Initial Impact of Integrative Physiology Teaching Assistant Training

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Background & Goals

Problem: The Department of Integrative Physiology (IPHY) was lacking a formal Teaching Assistant (TA) training for entering or continuing graduate students.

Solution & Approval: Following review of TA training posters from Chemistry, Geology, and Physics at the SEI Spring 2009 End of Term Event, we submitted a formal request to host IPHY TA training with an IPHY faculty member, Ruth Heisler. Our training would consist two 3.5 hour trainings (over 2 days), the week prior to the start of the fall semester. To ensure sustainability, an IPHY faculty member was involved in the development and leading of TA training sessions.

TA Training Goals

1. To eliminate any anxiety about teaching.
2. To integrate the six principles of learning that are promoted by the SEI (backwards design, expert vs. novice thinking, prior knowledge, active vs. passive learning, professionalism in the classroom, and metacognition)
3. To provide examples of activities that promote a more active learning environment.
4. To provide additional resources on effective pedagogical approaches supported by scientific data.
5. To offer guidance on how to teach with a high level of professionalism in the classroom.
6. To offer suggestions on what to do for the first day of class and provide a useful mix of fundamental "survival" information.

Format of TA training

DAY 1

Section 1: Welcome & Introduction
Welcome Letter
Who's Who in the Department of Integrative Physiology
Schedule of Training
Activity: Getting to Know You

Section 2: Backwards Design
Activity: Strip Sequences

Section 3: Experts vs. Novices
Activity: Cognitive Load

Section 4: Prior Knowledge
Activity: Human Anatomy & Physiology Assessment

A free lunch was provided at the end of each day.

DAY 2

Section 5: Active vs. Passive Learning
Activity: Teaching Philosophy

Section 6: Professionalism
Activity: Case Studies

Section 7: Metacognition
Description
Activity: The Frustrated TA Case Study

Section 8: Supplemental Materials
Survey of IPHY TA Training

*Readings provided for each section

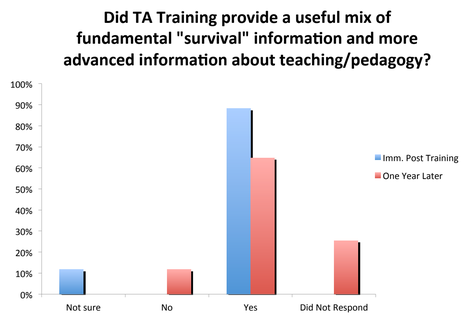
Outcomes of 1st Annual IPHY TA Training

Top 3 training sessions as ranked by the TA's in a follow-up survey

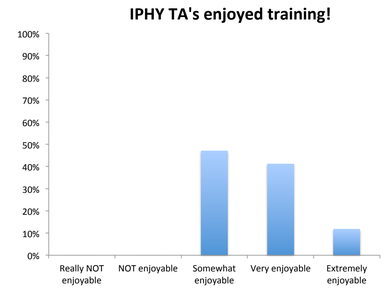
1. Expert vs. Novice
2. Active vs. Passive Learning
3. Professionalism

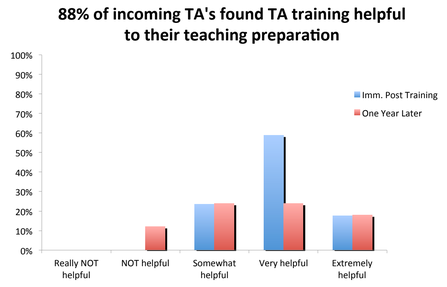
Top 3 desired follow-up training sessions as requested by TA's

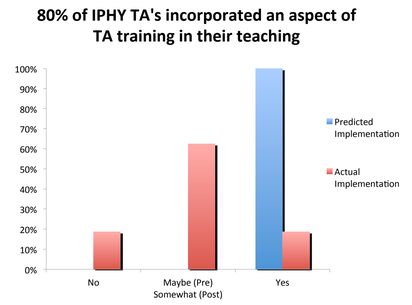
1. Effective Presentation Techniques
2. Active Learning Techniques
3. How People Learn



"Since I knew nothing and had no experience in teaching prior to the fall semester, I had no idea about how to teach a recitation without it seeming like a student presentation every week. The training showed me some ways to engage the students to ensure that they were actively learning throughout each session."







Top 3 ideas incorporated by TA's into their own classroom

1. Using the Socratic method to ask students questions
2. Remembering the 7-bit rule
3. Using Backwards Design when designing activities

Testimonials

"I'm a newbie - beforehand, I had no idea how to go about TA'ing. 60% or more of info covered were things I likely would not have thought about."

"Maybe give specific examples of learning activities for each type of classroom the new TA's will be in (recitation vs lab). How does a lab TA incorporate concept maps or strip sequences or clickers. Are there activities that are more suitable to a particular setting?"

"Gave me an idea of what to expect which was really nice for someone who has never taught. Good information on how we learn and how TAs can help utilize what is known about the learning process"

Reflections

Based on feedback from the TA's we will continue…

1. To start our training with a welcome activity that reduces the initial anxiety about teaching, as well as promotes discussion and working in groups
2. To center our training around the 6 principles of learning with active learning techniques
3. To include an IPHY teaching faculty in TA training

For next year's training we will…

1. Provide incoming TA's with course responsibilities for the class they will support along with some course-specific suggestions
2. Encourage IPHY faculty to meet with incoming TA's to discuss responsibilities & expectations.
3. Provide more opportunities for TA's to practice learning activities presented and give a "Top 10 suggestions for a first time IPHY TA"
4. Offer a mid-semester training that allows TA's to further their training during the semester