A PLTL-type model was introduced at the State University of West Georgia in the fall of 1998. It was used in only one section of the first semester of the chemistry course for allied health majors, with seven leaders conducting eleven weekly workshops for 90 students. Only one section of this course was offered and time for workshop meetings was carved out of class time each Friday. Some leaders could undertake more than one workshop because students were given a choice of meeting at the rather early regular class time or a later time. In 1999, as part of the plan funded by a National Science Foundation “Adopt and Adapt” grant, the workshop times were expanded to two hours in addition to class time, but participation was optional.

Fall 2000 saw the expansion of the program to all sections (except the honors section) of introductory chemistry. Again, participation was optional. A sufficient number of leaders had been recruited, times when they were available for workshops had been worked out, and available rooms had been secured at those time. Each instructor in the introductory chemistry sections had agreed to allow the workshop to count for 10% of the course grade for those students choosing to participate. On the first day of class the workshop option was explained to students and those interested signed up for times that fit their schedules.

![Workshops and Grades at UWG](image)

Figure 1. As seen on the graph, of all the students who participate fully in workshop, 24% earned an A and 0.4% failed. Of remaining students, 14% earned A and 14% failed.
The results of participation during the Fall of 2000 correlated so dramatically with course grade (see Figure 1) that a departmental decision was made to have workshops be mandatory for all sections of introductory chemistry. Fall semesters 2001-2005 have had, on average, 30 leaders guiding 40 workshops which serve a total of 350 students enrolled in six sections of general or allied health chemistry, each taught by a different instructor. Workshops are also part of the sections of these courses that are taught in spring and summer semesters. Scheduling: What We’ve Learned

Several suggestions are made here that may help others implementing PLTL for the first time.

1. If the workshop is an integral part of the course, with participation being mandatory, the workshop times need to be scheduled enough in advance that students can sign up for a workshop at the same time that they register for classes. If the registration procedure can be programmed so that enrollment in the chemistry course is not permitted without also registering for a workshop, so much the better.

2. If at all possible, workshops should be instructor specific. After trying to have any student register for any workshop that went with that course, we decided it was much better for all students in a given workshop to be in the same section of the course so that all are on the same page and have received in class the same emphasis on the same material.

3. Speaking of being on the same page, try to schedule workshops together as far as the class schedule is concerned. For example, if a class meets on Tuesday and Thursday, all workshops for students in that class might be scheduled after the Thursday class and before the next Tuesday class. With this arrangement, it also helps if all the class tests can take place on Tuesdays.

Scheduling: What We’re Still Trying to Figure Out

The main problems here are:

1. Keeping students from signing up for the wrong instructor’s workshop. Despite notations in the online bulletin of courses and memos to advisors, this requires some sorting out at the beginning of each semester.

2. Finding times for weekly leaders’ meetings such that all leaders working with a particular instructor can meet together and have that instructor also meet with them.

Recruiting: What We’ve Learned

During the early years of the workshop program it was a matter of beating the bushes to get a sufficient number of leaders, even though it was a paid position. Almost any student who would agree to serve was accepted. A corner was turned in 2004 when about twice as many applications were received as there were positions to fill. We believe this was in large part due to word of mouth getting back from veteran leaders who had interviewed at medical and graduate schools and reported that “all they wanted to talk about was my workshop leader experience.” We now know to:
1. Recruit first among current leaders. Once a PLTL program is established at least half the leaders should be veterans.

2. Identify potential new leaders via recommendations from instructors and from current leaders and encourage them to apply. A letter inviting them to become leaders should be considered “a mark of accomplishment and merit” (Gosser et al., 2001, p. 35).

3. Get quotes from current and recent past leaders and put posters containing these quotes all over the department (see Figure 2).

4. Have instructors not only recommend but recruit. Sometimes a student demurring about applying will do so when a particular instructor maybe one for whom that student is doing a research project says, “I want you to lead one of the workshops for my general chemistry section next semester.”

5. For fall workshops, the deadline for receipt of new leader applications should be at least one month before the end of spring semester. For spring workshops, the deadline should be at one month before the end of fall semester. This allows enough time to set up interviews and reach decisions.

