Advancing Science Through Diversity

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Diversity
Lego: Research Institute, Set 21110

...ironic result...
Inclusive Excellence is Diverse

...along many vectors...
What is Diversity?

Inclusion of the “other”

- Gender
- Race & Ethnicity
- Disabilities
- LGBTQIQA+
  - Lesbian
  - Gay
  - Bisexual
  - Transgender
  - Queer
  - Intersex
  - Questioning
  - Allies
  - Other Identities and orientation
- Socioeconomic
- Culture
- Life experiences
- Ideas
- Political Ideologies
- Religion
- Geography
- University Pedigrees
- Place of Origin
- Etc.
Competitiveness
(Inclusive Excellence)
Why is Diversity Important

Business Case (that is, the Academic Case in our context)

The Business Case for Diversity

I see three main points to make the business case for diversity:

1. A talent shortage that requires us to seek out and use the full capabilities of all our employees.
2. The need to be like our customers, including the need to understand and communicate with them in terms that reflects their concerns.
3. Diverse teams produce better results.

This last point is not as easy to sell as the first two—especially to engineers who want the data. What I need is the data, evidence that diverse groups do better.


Why is Diversity Important

Academic Case for Diversity

• 366 public companies across a range of industries

• Relationship between leadership diversity and financial performance

• Data collected included the composition of:
  - top management and boards in 2014
  - financial data
  - earnings before interest & tax for the years 2010 - 2013

Why is Diversity Important

Academic Case for Diversity

• Relationship between ethnic diversity and performance:
  • Top Quartile Diversity
  • Bottom Quartile Diversity

Why is Diversity Important

Academic Case for Diversity

• Benefits of significant expenditures & financial capital towards inclusive excellence: (1 & 2)
  - an edge in talent acquisition
  - employee engagement
  - retention
  - innovation

• Continued effort leads to sustained excellence in: (1 & 2)
  - performance
  - growth
  - profitability.

Enlightened Self-Interest

Competitive advantages for faculties that are diverse

• Expanded pool of candidates
  (Lessons from corporate America)
  • & Responds to the changing demographics of the US,
    moving us towards proportionation with availability

• A diverse faculty attracts the best diverse student cohort

• Increased competitiveness for external funding

• Increased influence within the scientific community
Fact: Faculty Demographics are not Commensurate with availability
LINDA WANG, C&EN WASHINGTON

Efforts to increase the representation of women among faculty at top universities have gained over the previous academic year, according to the latest survey conducted by the Oxide program, an initiative aimed at broadening faculty diversity.

**Faculty Demographics: Gender & URM**

- **C&EN, p.42, October 31, 2011**
- **C&EN, p.41, April 7, 2014**
- **C&EN, p.19, September 12, 2016**
- **C&EN, p.37, May 18, 2015**

Despite these gains, the percentage of women in chemistry in 2014 was 38.2%. "The bottom line is that we have a long way to go," says Aaron Wexler, associate dean for diversity at the University of California, Los Angeles. "Ensuring that women chemists are recognized for their contributions is critical."

Despite the rise, the percentage of women in chemistry at the leading Ph.D.-granting chemistry departments in the U.S. remains lower than that of white non-Hispanics; and URMs, a category that includes African American, Native American, and multiracial.

"Facilitating the presence of women chemists will help change the climate and draw a more diverse student body," says Robert B. Pursell, professor of chemistry and biochemistry at the University of Georgia, Athens. "I want to see more women in leadership roles because diversity brings different perspectives and ideas to the table."
Faculty Demographics: URM

- Very slow, positive, rate of increase over the past three years...
- But availability is there, and YOU can do something about it

### Percentages of Under-represented Minority (URM) Chemistry Professors at Top 50 Departments

<table>
<thead>
<tr>
<th>Professors</th>
<th>AY2011-12</th>
<th>AY2012-13</th>
<th>AY2013-14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assistant</td>
<td>5.2%</td>
<td>6.0%</td>
<td>5.6%</td>
</tr>
<tr>
<td>Associate</td>
<td>8.3%</td>
<td>7.8%</td>
<td>7.3%</td>
</tr>
<tr>
<td>Full</td>
<td>2.5%</td>
<td>2.7%</td>
<td>3.4%</td>
</tr>
<tr>
<td>All</td>
<td>3.8%</td>
<td>4.1%</td>
<td>4.2%</td>
</tr>
</tbody>
</table>
Open Chemistry Collaborative in Diversity Equity (OXIDE)

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Who We Are

We aim to *flatten diversity inequities* in academic chemistry departments by placing the responsibility and credit on *institutions and administrators*, not on single change agents.
Diversity Barriers & Solutions to Diversity Equity
Diversity Training - Positive or negative impact?

