- Shares
  - Bring in minority and/or women
  - Diverse pools
  - Vertical Accountability
- Does this diverse faculty drive down program
  - Examples and Co-horts
  - Collegial and yet customized
- How do you change culture of faculty currently?
  - Putting numbers out there
  - Is there any narrative?
- Data driven – when do you really confront brutal facts?
  - Accountability should there be exemplar data, i.e. – “great measure”
- Here is quantitative view, then qualitative?
- \* Tracking of data for retention?
- What are the right things to look at?
- Does that drive benchmark schools to spread practices?
- How do we foster a place to publish to share best practice – Publish? ASEE
- Have constructive conversations to get work out/ can't be seen as only from academics/ must come engineers,
- Deans council
- What are universal measures of success?
  - Deans / Industry
  - Peer pressure
- How does it scale?
  - Transformation not tweaking
  - Collective goal in diversity women
- Global agenda that all sign up for
- Achieving the dream model from community colleges or 150 type review