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Creating Collaborative, TA-centered Weekly Instructional Meetings to Support Student-centered Laboratory Instruction

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In large lab courses weekly instructional meetings are paramount to course communication and uniform lab curriculum delivery, but can become tedious and ineffectual. We identified multiple challenges in our meetings, including: poor efficiency, too much focus on negative student interactions ('venting'), reliance on lecture-style information delivery, decreased meeting value for repeat TAs, poor meeting preparedness by new TAs, and persistent misconceptions regarding lab pedagogy. We addressed these challenges by creating more collaborative, supportive, and TA-centered meetings that focus on student learning. In this session, we shared our methods, rationale, and discoveries in redesigning our weekly instructional meetings. Participants used backward design to develop a plan for implementing TA-centric and learning goals-oriented instructional meetings at their own institutions.

Keywords: Interactive, backward design, instructional meetings

Introduction

Weekly TA meetings (WTM) are helpful in large lab courses to provide a forum for course communication, long-term TA training, consistent lab implementation, and community building. However, we found meeting participants regularly exhibited bad behavior ('venting', poor preparation, digressing), and our WTMs were not effective at demonstrating interactive teaching techniques. In other words, we were not being good models for our TAs. Therefore, we redesigned WTMs to be more positive, interactive, TA-centered, collaborative, and student learning-focused.

Two members of our team independently developed WTM models for their courses using principals of the backward design framework. After one term of experimentation, we found a particular meeting structure yielded positive outcomes consistently across several courses (this meeting structure described in the student outline below). Specifically, it increased community & relationships building (likely due to more interaction than in past WTMs) and less venting. The new meeting structure also increased participation from repeat TAs, reduced requests to miss meetings, and led to greater WTM participation by novice TAs. Furthermore, TAs developed better teaching tools and provided excellent discussions & critiques of each other's tools.

Other benefits included decreased WTM prep time for staff/instructors, more thorough TA preparation for meetings (especially new TAs), increased head TA integration into course leadership team, and increased utilization of active learning techniques by TAs.

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Student Outline

Typical Weekly TA Meeting Agenda (total time: 1hr 30m – 2hr)

1. TAs and instructors share "nice moments in teaching" (5min)
    - Everyone shares teaching successes, uplifting personal interactions, 'clean' humorous moments, etc.
2. Discuss administrative items (5-15min)
    - Focus on items that are a learning opportunity for everyone (e.g. rubric interpretation). Save special student problems for later.
3. Recap of last week's lecture activities and lab (10-15min)
4. Highlight upcoming key items (deadlines, activities, expectations) (5-15min)
5. TA recitation sharing (20min)
    - TA demos concise version of recitation or lab-content activity for the group - other TAs and instructors act as students (important!).
    - Different TA each week. Repeat presenters welcome once everyone has had a turn.
6. Goal-centric lab exploration activity with 2'x 3' whiteboards (30-50min)
    - TAs pair/group up and address one of these prompts. What are (is) the...
        - Learning outcomes for this week's lab?
        - Primary lab activities?
        - Common misconceptions we want to reduce/eliminate/highlight.
        - Lab timeline
        - Typical sticking points & logistic bottlenecks (typically contributed by repeat TAs)
        - Materials needed for the lab
        - Important situational factors (factors to consider specific to the course/week/content)
        - Activities' connections to 'real world' or 'everyday life'
        - Activities' connections to lecture
    - Meeting leader has TAs share the content of their board, and creates cross-dialogue by asking key groups (e.g. sticking points) to interject when others are presenting.
    - Lab activity "nitty gritty Q&A"

Notes for the Instructor

Of the items on the agenda above, 5 and 6 most greatly impacted the 'feel' of our meetings and the preparedness of our TAs. Execution of the whiteboards activity (6) is best done with TAs presenting the items on their list, and having everyone chime in with edits or notable items associated with each. Having a mix of new TAs and repeat TAs allows the activity facilitator to assign appropriate topics to those most capable of handling them.

There were a few drawbacks created by the WTM structure described above. The duration of our WTMs increased by about 15%! Additionally, TAs accustomed to the old meeting structure were averse to the change at first, but fully adjusted or 'bought in' after 1 term. Finally, we saw a decrease in new TA confidence each week before their labs, as we removed a complete lab logistics demo. That said, we did not notice a change in their ability to execute the lab.

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