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Teaching Statement

The inspiration to teach came while an undergraduate at U.C. Berkeley. Every Tuesday and Thursday I tutored calculus, trigonometry, linear algebra, and differential equations; but one day a student came in for help in topology. What a treat, to have the opportunity to explain those abstract concepts I had worked so hard to master! I decided to pursue a Ph.D. in mathematics so I could teach the entire undergraduate and graduate curriculum.

The mathematics program at the University of Oregon provided an ideal environment for me to realize my dream. I taught my own class every term for six years. Effective teaching of mathematics, I learned, comprises a huge number of components. It would be impossible to list all of the factors I now incorporate in my classes. There are, however, a few aspects which I have come to regard as most important:

1. A clear lecturing style.

In order to present a concept clearly, I focus on the following tactics:

- Explain what each concept will be about, then use examples and illustrations to demonstrate the concept, and finally restate the main ideas. Always connect new ideas with familiar ones.
- Choose uncluttered examples which will emphasize difficult concepts clearly. Let students figure out the details on their own.
- Identify with students' thought processes. Pay attention to how they are absorbing information *in class* as well as in writing. Continually reevaluate the pace, the examples, and the order of presentation. Listen all the time.

2. A positive classroom atmosphere.

Even in struggle there can be great satisfaction. I seek to involve as many students as possible in class discussions. I encourage them to become aware of their own approach to a problem and to share their ideas. For this to happen it is essential to maintain an inviting, enthusiastic attitude toward all questions, both from students and to students. I praise their efforts while gently correcting errors.

3. Going beyond the lecture.

Like me, most books on teaching effectiveness will place lecturing skill at the top of the list. Nearly as important, however, are several aspects which often take place outside the classroom. For instance, I consider it part of my job description to help students learn to think mathematically. Aside from the actual subject material, I provide instruction on how to convey mathematical ideas logically on paper, on exactly what "show your work" means, and on how to get information from a textbook. Some of my greatest teachers were ones who personally reached out to me. I care deeply about the education of every one of my students, and I go to great lengths to make sure they know it.

Finally, and perhaps most importantly, one must convey the joy of mathematics. Arguably the most essential question to answer is not, "Why is this concept *important*?" but "Why is this concept *great*?" When students ask, "What's math good for, anyway?" I tell them that aside from its myriad applications in biology, chemistry, physics, economics, statistics, and every other science, math is good for expanding their brain to understand abstract concepts. I think of it as weight-lifting for the mind.

No one is perfect at teaching. Over several years I have continually sought to hone my skills, but I will never be above questioning, refining, and learning in the classroom. Now an assistant professor at California State University, Fresno, for instance, I have had the opportunity to develop and teach a new course, Calculus with Review, and to incorporate a greater variety of learning formats in all my classes, including lecture, workshop, use of technology, group activities, and group projects. I hope to continue to improve my methods in all aspects of the teaching and learning process.

I find teaching immensely rewarding. For me, the most satisfying aspect of teaching is to see, in students' faces, the light of understanding. It is an honor and a joy to bring a great concept to their attention, and to see 35 simultaneous flashes of epiphany.