

## Connecting your Teachers to your Courses: What Can We Learn from Statistics Departments who Have Statistics Teacher Training Programs?

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“Preparing Graduate Students to Teach Statistics”, February 2005, pages 1-18.

Introduction article by David Moore

- ❑ How do we teach? Good evidence that “active learning” strategies are superior to the “information transfer” model.
- ❑ Effective teaching strategies place a greater burden on the instructor.
- ❑ Whom are we training? Have to be sensitive to the diversity of the population of graduate students.
- ❑ What should we do?
  - “Don’t shield your eyes, plagiarize.”
  - Training programs should model good instructional practices.
  - Need to have regular monitoring and mentoring of instructors.

Model programs

“A Course in Teaching Statistics at the University Level” at Columbia University

- ❑ Combines practice in statistics demonstrations and drills, discussion of teaching strategies and feedback on classroom teaching.
- ❑ A memorable first day of the teaching-statistics class.
- ❑ Practical advice and review of research findings on teaching methods.
- ❑ Students eventually prepare demonstrations or drills to share.
- ❑ Group discussion on good and bad teaching styles, ways to encourage student involvement, testing and grading, etc.

“Training Statistics Teachers at Iowa State University”

- ❑ Beginning assignment of a graduate student is as a laboratory assistant or grader.
- ❑ Assist in activities in the laboratory setting.
- ❑ Later the students will become instructors of their own courses. Department has many resources to help them including a teaching manual, homework assignments and answer keys, files of old exams, and outlines of lecture notes.
- ❑ Weekly meetings for all course instructors, discussing common difficulties.
- ❑ Instructors are evaluated both by class visits and private meetings.

### “Training Graduate Students at Penn State University in Teaching Statistics”

- ❑ Description of Stat 200 consisting of computer labs and large group meetings (LGMs).
- ❑ Students are given greater responsibility for learning including weekly reading and homework assignments, readiness assessment quizzes, and work in computer labs. (TAs are not used in teaching Stat 200.)
- ❑ All new TAs take a course “Communicating Basic Statistical Concepts”. This helps to assess the TAs’ knowledge of statistical concepts, give them practice on some of their TA duties, and give them some oral communication experience.
- ❑ TAs serve primarily as lab or course assistants.

### “TA Training at Virginia Tech: A Stepwise Progression”

- ❑ Expose TAs to sound teaching principles through their own graduate coursework
- ❑ Training in and practice in statistical consulting.
- ❑ Graduated system of teacher training:
  - Paper grading
  - Teaching a recitation section of introductory statistics
  - Teach an introductory class with full responsibility
- ❑ Course coordinator aids instruction by sets of notes. Blackboard used in class management.
- ❑ Mid-semester and end-of-semester student evaluations.
- ❑ Hope for a teaching director to be in charge of mentoring TAs and coordinating training.