

## Teaching Statement

**Mohammad Reza Rahmati**

Teaching mathematics has been one of my special and personal interests from long ago, and I can probably say I have taught mathematics while learning it from the first stages in high school to advance levels in university.

Since I first began to tutor classmates in high school, teaching has been an important part of my life. I would be delighted to have the opportunity to teach and mentor students at university. The two most important criteria for helping students gain conceptual understanding are making connections and intentionally struggling with important ideas. The research has concluded that skill efficiency is best attained by rapid pacing, direct traditional teaching and a smooth transition from teacher modeling to error-free practice. I have found that students benefit from working collaboratively on mathematics problems. By working in groups, the students who understand the material benefit by explaining the material to others.

In addition, for students who are nervous about their math ability, talking to other students and realizing that they have the same difficulties as the other students, can greatly increase their confidence with math. My goal, in every class I teach, is to make my students stop and think. I urge them to embrace critical and independent thought, a kind of intellectual responsibility, by engaging deeply with texts and then respecting and analyzing their personal reactions to them.

I believe in democratizing the classroom, so, in a seminar setting, I make it clear to students from the beginning that the onus is on them to lead discussions. I want them to go through the active process of making discoveries by comparing perspectives and disagreeing with each other rather than simply listening passively to the teachers interpretation of a given text. (I also tend to talk openly with my students about creating an atmosphere in which everyone contributes but no one dominates, about maintaining a spirit of both debate and civility.)

Problem solving is used as a means to build new mathematical knowledge, typically by building on students' prior understandings. Students with genuine difficulties (unrelated to motivation or past instruction) struggle with basic facts, answer impulsively, struggle with mental representations, have poor number sense and have poor short-term memory. Techniques that have been found productive for helping such students include peer-assisted learning, explicit teaching with visual aids, instruction informed by formative assessment and encouraging students to think aloud.

In my teaching, I have tried to make the material interesting and understandable to the students, to help the students have confidence in their mathematical abilities, and to show the students that mathematics can be fun. I hope to continue to discuss interesting mathematics with students throughout my career.

*Centro de Investigacion en Matematicas, Guanajuato, Mexico*  
*E-mail address: mrahmati@ciamat.mx*