


Phase 1 Report



## Preliminary Results on the State of the Culture

Part 1 – Highlights of Phase 1 Report and National Survey Methodology  
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Part 2 – Preliminary Survey Results and Take-Aways  
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Engineering Deans' Institute — Palm Springs  
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**Creating a Culture for Scholarly and Systematic Innovation in Engineering Education**



Ensuring U.S. engineering has the right people with the right talent for a global society

### U.S. engineering education for the 21<sup>st</sup> century

“How could/should ASEE contribute?”

 Discussion and planning

“Year of Dialogue”

  Two Phase Project

Community Feedback

Synthesis of Results

2004

2005

2006


2007

2008


2009

2010


2011



Over 500 Contributors




Phase 1 Report: “Creating a Culture for Scholarly and Systematic Innovation in Engineering Education”



Survey of Faculty, Chairs & Deans

Phase 2 (Final) Report

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## a universal and fundamental question...

...and the report's major recommendation



**Q:** “How can we create an environment in which many exciting, engaging, and empowering engineering educational innovations can flourish and **make a significant difference** in educating future engineers?”

**A:** “Create and sustain a vibrant engineering academic culture for **scholarly and systematic educational innovation** — just as we have for technological innovation — to ensure that the U.S. engineering profession has the right people with the right talent for a global society.”

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## “who” should drive change?

engineering education depends on many stakeholders, but...



### ...engineering faculty and administrators are key

They determine the content of the program, decide how it is delivered, and shape the environment in which it is offered

#### We need to –

- strengthen career-long professional development
- create supportive environments
- form broader collaborations

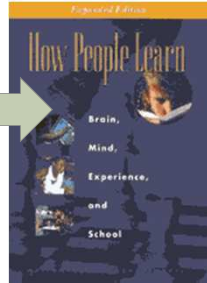
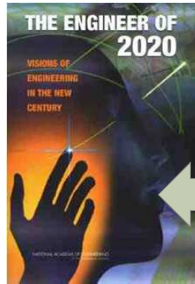
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## “what” change is needed?

integrate what we know about engineering with what we know about learning



High-quality learning environments are the result of attention to both content and how people learn

There is ample evidence that our engineering programs need to be more –

- engaging
- relevant
- welcoming

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## “How” to drive change

connecting and supporting communities



Engineering education innovation depends on a **vibrant community of scholars and practitioners working in collaboration** to advance the frontiers of knowledge and practice...and it also depends on support –

- Adequate fiscal resources
- Appropriate facilities
- Reputable journals
- Highly-regarded conferences
- Prestigious recognitions

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## Phase 2 – feedback and a baseline study

heart of the feedback — two samples of engineering programs

**Research Team**

**Barbara M. Olds, *Chair***  
Colorado School of Mines

**Maura J. Borrego, *Vice Chair***  
Virginia Tech

**Mary Besterfield-Sacre**  
University of Pittsburgh

**Monica F. Cox**  
Purdue University

**156 Engineering Schools invited**

**Random Sample**  
100 colleges and 200 designated departments selected randomly

**Focused Sample**  
73 “Top 20” colleges and ~140 undesigned departments by selected attributes (e.g., size, degrees, diversity)

**Carnegie Classification**  
26 Bachelors  
40 Masters  
90 PhD

46%  
Response  
Rate

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## a three-part survey

faculty, chairs, deans

**Faculty Committee**

Q1: Most compelling parts of the report, specifically, top three priorities?

Q2: Principal opportunities/challenges to achieve priorities?

Quantitative: 12 “check the box” statements

**Chairs/Heads & Deans**

Q: Principal opportunities/challenges to help create a culture for scholarly and systematic educational innovation in...

