

My teaching philosophy can be summarized with one common expression:

*Give someone a fish, and you feed them for a day.
Teach them how to fish, and you feed them for a lifetime.*

When I teach, I want to go beyond showing students just definitions, theorems, proofs, and solutions to problems as I feel this is just “giving them a fish.” We know that students typically remember only a small percentage of the course content in a year, let alone in ten years or thirty years. To make an impact on my students, in addition to giving them a firm understanding of the course content, I want to help them develop a growth mindset, grit, metacognitive abilities, learning skills, mathematical thinking skills, critical thinking skills, and an enthusiasm for mathematics. In other words, I want my students to develop attributes, skills, and attitudes that will serve them for their lifetime.

The main way that I try to achieve this goal is by discussing these attributes, skills, and attitudes with the students. For example, when I engage in active learning or metacognitive exercises in class, I explain to the students why we are doing such exercises, how they are beneficial, and how the students can use such exercises on their own. When I cover course content, I make sure that I explain the content, describe the thought process behind it, and give suggestions to the students of how to learn it more deeply. I also teach them how to think more broadly about the content. In particular, I show them how to start connecting the concepts we are covering with other concepts both inside and outside our course, and how to ask questions about the content to go beyond what was covered in class.

My other main belief about mathematical teaching is that everyone can learn mathematics. I have found that main key is to develop their interest in and enthusiasm for mathematics. I do this by showing my own love, passion, and enthusiasm for mathematics. After that, it is about having students move at their own pace and, perhaps most importantly, ensuring that they understand what they are doing and why they are doing it. From my experience, the most common reason for people to have a math phobia is that nobody helped them understand mathematics.

If I were to ask my students to describe my lectures in one word, I highly suspect that the most common word would be enthusiastic. In the classroom, my passion for both mathematics and teaching is abundantly clear, and I feel that students find these both infectious. Additionally, I try to ensure that all of my lectures are interactive, engaging, and entertaining. I strive hard to create a positive environment where we, the students and I, learn together.

I am very fortunate to have my efforts constantly recognized. In 2013, I was awarded both the University of Waterloo’s Faculty of Mathematics Award for Distinction in Teaching and the University of Waterloo’s Mathematics Student Society’s Instructor of the Year award, and in 2021 I won the University of Waterloo’s Distinction in Teaching Award. Additionally, I feel that one of the greatest recognitions of my teaching philosophy is that I had been asked to speak at the Mathematics Faculty Graduation Ball eight years in a row despite teaching mostly first and second year courses.

My successes and awards have only encouraged me further to improve my effectiveness as an instructor. For many years, I have been dedicated to the research of teaching and learning in mathematics. I am constantly trying innovative teaching methods and techniques to improve student learning and engagement. In addition to reading numerous papers, books, and articles on teaching and learning, I’ve been attending conferences and even conducting numerous workshops for both students and faculty on the scholarship of teaching and learning.

To summarize, I will borrow from another famous quote:

We need to teach students how to think, not what to think.

My teaching philosophy goes beyond this. I believe that we also need to teach students how to learn, not just what to learn. I believe we need to provide students with the tools and attitudes that will help them succeed not only in our course but also throughout their lives.