

DIVERSIFYING ECONOMIC QUALITY: USING EVIDENCE TO CREATE MORE INCLUSIVE ECONOMICS DEPARTMENTS

MICHIGAN STATE UNIVERSITY
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A RECAP

The evidence suggests:

1. Our profession lacks diversity in key dimensions
2. Broadening the pool from which we draw economists is necessary to ensure the profession produces robust and relevant knowledge
3. Promising directions for future initiatives include
 - supporting supply-side programs
 - addressing implicit bias
 - revising rules and habits
 - creating more inclusive economics departments

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“MORE INCLUSIVE ECONOMICS DEPARTMENTS”

**Broaden the array of students coming in the door by
broadening students’ understanding of economics**

+

**Level the playing field by creating an environment that
allows all individuals to thrive**

(focusing on students today)

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Examples from STEM:

COMPUTER SCIENCE AT HARVEY MUDD COLLEGE

Components:

- Renamed and revised intro course (fun, relevant, not intimidating)
- Significant exposure to counterstereotypes
- Early research opportunity

Outcomes:

- The number of women computer science graduates quadrupled in six years.

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GRINNELL SCIENCE PROJECT

Components:

- Curricular reform
- Community building
- Student-faculty research
- Pre-orientation

Outcomes:

- In early 1990s, 42 women science majors per year and 8 students of color. By 2008, science majors included 90 women and 21 students of color.
- Other students have also benefited from the mentoring and the curricular and pedagogical changes.
- Nearly 70% of the College's science majors enter graduate programs. Grinnell ranks eighth on a per-capita basis in producing science PhDs.

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PRINCETON DIVERSITY PROGRAMS IN MOLECULAR BIOLOGY AND QUANTITATIVE & COMPUTATIONAL BIOLOGY (DOCTORAL)

Components:

- A more holistic approach to evaluation of candidates
- Aggressive recruitment
- Undergraduate summer research program
- Pre-orientation

Outcomes:

- The percentage of underrepresented minority students in each entering class increased from 3% in the period from 2003-07 before the program started to 22% in 2008-12.

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BROADENING THE ARRAY OF STUDENTS

Increase department outreach to underrepresented groups.

- Correct students' misunderstanding of what economics is
- Be proactive to offer encouragement and academic advising
- Offer alternate pathways into the major
 - offer own Math for Economists course
- Offer research and other opportunities
 - to "diamonds in the rough"
- Build community
 - with, say, pizza or study groups

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LEVELING THE PLAYING FIELD

The environment in the typical economics classroom supports certain students better than others.

Careful research suggests concrete steps we can take to make our teaching more effective and inclusive.

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WHAT ARE OUR PROFESSION'S HABITS IN THE CLASSROOM?



- **We love to lecture.** (Watts & Schaur *The Journal of Economic Education* 2011)
- References to “gender, race, and ethnic issues” are rare. (Ibid.)
- Most economists are either not aware of alternative teaching methods or think preparation is too time consuming. (Goffe & Kauper *The Journal of Economic Education* 2014)
- There is solid evidence that other methods are more effective than lecturing.

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DIVERSIFYING ECONOMIC QUALITY
 (DIVE.Q.)

Diversifying Economic Quality: A Wiki for Instructors and Departments

an online resource promoting inclusive, innovative, and evidence-based teaching practices in economics

DiversifyingEcon.org

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Diversifying Economic Quality: A Wiki for Instructors and Departments

Div.E.Q. is an online resource promoting inclusive, innovative, and evidence-based teaching practices in economics.

HOW CAN YOU PARTICIPATE?

Proven practices for instructors

- Foster a growth mindset in your students.
- Offer wise feedback.
- Use active learning techniques.
- Consider the impact of wait time.
- Employ technology wisely.
- Avoid stereotype threat.
- Use cooperative learning.
- Promote inclusive communication.
- Provide students with rubrics.
- Incorporate service learning.
- Join the Wikipedia Education Program.
- Flip your classroom.
- Provide opportunities for involvement with research.

