

Teaching Mission

Through my experience as an educator I have developed a teaching program that relies on three main foundational principals. First, in order to stimulate students' intellectual curiosity it is necessary to move beyond traditional lectures and incorporate elements of experiential learning and in-class activities. Second, to address the average student's fear of mathematics and quantitative analysis it is beneficial to create an educational environment that encourages students to become problem-solvers. Third, diversity is to not only be encouraged but integrated into the course structure. While one will rarely have the opportunity to teach a course that every participant is excited about, I hope to get across my passion for the subject and love of teaching. While I challenge students, I also try to connect with them personally and establish an atmosphere where they feel comfortable asking questions and engaging in classroom discussions.

As a professor, I strive to create a classroom environment that encourages critical thinking and inquiry-based learning. I strongly subscribe to the Harkness philosophy when it comes to teaching, including asking students to solve problems as a class, as I feel it is important that students take control over their education. I prefer that my lectures incorporate real-world examples and discussion as a means of fostering student-led analysis, including activities such as analyzing recent articles using the tools and frameworks learned in class. When possible I use examples from my own research as that adds an extra layer of applicability for students. Bain (2012) noted that the most effective lecturers used an overarching question to motivate their lectures and then helped students develop the tools needed to answer that query. By beginning my lectures with a question, I am encouraging students to think critically before I have even started speaking. Course content can then be seen as serving the purpose of allowing us to answer these higher-order questions together.

Studies have shown that learning is most effective when traditional lecture is paired with structured, small-group activities. As students can only focus on a traditional lecture for approximately 15-20 minutes (Middendorf and Kalish, 1996), I break up my classes with a combination of group activities, multimedia and personal response system questions. Exercises such as the One-Minute Paper, when used with concrete prompts, help students practice summarizing main ideas or focus on specific topics. Employing Think-Pair-Share activities encourages class discussion while ensuring that students remain motivated and engaged. I have found that an additional benefit of group work is that it allows the quieter students to feel more comfortable contributing to discussions. Lang (2008) notes that students work most effectively when they are given an activity that requires concrete results, and by requiring all groups to participate during the debriefing I ensure all students eventually contribute to the class discussion. This has a cumulative effect as students are more likely to contribute in the future after their initial participation. Additionally, my courses incorporate experiential learning activities that embody a Learn by Doing philosophy.

With quantitative material, I understand from my own initial struggles that the vast majority of undergraduates can be characterized by a deep fear of mathematics. I take a strong personal interest in helping these students overcome their preconceived notions and excel where they previously were reluctant to try, much less believe, they could succeed themselves. Through metacognitive activities such as the Muddiest Point (Angelo and Cross, 1993), which requires students to both recall information and assess comparative levels of difficulty, I encourage critical thinking when it comes to failure. Teaching students to identify mistakes and propose potential solutions is a critical aspect of problem-solving. In order to encourage students to take control of their own learning I use Moodle websites to create content, post links to relevant online learning resources and foster discussion. In class, I challenge students to provide responses to their peers' queries. Through these activities students begin to see the material as approachable and solvable, which is necessary for student engagement.

Additionally, as most students experience material for the first time in the classroom, comprehension does not occur until they are completing assignments or studying for an exam (Jones-Wilson, 2005), at which point the instructor is not there to aid in their learning. In classes such as *Data Analysis* I foster an active, problem-centered teaching model by designing online "Reading Questions" that require students to solve problems similar to those in the reading. This gives them context for the problems we go over during class, and allows them to actively participate in the problem-solving process. Thus, by the time they get to the homework they are able to solve more complex problems and apply their learning in new ways.

One of the most rewarding aspects of teaching is interacting with the diverse student body. The diversity in background and life experience provides a classroom full of unique viewpoints that lend depth to discussions. However, during my undergraduate education I saw firsthand the subtle and overt biases that can impede this experience. I make a conscious effort to ensure all students are participating in class discussions and emphasize the connections between student's differing opinions. Additionally, as students excel in different ways, all of which should be celebrated, I design activities and assessments to ensure that both oral and written abilities are rewarded.

References

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