

How to Teach Stuff

John Baez, January 23, 2006

- **Teaching is Like Acting** – you’re standing up there on stage making us watch you: you’d better be worth it. The closest professions to teaching are stage acting and stand-up comedy. Learn how they do it.
- **Tell Us a Story** – people understand stories better than anything else; take advantage of it. You’ve got a conflict between bad guys (problems) and good guys (concepts, theories and techniques). Introduce the characters when they walk on stage. Build up suspense through a clear story line. When the good guys win, cheer them on! Foreshadow the future; review the past.
- **Keep the Sheep Moving in the Same Direction** – a lecture should have a clear and simple plot. Avoid anything that distracts from this. Don’t make too many points. Don’t be afraid to repeat yourself.
- **When You’re Teaching a Subject, Don’t Think About That Subject – Think About Teaching** - don’t focus on subtleties that interest *you*; focus on your audience. Do your preparation *before* class. Be here now.
- **Illustrate the Movement of Thought** – people learn by example. Don’t just provide an algorithm for solving a problem: act out how your students could discover how to solve it! Illustrating mistakes is just as important as showing how to do things right.
- **Break Down the Barrier Between Stage and Audience** – ask them questions, get them to ask questions, get them to work problems, and above all: don’t let them fall asleep. If they start yawning, throw a piece of chalk in their mouth. Learning is not a passive business.
- **Keep Learning How to Teach Better** – There are many levels of skill. You’ve only reached the top when huge crowds batter down the door to listen to you whenever you speak. If you stop trying to be better, you’ll get bored and your audience will too. Teaching is more fun when you put more energy into it.
- **Teach the Students You Have** – not the ones you wish you had. If you get annoyed at students for being insufficiently prepared, or not as smart as you, you’ll become a grumpy old fart – just like some of the lousy teachers *you* had.