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**Peer-Led Team Learning at the University of West Georgia**

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Abstract

Peer-Led Team Learning (PLTL) has been a part of general chemistry at the University of West Georgia (UWG) for over a decade. We have evolved an organization of peer leaders and superleaders that keeps the program operating smoothly. Student evaluations of workshops are overwhelmingly positive and can exceed their evaluations of faculty instruction.

Introduction

Following the six critical components of the PLTL model, workshops at UWG consist of twelve to sixteen chemistry students who meet once a week for an hour and fifty minutes in a designated room with a peer leader. At this point, each workshop's peer leader has completed the assigned workshop module and has attended a leaders meeting to review the material. There are four types of freshman-level workshops at UWG – two for the science major general chemistry sequence (general chemistry I and II) and two for the non-science major freshman chemistry (survey chemistry I and II). As each workshop is designed to be between twelve and sixteen students and enrollment varies, there are usually no less than two workshops in summer semesters and four workshops in fall/spring semesters for each section of chemistry. Senior and “superleaders” are assigned to each professor teaching a section of chemistry. A superleader is an exceptional experienced leader who takes on additional tasks such as training and guiding new leaders, conducting weekly leaders meetings, assisting with record keeping, assessing effectiveness of workshops, and observations of leaders.

In the PLTL Workshop model, the class is divided into groups of six to eight students. Although larger groups look like an obvious money-saving device and other resources may be strained (such as the supply of leaders, time, and space), workshops at UWG have been broken down into smaller groups in the past. Student responses indicate workshop is most effective at a group size of four to five students, with decreasing responsiveness as the group size increases.

Training

The training that all leaders must complete requires two and half days – a total of over seventeen hours of not counting non-working lunches and other breaks. To become a leader at UWG, you must be able to attend the intensive training program as well as a leader's retreat which occurs several weeks into the semester which acts as an opportunity for leaders to share their experiences thus far and continue their training. The training program is a well-planned, thought-out series of lectures and activities designed to prepare new leaders to handle a large diverse group and facilitate the growth of group cooperation. Each of the various portions of the training program can be loosely classified as belonging to one of four categories: presentations, discussion activities, practice workshops, and, most loosely of all, general “housekeeping”.

New leaders also participate in a class where they are required to reflect and write on selected topics and the previous week's workshop as part of their ongoing training.

The leaders meetings, in addition to their basic functions, are weekly "checkups" by the superleader for their leaders. Here, the superleader may gauge the effectiveness of the leader's abilities and overall responsiveness to the workshop.

### Evaluations

Evaluations of each leader, superleader, and workshop in general are obtained each semester. The evaluations are analyzed for effectiveness and student response to the leader and the program. The evaluations play a large part in who will and will not be asked to stay on as a leader. Additionally, any new technique or workbook newly implemented is assessed with the evaluations.

### Data and Results

From the beginning, the workshop program definitely increased the overall success of participating students in introductory chemistry courses. See Figure 1 for the results from the first year that peer-led workshops were available.

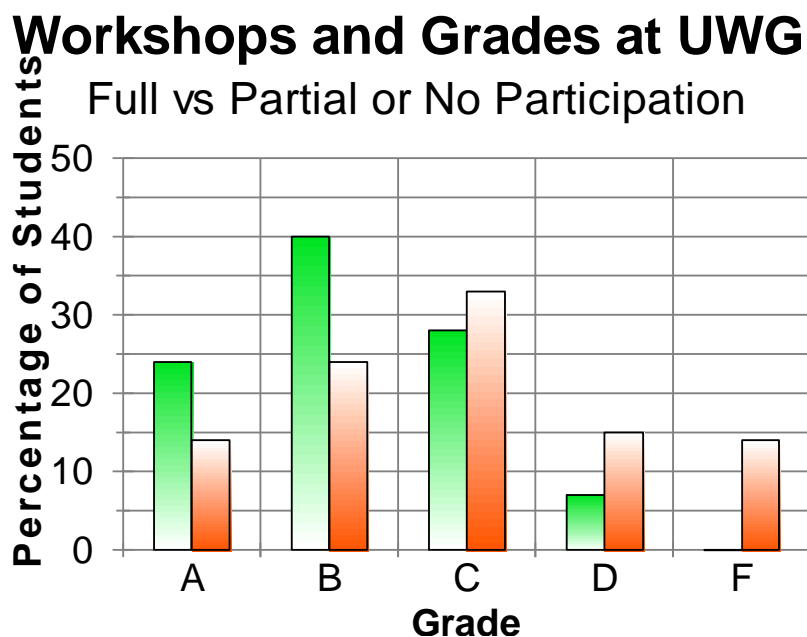


Figure 1 Illustration of the correlation of workshop participation and class average from the year 1999-2000. Data are from the pilot workshop program of which attendance was not mandatory (Garmon).

### Effect of Group Size


Workshops have statistically illustrated a correlation between workshop size and overall student responsiveness and success rate as determined by exams and evaluations. As the workshop size increases, student responsiveness and average grades on exams decrease, while the reverse is true when workshop size decreases. See Tables 1 and 2. Currently, due to budget restraints, UWG workshops have adopted a larger size. Ongoing evaluations of the effectiveness of these larger workshops are in progress.

In Table 1 the "Evaluation Average" is the average response of students in a group to a survey consisting of twenty-seven positively worded statements about workshop and its impact. Scoring was on a

Likert-type scale from 5 = strongly agree down to 1 = strongly disagree. The column N gives the number of students responding (not the number of groups).

In Table 2 the results are shown for students who were in a first-semester general chemistry workshop in the fall and a second-semester general chemistry workshop in the spring. Most students were in a larger group their second semester. Although average grades typically drop between the first and second semesters of general chemistry, this drop was the smallest for those who were actually in a smaller group during the second semester than during the first semester. Again, the column N gives the number of students in each size-change category.

Table 1. Student evaluation of workshop versus the change in workshop size from the years 2004-2006 (Garmon)



Group Size	N	Evaluation Average
4 or 5	27	4.41
6 or 7	86	4.25
8 or 9	67	4.21
10 or 11	32	4.22
12 or 13	11	4.15

Table 2. Correlation of exam averages versus workshop size from the years 2004-2006 (Garmon)

## Changes in Workshop Size, Exam Average, and Grade

Change in group size	N	Avg Exam Change	Avg Grade Change
-2 or -1	10	-4.6	-0.20
0 or 1	36	-13.3	-0.64
2 or 3	41	-13.6	-0.44
4 or 5	14	-17.0	-0.69
6 or 7	13	-17.5	-0.83

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