TEACHING STATEMENT

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Terrel Bell, former Secretary of Education, has this to say:

There are three things to remember about education. The first is motivation. The second one is motivation. The third one is motivation. [C, 171]

But aren’t undergraduate students supposed to be self-motivated? Quite to the contrary: student motivation cannot be presupposed or taken for granted. The consequences of an unenthusiastic classroom, as Terrel Bell points out, can be deleterious. In many ways, motivation is a critical undercurrent in the learning environment and can be a crucial determinant of student achievement.

However, students themselves are often not accustomed to thinking about their own motivation and goals. Many calculus students are first-year students and they may not yet know how to meet real mathematical challenge. Even after acclimating to the college environment, many students are only driven by the nettlesome desire to get a good grade. Research indicates that this “extrinsic” motivation often comes at the expense of real comprehension and learning and can in the long run contribute to a deterioration of the teacher/student relationship. Therefore, in my classes I constantly look for ways to cultivate a positive sense of enthusiasm amongst my students.

To more fully develop my pedagogy along these lines, I participated in a research seminar on student motivation at Berkeley, and I wrote up my experiences in a short article entitled Student Motivation in Undergraduate Calculus: First Thoughts. I found, for example, that students respond strongly to a sense of accomplishment in getting the right answer; this natural response is explained well by the model of self-worth theory, and many practical suggestions on how to utilize this intrinsic motivator follow as a consequence. As a result, I have been invited to serve as a workshop leader and as plenary panelist in the graduate student instructor Teaching & Orientation Workshops offered at Berkeley in the fall and spring.

Every day, my assessment of student motivation informs my teaching. I believe that students reflect the enthusiasm of their instructor; I try to help students see beyond the surface difficulty and to be excited by the mathematical beauty underneath. I provide context, talk aloud about the ways in which students should approach problems, and try to ask good questions to lead the students themselves to a solution, acting as a referee of reasonability rather than an answer book. Research also indicates that students learn better when actively engaged in group work, and I have implemented strategies for successful cooperative learning in my classes, when appropriate.

I agree with Stephen Krantz when he states: “An adequate instructor records the material accurately on the blackboard and then goes home. A truly dynamic instructor interacts with the students, excites their intellectual curiosity, and helps them to discover ideas for themselves” [K, 87]. Therefore in my teaching, I seek to motivate students to engage the course material intrinsically, providing for a deeper understanding of and appreciation for mathematics.

REFERENCES
