

# Evolving the PhD: Training & Retaining the Next Generation of Educational Researchers

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# Today

- **CONTEXTS:**
  - Historical context of doctoral education
  - Today, foregrounding equity:  
Training in what? Retaining for what?
  - IES as a force for positive change
- **CASE STUDY OF AN EVOLVING PHD PROGRAM**
- **IMPLICATIONS & AVENUES FOR EVOLUTION IN IES**

# Historical Contexts of Doctoral Education

- **Humboldt's vision:**  
Teaching-Research-Advanced study in supportive interaction
- **19<sup>th</sup> century:**  
Yale, 1861; Penn, 1871;  
Johns Hopkins: fellowships for full-time study with state of the art research training
- **20<sup>th</sup> century:**
  - Competitive, decentralized system.
  - “Dual institutionalization”: universities & disciplines.
  - Engine of the professoriate and, increasingly, the professions.



“It has been the **spontaneous adjustment of universities and their constituent departments and schools** more than the direction provided by any national plan or consensual action that have led the American graduate school in the last half-century into **arrangements that best enable and enact a research-teaching-study nexus**” (Burton Clark, 1993, xxi)

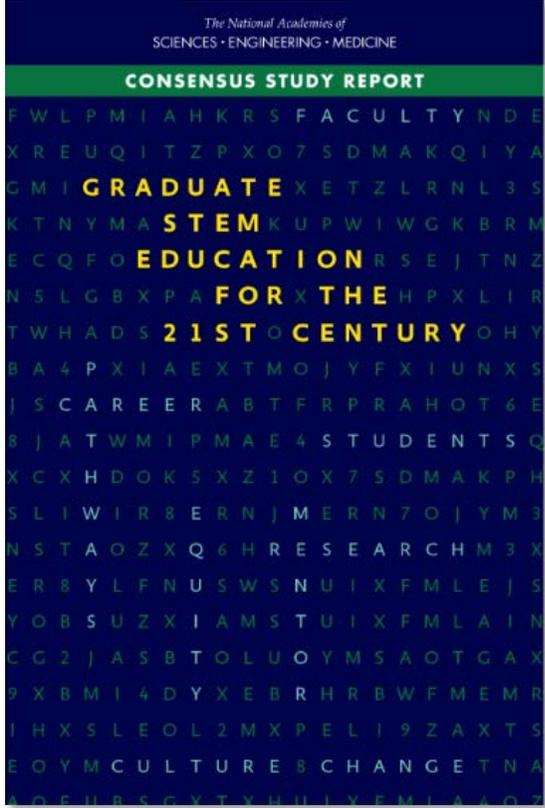
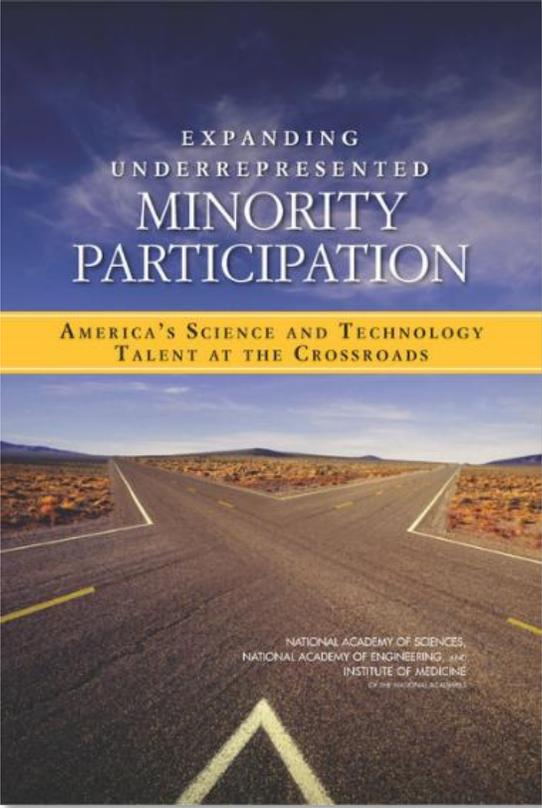
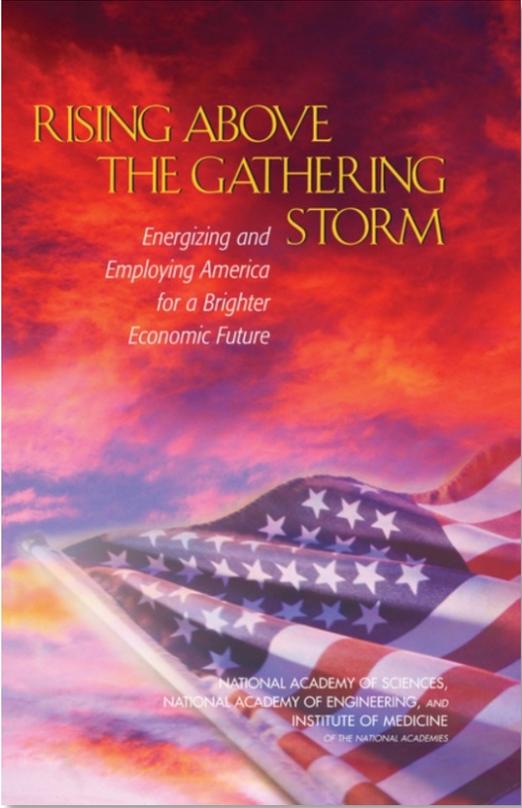
What does org theory say about IES's potential to support this "spontaneous adjustment" of doctoral education?

