TEACHING STATEMENT

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Teaching philosophy. In the eyes of most students, mathematics is difficult to understand and master. The goal of teaching is to help students to know what mathematics is about, especially what theorems say, understand why theorems hold and know how to apply mathematics concept to solve problems. These facets constitute my teaching philosophy. First, mathematics is usually abstract and concise, which is not easy to understand for beginners. Teaching allows one to translate highly abstract mathematical theory into an understandable way. Second, to deepen the understanding of what we have learned, for instance, a mathematical theorem, mastering the proof and its inner logic will benefit students so they may see why the theorem is correct. This is especially crucial in advanced mathematical courses, like honors undergraduate-level and graduate-level courses. Third, problem-solving skills are equally important in mathematical teaching. It necessitates students being able to apply prior knowledge to solve not only textbook questions but also real-world problems. Teaching plays the role of representing and guiding students on how to transfer real-world issues to mathematical problems and how to utilize mathematics to solve them.

Teaching style. Before moving to Connecticut, the teaching assistant position at Wayne State University in Detroit, Michigan, provided me with a great opportunity to strengthen my teaching abilities. I took the training course: "Teaching College Level Mathematics"; I was also mentored by a senior lecturer on a one-on-one basis. We were trained in teaching techniques, in-class lecturing practice, and observing other lecturers' classes. Finally, we were evaluated by experienced instructors at the end of the training program. Moreover, I also received training from the University of Connecticut. Such training courses shaped the development of my teaching philosophy in several ways. For example, good teaching starts with sound preparation. To prepare detailed lecture notes, one needs to thoroughly consider the contents of the course, design the strategy of how to introduce the desired topic, and determine the order of presentation in each lecture. In addition to considering the above, I check for understanding throughout my lectures by having students work on problems on their own, asking specific students to come to the board, and cold calling on students. The pace of the lecture is another important aspect I consider to be important. When I introduce important definitions and theorems, I make sure to be thorough and conscientious of my students' understanding and not merely move quickly through it. I also ensure that my lecture pace is slow enough to allow them to follow along versus racing to copy notes, etc. For example, when I discuss z-score and confidence intervals in "Elementary statistics" class, I distribute partial lecture notes leaving several blanks for students to fill in. This saves time for students to take notes, which is a technique I learned from my mentor.

I also aim to get to know my students and demonstrate that I am approachable and personable. Entering a classroom early with a smile and having a small chat or answering students' questions are a good start for each of my classes. I believe such behavior will strengthen the connection with students. It helps to promote an active and open atmosphere in class. Once the class starts, I prefer to spend 1-3 minutes asking about what we learned in our last class. However, I observed that students cannot explain well what we learned in their own words. By reflecting on how my teacher taught me, I realized that good memory is not formed in a short time but requires repeated exposure of some knowledge over a long period of time. Consequently, I frequently remind them

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of what we learned previously during class and summarize what we learned at the end of class. Additionally, I strongly encourage my students to ask questions whenever they get confused during class. I usually told them that their questions benefit all students. To make students remain engaged in class, I walk around from time to time, especially in the back of the classroom.

For assessing learning outcomes, I use a variety of things. In addition to the university comprehensive exams, I use in-class quizzes and take-home assignments are applied to assess students' performance. I have also used online courseware such as Hawkes Learning and/or WebAssign. To improve my teaching skills, I often ask students to write down their concerns and their suggestions on how I may improve, and hand them to me anonymously. This anonymous feedback usually happens after the first exam. It leaves some time for me to adjust and improve. In the "Elementary Functions" class taught in Fall 2019, some students wrote that they wish I could explain some test problems in class. Knowing their needs, I did that for them. This helped me to know what students need most and to make me become a better teacher.

Prospects. For the introductory classes taught at Wayne State University, we focused more on knowing and applying mathematics rather than understanding its fundamentals. In the future, I hope I could have the opportunity to teach some advanced classes, which can show students the beauty of modern mathematics and its fundamentals. In addition, I will experiment more with interactive learning approaches in my classes. I will try more methods to assess students' performance, such as group presentations and group projects. Such group activities will improve students' cooperation and communication skills. Furthermore, I will continue to communicate with other experienced lecturers and professors and to further improve my teaching skill.