**Recruiting: What We’re Still Trying to Figure Out**

1. Some leaders and potential leaders have been involved in undergraduate research projects with faculty members who do not teach general chemistry. These faculty members have sometimes felt that the time students spent preparing for and leading workshops was detracting from efforts students should have been putting on research. Occasionally faculty members who teach upper-level courses feel some of their students are neglecting their course work in favor of workshops. Careful selection of leaders is necessary, along with careful assignment of workshop times.
2. We’re still trying to figure out how to tell which applicants are really going to make good leaders. Interviews, recommendations, and academic histories help us make good choices about 90% of the time. But occasionally a leader will be a disappointment.

Grading and Recordkeeping: What We’ve Learned

If the workshop is for a part of a student’s grade in a course, it will probably be necessary to have a numerical workshop average for each student. We learned to:

1. Decide what aspects of workshop will count for how much. After meeting and discussing this with leaders from other institutions, our leaders recommended a ten-point scale, with three points for attendance, three points for preparation (doing “homework” or self-test problems), three points for participation and attitude, and one point for finishing a summary quiz at the end of each workshop.

2. Have a standard report form for leaders. This has worked well on carbonless paper, so the leader can keep a copy while giving the original to the workshop coordinator.

3. Standards of scoring should be set high enough to avoid grade inflation.

4. To keep scoring standards consistent from leader to leader, we found it very useful to include practice on this as part of leader training. Tapes of workshops in progress were shown and leaders discussed how the participation points of various students should be rated until consensus was reached.

5. The “preparation” points are now based on online homework rather than on printed pre-workshop problems. Scores are downloaded by the workshop coordinator, so the individual leaders no longer have to assess whether or not a student has done sufficient homework to be prepared for workshop.

Grading and Recordkeeping: What We’re Still Trying to Figure Out

A minor point is that not all leaders are always prompt about getting in their reports. At the end of each week there are usually one or two leaders who must be sent e-mail reminders to turn them in.

Also, while the training (point 4 above) helped, there still seem to be some differences from leader to leader in assigning marks to students. So far, there has not been a case where the workshop coordinator has had to step in at the end of the semester because the slight discrepancies would make a difference in a student’s letter grade in the course.

Funding: What We’ve Learned

It would be nice to have an endowment that would keep the PLTL program functioning in perpetuity. Lacking that, however, we have had to look to our own resources once the grant ran out.

1. The biggest help in funding workshops is that we generate workbooks in-house. Students purchase the workbooks via the same mechanism used for notes packets and other instructor-prepared materials that students are expected to purchase. Proceeds are used to pay leaders.
2. Having new leaders given course credit (in our case 2 semester hours) for their work means that they are paid only for the time actually spent in workshop. Training, preparation time each week, and attendance at leaders’ meetings are part of the course requirements. Veteran leaders are somewhat more expensive, as they are allowed to count preparation time and time in leaders’ meetings as “billable hours.”

3. Sometimes extra-departmental funds are available on campus. The institution’s foundation, or donation-raising arm, often makes small grants to departments for special projects. If the workshop program becomes a “showpiece,” the president or vice-president may be willing to help support it from their discretionary funds.

Funding: What We’re Still Trying to Figure Out

Money question are never easy and never entirely solved. Right now we are under pressure to save money by cutting back the number of workshops and increasing the number of students per workshop. While six to eight students is considered ideal, we may have to learn to function with twelve or even more. (Might it work to divide a larger group into two smaller groups and let the leader float from one group to the other?)

There are many other things that have evolved as the program matured, such as how best to arrange and carry out new leader training, making sure instructors and leaders can interact with each other, keeping workshops on track with lectures, generating workshop material, finding meeting space, scheduling workshops to complement testing schedules, and dealing with students (and sometimes leaders) who just didn’t seem to take to workshops. A particular problem is doing the public relations work to keep the department as a whole “on board” as far as supporting the efforts involved in the program. Some problems have been essentially solved, some ameliorated, and others we’re still working on.

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Reference
