
Teaching statement

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Although my present position is a research-only postdoc, I have gained experience as a teaching assistant and mathematics instructor at all college levels as well as for underprivileged high school students entering college. In addition, I have taught classes for graduate students preparing for their qualifying exam in geometry and topology, and seminars directed mainly at graduate students at Seoul National University.

The following is up to minor modifications a teaching statement I wrote during my final year as a graduate student. I believe that I still value the same principles regarding teaching, and I am looking forward to more time spent in the classroom.

Teaching philosophy and teaching statement

What can I provide to my students that their textbooks cannot? Why do they come to my classroom, and what are their goals and expectations? At the University of Wisconsin-Madison, I have taught many classes as a lecturer, while others were in the lecture-discussion format with divided teaching responsibilities. Guided by the above and similar questions, I have developed my own teaching philosophy, which I continue to reflect on to further improve as a teacher.

At UW-Madison, teaching assistants are predominantly assigned to lower level math classes featuring few to no math majors. From my students I learned that their primary concern is often to acquire basic math skills, and to pass the course with an acceptable grade as part of the requirements for their various majors. Regular quizzes serve my students as a measure of how well prepared they are for exams, and at the same time provide me with valuable feedback. Periodic teaching evaluations indicate I was often successful at adjusting the pace and mathematical depth of my teaching to my students' needs and abilities. I applied a similar rationale to the graduate student course I taught during my last summer at UW-Madison. Based on my students' responses, I was running it mainly as a problem solving class, explaining the main steps in detail, and making additional remarks for advanced students.

One of my key principles for teaching courses with a small number of students is to create a good learning environment. In my opinion that means an informal atmosphere in which everyone is encouraged to ask questions, participate directly in solving problems, and answer questions posed by me or their peers, rather than

listening to me lecture for an entire class period. I promote this atmosphere by interacting with students before, during, and after class in a cheerful and outgoing manner, and by promptly learning all of their names. I believe this to be instrumental in helping my students quickly overcome their initial hesitation to speak up, interrupt me, or correct mistakes I occasionally make. I demonstrate excitement about the course contents, which invites my students to become more interested in the material themselves.

In my experience participation can be low from time to time, and working only with the brightest or most confident students may discourage others, while calling on individual students may embarrass them, up to a point where they may feel uncomfortable to come to class. I experimented with the idea of calling on small groups of students, and I found it to be so successful that I adopted it as a much-used classroom technique. I believe this takes the pressure off individual students, yet also gets more quiet students involved. It can also give a sense of accomplishment to more insecure participants and increase motivation. A high level of participation also gives me vital feedback about students' understanding of the current material, and a chance to constantly review previously covered sections and ideas when necessary. My enthusiasm, humor, and encouragement to the above means of participation have frequently been positively commented on in teaching evaluations. "Stefan makes math fun and exciting," as one student put it. In turn, I gain motivation from positive student feedback, whether it takes the form of comments on evaluations, an email sent at the end of the semester, or former students greeting me long after their finals, and I take pride in their achievements.

My second teaching assignment was to lecture a course in trigonometry. I made a number of mistakes during that semester, but I also realized what could be done better, so I requested to teach the same course again in the following period. My experiences and student feedback have profoundly influenced my teaching philosophy, and I feel I succeeded in improving my teaching. This is partly confirmed by consistently high evaluations. I went on to teach several summer courses with sole teaching responsibility, including drafting the syllabus, designing course and grading policies, and writing the exams.

I understand that different class models will be a new challenge in the future. I plan to give my students early unofficial evaluation forms with plenty of space for individual comments to help me learn how to better serve my students, and to make myself available to students outside of class. I can also imagine taking over an assistant's discussion section for one day to get to know my students better, and to obtain additional feedback. I am also eager to learn and develop, in collaboration with my colleagues, new and modern teaching strategies.

The past several years have in particular allowed me to realize that I enjoy being a teacher, I find it very rewarding, and I am looking forward to making it part of my career.