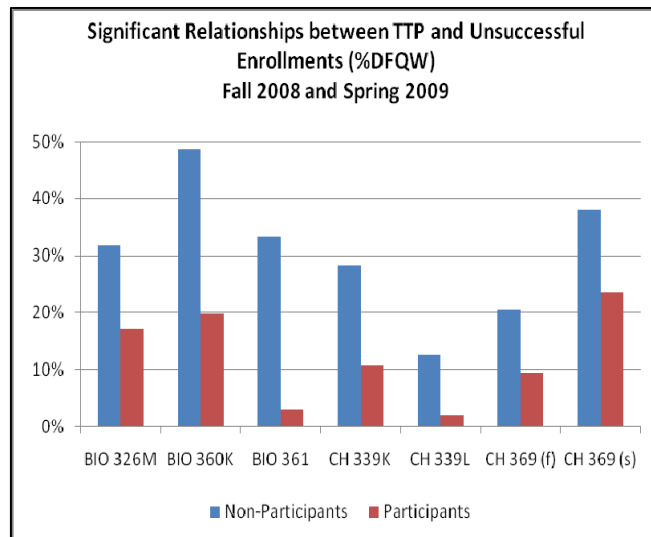
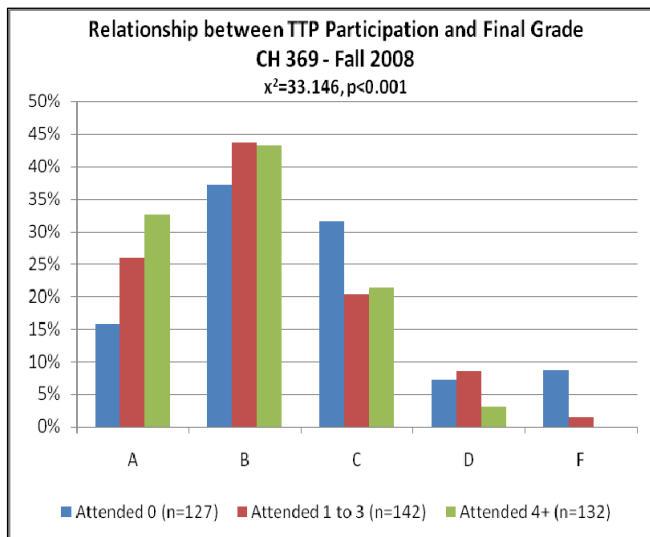


The Teaching Teams Program (TTP) offers peer-led study groups for large or historically-challenging courses. Usage statistics indicate that, on average, approximately 1/3 of students enrolled in TTP courses participate in the program. Each semester, we collect and analyze data to measure the program's effectiveness in two ways: 1) quantitative comparison of participation and course outcomes and 2) qualitative and quantitative assessment of student satisfaction and utilization of the program.

Participation versus Course Outcome

In approximately half of the TTP courses, students who participate in study groups (including preceptors) earn higher grades than students who do not participate. In many of these courses, this association is largely due to the higher grades the preceptors make. However, in some of the courses, even the non-preceptor participants earn significantly higher grades than non-participants. This association is largely dependent on repeat participation among the students: the more study groups participants attend, the greater the grade differential between participants and non-participants. As seen in the first graph below, Chemistry 369 students who participated in four or more study groups performed better than students who attended fewer study groups and those who did not attend any study groups.



In addition, we commonly see that there is an association between TTP participation and successful enrollment (passing the course).^{*} As seen in the second graph, study group participants were less likely to drop (Q/W) or fail (D/F) the course than non-participants. In these courses, non-participants are two to ten times more likely to drop or fail than participants.

Student Satisfaction and Utilization of the Program

Because grades cannot measure the full impact of study groups and because there is a potentially strong motivational component driving participation, we also collect qualitative data about students' perceptions of the study groups and their motivation regarding participation in the program itself. We use end of semester surveys to collect these responses. In the 2007-2009 academic years, 234 (65%) preceptors and 1546 students (31%) responded to end of semester surveys. Student responses included 713 students who did not attend study groups, 279 students who attended one or two study groups, and 554 students who attended three or more study groups.

^{*} Students must earn a C in a course for credit towards their major requirements

Student Perceptions of Study Groups

Preceptors (n=234) reported that facilitating study groups helped them get to know their classmates (83%) and professors (76%) better, motivated them to keep up with assignments (86%) and go to class each day (78%), improved their ability to explain concepts (80%), and improved their ability to work effectively with others (79%). When asked what skills they learned that they could apply to other situations, preceptors primarily commented about improving their organization and communication skills:

I guess one of the biggest things I learned was how to talk to my classmates. I am pretty shy, so it was uncomfortable at first, but since everyone walking into the door has a common interest (doing well in this class) it made it a little easier to just talk to them and find out what they needed, knew, and didn't know.