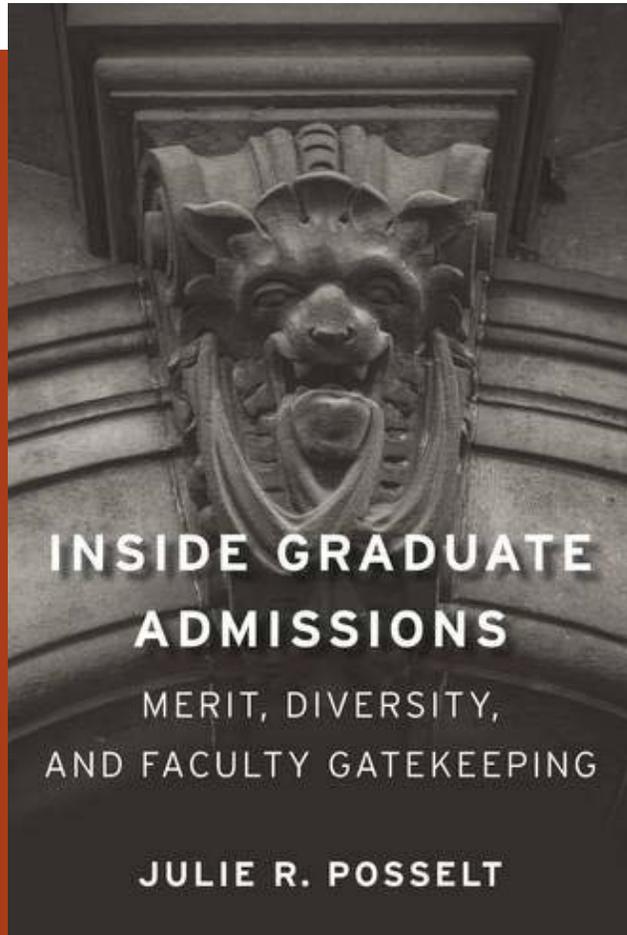
- **Institutional Isomorphism:** Movement of a field or sector toward new norms (DiMaggio & Powell, 1983).
  - **Mimetic:** Potential of using the respect accorded to IES training programs to inspire adoption of practices at other universities
  - **Normative:** Potential of using socialization inherent in PhD training to seed the field with new norms

# What norms & practices might IES invest in to advance the future of education research?

- **Current strengths:** Elements of IES training programs that distinguish them from a standard PhD track.
- **New directions:**
  - Support/guidance for rigorous mixed, qualitative, and participatory methods.
  - Purposeful integration & advancement of theory, regardless of methods.
- **Alignment with principles:** Equity in both the design of training programs and through the educational research that is produced.
  - *Equity, def:* Reconfiguring cultures, structures, and systems to close disparities and empower historically marginalized groups.

# NASEM reports consistently point to graduate study as a necessary investment & intervention





Harvard University Press, 2016

“However, society is changing. The labor market for PhDs is changing. And higher education is changing, too, both intellectually and demographically.

