

Learning is more important than teaching. It has taken me some time to arrive at this conclusion, but I firmly believe that while what I do as a teacher influences my students, it is their learning, not what I say in class, that is of utmost importance. As a graduate student instructor, I believed I was a great teacher. I got along well with my students; I gave organized and upbeat lectures; I was always available to answer questions. However, though more recent teaching experience, conversations with others, and pedagogical talks and workshops, I have come to realize that my ideas of teaching were uninformed and narrow minded. Now I firmly believe that it is what my students are *doing* and not what I am saying that makes all the difference; it is what and how they are *thinking* that should inform my teaching. This is why I am committed to providing my students with active learning experiences, encouraging them through such endeavors, and listening to and learning from their thoughts and ideas.

Active Learning In order to understand mathematical concepts, one must be actively practicing. The expectation of many students entering a math class is that they will listen to a lecture and won't apply any of what was taught until homework is assigned. As much as I love talking about math, I recognize that my students need to be actively participating to make the most of classtime. One way I do this is by staging the examples we do in class as follows: I will work one or two for them; I will then ask them to start one with their neighbor before completing it as a class; lastly I will give them a few problems to work completely amongst themselves. This way they get to begin immediately putting what they learn into practice and identifying what concepts they are struggling with comprehending.

Another way I am able to have my students work actively in class is to assign students a reading assignment to be completed before class. After answering questions and talking about some of the more advanced points, I give my class worksheets to be done in groups. I believe that have them work with their peers can help them solidify their understanding as well as practice them in communicating the ideas to others. I have implemented this in a variety of classes from calculus to abstract algebra. My students have responded well to such activities. A student from my Linear Algebra class last fall wrote in evaluations that "I liked doing worksheets in groups. It helped a lot because I would see mistakes my classmates made and they would see my mistakes too." Another from Calculus I wrote "I liked that not every second was lecture and we got worksheets to 'check our understanding' of the topic we learned that day."

Enthusiasm Since often students believe that the professor should be teaching them in the form of lecture, it is important to be enthusiastic in encouraging students to be willing participants in class and embrace the idea of learning actively. My belief is not unfounded; in course evaluations from the thirteen classes I have been the primary instructor for, my students have expressed that my liveliness in class made the material more interesting and increased their desire to participate in class. One student in particular from a calculus course last year wrote, "Prof. Yarnall was probably the most enthusiastic instructor I have had all semester. She clearly had a passion for the subject which was infectious to the classroom. It caused me to push myself that much more for a class that I would normally be uninterested in." When the course is a positive experience for my students, they will put forth more effort and ultimately be rewarded with a greater understanding.

Learning from Students My students should not be the only ones learning; in my role as an educator, it is important that I assume the role of learner as well. One of the most important ways to inform one's own teaching is to learn what and how students are thinking. When students come to my office to ask questions, it can be tempting to just give them the answers and send them on their way. It certainly takes less time this way but it is not the most helpful for me to be merely telling students how I think about problems. *They do not think the same way I do.* I have found it immensely useful to listen to my students and to learn their thought processes. Thus, I make it a point to ask them about their own ideas regarding a problem before offering any answers. Not only does it assist in helping a particular student but it can inform me about the way many of my students are thinking. Implementing this practice in office hours and one on one meetings has been very eye-opening for me. Not only has it helped me to stay more in touch with my students' misconceptions but it has also made it clear that many times they are actually thinking about the concepts correctly but only failing to communicate such thoughts. When students make the same mistakes over and over, I used to think they were just not listening, but now I understand that so many of them are, they just do not express themselves in a clear fashion.

Future Plans The longer I have been teaching, the more I become exposed to new practices that could greatly improve my own teaching. As such, there are several methods I would like to put in to practice in future courses. One example of a practice I would like to implement in future courses is classroom voting. Depending on the size of the class, this could be done with or without the use of clickers. I think this would work well with a modified flipped classroom where students have a pre-class assignment and then can further solidify their understanding by talking with their peers about the material in class. There are more practices that I am interested in experimenting with and I'm sure that I will come across even more over time. I believe that it is important to be aware of other pedagogical ideas and to put some into practice so that one can continue to meet the changing needs of students. I strive to be a teacher who always sees room for improvement and seeks out experiences to that end.

In addition to future plans for the classroom, I am also very interested in directing research projects for undergraduates and providing general advising and mentoring. Two areas that I am currently conducting research in I think lend themselves well to working with students. I have recently been studying aspects of voting theory and fair division problems. There are many open questions in these areas and undergraduates with a basic knowledge of Real Analysis and Geometry have the tools to tackle some of them. Additionally, I have been actively working with students through the Math Club at Wabash College, guiding a student through an independent study, and meeting with students to discuss math courses and future plans. I have found these experiences immensely rewarding and I hope to continue to foster such interactions with students elsewhere. I am also particularly interested in engaging women in mathematics as I remember the positive effect my undergraduate advisor had on me. She is the main reason I chose to pursue an advanced degree and I would like the opportunity to provide a similar experience for other women. Ultimately, I look forward to growing as a professor and working closely with all kinds of students.