Interactions with Peers and Faculty: Transcript

Inclusive Teaching Series: Interactions with Peers and Faculty

Welcome to the sixth and final module of the Inclusive Teaching Series. This series was developed by a Faculty Learning Community within the College of Engineering at the University of Delaware and funded by the University of Delaware Center for Teaching and Assessment of Learning. You can follow along with your handout.

Silent Poll: Why might minority students show disproportionately low performance (D, W, F) in classes?

Take a couple seconds to brainstorm- why might minority students show disproportionately low performance in their classes, measured by the number of D's, F's, and withdraws? This question was posed by Dr. Uri Treisman, who noticed that the African American students in his calculus course at UC Berkeley demonstrated lower performance compared to others.

One of the most commonly stated reasons for low performance is that the students are less academically prepared. Although academic preparation does significantly impact students' persistence, so too do college experiences; therefore, universities can play a significant role in moderating racial disparities.

In the case of Treisman, his African American students were just as academically qualified as the majority population, measured by standardized test scores. There had to be another reason. He observed that the Chinese American students in his class combined academics and social life, forming study groups. They assisted each other with difficult homework problems, checked each other's work, and freely exchanged information. In contrast, the African American students in his class often worked alone, rarely seeking assistance from each other or their TA. This observation led Treisman to recognize the tremendous value of group learning and community, which he used to develop an honors program at Berkeley. Students in the program had increased persistence and graduation, decreased failure rates, were 2-3 times more likely to earn a B- or better, and outperformed their minority peers and white and Asian classmates. It's hypothesized that this honors program was so successful because it established academically oriented peer groups whose participants valued success and achievement, students spent more time on learning tasks, and they acquired social and study skills that benefited them throughout their college careers. In other words, these positive peer interactions benefited students academically.

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Evidence: *Student-Student and Faculty-Student interactions affect student success*

Student-student interactions have been shown repeatedly to affect student success. For example, a 2014 study found that underrepresented minorities were 9.3% more likely to persist in STEM if they joined an organization related to their major, 13.6% more likely to persist if they studied more with other students, and 17.4% more likely to persist if they participated in research. In another study, peer support accounted for 38.8% of the variance in a student's sense of belonging.

Faculty interactions with students also affect student success. Environmental factors, including the environments created by faculty, affect students' perceptions of themselves, which impacts students' behavior, performance, and persistence. In the model shown here, academic integration was determined to positively increase students' self-efficacy. Academic integration is a student's expectations of interactions with faculty, including teaching effectiveness, faculty's interest in students, willingness to provide opportunities for students, advising students on research, approachability, and accessibility. As we learned about in the mindset inclusive teaching module, self-efficacy has important downstream effects. In the model shown here, self-efficacy impacts students' behaviors of seeking help, putting in effort, and thinking critically. Self-efficacy also impacts students' GPA. In contrast, faculty distance, or in other words aloofness or intimidation by professors, negatively impacts student behaviors, lowering students' GPA. How often and in what manner we interact with our students impacts their academic performance.

Tips to Encourage Peer Interactions

Now that we know that positive peer interactions significantly impact student performance, what can we do as instructors to facilitate student-student interactions? First, we can apply active and cooperative learning techniques. You can learn more by visiting the University of Delaware's Center for Teaching and Assessment of Learning. Consider assigning or allowing group projects or collaborative homework. Encourage study groups. Identify and reach out to students who are struggling and help connect them with their classmates. Introductions can be especially valuable early in the semester. When advising students, encourage them to join major-related student groups, such as student chapters of the Biomedical Engineering Society (BMES), American Institute of Chemical Engineers (AIChE), or the American Society of Mechanical Engineers (ASME). And finally, build connections between upper-level and lower-level cohorts of students; the upper-level students can act as role models and mentors.

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Tips for Positive Faculty-Student Interactions

Frequent interactions with faculty is the #1 factor most strongly related to students' satisfaction with all aspects of college. To encourage these interactions, you can use office hours to promote 2-way conversations. Build trust and rapport via verbal and nonverbal communication, including something as simple as smiling. Encourage student participation during class, and use it to help guide the lesson. Be approachable and accessible. As we've learned about in other inclusive teaching modules, get rid of the weed-out culture or survival-of-the-fittest mentality. Learn students' names and let them get to know you. Finally, encourage students to pursue undergraduate research.

Take-Away

To summarize, specific faculty strategies can promote positive student-student and faculty-student interactions, impacting student satisfaction and academic performance.

You can learn more about strategies to incorporate group work and collaborative learning from the University of Delaware's Center for Teaching and Assessment of Learning. You can learn more about UD's engineering student organizations on the College of Engineering webpage.

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.

Congratulations on making it through the 6-part inclusive teaching series!