

PEER-LED TEAM LEARNING IMPLEMENTATION

SUBJECT: JOINING THE PLTL COMMUNITY

DENISE DRANE AND DAVID GOSSER

Dear Dr. Gosser,

I am writing to you on behalf of the Gateway Science Workshop Program at Northwestern University (IL). This program is funded by the Mellon Foundation and Northwestern University. We offer peer-facilitated workshops to undergraduate students in a variety of courses in biology, chemistry, physics and engineering. Students work on conceptually based, advanced problems in small groups of five to seven with a peer facilitator. We will be evaluating our program over the course of the next three years.

I was wondering if it might be possible for us to join the PLTL community and, if that was possible, how we might go about joining?

*Denise Drane
Northwestern University*

Dear Denise,

That sounds great and I am very interested to learn about your program at Northwestern. Of course we welcome you very much to our group: it is a network of people who are working in different facets of peer-facilitated instruction. We have annual national meetings in which many of those will attend and would like to invite you and any members of your group to these meetings. Also, we have a Chautauqua program where we do two and one-half days of "training" of faculty and learning specialists new to PLTL.

I would be interested to learn more detail about your program: how did it start, how are students trained to be facilitators, how are the materials for the workshops written? Have you been doing this for a while or is the program just starting?

I would like to share your program and your experiences in our Newsletter "Progressions" (which is posted on the PLTL website).

Best, Dave Gosser

Dear David,

Thanks so much for replying to my e-mail. Our team would really like to join your network and take part in your meetings.

Here's some background information on our program. We call it The Gateway Science Workshop Program because the workshop program was designed to boost the interest and performance (as well as increase retention) of students in science courses that are gateway courses to medicine, engineering and graduate study in science. The program is funded for three years by the Mellon Foundation in conjunction with Northwestern University. The Mellon Foundation has a particular interest in evaluating the impact of the program on underrepresented students (ethnic minorities and women) and students who come from small rural towns.

The program is based largely on the successful interventions of Uri Treisman and informed by Claude Steel's work on stereotype threat*. It was inaugurated in Biology 210 in 1997, using an experimental design to determine its impact. Specifically, in the case of majority students, it is possible to make a good prediction of a student's performance in Biology 210 based on his/her previous college grade point average (GPA). However, underrepresented students had consistently failed to achieve the Biology 210 grades that their prior GPA's indicated they were capable of making and considerable numbers were dropping out of Biology altogether.

In the experimental design, the performances of underrepresented and majority students were normalized to account for prior GPA as well as SAT scores. Control groups were established (control groups were historical in the case of underrepresented students, due to small numbers) and performance on Biology 210 exams was statistically analyzed. Workshop Program participants, including underrepresented students, earned substantially higher grades than both those who volunteered but did not participate, and students who did not volunteer for the program. Importantly, underrepresented students who participated in the workshops did as well as their prior GPA's predicted.

The program then expanded to physics and chemistry and more recently (2001-2002 academic year) to engineering. This year we have over 400 students per quarter involved in the program and 65 peer facilitators.

Students meet once per week with a peer facilitator and work on challenging conceptually-based problems. Facilitators are students who previously completed the workshop program who have obtained A's or B's and who are interested in teaching. They currently attend several training sessions at the start of the academic year. However, we are piloting a quarter-long training program at the moment. Facilitators meet weekly with the professor who has written the problems to learn how they can best facilitate learning based on the problems and to ensure that they themselves understand key elements of the problems. The professor who writes the problems also teaches the course.

We have started formally evaluating the program and will continue to evaluate it over the next three years. So far we are looking at academic outcomes, retention and student and facilitator satisfaction with the workshop program (surveys and focus groups). We are also doing formal observations of the workshop sessions and the sessions in which the facilitators meet with the professors to discuss the weekly problems. We also hope to measure students' attitudes towards their particular discipline,

self-confidence, and quality of their interactions with the instructor and their peers, as these factors have been shown to affect retention. We also hope to look at how the workshop program affects students' learning and learning styles.

We look forward to joining your network. We will be keen to learn about the experiences of other peer-led learning teams and hope that we can share some of the information that we have learned from our experience so far.

*Best wishes,
Denise Drane
Northwestern University*

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**For more information on stereotype threat, go to: <http://www.theatlantic.com/issues/99aug/9908stereotype.htm>.*

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