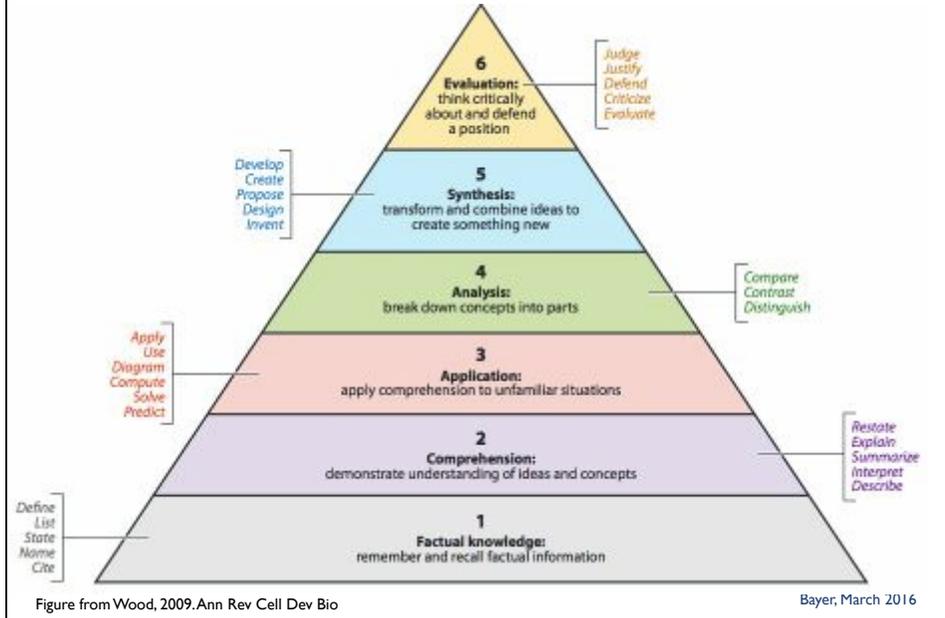
Proven policies for departments

- Actively recruit students who may be underprepared, unsure, or unaware.
- Advertise the broad array of careers and research areas in economics.
- Encourage peer and faculty mentoring.
- Utilize summer bridge programs.
- Offer a course on Race, Ethnicity, and Gender in Economics.
- Alter the introductory textbooks.
- Recruit and retain a diverse faculty.
- Educate faculty.

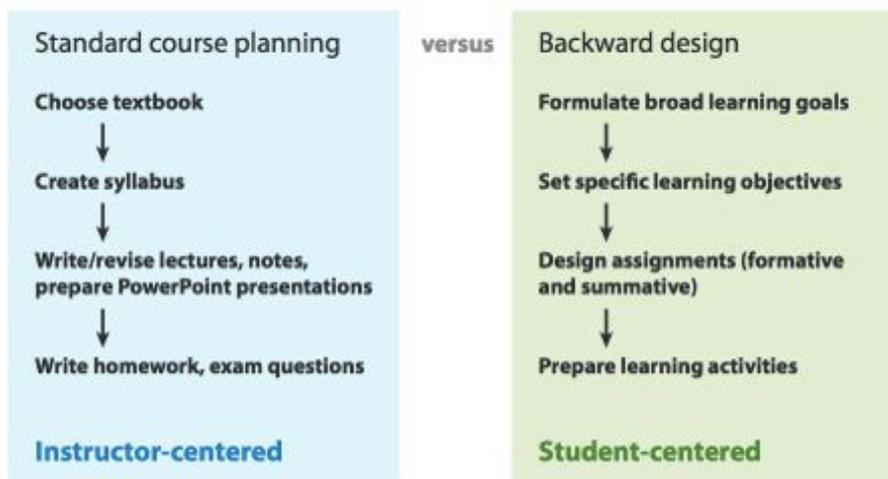
Change how the world sees us.

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1. Introduce your students to Bloom's Taxonomy.



2. Construct your courses “backwards.”



e.g., *Understanding by Design* (Wiggins and McTighe, 1998/2005)
 Figure from Wood, 2009, Ann Rev Cell Dev Bio

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EXISTING AP MICROECONOMICS COURSE