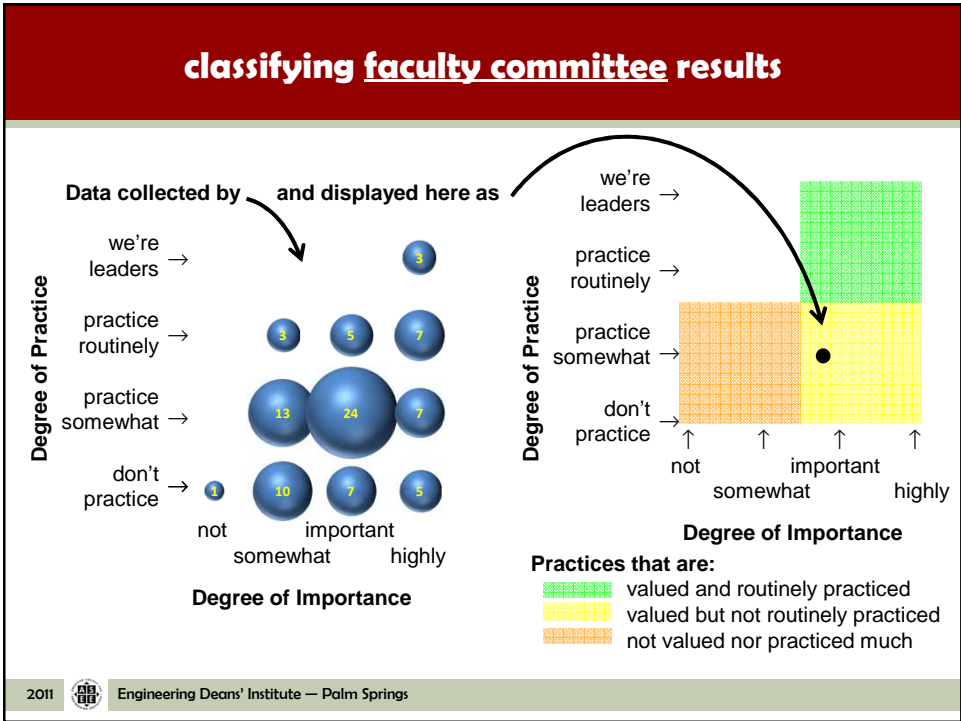
... your department? (chair)

