

how STEM faculty contribute to inclusive classrooms: exploring our own biases and assumptions

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opening workshop for new STEM faculty
uw system women and science program
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1

benefits and challenges of diversity

bias and prejudice

stereotype threat

conclusion

overview of presentation

2

increased knowledge about bias, prejudice, and stereotype threat, grounded in research

better understanding of own bias, prejudices, and assumptions

list of practical ways to make your classroom more inclusive

action and accountability plan to begin making your classroom more inclusive

workshop end products

3

for every 100 low income students in the US:

65 will graduate from high school

41 will enroll in college

11 will graduate college

reality check

4

what is your definition of diversity?

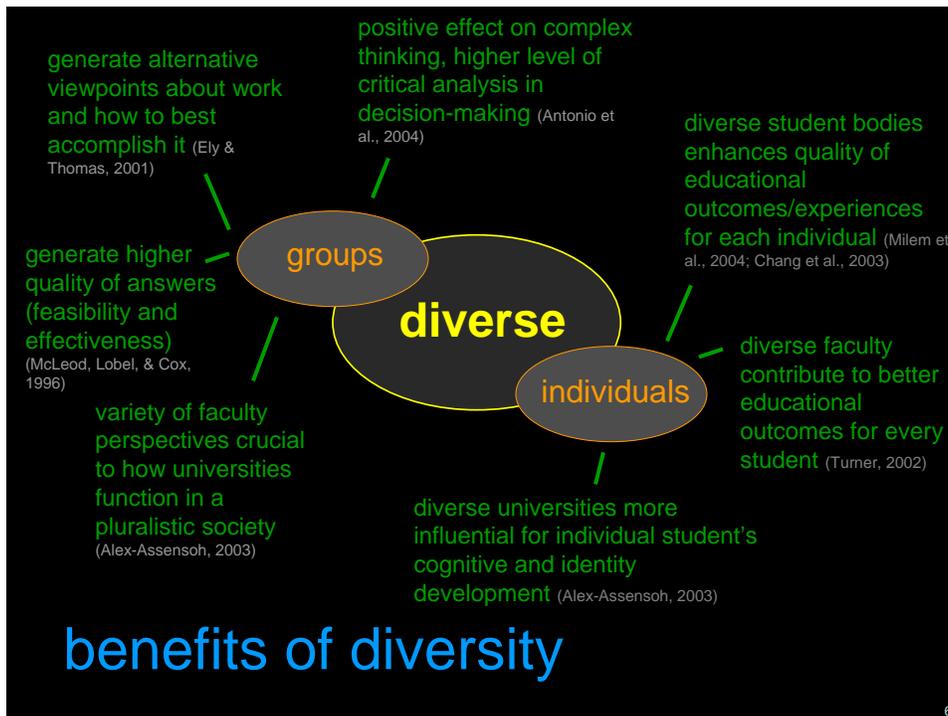
what is your definition of inclusion?

dimensions of diversity

- race
- ethnicity
- socioeconomic status
- gender
- sexual orientation
- religious beliefs
- political beliefs
- learning style
- age
- ability status
- nationality
- parental status
- language
- marital status
- educational background (formal/informal)
- geographic location