Students who attended three or more study groups (n=554) reported that what they liked best about study groups was learning from other students (67%), collaborating with other students on course material (64%), collaborating with other students on what and how to study for exams (63%), getting to ask questions (54%), and filling in the gaps in their notes (53%). When asked what they would tell a classmate about study groups, students' comments were overwhelmingly positive:

It's definitely [a] must go! Study groups help [you] keep up in the class... it provides a more well rounded outside of class experience. Clearing up the gaps in notes and basically getting a better understanding of the content is where study groups can help... Especially if you do not know many people in the class, study groups provide a way to informally meet other students you may not normally meet on a given day, and give you a solid concrete time to study every week. It was well worth going for me-- sure beats trying to figure out all by yourself when you don't know what to do.

When we asked these repeat participants (n=554) what they liked least about the study groups, 38% reported no problem or complaints. However, smaller percentages reported they did not like that other students in attendance were unprepared (21%), the preceptors couldn't answer their questions (15%) or were unprepared themselves (14%), the study groups were unproductive (15%), and the study groups took place at inconvenient times (14%). Preceptors indicated that they were discouraged when students did not show up, or when students expected them to teach, rather than facilitate. These findings inform our continued efforts to 1) improve the scheduling of and increase regular attendance at the study groups; 2) expand observations to target potentially problematic preceptor pairs during the semester; and 3) reiterate to students that the preceptors are fellow students and are not expected to be content experts.

Student Participation and Motivation

Additional analyses were conducted to better understand what motivates students' level of participation. Since student achievement affects motivation, we were particularly interested in comparing the motivation of "higher-performing" versus "lower-performing" students, as measured by earned grades during the Fall 2007, Spring 2008, and Fall 2008 semesters. Higher-performing students were those who earned A's or B's in the course and lower-performing students were those who earned a C or lower in the course.

Why Do Students Choose Not to Participate?

When asked why they did not attend any study groups, non-participating students (n=713) most frequently reported that they preferred to study alone (65%), the study groups did not fit into their schedule (34%), and they felt unprepared to engage in group study (31%). Significant differences were found between higher-performing and lower-performing students in terms of why they chose to not participate. Higher-performing students were more likely to report that they: preferred to study alone, were getting the grade they wanted, did not like to study with others, felt no need to study with

others, or already had a study group or partner, while lower-performing students were more likely to report that they were not prepared enough to attend or they needed the study groups too late in the semester.

Because our previous research has shown that one of the initial motivators for study group attendance is curiosity, we also looked at why students only attended one or two study groups, and not more. Students with low participation (n=279) most frequently indicated they felt the study group(s) were not helpful (41%), they only went before exams/quizzes (37%), or they started attending late in the semester (22%). Lower-performing students were more likely to report that they stopped attending because other students dominated the study groups.

What Motivates Students to Participate?

When asked what initially motivated them to attend study groups, students who attended only one or two study groups most frequently endorsed preparation for exams (62%), studying the material (44%), wanting to improve their grades (35%), or getting help from others (30%). Similarly, when asked what initially motivated them to attend study groups, students who attended three or more study groups most frequently endorsed preparation for exams (62%), studying the material (60%), wanting to improve their grades (54%), or getting help from others (39%). The students who attended more study groups were significantly more likely to be motivated by studying the material, improving their grades, and potentially earning extra credit. Not surprisingly, in both groups, lower-performing students were significantly more likely to report they were motivated to improve their grades.

In summary, these results indicate that while the program is helping the majority of students interested in group study, it may not be reaching some of the students who would benefit from peer learning. Program changes in the future will address the challenges of promoting earlier and repeated attendance, particularly among students who feel they may be ill-prepared to study with a group.

Explanation of Statistical Analyses

To examine the relationship between participation in TTP and course performance, we conduct Mann-Whitney (Kruskal-Wallis) U-tests. This nonparametric test is used because our data are categorical and do not meet the normality assumptions of a t-test. To examine the relationship between participation in TTP and unsuccessful enrollments, we conduct chi-square tests. To examine relationships between course grade and questionnaire response, we conducted Chi-square comparisons. For a detailed description of the analyses above, please contact the Teaching Teams Program Coordinator, [Kate Walker](#).

Additional Reference:

Bailey, K.E. & Lang, S.A. (2009) "[UT Teaching Teams Program: Student Participation and Motivation](#)" Presented at the [American Educational Research Association](#) Annual Meeting