

Students, Students, and More Students: Gracefully Handling Increasing Class Sizes

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INTRODUCTION

Enrollment in Computer Science is increasing [1], and many colleges and universities are handling the trend by increasing class sizes---one of our facilitators has had enrollment in her Operating Systems course increase by 58% to a total of approximately 190 students in two sections in the three years she has been teaching it. Handling these large classes can be a challenge and, from our discussions with colleagues, no single person has all the answers. This Birds of a Feather is intended to create new ideas and share proven ideas for handling these increasing class sizes---whether your definition of a large class is fewer than 100 people or 500 or more.

AUDIENCE

The target audience is faculty who are experiencing increasing class sizes. We anticipate that early, mid, and late career academics of all ranks (tenure-track and non-tenure-track) will participate in this open discussion. Students, who are also being affected by the increasing class sizes, are also welcome and encouraged to provide ideas and input.

PLAN OF ACTION

Our planned format is as follows:

As the audience arrives: As attendees enter the session, we will hand each one an index card color-coded to match the course size that interests her. That is, we may give a blue index card to an attendee interested in solutions for courses totaling less than 100 students, a green index card to an attendee interested in solutions for courses totaling between 100 and 400 students, and a red index card to an attendee interested in solutions for courses totaling more than 400 students.

10 minutes: The first ten minutes will serve as an introduction to the session, where the facilitators introduce themselves, describe the problem, offer suggestions of particular problem categories for consideration, and then divide the audience into groups. Tentative problem categories include: office hour management, connecting with large numbers of students, interacting with students in class, grading (assignments and exams), ensuring that students do not get lost in the shuffle. For each category, we will provide a scenario or two as a discussion base.

20 minutes: The audience members will divide into small groups based on what a “large” class means to them and what type of change interests them---changes that must take place at the department level, such as changes in how courses are

allotted or scheduled, or changes that can be implemented in the classroom. Audience members will use their index cards to easily identify others with interest in solutions for similar class sizes, and then to further identify those who are interested in the same type of change (for instance, we might ask those interested in departmental change to fold their cards in half). We’ll ask the audience to then further sort into groups of 5-8. Within those groups, they will discuss any specific concerns of group members and brainstorm solutions. If the group has no specific concerns, they can select one of the scenarios in the given categories and begin discussion from there.

20 minutes: The moderators lead discussions of the techniques devised by the groups for various problems at various class sizes. For organization, we’ll discuss the ideas by category, with the understanding that categories will be expanded as necessary to meet the needs of the group.

10 minutes: The moderators will open the floor for an open discussion.

OUTCOMES/CONCLUSIONS

We hope to generate new ideas that improve course efficiency while maintaining or improving the student experience---both in learning outcomes and in classroom environment. We believe that many faculty are struggling to scale effective pedagogy either individually or in collaboration with others within institutions, and we believe we would all benefit from learning from each other.

In particular, we hope this BoF will generate ideas that do not themselves disproportionately affect any underrepresented group, including women, and remove any adverse effects large class sizes have on those groups. We want our students to feel able to speak up in class and as though they are in a community with their fellow students---no matter the size of the class. We want ideas that allow the faculty to remain friendly, welcoming, and accessible rather than harried and frustrated. Finally, we hope to generate ideas whose implementation is either free or extremely low cost.

REFERENCES/BIBLIOGRAPHY

[1] Zweben, Stuart and Betsy Bizot. “2013 Taulbee Survey”, *Computing Research News*, May 2014, Vol 26, No 5.