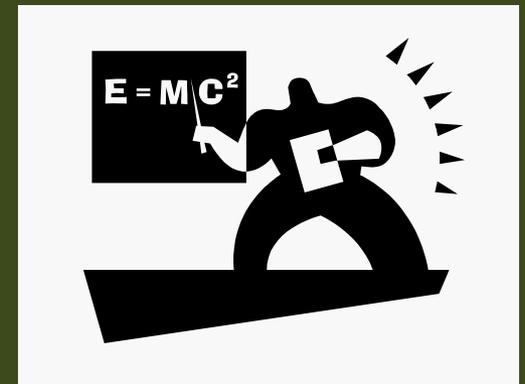


Professional Development for Teaching Assistants

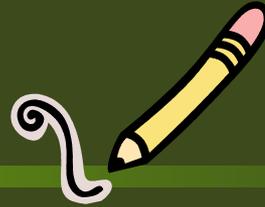
Jen Docket & Paul Knutson

February 16, 2006

Discussion based on Elaine Seymour's
book *Partners in Innovation*, © 2006



Historical Notes



- **1876** - In an inaugural speech given by the first president of John Hopkins University, Daniel Coit Gilman communicated his “pious hope that graduate schools would help to develop the teaching ability of future professors”
- **1947** - The President’s Commission on Higher Education made the statement,
 - *“College teaching is the only major learned profession for which there does not exist a well-defined program of preparation directed toward developing the skills which it is essential for the practitioner to possess”*
- **1986** – First national conference on TA issues; led to the widespread development of orientation programs in an effort to improve the quality of undergraduate education
- **1990s** –  Training  Professional Development

Rationale for TA Teaching Preparation

page 248+

Why the increased interest in TA teaching preparation after 1960s?

- Professional development extends beyond graduate school into their early faculty career (and beyond!)
- Accelerated increase of content knowledge in every discipline
- Increased diversity of the student body
- Research on cognitive psychology and pedagogy now exists
- TAs often feel anxious, overwhelmed, unsupported, and frustrated as a result of inadequate preparation before they begin teaching.



Nature of TA Prep Programs

- **Most common (page 250):**
 - Generic 1-2 day presemester workshop
 - orientation to university policies and procedures
- **Content-specific departmental workshop**
 - Role modeling & practice teaching
- **Semester-long course on pedagogy for credit**
- **Professional development seminars throughout the semester**
- **Mentoring, monitoring, & evaluation (self-reflection component)**
 - Occasionally co-teaching with a faculty member
 - Videotaped feedback and review with an education specialist



Research Literature

page 252

- There exists little evaluation data on effectiveness in meeting needs of TAs or in student learning
- Review of findings from 13 evaluation studies by Abbott, Wulff, & Szego (1989)
 - Components of TA preparation that were significantly related to TA effectiveness:
 1. Providing TAs with student ratings of their work as the course progressed & consultation or interpretation of the ratings with faculty
 2. Self-evaluation / developing the ability to be self-reflective
 3. Consultation with an education specialist based on video tapes of the TAs' teaching work
 - Other important outcomes of preparation:
 1. Increase in TAs' disciplinary knowledge
 2. TAs' awareness of findings from education research



Innovative Course Preparation

- Formal Course on Pedagogy (p.262;256)
 - Theories of conceptual change
 - Alternative pedagogies
 - Problem-solving strategies
 - Approaches to inquiry-based or cooperative learning
 - How to structure a class based on student learning objectives (appropriate pace)
 - Addressing students' common misconceptions
 - How and when to pose questions to students
 - Being aware of & avoiding gender bias



Weekly Meetings

Page 259, 269-275



- A teaching-oriented, collaborative relationship between TAs and their supervisors is “critical”
 - Some TAs suggest meeting without the professor first
- Troubleshooting problems
 - Labs, technical issues, grading, disciplinary matters, test preparation
- Planning
 - preparation for upcoming labs, recitation/ discussion sessions
 - Students’ level of preparation from lecture material
- Maintain uniformity within a course

TA perspectives on “effective instruction”

Page 253

- **Before receiving educational preparation, TAs list:**
 - Being knowledgeable in the subject matter
 - Delivering well-organized lectures that stimulate student interest
 - Grading fairly
 - Returning work promptly
 - Being available to students seeking help
 - Knowing students' names
- Many TAs believed that students learn by “solving problems on their own” (McGivney-Burell et.al)



Persistence of traditional practices

Page 256, 252

- Institutional & cultural attitudes
 - Faculty model traditional forms of teaching
 - The academic community holds on to the traditional assumption that “knowledge of subject matter is a necessary and sufficient condition for being a university faculty member”
 - From their experience, most TAs believe lecturing is the most effective pedagogical method – and often resist adoption of alternative pedagogies



[TAs will teach as they were taught,
unless...]

- They are exposed to knowledge, education, and experience in:
 - Active
 - Interactive
 - Supportive
 - Collaborative
 - Constructivist and
 - Inquiry based learning



Conclusions

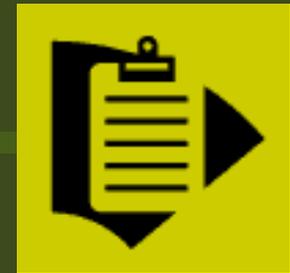
Page 278

- “It is critical for the success of innovations in undergraduate educational reform that are based on some combination of the above pedagogies that TAs receive professional education in their theoretical basis and use” (p253)
- TAs need formal preparation and support for their teaching
- TA educational programs must begin before the start of each course and continue throughout them



Specific TA needs

Page 253



Content-specific knowledge and PCK:

- Deep understanding of their own discipline
- Appreciation of interdisciplinary connections and the application of knowledge

Educational knowledge and skills:

- Skill in using interactive and team-based pedagogies
- An understanding of how students learn
- Knowledge of instructional design and assessment techniques
- An appreciation of what promotes diversity (how to utilize and benefit from diversity within a class)

Communication with others and opportunities for self-reflection:

- Facility with interpersonal interactions (strong collegial relationships with students, professors, and other TAs)
- Opportunities to give and receive feedback (mentoring)

Preparation for UM Physics TAs



- What do we currently do?
 - Extensive department-specific TA orientation before semester begins
 - TA responsibilities (grading lab reports, facilitating a class discussion, writing context-rich problems, implementing a problem-solving strategy, etc.)
 - Physics course structure & nature of students at UM
 - Readings from educational research
 - Modeling, and practice teaching with feedback
 - University policies
 - Weekly TA seminar course throughout semester
 - Discuss teaching issues
 - Lab preparation with peers
 - Observation & teaching feedback from mentor TAs
 - Weekly team meetings with professor and TAs of a course
 - Co-Teaching arrangements for some international TAs

[Ideas for TA
preparation here:

