

DIVERSITY STATEMENT

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When I was in ninth grade, I attended a summer camp focused on mathematical problem-solving. Out of the approximately one hundred students at that camp, ten were female. At the time I did not see this as being good or bad in itself, it was just one more data point confirming the way things are: in the math community there are just more boys than girls. Before starting graduate school, I did not see this lack of diversity as a problem that can and should be addressed in order to make things better, to give everyone a fairer chance to participate.

I think the math community is like a net pieced together bit by bit. There is a delicate balance of human interaction that causes a person to make the math community their home. Math on its own is not enough. The communication of mathematics is always in the context of communication between people. You choose to stay in mathematics, in most cases, only if you are lucky enough to have teachers at each step along the way who provide a welcoming, supportive environment.

Giving everyone a “fair chance” doesn’t mean treating everyone the same—it doesn’t mean letting the loudest voices always speak the most. It means actively confronting the imbalances from social biases and differing backgrounds, to prevent students feeling excluded before they even get to the classroom. In my time as a graduate student, I learned that a crucial part of my role as a member of the math community is to counteract these imbalances in my interactions with students and colleagues, e.g. by identifying students who need extra support and providing that for them.

At the University of Michigan I was lucky to have many positive role models in learning how to address diversity in the math community, from the faculty (including “teacher training / orientation”) and from listening to fellow students. As an instructor in the calculus sequence, a central part of class is facilitating group problem solving. Problem solving allows students to practice their mastery of new material right away. It lets them know they can learn from each other—a diverse group of individuals—rather than only learning from me. When assigning students to groups, I am conscious of students’ personalities. I try not to let a student get stuck in a group who does not allow him or her a chance to contribute. Often this means not putting one female student in a group with three male students, but it can vary case by case—it’s more complicated than that in general.

When I teach I know that some students have quieter personalities, and I take time to still listen to what they have to say. I try my best to “listen” to what students don’t say, since often it is only through non-verbal cues that you can start to build a positive relationship, e.g. when they are confused about a new concept but don’t want to come off as stupid. I encourage students to listen to each other, and through learning to see each other as experts in the subject. If a student is not communicating well in class, or is often not in class, I try to meet with them outside of class to discuss what’s holding them back and hopefully how we can resolve it.

I believe that involvement in small research groups is an important way to support diversity in the math community. In a small research group, it is generally easier for each member to see they are making a meaningful contribution. When I mentored an undergraduate research group, my group consisted of one male and two female students. It quickly became apparent that the male student was the most willing to speak up to answer a question or explain progress from the group. I made a conscious effort to allow the other students to share their ideas, which were valuable to our discussions in most cases, even when they were not as quick to speak up on their own. After the semester was over, one of the female students contacted me about wanting to continue with our project, and with questions about continuing with math in graduate school. She told me that her experience the past semester convinced her that she did actually enjoy doing math research and decided to put more emphasis on this than her computer science second-major.