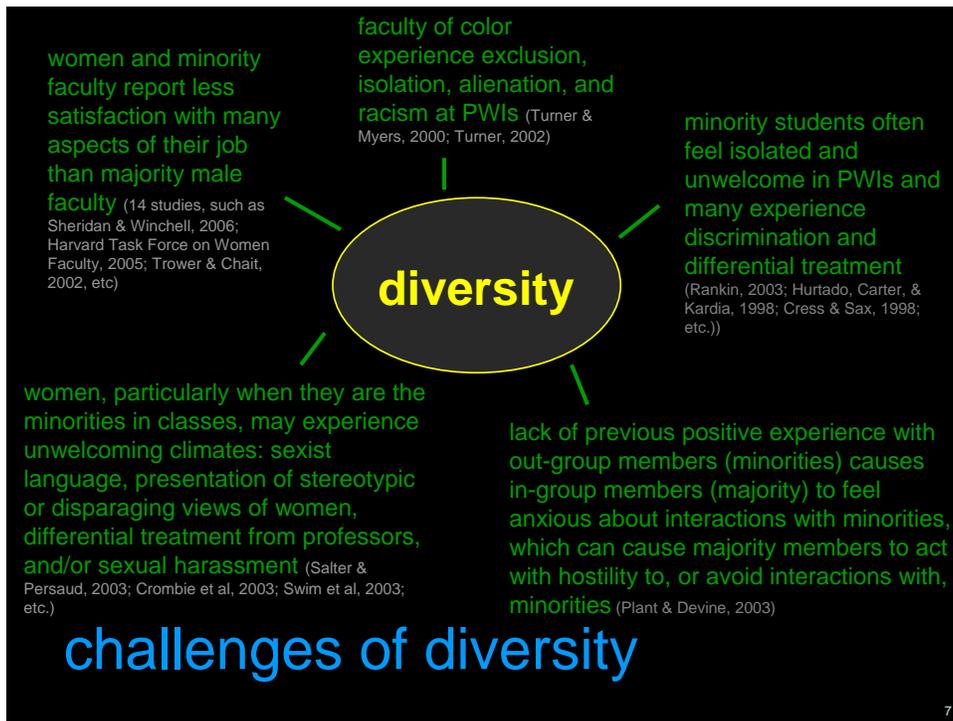
diversity: definitions and dimensions

5



6

benefits of diversity



1. Past inequities in access and opportunity that racial and ethnic minority groups have suffered have been sufficiently addressed and no longer require attention.
 2. Merit can be defined by test scores.
 3. Fairness is best achieved through race-neutral policy.
 4. Diversity programs benefit only students of color.
- common misconceptions about diversity** (Chang et al., 2003)
- 8

emphasis on qualities that students lack or knowledge they *should* have:

- how to learn
- discipline
- motivation
- time
- commitment
- engagement
- how to “Be a college student”

deficit-minded framework (Center for Urban

Education, 2010)

9

emphasis on institutional responsibility:

- minding the equity gap
- conscious of diversity
- focus on those capable of making change
- assume responsibility for elimination of inequality

equity-minded framework (Center for Urban

Education, 2010)

10

Race	Undergraduate students	Graduate students
Black	190 (1.6%)	11 (0.7%)
Asian	128 (1.1%)	18 (1.2%)
Southeast Asian	280 (2.4%)	12 (0.8%)
Latino	225 (1.9%)	22 (1.5%)
Native Alaskan/Native American	134 (1.6%)	14 (0.9%)
White	10,510 (90.0%)	1,398 (92.0%)
International	85 (0.7%)	21 (1.4%)
Unknown	120 (1.0%)	24 (1.6%)
Total	11,672	1,520

uw-o enrollment headcounts, fall 2009

11

Race	2000	2001	2002	2003	2004	2005	Total
Black	2	1	1	4	1	4	13
Latino	4	3	2	2	1	1	13
Asian	4	1	3	3	4	2	17
Southeast Asian	2	3	4	1	2	3	15
American Indian	0	1	2	2	1	3	9
White/unknown	129	143	139	199	165	156	931

uw-o new freshmen math and science enrollment (fall), by race

12

	Full time instructional faculty	Part time instructional faculty	Total instructional faculty
Total	413	195	608
Minority	52	8	60
White	344	187	531
International	17	0	17
Women	187	128	315
Men	226	67	293

uw-o faculty, by various representations, 2009-10

13

refers to the tendency of our minds to judge individuals based on characteristics (real or imagined) of groups

includes:

- unconscious bias and assumptions
- schemas
- stereotyping
- cognitive shortcuts
- statistical discrimination
- implicit associations

unconscious (implicit) bias (Women in Science

and Engineering Leadership Institution, WISELI, Molly Carnes presentation)

14

resumes of differing quality randomly assigned
white-sounding names or African American-
sounding names

Resumes mailed in, callbacks measured:

white names 50% more likely to be called back

white names / high quality 27% more likely to be called back
(compared to whites / low quality)

black names / high quality 8% more likely to be called back

bias in labor market (Bertrand & Mullainathan, 2004)

15

study of peer-reviewed scores awarded on
applications for postdoc fellowships in
Sweden (Wenneras & Wold, 1997)

men systematically received higher competency ratings than women
for equally productive work

women had to be TWICE as productive as men to be judged
as equally competent

those who think they have no biases provide
the most biased evaluations (Uhlmann & Cohen, 2005)

bias in evaluations

16

312 letters of reference for medical faculty hired in a large US medical school

women's letters compared to men's more often:

- were shorter
- offered minimal assurance
- used gendered terms
- contained doubt raisers
- used stereotypic adjectives
- used fewer standout adjectives
- contained less scientific terminology

bias in letters of reference (Trix & Psenka, 2003,

slide from WISELI)

