Teaching Statement

Christopher D. Walker

“Mr. Walker was very helpful during discussion and office hours. He made sure that we not only understood the material we were learning, but he even discussed the origin of it.”
Calculus Student

“He has helped me to better understand the material, and create context for the concepts taught in class. I think that was the most important part of the class.”
Calculus Student

“Awesome teacher. has good real life applications.”
Math Education Student

“He gives us different ways to think of formulas so that we don’t even need to learn formulas.”
Math Education Student

“I am glad that I got his class because I actually understand the concept of each problem”
Calculus Student

These student comments exemplify my teaching style and philosophy. There are many things I have learned in my years of experience teaching mathematics, the most important of which is making a connection with the students through good explanations, real examples, and enthusiasm for the topic. Within this context, I would like to describe my experiences, my successes, and my overall philosophy on teaching.

One of the biggest strengths I have as a teacher is my depth of experience teaching in very diverse environments. The first way in which this is evident is the levels at which I have taught. My first teaching job was as a junior high and high school math teacher at Victor Valley Christian School. Here, I developed my teaching skills while covering topics from basic mathematics and pre-algebra to algebra and geometry. After deciding to attend graduate school, I next began teaching as an adjunct instructor at Barstow Community College. In this role, I primarily taught remedial math courses like arithmetic, introductory algebra, and intermediate algebra. I also taught a college geometry course for Riverside Community College. While in graduate school at UC Riverside, I worked as a T.A. for courses including pre-calculus, calculus, and upper division math classes. During each of the four summers I also served as the primary instructor for various calculus courses at UCR.

The second way in which I have obtained experience in teaching diversity is from the different types of the students I have had in my classes. At UC Riverside, most students fall under the category of traditional college students. As a contrast to this, the students I teach at Barstow Community College are anything but traditional. I have worked for more than four years at a satellite campus for the college on the local Army base. At this location, almost all the students are either enlisted in the Army or a family member of a soldier. These students have normally been out of school for some time, and are seeking to return to school in hopes of beginning or advancing
a career. Also, the socio-economic and cultural makeup of the student population at both of these schools is highly diverse, due mostly to the variety of cultures that live in the Southern California area and the transitive nature of life in the military. Through these experiences, I have learned the importance of knowing the audience when teaching any math course. Specifically, I try to tailor the examples I use to fit the potential applications of the students in the class.

Throughout my career as a teacher, I have embraced the use of technology in the classroom. While working at the junior high level I applied for and received a grant from a local service organization to purchase a mathematics program called Geometer’s Sketchpad for our computer lab. This program allowed me to teach important concepts through self discovery, and show students how the math they were learning in the classroom translated to computers and visual applications. I have also used this program, along with others like Maple and Mathematica, in college level classes to provide visual demonstrations during lecture. As another example of how I have used technology in the classroom, I have recently made use of several web based homework programs including WebAssign and MathXL. I have found that these programs, when used in correlation with other assessment techniques, provide students with better feedback throughout the learning process, instead of just giving feedback after an assignment is turned in and graded.

I have always thought of assessment in a math course as not just a tool for measuring student work, but an important step in the learning process itself. As a result, there are several things I do to facilitate a students development through assessment. During the last few summers, I have been assigned as a primary instructor for different levels of calculus. In organizing these courses, I was responsible for directing teaching assistants that ran the weekly discussion sessions. These discussion sessions were scheduled for two hours at a time (longer than normal) so time management was very important. To solve this problem I came up with a system of assessment which broke up the time into smaller, more productive pieces. During the first forty minutes the T.A. would review the material from the week and answer any students questions. After this, the students were given a few sample problems to work independently for fifteen minutes. The T.A. would then ask several students to provide their answers to the class, and then discuss what was done right and wrong. The class would then end with a quiz based on the week’s material. This system of teaching, assessing, re-teaching, and re-assessing served the students well. Many students commented that they felt much more prepared for the quiz because they were assessed informally on the material before the quiz.

This process grew out of a similar approach I developed while teaching remedial math classes at the community college level. When teaching students who have struggled most of their life with math, it is important to help the students build confidence. I try to provide this confidence to students in small steps. The first step is to teach a basic concept and then immediately give them the opportunity to try it themselves. Even if they get it wrong, I encourage them to find the steps they did correctly and try another similar example. Next, I let them attempt the homework outside of class, and then at the beginning of the very next class we review and check for understanding of the same concept. The students are then quizzed on this material, and the quizzes are graded and returned immediately before the next new concept is discussed. This entire process is designed to give the student many opportunities to demonstrate understanding and receive feedback on their progress. It does not always happen immediately, but over the course of my classes students always comment that they feel much more confident about their abilities at the end of the class than when they started.
Outside of the classroom there are many things I do to improve my teaching techniques for the benefit of the students. During my third year as a teaching assistant at UCR, I was selected to be a mentor for the incoming first year graduate students. In this role I work with six other outstanding teaching assistants to provide guidance and training for those new to teaching. One important thing I learned while doing this is that everyone has room for improvement. When observing other teaching assistants for evaluation purposes, I don’t just look for things they are doing wrong. I also would look for things they do that I could integrate into my own classroom. This process has been an important experience in building my teaching style, and still helps me develop further on a daily basis. Also in this capacity as a mentor, I had the opportunity to serve on several textbook selection committees for the department. During these meetings we evaluated and discussed the merits of the options available, and were successfully able to select textbooks that best suited the needs of our students.

As my career in teaching moves forward, I hope that I can continue to grow as an educator. Teaching mathematics has greatly enhanced my appreciation for the subject. I hope that I can serve students at a new institution the same way I have in my current positions. I look forward to the opportunity to speak with the hiring committee and discuss in more detail the skills and knowledge I can provide as a teacher in my next position. In the mean time, you can access even more information about my teaching at my online teaching portfolio (http://math.ucr.edu/~cwalker66/Teaching_Portal) where you can find all of my past evaluations and student comments.