Addressing Diversity in Academia

CSC: New Faculty Workshop

Milly Delgado
(with input from past and present mentors)

American Chemical Society
Savannah, GA

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Think-Pair-Share question

Why do we work on diversifying science?
New research further confirms that music training benefits kids' brains

Researchers at the Boston Children's Hospital worked with magnetic resonance imaging (MRI) and found early musical training enhances the areas of the brain responsible for executive functioning.

Also known as cognitive control or supervisory attentional system, "executive functioning" refers to brain management, not unlike the corresponding corporate term.

This is the top of the hierarchy in terms of brain organization, for executive functioning enables information processing and retention, regulates behavior, and is responsible for problem solving and planning, among other cognitive processes.

Better said, it's a key player to success in life.

In the study, researchers considered a musically trained child to be one who had at least two years of private lessons under his or her belt.
German speakers are likely to imagine where this woman is going and English speakers to focus on her journey, but bilinguals may be able to have it both ways.

Speaking a second language may change how you see the world

By Nicholas Weiler | Mar. 17, 2015, 3:15 PM

Where did the thief go? You might get a more accurate answer if you ask the question in German. How did she get away? Now you might want to switch to English. Speakers of the two languages put different emphasis on actions and their consequences, influencing the way they think about the world, according to a new study. The work also finds that bilinguals may get the best of both worldviews, as their thinking can be more flexible.
McKinsey: Increased Diversity Correlates to Increased Innovation/Profit


How diversity correlates with better financial performance

<table>
<thead>
<tr>
<th>Diversity</th>
<th>4th quartile</th>
<th>1st quartile</th>
<th>Likelihood of financial performance % above national industry median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender diversity</td>
<td>4th quartile</td>
<td>1st quartile</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td>+15%</td>
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<tr>
<td>Ethnic diversity</td>
<td>4th quartile</td>
<td>1st quartile</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>+35%</td>
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</tbody>
</table>

SOURCE: McKinsey Diversity Database
1. Diverse teams are more innovative and more productive.

2. Our distinctive personal experiences influence everything we do: *including research and teaching*.

3. *Demographic diversity* is valuable because it adds *intellectual diversity*.
Diversity training outcomes

The effects of programs intended to increase diversity at 829 large to midsize US companies was monitored over 10 years. The longitudinal effects of these programs was statistically isolated and quantified based on the change in demographics of manager-level employees over this timespan.
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<table>
<thead>
<tr>
<th>Type of program</th>
<th>White Men</th>
<th>White Women</th>
<th>Black Men</th>
<th>Black Women</th>
<th>Hispanic Men</th>
<th>Hispanic Women</th>
<th>Asian Men</th>
<th>Asian Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandatory diversity training</td>
<td></td>
<td></td>
<td>-9.2</td>
<td></td>
<td>-4.5</td>
<td></td>
<td>-5.4</td>
<td></td>
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<tr>
<td>Job tests</td>
<td>-3.8</td>
<td>-10.2</td>
<td>-9.1</td>
<td>-6.7</td>
<td>-8.8</td>
<td></td>
<td>-9.3</td>
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<tr>
<td>Grievance systems</td>
<td>-2.7</td>
<td>-7.3</td>
<td>-4.8</td>
<td>-4.7</td>
<td>-11.3</td>
<td>-4.1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTE GRAY INDICATES NO STATISTICAL CERTAINTY OF A PROGRAM’S EFFECT.
SOURCE AUTHORS’ STUDY OF 829 MIDSIZE AND LARGE U.S. FIRMS. THE ANALYSIS ISOLATED THE EFFECTS OF DIVERSITY PROGRAMS FROM EVERYTHING ELSE GOING ON IN THE COMPANIES AND IN THE ECONOMY.
FROM “WHY DIVERSITY PROGRAMS FAIL,” BY FRANK DOBBIN AND ALEXANDRA KALEV, JULY-AUGUST 2016 © HBR.ORG
What works?

Diversity Programs That Get Results

Companies do a better job of increasing diversity when they forgo the control tactics and frame their efforts more positively. The most effective programs spark engagement, increase contact among different groups, or draw on people’s strong desire to look good to others.