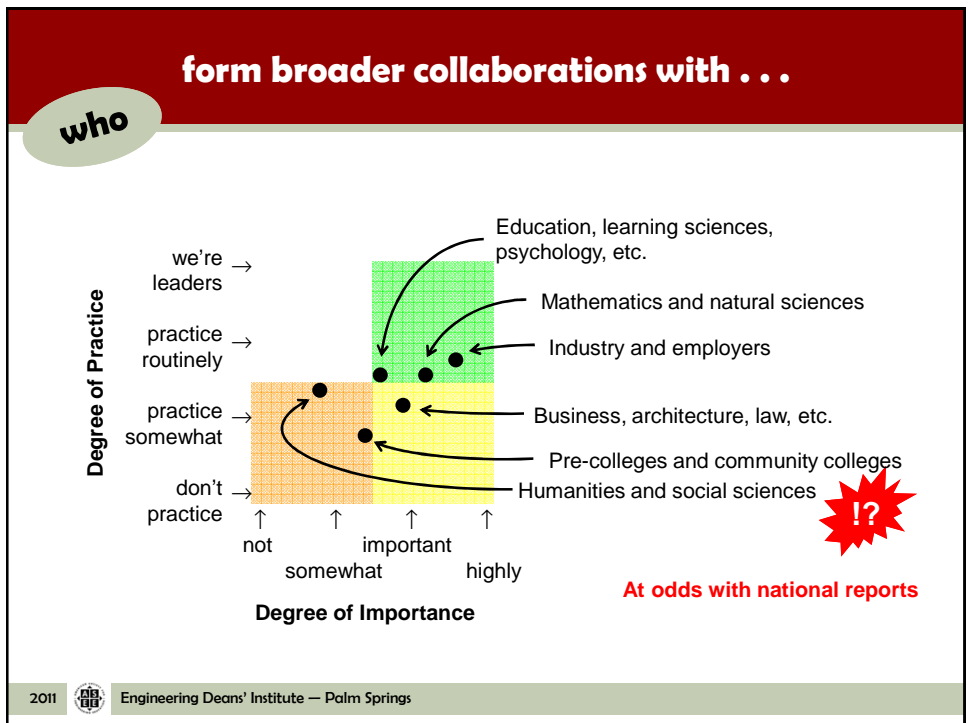
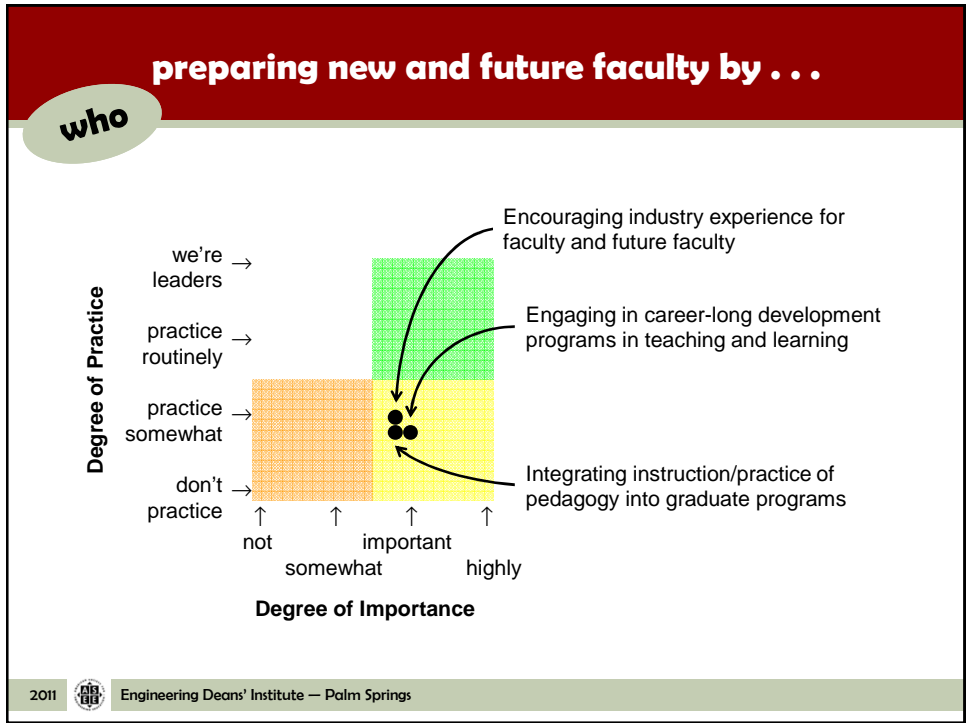
... your college? (dean)

