

MY TEACHING PHILOSOPHY

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The essence of mathematics is not to make simple things complicated, but to make complicated things simple. S. Gudder

Teaching has two sides: the teacher and the student. This statement may sound trivial, but I think to be a successful teacher it is not sufficient to be well-versed in one's subject. Rather more important for the students' understanding is the way the subject is presented and how the students feel about the course.

Of course every teacher has once been a student, but it would be foolish to think that everybody learns the same way. I think one of the most important aspects of teaching is to give the students confidence, the feeling that they can learn. This does not mean saying that this will be easy, but to make clear to the students that if they really want, they can (and will) succeed. As a Martial Arts Instructor for adolescents I often heard the statement "I can't do this." So first I had to make clear that they in fact could learn to do it, and that what mainly hindered them at succeeding was their own reluctance.

A teacher should know what the students in his class are required to learn and what background (i.e. what they already know) they have. From this follows the curriculum for that class and in which manner one has to communicate the subject to that class. Different courses require different methods, depending on the students and the goal of the course. In a college algebra class it would be unnecessarily confusing for the students to proof every statement. On the other hand, in a course about, for example, higher set theory the proofs are the main matter and special cases or examples will be most likely assigned as exercises.

But always it is the student who has to work on her/his own in order to really understand and learn the subject. Without going over the notes from the lecture, reading the textbook and working the exercises it is nearly impossible to benefit from a course, and it solely depends on the student to do so. Without the active cooperation of the students no instructor can hope to teach successfully, so he has to try to get them to participate in the class as well as to work independently.

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This means that one of the main problems in teaching is to get the students to want to learn. It would be nice, if every student in every class would be eager to absorb what is offered, but many (most likely the majority) of them took the course only because it was required, not because they wanted. So the teacher has to get the students to want to learn and work for it.

There are many ways to achieve this, I think this is a point where the character of the instructor comes into play most prominently. I always show a certain, not overstated, enthusiasm for the things I want to communicate. I try to show their relevance to the students life and future. By encouraging them to think for their own I reach most of my students and manage to wake their interest. I think it is very important to take the students seriously and to show them that I really want them to understand. Other instructors may employ different means to reach that goal. It is very useful to talk with other teachers about how to work with classes and present lectures, it is always good to benefit from the experience of others .

When teaching mathematics I try to confer to the students the logic that lies behind all mathematics. The curriculums for most courses demand that certain definitions and methods/receipes are taught and so it is often required to cover a lot of material in a rather short time. But I think, even then, and especially in undergraduate courses it is important to show the students how mathematics works and how to think logically. I wish to teach them not only to use the methods and to be able to solve the kind of problems they learned about, but also to be able to think about any problem analytically, to be able to use their math, their logic in the real world, not only in the classroom.

These are my thoughts on teaching and I try to apply them whenever I am instructor for a course. I do not believe that there is a perfect teacher or a perfect way to teach, but that a good teacher is always willing to learn, especially from his students.

If you trust in yourself and believe in
your dreams and follow your star . .
you'll still get beaten by people who
spent their time working hard and
learning things and weren't so lazy.

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¹from: "The Wee Free Men" by Terry Pratchett