Recommended solutions from past NDEWs addressing barriers

“Hundreds of studies have now challenged the received wisdom that anti-bias training is the first step employers should take in promoting diversity.”

“A review of those studies shows that anti-bias educational efforts produce negligible change in attitudes, and have never been shown to diminish workplace discrimination.”

“Overall….Mandatory diversity training has a negative effect.”

Like NDEWs, D&I conversations have to be Peer-To-Peer, not “Training” by “experts.”

Implicit Bias is Only One of the Barriers

Implicit or Unconscious Bias
  Schemas
  Accumulation of Bias

Lack of Universal Design
  Insufficient Mentoring
  Insufficient/Unequal “Family Friendly” Policies
  Overburdening the Few
  Unwelcoming/Non-Accommodating Climate
  Unwelcoming/Non-Accommodating Professional Cultures
  Qualitative vs. Quantitative Assessment
    Solo Status

Stereotype Threat

Minimizing Differences/Colorblindness
  Depoliticization and Meritocratic Ideology
  Color Blindness

schemas
Schemas

**Recommended solutions from past NDEWs addressing barriers**

- Committees should search in broad areas to access a more diverse and talented pool, and should not cull according to schemas.

- Meritocracy and Professional culture should be based on individuals accomplishments, not schemas such as those afforded by academic pedigree.
microagressions
Microaggressions

Recommended solutions from past NDEWs addressing barriers

• Support Affinity Groups
• Have Counter Spaces for URGs
• Horizontal and Vertical Mentoring
solo status
Microaggression & Solo Status

Recommended solutions from past NDEWs addressing barriers

• Mentoring
  – Peer-to-Peer mentoring
  – Senior Mentors
  – Mentors outside Department

• Need Role Models
  – Not overburden
  – Increase awareness about biases and barriers

• Create non-threatening interview conditions
universal design
Universal Design

Recommended solutions from past NDEWs addressing barriers

• Posting documents in accessible formats
  - Broad range of abilities, ages, racial/ethnic backgrounds

• Adjustable / flexible work area and table:
  - People with range of physical abilities
  - Right- or left- handed students
  - People of different heights

• Adaptable equipment
  • Tactile/braille ruler
  • Microscope with video camera

http://netdna.walyou.netdna-cdn.com

http://historiesofthingstocome.blogspot.com
implicit bias
Implicit Bias

• “Implicit biases come from the culture. I think of them as the thumbprint of the culture on our minds. Human beings have the ability to learn to associate two things together very quickly—that is innate.”*

• “She has kids so she won’t be able to keep up with her research…..”

*Dr. Mahzarin R. Banaji, quoted in Hill, Corbett, & Rose, 2010
Implicit Bias

Impact of gender on job applications

- Evaluated identical application packages
  - Karen vs Kevin*
  - Greg vs. Jamal+
- Male application package preferred 2:1

Implicit Bias

**Recommended solutions from past NDEWs addressing barriers**

- Most diversity training programs are geared towards overcoming implicit bias but are often not successful!
  - Need a different way to raise awareness!
- Implicit bias tends to play a stronger role under non-ideal circumstances:
  - Time pressure
  - Ambiguous criteria or concept (e.g., “leadership”, “competence”)
  - Incomplete data
  - Competing tasks
  - Stress
  - Lack of critical mass prevents distinguishing as individuals

Overcoming implicit bias is not easy, but you can reduce it by being intentional about the assumptions you make and where they originate
What Can Institutions Do?

