Supplemental Instruction across the Disciplines:
Adapting a Natural Sciences SI Program to Enrichment in the Humanities

The Faculty of Science has been offering supplemental instruction or SI for short since Fall 2008.

Supplemental instruction involves peer assisted structured study sessions led by undergraduate students with outstanding academic and communication skills. Since the undergraduate students lead the study groups, they are called SI leaders. SI leaders are required to attend all the lectures for the course they are assigned to and then conduct three weekly SI sessions based on the lecture materials.

SI applies evidence-based good practices in teaching and learning. SI leaders are trained to deliver positive learning experiences using active learning techniques in the SI sessions. The structured study sessions engage students to spend time on task. Through social interaction, students are stimulated to explore, apply and review what they have learned in lectures. At the same time, SI leaders provide immediate feedback to students.

SI is offered for large first year introductory science classes and attendance is voluntary. SI attendance has been good for most classes. Attendance is affected by many factors. Biochemistry and organic chemistry, which are often perceived as very challenging, have high attendance. For Science classes required by both engineering and science students, attendance of the science section has always been higher than the engineering section. Attending SI has become a culture for Science students, but not for Engineering students, which may explain this discrepancy. The attendance of GEOL 102 has always been poor even when the instructor and the SI leader regularly advised students to attend SI. The poor attendance is due to the perception of GEOL 102 as an easy class for science and engineering students. Further, GEOL 102 has only 1 midterm exam with no weekly assignments. All the other SI courses (except for BIOL 100 and BIOL 101) have weekly assignments. BIOL 100 and BIOL 101 have two midterms respectively. Our statistics indicate an increase in attendance immediately before a test or an assignment is due.

In the summer of 2009, Susan Johnston dropped by my office to explore applying the SI model to the Humanities and specifically ENGL 100. Based on what I have learned from other universities and in the SI supervisor training, I told Susan that it’s very tricky to offer SI for ENGL 100 because the SI model was designed for large classes with emphasis on problem solving and critical thinking; literature and writing classes also require more individual attention. And for ENGL 100 which has 40 sections in the Fall semester, it’s not practical to have 40 SI leaders.
Thus, rather than supporting many individual classes with different instructors, we decided to focus on interdisciplinary learning and writing skills (in other words, general skills that are transferable) using the student-led SI concept. As the program was implemented, we found a lot of challenges such as finding space at the desired time and promoting the service.

When Arts Academic Advantage was first started in Fall 2009, a total of six 2-hour sessions were offered focusing on reading strategies, note-taking, writing papers, effective research and citation strategies, critical thinking, and exam writing skills. Attendance was good for the first two sessions. The first session focused on classroom culture such as note-taking, reading strategies and discussion. The second session focused on writing essays. Attendance then dropped but recovered in session 6 which was about exam writing. The drop of attendance may be due to students focusing on assignments and midterms rather than lateral academic support. The increase in attendance at session 6, exam writing, corresponds to statistical increases in Science SI at mid-term and exam time.

To help solve the space problem as well as administrative and publicity support of the program, the Arts Academic Advantage program was attached to the Student Success Office in Fall 2010. The program was also expanded to 12 sessions including more sessions on essay writing, a critical thinking session for PHIL 150, and an extra session on midterm writing. Attendance was good in the first few sessions and then it tailed off because students were busy with classes and they didn’t have time to attend. It is also possible that Arts students are likely to leave campus immediately after class.

We also think the low attendance is mainly due to the fact that the program was not attached to a class. To prove our hypothesis, the Academic Advantage program was linked to the OMA program. The OMA advisor was trained to provide Academic Advantage sessions. At the beginning of the semester, everything worked well with good attendance. However, the OMA advisor didn’t have time to prepare for the A2 sessions. By mid-semester, the OMA advisor suspended her A2 sessions (to concentrate on pre- and post-class study sessions) and sent the OMA group to regularly scheduled A2 sessions. Attendance amongst these students dropped dramatically.

Based on what we have learned, we have come up with the following hypothesis:
1. Students are more likely to use academic support services for historically challenging courses especially when the service is attached to the course.
2. Students in classes with frequent evaluations are more likely to use academic support services.
3. SI works best for disciplines involving problem solving and critical thinking.
4. Science students are more likely to use SI than Arts students because they are more used to group work and collaboration in labs.

Thus, we decided to choose the largest section of PHIL 150 to test our hypothesis because the course requires problem solving and critical thinking skills. Further, the course is regularly taken by Arts and Science students. The course is perceived as historically challenging especially for Arts students. Students are evaluated by 3 midterms and a final exam plus regular ungraded assignments.

Looking at the statistics, attendance was good right before the exams. No students showed up immediately after the first midterm because students did very well on the first midterm. What is most striking is that 8 out of 63 students attended at least 3 sessions: 6 are Arts students, 1 Business and 1 Fine Arts. None of the 12 science students regularly attends the SI sessions. Perhaps, science students don’t perceive the class as challenging. In fact, 6 of the 12 science students received grades of 90 or above.

In conclusions, academic support services are more effective for classes that are perceived as historically challenging. They are used more often by students when attached to a class. Academic support services would work for students in all disciplines and faculties. Students in classes with weekly assignments or frequent tests are far more likely to use student support services.