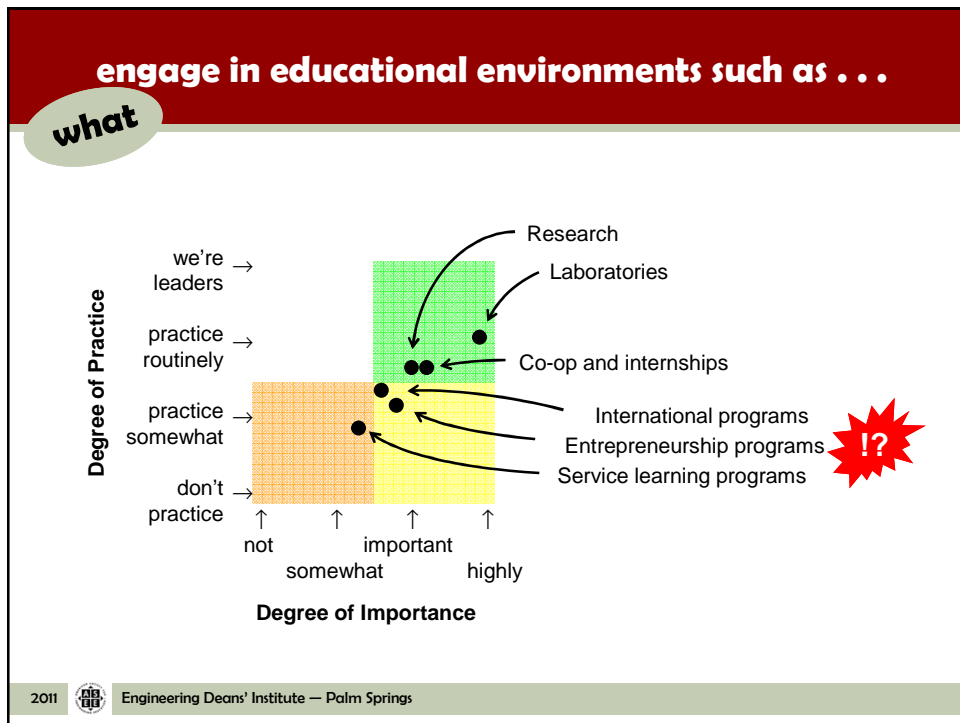
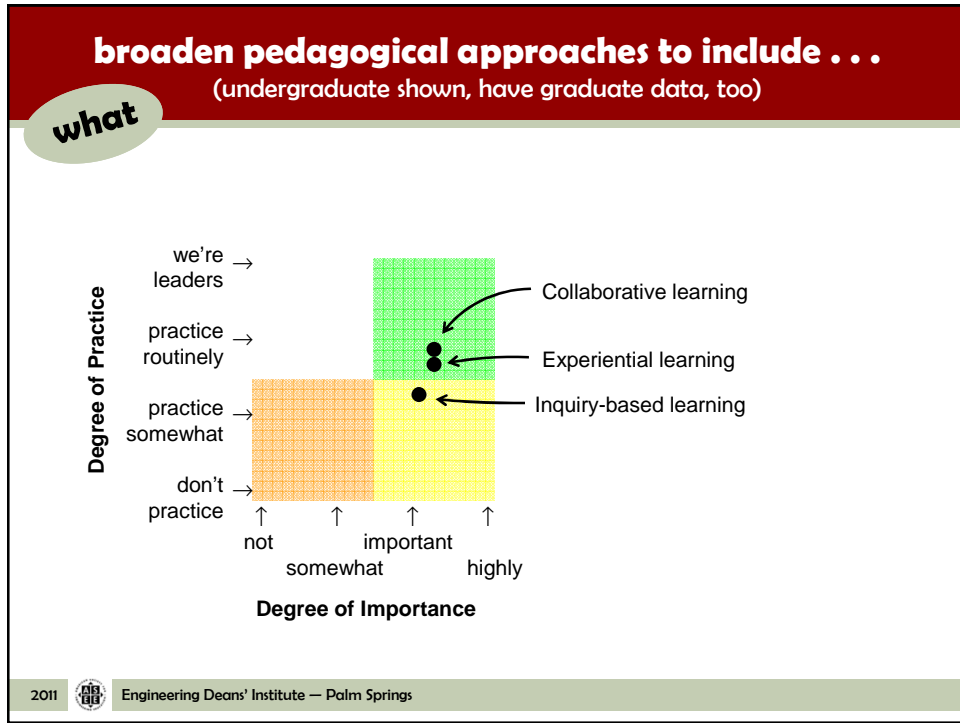
Sample Today

