

Teaching Philosophy

I believe that everyone is born with an innate curiosity. When we follow this curiosity, we can experience the joy of discovering something new. In an ideal classroom, every student gets to discover how to use the laws of physics for themselves, enjoying the process of learning something new. As the instructor in this ideal classroom, I hope to use student centered learning to develop students' critical thinking abilities in a classroom where students give and receive feedback in the pursuit of understanding.

Student Centered Learning: How do I plan to implement this ideal class? This starts by transferring the focal point of my planning to be from my students' perspectives rather than my own. As each student has their own unique perspective, this requires me to consider how my material will be received from each of these perspectives. For example, I enjoy challenging students to find examples from their daily lives which relate to the course material. Students are then able to share their perspectives on how the course can be used with one another. By incorporating different backgrounds in the curriculum, my students are more likely to relate to the class and be more engaged as a result. Additionally, multiple perspectives provide an opportunity for students to think critically about how their perspective affects their understanding of the material, and subsequently discover what they might be missing as a result.

Critical Thinking: While fostering student engagement, I also work towards developing the student as a critical thinker. I think the refinement of critical thinking is the most important part of an education since this skill is the cornerstone to self-directed learning, or a student's ability to learn on their own. For example, a student who can think critically can evaluate the validity of any part of a logical process, from the assumptions made, the steps taken, and all the way through to the conclusions drawn. For students to develop critical thinking while also mastering content knowledge, I use the class material we are learning as the problem to be solved. For example, as students learn about a new system or model, I ask them to explain the significance of a problem in their own words. By generating their unique definitions, students must critically think about their understanding of the topic, and connect the general principles learned with how they are used in practice.

Constructive Feedback: Lastly, I believe that giving and receiving constructive feedback will empower students to pursue better understanding, rather than worrying about making a mistake. To encourage students to seek feedback, I want to be a role model by showing that I am open to feedback myself. I look forward to doing this with periodic anonymous check-ins that not only ask how the student is doing, but also what changes they would like to see in the class. This shows that I and my class are not perfect and need feedback to improve. In addition to receiving feedback from me, I also look forward to encouraging students to work with their peers on assignments so that they have multiple avenues for feedback. I hope to accomplish this by pairing them up for class activities, ranging from a quick conceptual Kahoot quiz to a full problem analysis. By encouraging my students to seek and grow from feedback, I hope to establish my classroom as a laboratory for students to prototype their ideas and learn from their mistakes, so that they can pursue better understanding.

By centering on the three principles above—student-centered learning, critical thinking, and constructive feedback—I hope to establish my classroom as a laboratory for students to prototype their ideas and learn from their mistakes, so that they can pursue better understanding.