Effective Classroom Teaching

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Why Bother being a Good Teacher?

Good teaching is hard work.

Most expository talks are terrible.

Not adequately rewarded at most universities

Do it for the students.

Take personal pride in your teaching.

Good teaching will help you give better talks, and write better papers.

Amortize your Teaching Efforts

The first time you teach a course, it will take most of your time.

The second time will take far less work.

Select courses with sufficient demand that you can teach them repeatedly.

Be Prepared

Know material cold. Don’t think on your feet.

Do the reading you assign.

Present examples, examples, examples.

Present sample executions of algorithms.

Worked them out in detail ahead of time.

Go from simple to complex, concrete to abstract.

Textbooks

Most students don't read them.

Your lectures should be self-contained.

Consider only an optional text.

Detailed lecture notes are best.

Presentation Media: Power Point

Very powerful medium

Requires enormous preparation time

Most time is spent on bells and whistles, instead of thinking about what to present.

Presentation Media: Overhead Slides

Less preparation time

Presentation is somewhat canned

Give printouts to students, or put on the web.

Reduces incentive for students to attend class

Presentation Media: Blackboard

Live presentation

Easier to prepare, requires more skill to deliver

Students take notes, which helps retention.

Notes are often verbatim copy of board.

Write down everything important.

Write neatly and plan blackboard use.

Class Participation

Call on students by name.

Ask questions. Wait for an answer.

Don't tell them anything they can tell you.

Keeps you from losing entire class

Shows students that others are understanding

Best way to learn something is to discover it.

Office Hours

Students are intimidated. Put them at ease.

Physical arrangement matters.

Use Socratic method.

Only tell them enough to allow further progress.

At the board, make them do the work.

Homework Assignments

Try to make problems meaningful.

Avoid cultural biases.

Write complete solutions before any assignment.

Hand them out afterwards.

Develop and refine homeworks over time.

Designing Exams

Most new teachers make tests too hard.

Have TAs pretest all exams, completely.

Making good questions is hard.

Refine test questions, reuse after several years.

Don't allow students to keep exams.

Make questions as independent as possible.

Consider gradability of questions.

Multiple choice vs. essay

Proctoring Exams

Proctor exams yourself.

Pay attention. Don't leave the room.

If someone's eyes wander, look right at them.

If you think someone is copying, ask them to move to another seat.

Make note of suspect exams, check them later.

In any case, let students finish their exam.

Grading

I grade exams, TAs grade homework.

Consistency is important.

Grade carefully, and defend your grades.

If you make a mistake, change the grade.

Don't accept appeals of subjective judgements.

Academic Dishonesty: Why Bother?

Cheating is rampant in college.

Many faculty ignore it.

This is unfair to honest students.

Student morale suffers.

Students need to learn not to cheat.

If you ignore it, you can't give much credit for homework.

If you don't give much credit for homework, students don't do it.

If they don't do it, they don't learn much.

Academic Dishonesty: What to Do?

Know your university's policies and procedures.

Tell students in writing what the standards are, and the penalties.

UCLA suspends students for a first offense.

I let students work together, but they have to acknowledge each other, and write up solutions independently.

They have to sign and return an academic honesty policy form.

I pursue violations vigorously.

Social Relationships with Students

Don't date students in your class.

Don't socialize with students in your class.

Don't appear to favor any student over another.