

Letter to Martha Roseman, Dean, Academic Advising, Dec. 4, 1995

This note is to elaborate on the comments I made during our telephone conversation of Friday, December 1.

This semester, I have been teaching the course 110.109 (Calculus II: Physical Sciences and Engineering) in the Fall for the third consecutive time. Last year, I took some steps to try to get the students, mostly freshmen, to view the learning of mathematics from a new perspective, quite different from what most high school teachers present. I read to them letters written by a couple of former students who had gotten a lot out of my course, and I held the lectures at what I have come to term “university level”. It eventually became clear to me last year that the problems I’ve had with students in the past resulted primarily from their apparent belief that they were taught at the correct level, or in the correct way, in high school.

Until the end of August, I was ready for a new offensive against their foolish high school notions, when it occurred to me that there was really no means by which the entering students would know what they were tacitly being told by me to do! I also reread the letter from a student in last year’s course, and I was delighted to realize he was asserting that students who keep up as they were supposed to would find the material very easy to understand with the help of my lectures.

I therefore gave a very carefully orchestrated presentation during Week 1, contrasting high school and college modes of learning. I distributed an article I had written (*Lecture courses: my view*), together with letters I had solicited from five of my former students, who were trying to convey to the reader why they had liked my class, and what they had had to change during the course of the semester. Beyond that, I felt some pressure to counteract the poison that would leak to the freshmen from the vicious review of last year’s course in the Spring 1995 issue of *Oraculum*. Fortunately, I felt I was being backed by the Mathematics Department, which distributed in the section meeting of every lower-level math course, on the first or second day of classes, our Survival Guide for students, to which is appended another of my essays, *Mathematics at the University Level*.

I chose to take a very forward poise in that week, and I know it offended some of the students, who labelled me “egotistical” in a departmental survey. However, I believe that the net effect was positive. A few weeks into the semester, it occurred to me that I could describe what I was doing that first week as engaging in academic orientation for my own students. Of course, this had to be done by me; otherwise, half the class would expect grade thirteen of high school, and complain when they didn’t get that. The realization was soon to come: **Why weren’t they getting academic orientation during Orientation Week?!** (Isn’t it amazing how slow we are?)

Here are my impressions relevant to Orientation:

1. An alarmingly large portion of the students have picked up mediocre work attitudes and study habits in high school, and are familiar with little more than spoon-feeding and regurgitation as to what the teacher-student interaction is about. (This is probably most true with regard to mathematics.) The high schools set

things up so that the least talented “decent” student can pass, and this is the standard the entering freshmen are familiar with. Here, if they don’t perform up to the standard we set, they simply fail or, worse, flunk out. My own slogan for the nature of university lectures here has become (by analogy with elementary French): “The material is covered three times as rapidly as in high school, plus we aspire for command of the material.” And they **must** be told, as follows from the slogan, that in college most of the learning takes place **outside** of the classroom, and includes the reading of textbooks for comprehension. I think that academic matters are the most important, and perhaps most difficult, thing the students must adapt to in college, so these deserve to be given high priority in freshman orientation.

2. Many entering students have trouble taking responsibility for their own time, and have difficulty telling their friends such self-centered things as “I want to go to sleep now,” or “I must go and study now.” They need some counselling on this *before* it gets to be a problem.

3. The concentration of Orientation on social issues and events misrepresents the purpose of the students’ enrollment here. One could well argue that the students may be picking up the notion that Hopkins is a social club interspersed with classes, homework and exams.