Content Area	Percentage Goals of Exam (multiple-choice section)
I. Basic Economic Concepts	(8-14%)
<ul style="list-style-type: none"> A. Scarcity, choice, and opportunity cost B. Production possibilities curve C. Comparative advantage, absolute advantage, specialization, and trade D. Economic systems E. Property rights and the role of incentives F. Marginal analysis 	
II. The Nature and Functions of Product Markets	(55-70%)
<ul style="list-style-type: none"> A. Supply and demand (15-20%) <ul style="list-style-type: none"> 1. Market equilibrium 2. Determinants of supply and demand 3. Price and quantity controls 4. Elasticity <ul style="list-style-type: none"> a. Price, income, and cross-price elasticities of demand b. Price elasticity of supply 5. Consumer surplus, producer surplus, and allocative efficiency 6. Tax incidence and deadweight loss B. Theory of consumer choice (5-10%) <ul style="list-style-type: none"> 1. Total utility and marginal utility 2. Utility maximization: equalizing marginal utility per dollar 3. Individual and market demand curves 4. Income and substitution effects C. Production and costs (10-15%) <ul style="list-style-type: none"> 1. Production functions: short and long run 2. Marginal product and diminishing returns 3. Short-run costs 4. Long-run costs and economies of scale 5. Cost minimizing input combination and productive efficiency D. Firm behavior and market structure (25-35%) <ul style="list-style-type: none"> 1. Profit <ul style="list-style-type: none"> a. Accounting versus economic profits b. Normal profit c. Profit maximization: MR=MC rule 2. Perfect competition <ul style="list-style-type: none"> a. Profit maximization b. Short-run supply and shutdown decision c. Behavior of firms and markets in the short run and in the long run d. Efficiency and perfect competition 	
3. Monopoly	
<ul style="list-style-type: none"> a. Sources of market power b. Profit maximization c. Inefficiency of monopoly d. Price discrimination e. Natural monopoly 	
4. Oligopoly	
<ul style="list-style-type: none"> a. Interdependence, collusion, and cartels b. Game theory and strategic behavior c. Dominant strategy d. Nash equilibrium 	
5. Monopolistic competition	
<ul style="list-style-type: none"> a. Product differentiation and role of advertising b. Profit maximization c. Short-run and long-run equilibrium d. Excess capacity and inefficiency 	
III. Factor Markets	(10-18%)
<ul style="list-style-type: none"> A. Derived factor demand B. Marginal revenue product C. Hiring decisions in the markets for labor and capital D. Market distribution of income 	
IV. Market Failure and the Role of Government	(12-18%)
<ul style="list-style-type: none"> A. Externalities <ul style="list-style-type: none"> 1. Marginal social benefit and marginal social cost 2. Positive externalities 3. Negative externalities 4. Remedies B. Public goods <ul style="list-style-type: none"> 1. Public versus private goods 2. Provision of public goods C. Public policy to promote competition <ul style="list-style-type: none"> 1. Antitrust policy 2. Regulation D. Income distribution <ul style="list-style-type: none"> 1. Equity 2. Sources and measures of income inequality 	



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Designing your course

- Uncover the material.
- Start by identifying desired results. What two (or so) broad learning goals do you have for the students in your course?
- Use these goals to choose course material and activities.

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BROAD GOALS FOR THE SUMMER PROGRAM

What do we want students to take away from the experience?

1. Competencies in economics—ability to succeed in advanced economics courses and research
2. Confidence—in their own potential to learn and do advanced economics
3. Knowledge—of the power and potential of economics and the rigor of PhD programs
4. Resources—fortitude/grit, study habits, ability to work in groups, relationships/networks

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Essential competencies in economics

(from Allgood and Bayer 2016)

1. Apply the scientific process to economic phenomena
2. Analyze and evaluate behavior and outcomes using economic concepts and models
3. Use quantitative approaches in economics
4. Think critically about economic methods and their application
5. Communicate economic ideas in diverse collaborations

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3. Employ active learning techniques.

In-class inquiry and problem-solving activities allow students to engage in higher order thinking and to construct understanding.

Active learning produces strong increases in student performance, with disproportionate benefits for students from disadvantaged backgrounds and for female students in male-dominated fields.

(Freeman et al. *Proceedings of the National Academy of Sciences* 2014, Lorenzo, Crouch & Mazur *American Journal of Physics* 2006)

- Think – Pair – Share [3 minutes each]
- One-minute papers
- Peer instruction

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4. Foster a growth mindset.

- ✓ Intelligence is not a fixed trait.
- ✓ Intelligence expands through effort, mistakes, and perseverance.
- ✓ Math ability and economic intuition can be acquired.

Encouraging students to see intelligence as malleable raises academic enjoyment, engagement, and performance. (Aronson, Fried & Good 2002)

Teachers with growth mindsets allow a broader range of students to do well. (Rheinberg, 2000, Dweck, 2008)

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5. Understand and limit implicit biases.

	Implicitly biased	Implicitly unbiased
Explicitly biased	A few	NA
Explicitly unbiased	Most of us	A few

Decades of careful research indicate that race, gender, and other perceived group affiliations operate as heuristics, with powerful, unconscious effects on our judgments and actions. (e.g., Greenwald & Banaji 1995)

We all have biases that operate without our awareness or intent.