If doctoral education and our means of identifying talent do not change with them, it will be doctoral education and the professoriate that fail by falling behind, not our students” (p. 176-177)

Cultural norms that programs are revisiting are reflected in established structures of doctoral education:

- *Merit* in Admissions and Recruitment
- *Support* in Mentoring and Advising
- *Quality* in Qualifying exams
- *Rigor* in Dissertation research

# What does evolution look like in practice?

Case study of an evolving PhD program

# EQUITY IN SCIENCE



REPRESENTATION, CULTURE,  
AND THE DYNAMICS OF CHANGE  
IN GRADUATE EDUCATION

JULIE R. POSSELT

Stanford Univ Press, 2020

“The dynamics of equity-based change in graduate education include interventions aimed at closing gaps, and efforts to improve the climate and center the voices, needs, and sensibilities of people from historically marginalized groups. This dual agenda is mutually reinforcing” (pp. 173-174).

## Case studies of change efforts

Discipline/Field	Focus of equity effort	Level of Analysis	Nature of Change
Applied Physics	Race & Gender	PhD Program	Inclusive Design
Chemistry	Gender	PhD Program	Organizational Learning
Civil Engineering	Gender	PhD Program	Ripple effects
Psychology	Race	PhD Program	Bait & switch
Astronomy	Race & Gender	Disciplinary society	Social movement
Physics	Race	Disciplinary society	Managerial
Geology	Gender	Field Course	Quantum



# Inclusive Design & Disciplinary Boundary Work in Applied Physics

**Leaders redesigned core elements of the program to create conditions that would**

**1) Support racial diversity, equity, & inclusion.**

**2) Honor diverse career pathways**

This entailed

1. Recognizing where typical cultural norms created barriers
2. Changing policies & practices accordingly.

## **EXAMINING CULTURAL NORMS → STRUCTURES OF THE PHD PROGRAM**

1. Intellectual paradigm → curriculum
2. Notion of the “ideal student” → admissions & recruitment
3. Role of administrative staff → leadership
4. Relationships in the program → Family-like support

**“The great power of physics is that it can be used to solve problems, to develop new technologies, to understand complicated interactions.”**

**-Former Director**

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**“We brought in the best students we could find. Now these are not like the typical definition of the best student... We were after people who would be willing to take a big risk... We wanted to look for people who were intellectually adventurous.”**

**-Director**

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**”There are many things students will not tell the director... But Joe was the eyes and ears of the program; he was the contact with all students. He will be able to tell you aspects of the program no one else will be able to tell you,”  
-Faculty member**

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**“Everyone I talked to in the program kept saying, ‘It is a family...’ and it is a smaller group. I felt I would be supported and cared for well.”**

**-PhD candidate**

**“comfortable”**

**”cohesive”**

**“competitive advantage”**

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# Implications & Avenues for Evolution in IES

# Needs & Questions for Reflection

- **How could the IES intellectual paradigm for “rigorous & relevant education research” evolve?**
  - To include a broader scope of methods?
  - To foreground equity?
  - To advance rigorous use of theory?
  - To support research-practice partnerships?
- **To scientifically improve graduate education**, we need 1) program-level and 2) longitudinal data about graduate education & graduate students. Presently, it is very difficult to conduct research on graduate education that is aligned with IES norms.
- **What does it look like to humanize “training”** (the Latin for discipline) toward retaining the talent we admit?

# What do evolving PhD programs do?

- **Attune themselves to changes in the environment.** *How may we we need to update / adapt?*
- **Normalize introspection about their assumptions & practices.** *Where are our norms out of date, out of tune? Where do we need to retool?*
- **(Re)define learning outcomes.** *What kind of professional are we trying to develop?*
- **Design for alignment, flexibility & sustainability, avoiding the tyranny of “best practices”**
  - *How do representation, policy, and everyday practices align with values of diversity, equity, & inclusion?*
  - *How does the training the program provides align with labor market needs?*
- **Continually use data & stories for assessment.** *What analyses feed our planning and budgeting? Whose voices are in our ears as leaders?*
- **Create community & inclusivity as they go.** *What has COVID taught us about creating more humane learning & work environments?*

# Discussion

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