#DiversitySolutions
NDEW

(National Diversity Equity Workshop)
To Do List From NDEW 2015

Recommendations for Chairs

1. Create a department diversity committee
   - Broadly reflective of your faculty’s perspectives (e.g., include straight, able-bodied white male faculty)
   - Don’t overburden URG (under-represented groups) faculty.
   - Establish deliverables to measure the committee’s success.

2. Develop a department Diversity Statement and Vision; Post it on department website.

3. Create mentoring programs (vertical and horizontal) for students and faculty.

4. Conduct a faculty meeting on diversity excellence; Include discussion of the business case for diversity

5. Conduct faculty searches in broad areas

6. Conduct weekly/monthly lunch with faculty to discuss department climate (generate diversity counter space)

7. Encourage/Support affinity groups (WIC, WCC, NOBCChE, etc) through active participation of chair and faculty

8. Conduct a departmental survey on diversity environment and seek actionable options (partner with OXIDE)

9. Implement a policy/program targeted to address climate and/or demographics
   - Partner with OXIDE to assess it!
Recommendations for Action (adding to 2015 list)

10. Establish a collective reward system
   • for mentoring
   • for service and outreach

11. Establish “STAR” model: work flexibility & sanity

12. In addition to diversity workshops, hold civility awareness workshop

13. Establish transparency/clarity in RPT process
   • More structure is better
   • Require all faculty to include impact — e.g., teaching and broadening — statements

14. Develop department’s Diversity Action Plan (embed in your strategic plan)
   • With accountability and visited yearly
   • Publish executive summary on department web site (embed in your mission statement)

15. Promote the Academic Case for Diversity
Recommendations for Operating Principles

• Instill drivers for inclusive excellence
  • Equity, not equality
  • Value commitment and results, not on time served or availability
  • Work structure (for faculty/trainees/staff) should be flexible and constructed transparently
  • Civility & respect towards all
  • Absolute standards for RPT, not a curve
  • Deemphasize genius myth
  • Pathways, not gateways or pipeline
  • Diversity equity is a social justice core value and more
  • Define and promote diversity broadly AND focus on diversity inequities affecting targeted and specified groups
Effective Practices for Recruiting/Hiring

What can you do from search to hire to new start

1. Open Searches...
2. Opportunity hires...
3. Be careful in triaging applications...
   A. Traditional metrics gives one result, but perhaps not the optimal one...
   B. Outside the box mechanisms to include people in the pool (where implicit biases might have otherwise led to cuts)
   C. Be discerning in the deeper analysis
4. Ensure that ranking discussions are based on facts not “feelings”
5. Consider reranking candidates that are above the bar
6. Ensure that the interview is fair (be sensitive to stereotype threats.)
7. Is the offer or hiring process setting them up for success or failure?
8. It takes a cannon and a village...
Effective Practices for Retention

What can you do after the hire

• Quantify the value of the individual to the collective and reward her or him for it

• Additional administrative responsibilities should be correlated with additional staff support

• Academic pedigrees should be contextualized, and individuals judged on what they do thereafter

• Ensure that evaluations are based on quantitative statements not “feelings” or schemas

• Always reward success
Effective Practices for Mentoring Faculty

Success Breeds Success

• Diversity is a planned event
• Mentoring
  • Peer-to-Peer
  • Senior Mentors
  • Mentors outside of the department
• Need role models (from diversity groups):
  • Don’t overburden
  • But if you are going to burden them...  
    reward them, don’t penalize them
OXIDE in Print...

• "Diversity in Academia: Solutions To Get There," C&EN 93:33, 40 (August 24, 2015).


• http://oxide.jhu.edu
Advancing Science Through Diversity
CONCLUSIONS and FUTURE DIRECTIONS

• OXIDE’s Outcomes thus far:
  • Tracking and reporting demographics of leading research-active chemistry departments (C&EN & oxide.jhu.edu)
  • Continuous discussions with chairs through biennial NDEWS and in between
  • Several departments adopting new policies and procedures (e.g. diversity committees, departmental diversity meetings, open searches, safe spaces, new mentoring models, …)
  • Anecdotal uptick in hiring of faculty from diverse groups

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