17

study measured the strength of implicit attitudes between gender, math, and science

- men and women had negative implicit attitudes toward math-science compared with language-arts.
- women showed more negative evaluation of math-science
- women identified more strongly with art than with math
- men showed now preference for either math or science

implicit math and science bias

(Nosek et al, 2002)

18

learn about the research on bias and assumptions

intentionally strive to minimize the influence of unconscious tendencies in your evaluations:

spend sufficient time evaluating people

reach out to people of underrepresented groups individually

take an implicit association test (IAT)

develop evaluation criteria prior to evaluation

unconscious bias: practical tools

(WISELI; Uhlmann & Cohen, 2005; Biernat & Fiegen, 2001)

19

think of unconscious bias as a 'bad habit'

explicit attitude change not enough

must be aware, motivated, learn new strategies, and practice

be aware of strategies that do NOT work: cannot banish stereotypes from one's mind

unconscious bias: practical tools

(WISELI / Molly Carnes)

20

steps to reduce bias:

- avoid language that activates unexamined and implicit biases
- make positive role models visible
- include women and minority group members on evaluation committees
- discuss possible bias and challenge decisions openly
- make the community aware of the research on bias and emphasize we all hold bias, thereby causing less defensiveness
- define criteria of a selection process at outset to ensure selection of best qualities
- hold accountable people and committees that conduct evaluations of people hiring, tenure, promotion, and awards

unconscious bias: practical tools

(National Academies report Beyond Bias and Barriers, 2006)

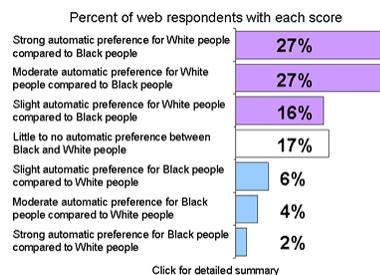
21

You have completed the African American - European American IAT.

Your Result

Your data suggest a slight automatic preference for European American compared to African American.

Thank you for your participation. Just below is a breakdown of the scores generated by others. Most respondents find it easier to associate *African American* with *Bad* and *European American* with *Good* compared to the reverse.



implicit association test (IAT)

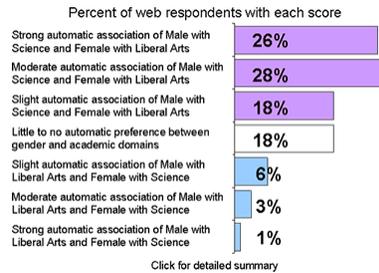
22

You have completed the Gender - Science IAT.

Your Result

Your data suggest a moderate association of Male with Science and Female with Liberal Arts compared to Female with Science and Male with Liberal Arts.

Thank you for your participation. Just below is a breakdown of the scores generated by others. Most respondents find it easier to associate *Male with Science* and *Female with Liberal Arts* compared to the reverse.



implicit association test (IAT)

23

pair and share

discuss the IATs you took, including your scores

discussion questions:

1. what were your scores?
2. do you think your scores are an accurate reflection of you? why or why not?
3. what did this test make you think of related to your position as a professor?
4. how did taking this test and the results make you feel?

discussion

24

refers to being at risk of confirming, as self-characteristic, a negative stereotype about one's group (Steele & Aronson, 1995)

over 300 peer-reviewed articles published on stereotype threat
most vulnerable: ANYONE for whom a situation invokes a stereotype-based expectation of poor performance
has a dramatic impact on individual's achievement

stereotype threat (Steele, & Quinn, 1999)

25

strategies to reduce stereotype threat:

refute or diminish the stereotype relevance of the task
emphasize shared group characteristics
discuss stereotype threat opening and honestly with students:
it's real
you are aware it happens

stereotype threat: practical tools

(Roberson & Kullik, 2007)

26

personal stereotyping replacement:

1. recognize the stereotype
2. label it
3. identify precipitating factors
4. replace with non-stereotyping response

stereotyping: practical tools (WISELI presentation)

27

there are many ways to make classrooms more inclusive:

- share yourself with your students
- get to know your students better
- engage in positive interactions with your students
- encourage open classroom dialogue
- facilitate balanced group work
- diversify course content
- diversity pedagogy
- understand your practice

inclusive classroom: practical tools (Barger, Diversity Institute, CIRTL)

28

what does an inclusive STEM classroom look like/feel?

how do you know if you are successful in achieving an inclusive classroom?

how will you measure it?

discussion

29

complete post-questionnaire

please feel free to contact me:

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thank you!

30