

Teaching Philosophy

Teaching is to spark curiosity in students and to help them develop abilities to think analytically. I believe a good teacher is a dedicated scholar who fosters students' learning by introducing them to a fresh angle of looking into the subjects seen in their real lives. My goal is to integrate my research and teaching, so my knowledge from carrying out advanced research can be used to design an innovative and insightful learning environment for students to build analytical skills.

Knowing students diverse backgrounds and understanding their different expectations is the first step in my approach to teaching a class. This helps me to adjust my teaching strategies according to their needs. In the beginning of the semester students fill out my designed questionnaire to reflect their background and indicate their expectations from the course. This questionnaire helps me to know students' names as I often call students by name in the classroom. I also tell the students who I am and why I am teaching them, thus I deliver a presentation about myself and my research background in the first session of the class.

The next step is to light a fire for learning. I usually start a new topic in the classroom by linking the topic to real life. For instance, before talking about the colors of combustion flames I ask the class how you decide if a fire is good enough for your barbecue; it is by looking into the color of fire! Students love real life connections as it gives them a sense of achievement when they begin looking at their surrounding environment differently. Engineering classes typically lack students' engagement and I found methods of active learning are powerful tools that increase student engagement in the classroom. I usually use these techniques in my class. For instance, I often plan discussion activities in the class where students are asked to make a group with 4-5 students around themselves and discuss the proposed subject. Then I challenge the class with questions that can come from their own responses. Students tended to enjoy these discussions and they also learn from their peers.

In the range of teaching strategies I use, I find giving constructive feedback to students and promoting their self-assessment is particularly effective. I often use certain periods of the class time to point out common misunderstandings among the students and to review their mistakes in assignments and exams. This provides me with an opportunity to make suggestions for improvement. Students are also provided with sample practice exams to perform their own self-assessment.

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