

Teaching Statement- Edward A. Berry, Ph.D.

Having spent most of my post-post-doctoral career at a national lab, I don't have any classroom lecture experience to speak of. On the other hand the lab is associated with UC Berkeley campus, and we get students from campus coming to do research for honors thesis, supervised research, or the URAP (undergrad research apprenticeship program). Through most of my time at LBNL I have had one or more students working under my supervision, so I have a great of experience in explaining things to small groups in a lab setting. And this is quite useful experience- for one thing the material is seldom prepared beforehand, so I am thinking while I teach. More importantly, there is instant feedback: due to the informal nature of these sessions, if a student doesn't understand what I'm saying he will stop me right away. He won't go off and try to figure it out for himself, or come back during office hours later in the week, or ask the TA what the professor was talking about.

Of course giving lectures involves additional skills, and preparation is important when you have a limited amount of time to convey a certain understanding. I don't think this should be a problem for me. I've given quite a few talks to large groups at national and international meetings. While I'm still not very comfortable in such situations, I think I would soon take classroom lectures in stride. As for preparation, I actually enjoy organizing thoughts and facts into a coherent framework for publication or presentation or my own satisfaction. But no matter how well organized a lecture is, there will always be times when a student just doesn't get something, and doesn't understand the subject well enough to know what it is he doesn't get, and that is when the experience from one on one and small informal group teaching should be invaluable.

My experience with lectures has been mainly from the student side. I remember coming to the realization early in my freshman year that lectures were really a waste of time, except that they forced you to keep up a certain pace and finish the material by the end of the year. Once your reading comprehension is good enough to understand what is written, you could just read the textbook and get the information that way. There is no way, I thought, that some grad student or assistant professor, who is teaching this class because he has to, is going to think of a better way to explain something than the famous scientist who spent a year on sabbatical writing the textbook. But an experience later that year changed my mind. I got up early and studied the section of the math textbook that would be covered in lecture that day. There was a passage of two or three paragraphs that just didn't make any sense to me. I started to worry about this material being beyond my comprehension. But in lecture everything was clear and logical and I understood the concept as well as its motivation. That evening I went back to the textbook to see how the author could have made such a simple concept so abstruse. But now the book made perfect sense- it was saying basically the same thing the teacher had, and I couldn't understand why I didn't get it before. My conclusion is that a lecture, with changes of intonation and

gestures of the hands, can actually add more subtle differences of meaning to words than the system of punctuation used in the written language can.

Another experience I'll never forget- in my senior year, in second-semester P.Chem, the professor was explaining something about the phase rule and I felt that, if there was a point in there, I hadn't gotten it. I didn't have a specific question, and I wasn't in the habit of interrupting the class with questions anyway, but later I met the professor in the hall and asked him about it. He launched straight in to the explanation, and after a sentence or two I realized he was repeating word for word the part of his lecture which I didn't understand. I still didn't get it. So I understand the frustration of a student who doesn't understand what it is he doesn't understand well enough to ask for an explanation.

I was the direct day-to-day supervisor of one of Prof. Kim's graduate students who was paid as a GRSA from my grant. I am serving on the thesis committee of one U.C. Berkeley graduate student, and I served on the committee of a graduate student at U. of Illinois at Urbana-Champaign.