Faculty Fellows Project Report

Facilitating peer instruction in large classrooms.

Personal interaction with an instructor can offset some of the negatives associated with large introductory classes but it can be challenging to make the most of limited resources. I sought to develop a one-on-one, peer-interaction program which could be adopted by others in my teaching community. "Teach a Learning Assistant (LA)" is a means of providing student/instructor interaction that not only builds rapport with our students but also utilizes proven learning methods. I proposed to: establish a Teach-an-LA program; establish a research IRB (to later test efficacy); document the program for simpler dissemination; and collect preliminary data to establish students' affinity for the program.

The Teach a Learning Assistant program (or Teach an LA) leverages the Learning Assistant (LA) program, for which the University of Colorado Boulder has gained notoriety. Teach an LA is designed to get our students actively describing concepts from the course to others and to establish connections with other students also taking the course. The week following reading and lecture on a particular topic, students are asked to schedule a 10 minute meeting with an LA during which they give a fellow student (or the LA) a five-minute lesson on that topic. This incorporates four well-regarded study methods. First, it dramatically increases the depth to which the student processes the material. Second, it provides opportunity for temporally-spaced rehearsal of the concept. Third, it provides the student an opportunity to overcome familiarity bias, by requiring the topic be fully reproduced. Lastly, the individual assignments provide a mechanism to enforce a habit that supports an effective means of studying other material. This method of learning is aligned with the LA pedagogy style and provides a low-stress setting in which students can identify gaps in their knowledge. The use of upper division students as LAs also has the added benefit of being easily extended to other academic areas.

To facilitate adoption of the program, I prepared a brief description of the program and an example assignment that could be sent to others upon request. For example:

Your assignment is to schedule a meeting with an LA (ideally overlapping with a friend) and teach the friend or the LA the topic below. If you sign up in pairs, part of your grade will also be based on how you question your partner when they are teaching you! https://calendar.google.com/calendar/ . Meetings will generally be in XXXXX but we will also have XXXXX as a backup. Your Assignment: In this assignment, we want you to use what you have learned about memory to teach your Partner/TA/LA the way you think that everyone should study.

Grading: + Made an appointment and showed up [80%] + Presented some material relevant to the assignment but material was incomplete and they could not answer any questions [85%]

+ Presented material relevant to the assignment and could answer some questions [90%] + Presented most of the material for the assignment and could answer most questions [95%]

+ Great presentation of material relevant to the assignment and answered all the LA's questions [100%]

The grading is intended to be lenient. In later assignments they are asked to practice skills relatively heavily weighted (15% of the total grade). They are allowed to drop one in case of absence and the Google calendar lets us add video conferences at the last minute if they have something come up. LAs are instructed to email right at the appointment time if they do not see the student.

In my own course, the completion rate each week ended up being about 80%. Absences then also give us a good follow up point. I usually go through an example of the assignment in class the week before which helps alleviate some of the grade anxiety the more traditional students might have. A lot of the culture comes from training the LAs beforehand (we also meet once a week).

To build a community of scholarship around the program I initially discussed Teach an LA with my fellow members of the Committee for Undergraduate Education in the Department of Psychology and Neuroscience. This discussion successfully led to a pilot project initiated by an instructor teaching a high-capacity introductory course. The instructor modified the program to match resource availability (less frequent due to fewer learning assistants) but was able to implement bi-weekly sessions. In addition to this quick adoption, news of the program has disseminated through students in my courses. An instructor from another university was able to adopt the program for a biology course of 400 students. In informal surveys, the majority of students in my courses described Teach an LA as their favorite method for studying.

I have high hopes for improving Teach an LA including reducing required resources and making the program easier to adopt. The ASSETT Faculty Fellows program has been central to the development of both the program and a community to further its development. Insight and innovative ideas from other fellows substantially improved what I was able to offer. The Faculty Fellows program was extremely effective.