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Instructors of MOOCs are more likely to respond to forum posts by ostensibly white male students. (Dee, John, Baker, and Evans 2015)

Faculty are more likely to ignore requests for meetings from women and from Black, Hispanic, Indian, Chinese students. (Milkman, Akinola, and Chugh 2014)

Males enrolled in undergraduate biology classes consistently rank their male classmates as more knowledgeable about course content, even over better-performing female students. (Grunspan et al. 2016)

Students rate "male" instructors of online classes significantly higher than "female" instructors regardless of the instructor's actual gender. (MacNell, Driscoll, and Hunt 2014)

Gender and/or race disparities exist in training opportunities, in requests to provide department and university service, and in letters of recommendation. (Sheltzer and Smith 2014, Turner and Myers 2000, Trix and Psenka 2003)

Male and female faculty members rate male applicants for a lab manager position as significantly more hireable than identical female applicants and offer higher starting salaries and more mentoring to male applicants. (Moss-Racusin, et al. 2012)

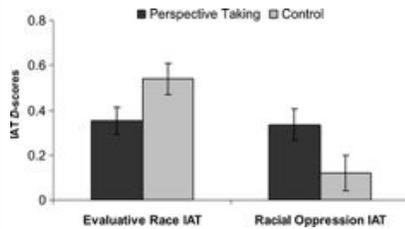
When evaluating a CV randomly assigned a male or a female name, both male and female academic psychologists are more likely to hire the male applicant for a tenure-track job and have more positive evaluations of the male applicant's teaching, research, and service records. (Steinpreis, Anders, and Ritzke 1999)

Female economists are twice as likely to be denied tenure as their male colleagues, even when controlling for quantity and quality of publication, field, etc. Economics boasts the largest gender gaps in tenure rates, salaries, and job satisfaction among math-intensive fields. (Ceci, Ginther, Kahn, and Williams 2014)

An additional coauthored paper for a male economist has the same effect on the likelihood of tenure as a solo-authored paper. When women write with male co-authors, the paper has no impact on the female author's probability of earning tenure. (Sarsons 2015)

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Biases can be modified...



“Perspective taking combats automatic expressions of racial bias”
(Todd, Bodenhausen, Richeson, Galinsky *Journal of Personality and Social Psychology* 2011)

Biases can be controlled...

Orchestrating Impartiality: The Impact of “Blind” Auditions on Female Musicians

By CLAUDIA GOLDIN AND CECILIA ROUSE*

A change in the audition procedures of symphony orchestras—adoption of “blind” auditions with a “screen” to conceal the candidate’s identity from the jury—provides a test for sex-biased hiring. Using data from actual auditions, in an individual fixed-effects framework, we find that the screen increases the probability a woman will be advanced and hired. Although some of our estimates have large standard errors and there is one persistent effect in the opposite direction, the weight of the evidence suggests that the blind audition procedure fostered impartiality in hiring and increased the proportion women in symphony orchestras. (JEL 17, 116)

Sex-biased hiring has been alleged for many occupations but is extremely difficult to prove. Drawing from the seminal contributions of Gary Becker (1971) and Kenneth Arrow (1973), has

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Crowd out micro-inequities with micro-affirmations

(Rowe 2008) e.g.,

- Open doors to opportunity (offer research assistantships, proactive course selection advice,...)
- Start a conversation
- Write brief notes of encouragement and appreciation

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6. Understand and reduce stereotype threat.

“Performance in academic contexts can be harmed by the awareness that one's behavior might be viewed through the lens of racial stereotypes.” (Steele and Aronson 1995)

- Represent difficulties as both normal and temporary (e.g., have students write to future program participants communicating a growth mindset) (Walton and Cohen 2011)
- Offer “wise feedback” (i.e., give fair and specific feedback, delivered with an invocation of high standards and an assurance of the student's capacity to reach those standards) (Cohen, Steele, and Ross 1999, Yeager et al. 2014)
- Provide opportunities for “values affirmation” (i.e., have students reflect on the things most important to them, such as family and life goals) (Miyake et al 2010, Walton and Cohen 2011)
- Reduce time pressure in exams.

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7. Improve classroom climate.

- Set a tone of inquiry and collaboration, and promote inclusive communication.
- Add wait time after asking a question.
 - Do not call on the first hand to go up.
 - Counter assumptions that the students most comfortable in speaking to you are those who have the best understanding or most interest.
 - Sometimes give the question in advance and then call on quieter students.
- Build collaboration with pair work and study groups.

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8. Offer meaningful content.

- Provide opportunities for students to use economics to examine issues important to them.
 - Present course tools in the context of real problems.
 - Ask students to connect a new concept, such as opportunity cost or marginal benefit, to a setting meaningful to them.
 - Use some class time to present brief summaries of a wide range of empirical studies in economics.
- Be sensitive.
 - Create space, but don't assume certain topics are, say, women's issues.
 - Realize that some students have more direct knowledge of certain economic phenomena (e.g., unemployment, poverty) than we do.

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In sum, we can diversify economic quality through

- increasing outreach
- understanding and combatting implicit bias
- updating our pedagogy and course content

**Help *all* students connect to the material, to you,
and to each other.**

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