TEACHING STATEMENT

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My teaching perspective mirrors my background in mathematics. Several years learning and instructing mathematics has taught me to be a problem solver – how to analytically interpret a given problem, create a plan of attack, and support some conclusion based on evidence. My goal as an instructor is to not only encourage students to become independent thinkers, but to acknowledge the precarious yet rewarding process of reaching a final answer. I strive to foster independence in the classroom by highlighting diverse thought and personal growth for students as well as myself.

While specific objectives for each course differ depending on student demographic, the underlying design of my courses remains the same. The key component is to establish measurable outcomes for each course and construct activities centered around these outcomes. This way, students may gauge personal progress at any given time. For example, my course syllabus contains a list of broad learning objectives, but I later provide a more detailed list of learning objectives for each unit. Students may refer to these throughout the semester and these lists provide a starting point for student review.

Two instructional methods I use every day are warm-up questions and think-pair-share examples to complement the lecture. Warm-up questions enable students to focus attention toward mathematics and ease into a class rather than jumping face first into lecture. This may also serve to clear up any subtle details or questions from a previous class or to provide a motivating example for the days topic. Think-pair-share examples allow students to investigate a concept on their own, but it then gives them room to explore further by communicating diverse ideas with peers. During the think and pair portions my role is to listen and mediate. When we come together to share, I use what I observed earlier to determine whether to ask volunteers for a solution or to address any common concerns.

Oftentimes students attempt problems unaware of their own process of reasoning. In my single variable calculus course, students created a concept map to illustrate their own mathematical process after the first unit. A concept map is a network of ideas where connections are made into a web by linking ideas together using lines. After creating their map, students wrote a short reflection on how they might fill in any potential gaps and improve their process moving forward. This exercise in metacognition guides students toward self-reflection in a visible way. As evidenced throughout the rest of the course, students became more aware of their thought process.

One aspect of teaching I find particularly essential is encouraging student growth over the course of a semester. In my most recent course, students completed weekly quizzes to certify formal practice by demonstrating their entire process on paper. I graded the quizzes with the majority of the points allotted toward reasoning, rather than the end result. This structure enabled students to receive formal feedback from me as the instructor and allowed some room for future improvement on extra credit quizzes and subsequent tests. However, in the future, I will replace quizzes with weekly homework portfolios graded in the same manner. Students will be assigned problems to turn in every week and can resubmit a certain number of problems for regrading later in the semester. The advantage is that this flexibility provides further room for growth. This incentivizes students to continually reevaluate their work and demonstrates that failure is productive more often than not.
In support of self-evaluation, I continuously seek to improve my teaching methods in several ways. In all my courses, I ask for feedback regarding instruction early in the semester. This is always a helpful way to efficiently assess myself and adapt accordingly. Additionally, a large part of my perspective has been shaped by my ongoing participation in professional development opportunities. Each of these activities has led me to connect with a diverse set of educators in different areas of study. I will continue to participate in such events and look forward to further development through this collaboration.

My goal is to develop students to be analytical yet flexible thinkers. My ultimate hope is that they then apply these skills to life outside the classroom. Through a series of active learning strategies and classroom reflection, students will cultivate the ability to interpret a problem and form a sensible approach to each problem they face.