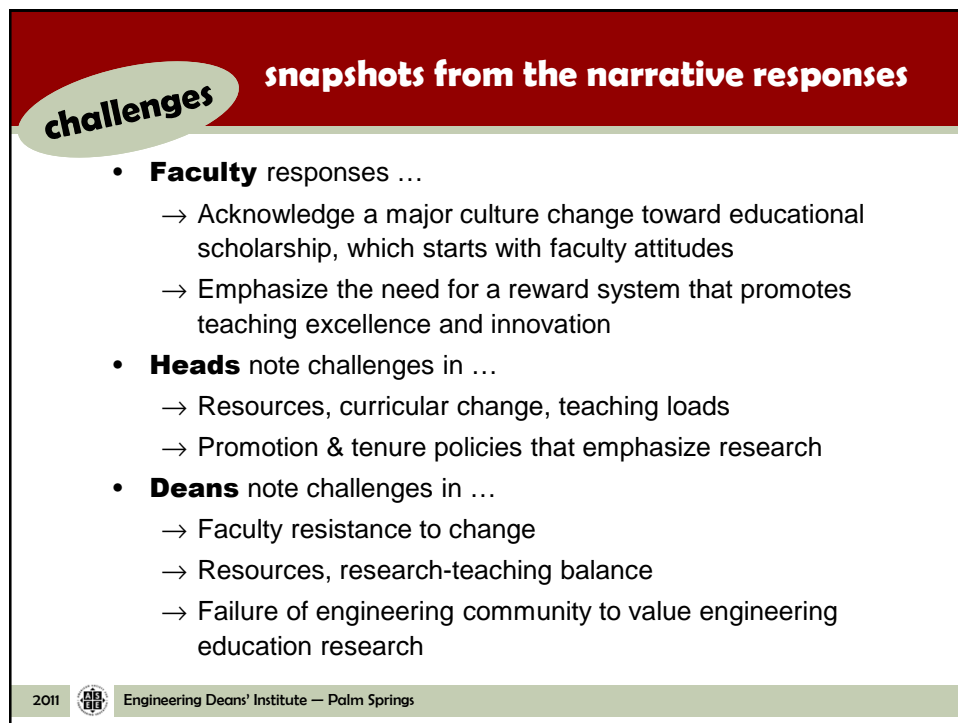
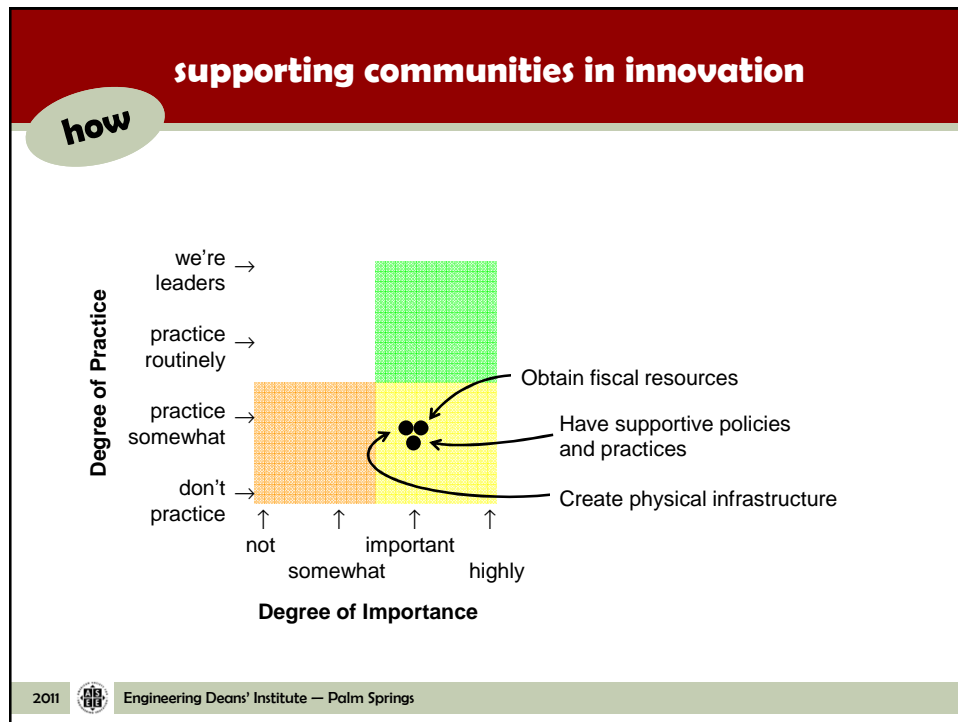
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# Part 2 – Preliminary Survey Results











## opportunities snapshots from the narrative responses

- **Faculty** see a need for ...
  - Better assessment for educational innovation
  - Faculty development
- **Heads** note opportunities in ...
  - Faculty commitment to the report ideas
  - Curriculum, collaborations, active & experiential learning
  - Faculty development
  - Expanding the reward system
- **Deans** note opportunities in ...
  - Curriculum enhancement, collaborations
  - Faculty development, young faculty
  - Developing a system that rewards engineering education research

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## takeaways...

- **Next steps**
  - Analyses broken down by demographic groups, random and focused samples, and Carnegie classifications
  - Integration of narrative responses
- **Moving forward**
  - Action: Close the gap between value and practice
  - Action: Consider the areas that are not currently valued
  - Action: ??????

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# Thank you!

[www.asee.org](http://www.asee.org) > Member Resources > Reports

or

[http://www.asee.org/about-us/the-organization/advisory-committees/CCSSIE/CCSSIE\\_PhaseIReport\\_June2009.pdf](http://www.asee.org/about-us/the-organization/advisory-committees/CCSSIE/CCSSIE_PhaseIReport_June2009.pdf)

(direct link to report)

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