% CHANGE OVER FIVE YEARS IN REPRESENTATION AMONG MANAGERS

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<tr>
<td>Voluntary training</td>
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<td></td>
<td></td>
<td>+9.1</td>
<td></td>
<td>+9.3</td>
<td>+12.6</td>
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<tr>
<td>Self-managed teams</td>
<td>-2.8</td>
<td>+5.6</td>
<td>+3.4</td>
<td>+3.9</td>
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<tr>
<td>Cross-training</td>
<td>-1.4</td>
<td>+3.0</td>
<td>+2.7</td>
<td>+3.0</td>
<td>-3.9</td>
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<tr>
<td>College recruitment: women*</td>
<td>-2.0</td>
<td>+10.2</td>
<td>+7.9</td>
<td>+8.7</td>
<td></td>
<td></td>
<td>+18.3</td>
<td>+8.6</td>
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<tr>
<td>College recruitment: minorities**</td>
<td>+7.7</td>
<td>+8.9</td>
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<tr>
<td>Mentoring</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>+23.7</td>
<td>+18.0</td>
<td>+24.0</td>
</tr>
<tr>
<td>Diversity task forces</td>
<td>-3.3</td>
<td>+11.6</td>
<td>+8.7</td>
<td>+22.7</td>
<td>+12.0</td>
<td>+16.2</td>
<td>+30.2</td>
<td>+24.2</td>
</tr>
<tr>
<td>Diversity managers</td>
<td>+7.5</td>
<td>+17.0</td>
<td>+11.1</td>
<td></td>
<td>+18.2</td>
<td>+10.9</td>
<td>+13.6</td>
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</tr>
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*College recruitment targeting women turns recruiting managers into diversity champions, so it also helps boost the numbers for black and Asian-American men.

**College recruitment targeting minorities often focuses on historically black schools, which lifts the numbers of African-American men and women.

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FROM “WHY DIVERSITY PROGRAMS FAIL,” BY FRANK DOBBIN AND ALEXANDRA KALEV, JULY–AUGUST 2016 © HBR.ORG
Take aways:

• Diversity work is not easy

• Diversity work can (and should!) be empirically quantified

• Effective diversity work is **institutional, integrated, and voluntary**
A young boy and his father are driving through the woods. There is a terrible accident. The father is killed instantly. The boy is severely injured and rushed to a hospital for emergency surgery. In the operating room, the lead surgeon looks at the boy and says, “I can’t operate on this boy, he is my son.”
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“Implicit bias” or “Implicit association” or “Unconscious bias”

*Project Implicit: [implicit.harvard.edu](http://implicit.harvard.edu)*
The Thatcher Effect
The Thatcher Effect

The brain naturally makes **assumptions** to make data processing reasonable
What is this person feeling?
What is this person feeling?
What is this person feeling?

Debbie: afraid

Danny: angry

Condry & Condry, 1976
Implicit bias impacts us as faculty

STEM faculty were asked to evaluate a resume for a potential lab manager. Half of the time the resume was assigned a male name, and half a female name.

![Bar chart showing competence, hireability, and mentoring scores for male and female applicants.](image_url)
IAT: Implicit Association test

Project Implicit: implicit.harvard.edu
Berkeley

Cal

Stanford

LEFT

RIGHT
Stanford
Good

LEFT

Berkeley
Bad

RIGHT
Gender–Science Association Results on “Project Implicit”
Gender–Science Association Results on “Project Implicit”

Male Respondents

Female Respondents

Implicit Science=Male / Arts=Female Stereotyping

Number of Respondents
How implicit bias affects us

- Hiring committees for new faculty
- Acceptance of students into graduate programs
- Course evaluations by students (Student perception of teaching)

Teaching Evals: Bias and Tenure

New studies on student evaluations of teaching say a simple intervention can fight gender bias, at least in the short term, and that perceived teaching effectiveness declines after tenure.

By Colleen Flaherty // May 20, 2019
Axes of Diversity

- Gender
- Race and Ethnicity
- (Dis)ability
- LGBTQ
- Socioeconomic status
- Culture
- Life experience
- Age
- Geography
- Educational pedigree
- Political ideology
- Religion
- Nationality
- Visa/immigrant status
- Language/accent
- etc.

Moving toward inclusion

By Namandje Bumpus | Dec. 7, 2015, 9:45 AM
Inclusion

• Involves bringing together and harnessing diverse forces and resources in a way that is beneficial.

• Puts the concept and practice of diversity into action by creating an environment of involvement, respect, and connection—where the richness of ideas, backgrounds, and perspectives are harnessed to create business value and overall success.

Diversity is what you have. Inclusion is what you do.

Learn to love the Uniqueness of each individual
Benefits of Understanding Differences:

- More effective communication
- Less misunderstandings
- Increased recruitment and retention
- More effective motivational methods
- Better-formed expectations
- Increased productivity and teamwork
Take Away

- Be aware of implicit bias
- Implicit biases that associate science with gender and race are pervasive
- Do not allow yourself to define a person based upon one stereotype about one aspect of their complex identity.
- Colleagues and students of underrepresented groups might feel alone and under excessive pressure to overperform to prove they belong.
- Just recognizing that we don’t know everything about others, develops an awareness towards accepting diversity and creates a more inclusive environment.
Q: How does diversity influence your teaching?