One of my fellow TAs tells me that when I teach I take on the role of the father of my students. While I do not entirely agree with this assessment, I do feel that it highlights my core guiding belief about teaching: The instructor must care about his students’ education. I aim to not only provide a skill set for my non-major students in the lower-level math classes I teach, but also to develop their cognitive skills so that they become better learners and can better apply the mathematics to their own fields. To meet these goals, I employ many active learning methods in my teaching, since I believe that students learn more if they feel some ownership through discovery of the material.

If an instructor does not care about the students in his classroom, he cannot effectively teach them. I do not mean that teachers should make their students’ lives as easy as possible, but rather they should work hard to ensure that every aspect of the course best suits the needs of their students. If the instructor does not invest himself in the class, why should the students do so? I have discovered that the more awareness my students have of my concern for them, the more willing they become to leave their comfort zones and apply themselves to learning. So I focus on demonstrating my concern by exhibiting immediacies: I learn all my students’ names within the first week and employ them as often as possible. I ask about their sporting events, vacations, and other classes. I stop lecture as long as necessary to clear up confusion and questions. In response, my students raise their level of effort in the class and take responsibility to hold up their own end of the educational relationship.

Of course, this friendly rapport with students does not improve their learning unless I have their trust as well. To earn my students’ trust, I treat them as fairly as I can. I hold all students to the rules outlined in my syllabus and mete out consequences as necessary, regardless of whether the student in question has committed previous offenses. So if a student enters class a few minutes late and misses the daily quiz, I do not allow him or her to make it up—without consideration of their previous attendance or performance. When my students see me standing firm, they perceive that I will stand firm when they cannot see my actions as well. Displaying a thorough understanding of the course material plays another important role in building trust with students, which I of course strive to do in all of my classes.

I teach math classes from College Algebra to Calculus. Most of my students come from outside the mathematics department, and enroll because their college or major requires it of them. In such classes, I prioritize the specific skill set of the course (graphing, taking limits, integrating, etc.) as the main learning goal. However, I give close secondary importance to improving the higher-level cognitive skills of my students. They will need these problem-solving and analytic skills when applying mathematics in their future endeavors. A student’s ability to perform a mathematical operation does not help much if the student cannot determine where to apply it. So, for example, I will teach on a variety of different voting methods, conduct an election, and then have my students analyze the
results of using the various methods. Further, by pushing my students to work with the mathematics in contextualized situations, I strengthen their knowledge and understanding of the original material.

I firmly believe that active learning has a much greater effect than passive learning. Students learn by doing—by executing procedures and methods, by encountering and working through difficulties, and by communicating what they do and do not understand. All of these activities result in much greater retention and understanding than I could achieve by lecturing and demonstrating. Additionally, active learning through group work in class synergizes nicely with the rest of my teaching priorities. As my students work in small groups, I move from group to group giving individual attention that I could never provide in a lecture format. This attention demonstrates my interest in each student’s personal education and allows me to develop a closer rapport with each one. Further, the group environment lends itself well to the instruction of cognitive skills. Critical thinking does not come easily, but with the contributions of several members, students can see problems from different angles and better evaluate them.

To ensure the retention of these higher-level thinking skills and to emphasize their importance to my students, I include a take-home portion of every exam. This project requires students to apply the mathematical theory from the unit in some appropriate way. As an example, I once had my students use their understanding of geometric similarity to evaluate the accuracy of some USA Today Snapshot graphics. In general, the topics resemble the group work problems, but often require research of some kind (in the previous example, I provided some graphics and had the students find some of their own). I also have the students explain the relevance of the mathematics to the situation as well as do the actual application. I hope that these projects result in more developed transfer skills in my students, but I have not been implementing them long enough to know yet.

In short, I have high expectations of my students: I ask them to learn the mathematical subject matter, develop their critical thinking, problem-solving, and analytical skills, and then apply all this knowledge and skill to real-life situations. Although my classes require much of my students, I supply them with constant support and guidance, and I treat them fairly and respectfully. In my experience, students respond very favorably to this combination of hard work and caring support.