

UD COE Inclusive Teaching Workshop Series: An Introduction: Transcript

Inclusive Teaching Series: An Introduction

Welcome to the Inclusive Teaching Series, six 10-minute modules that aim to bring you evidence-based teaching and mentoring practices! Each module consists of evidence or a theoretical basis for the topic, including relevant literature references, as well as practical teaching and mentoring tips that you could apply in your interactions with undergraduate and graduate students. In addition, each of the 5 modules after this one has a cheat-sheet handout that accompanies that presentation.

This series was developed by a Faculty Learning Community within the College of Engineering at the University of Delaware. The contributors include Professor Jenni Buckley of mechanical engineering, Professor Josh Enszer of chemical engineering, Professor Sheldon Hewlett of materials science and engineering, Professor Julie Maresca of civil and environmental engineering, Professor Sarah I. Rooney of biomedical engineering, and Professor Ismat Shah of materials science and engineering and physics. The Faculty Learning Community was funded by the University of Delaware Center for Teaching and Assessment of Learning.

Our teaching practices are influenced by our history.

Our teaching practices are influenced by our history. Engineering started as a professional program, stemming from the military, and our practices in the classroom today are influenced by that. This photo is taken from our very own mechanical engineering program at the University of Delaware in the 1930s. They are in Mechanical Hall taking a drafting course. We see a largely white, male classroom with an instructor who is standing at the front. Despite some educational advances that we have today, such as innovative teaching spaces, many engineering classrooms still look like this today.

In fact, even textbooks reflect this 150-year history of teaching predominately white, abled men. For example, here are some images that can be found in a current day engineering statics textbook. You see white individuals, mostly male, and applications that align with stereotypical masculinity: cars, engines, and football. The one image we see here that suggests a woman wearing high heels may not accurately reflect how women want to be portrayed. There is nothing inherently wrong with any of these images; however, collectively, if this is what the students see over and over, you can imagine how this imagery could take a toll on our underrepresented students. We have some work to do. As our classrooms become more diverse, we need our practices to reflect this.

Our “diversity gap” is largely attributable to culture.

This figure plots the percentage of bachelor’s degrees awarded to women over time. We can see a few things. First, engineering has largely stayed static at about 20%. In contrast, other



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STEM disciplines, such as biological sciences and chemistry, have seen growth, reaching gender parity or even over-representation of women. So the question is, why do we have this “diversity gap?” Research tells us it’s from culture. A 2017 meta-analysis by Cheryan and co-authors found that it’s not talent and it’s not whether women know about these fields; it comes down to women making a conscious choice to not join this engineering culture we have created. As instructors, we hold the power to help shift this culture.

How often did the following occur in your experience?

This issue of climate can also be seen here at the University of Delaware. In 2018 we published on the findings of a focus group study we conducted that investigated factors affecting underrepresentation in our University of Delaware engineering undergraduate programs. Subsequently, in 2019, we published on the findings of a College of Engineering-wide survey that was distributed to undergraduate students to evaluate the climate. There were about 250 participants, representing all the engineering undergraduate majors, both women and men, and all 4 years. The bar graphs here are some results from the survey, focusing on the questions related to culture that could be impacted by instructors in the classroom. The men’s responses are green, and the women’s are orange. It’s encouraging that we see an “almost never” average response to the statement “I observed the use of offensive words, behaviors, or gestures directed at students.” So, overt discrimination is less of an issue. In contrast, we see gender-specific differences in responses to some statements, implying a chilly climate or microaggressions. Specifically, compared to men, women were more likely to feel intimidated by some of their engineering instructors, feel less likely that course content reflects contributions of all engineers, including women and people of color, less likely to feel that students of all backgrounds and identities participate in class, and less likely to feel that their engineering courses had an open and positive atmosphere. These results suggest that underrepresented students in the classroom may be having a fundamentally different experience than the majority population. We did also evaluate responses by race and did not see the same results in the survey that we saw here for gender; however, racial differences were evident in the focus group study.

The Hard Question: Are we being truly inclusive?

So the hard question is, “Are we being truly inclusive?” We have some quotes that help us get to the root of this question. Here is a quote that came from a black male student in one of the focus groups. He said he had an experience with a professor where he would mention, “Hey, man, stay out of trouble” and would even highlight the fact that he was black. Although the instructor may have been well-intentioned, clearly the experience was negative for the student because he felt singled out. In another more generic example, a student in a focus group commented that their professor made a joke about “boiling off the weak ones.” Although this



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professor probably intended it to be funny, language like this promotes a survival-of-the-fittest mentality or weed-out culture, which has been shown to be detrimental to student success.

Inclusive Teaching is fundamentally high quality teaching that is also...

One thing that we want to stress in these modules is that inclusive teaching is fundamentally high-quality teaching. That is, the practices we will discuss can benefit all students, not just those who are underrepresented. Inclusive teaching is also informed, so in the next module, Inclusivity 101, we'll cover terms such as stereotype threat and imposter syndrome. Inclusive teaching means fairly evaluating, so the third workshop will cover implicit bias and what can be done to mitigate its impact. The fourth workshop is on mindset, which covers growth mindset and self-efficacy, which is like self confidence related to a particular task. The fifth workshop is on student teamwork and how to form and evaluate teams so that the learning that happens in a group setting is accessible to all students. Then we will conclude with a module on promoting positive student-student and faculty-student interactions, demonstrating how climate scales.

These modules are part of a research study.

These modules are part of a research study. We collected pre- and post-survey responses from participants in the College of Engineering to evaluate the inclusive teaching modules, faculty self-efficacy in teaching engineering, and faculty self-efficacy in culturally responsive classroom management. Stay tuned for a publication on the results!

References

These references provide further information.

