

Teaching Statement

My teaching experience started as a state certified tutor in the Academic Assistance Resource Center, developed as a student of the Secondary Education Department at Stephen F. Austin State University (SFASU), and matured as an instructor of various collegiate mathematics courses along the way. I was offered my first teaching opportunity as a graduate student in the mathematics department of SFASU. Since that time, I have found instructing math students both stimulating and rewarding. As an instructor, my goal is to motivate the material, connect the content, and evaluate the effort in order to guide students toward mastery of a particular mathematical subject area.

Motivation for a mathematics concept is important for learners, especially young adult learners. Students often inquire, Why are we learning this? Whether this is due to a lack of effort or, on the other hand, an authentic interest in answering the question can be difficult to decide. In either case, however, the instructor's response is the same. Motivate. This can be done a few ways. First, I find that reminding students of the previous lesson and offering a few guided questions prepares their minds for what follows. This is certainly true when the two lessons progress naturally from one to the other but does not have to be the case. As an example, I might briefly remind students about the geometry and definition of the usual trigonometric functions before I introduce the hyperbolic functions. In this case, there are enough similarities to make a connection to what they have previously learned. Another way I motivate students is to offer a glimpse of what the concept provides in application. For instance, I might begin a lesson on related rates claiming that I can prove traffic officers are guaranteed to underestimate a person's driving speed with their radar gun. This typically sparks enough intrigue within the young drivers to pay close attention to the lecture. An instructor should motivate new mathematical concepts by either bridging the gap to what students already know or casting a practical vision for what the students will be able to do afterward.

Mathematics is by nature comprehensive. Few, if any, math courses consist of unrelated or disjointed topics. Even still, the obligation on instructors to guide students smoothly through curriculum is not trivial and should not be taken lightly. As an instructor, I find an important balance between proof and practice exists when connecting new content to a student's current knowledge. Instructors who neglect one while favoring the other are only selling half the product. Consider the student who merely retains the short-cut for a mathematical concept due to a lack of emphasis on proof in the classroom. In calculus, such a student may be able to find the derivative of a polynomial yet fail to comprehend how the limit of the difference quotient yields the function's slope or how it expresses the instantaneous rate of change. The other extreme can be just as detrimental to a student. For example, the classroom that proves theorem after theorem but never puts them to practice by working exercises tends to not only dislike math, but typically retains less content. Ideally, an instructor incorporates both proof and practice in the classroom by logically and correctly building mathematical theory accompanied with ample practice and application so that students exhibit high retention and maintain interest.

A portion of every instructor's job consists in one shape or another of assessment. Although a class of students may be quite diverse in background or intellect, an instructor must impartially and justly evaluate the effort of his or her students. This includes being a consistent grader. This can be accomplished by establishing a rubric before going through the papers. I find that a good rubric comes from experience in teaching the subject matter by anticipating specific common mistakes by students. Another way I keep consistent on multiple-page exams is by assessing one

page at a time as opposed to one exam at a time. This method also helps identify copied work since sequentially viewing the same problem on each student's exam allows the grader's short-term memory to recognize similarities or notable mistakes. Because some students today are academically dishonest, instructors must have a plan in place regarding their assessment of such students. I consider cheating very seriously and despite taking measures to inhibit it from occurring in my classroom such as alternating-form exams, I watch closely for wandering eyes and suspicious behavior. In short, instructors must exhibit fair, consistent, and stern assessment of their students in order to be successful.

I have had numerous opportunities to teach mathematics, yet of all the characteristics that I have found useful in the classroom, humility is at the top. First of all, humility in adhering to a supervisor's feedback after attending a lecture promotes improvement. In addition, humility in admitting to have made a mistake on the board prompts respect from the students since they see that their instructor is not perfect. I have much to learn, yet my ambition as an instructor remains to motivate the material, connect the content, and evaluate the effort. I look forward to improving as a mathematics instructor and learning what I can from more experienced faculty for years to come.