

PEER-LED TEAM LEARNING - ASSESSMENT

THE PLTL EXPERIENCE AT MIAMI UNIVERSITY

I (JLS) adopted the Peer-Led Team Learning (PLTL) model in Fall 1998 after attending the Workshop Chemistry Chautauqua course during the summer of 1998. At Miami University, PLTL has been used in one section of general chemistry. In the first semester, PLTL is used for the course for those students who have not had high school chemistry or feel less confident about their ability in chemistry. In particular, students who perform under a specified level on the math section of the ACT/SAT are advised to enroll in the PLTL section. In comparison with other sections of general chemistry, the population of the PLTL class has a statistically significant difference in Math SAT scores (588, PLTL; 625 and 620 non-PLTL; $p = .005$). Students in three sections were given the ACS First-Semester General Chemistry Exam, and it was found that the PLTL section did score lower, but the difference was not statistically significant (44.1, PLTL; 45.1 and 47.0, non-PLTL; $F(2, 400) = 2.276$, $p = .05$). Therefore our conclusion is that the PLTL model is boosting the performance of the PLTL student to a level almost comparable to their counterparts in the traditional course even though the PLTL students are “at risk” based on their math preparation that has been known to be a predictor for success in general chemistry.

PLTL has also been used in the second semester course. While the first semester course is 4 credit hours (3 lectures + 1 2-hour PLTL session per week), the second semester course is a mix of students who had PLTL the first semester and those who did not, and it is a 3 credit hour course even though students are still required to attend the weekly 2-hour session. The general consensus is that the value of the PLTL sessions is sufficient for students to voluntarily enroll in the PLTL section instead of the non-PLTL sections that meet for the traditional 3 lectures per week.

The Student Assessment of Learning Gains instrument (<http://www.wcer.wisc.edu/salgains/instructor/>) has been used for several years for students to assess their perception of the model. Data gleaned from this instrument as well as questions about other skills show that PLTL provides enhances skills beyond content that the traditional course does not. Three sections, 1 PLTL section and two traditional, lecture-only sections were asked to respond (a great deal, a fair amount, some, little, none) to the questions tabulated below. The percentage responding “a great deal” + “a fair amount” are shown for the three classes on the next page:

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For further information, visit the
PLTL website, www.PLTL.org



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Finally, when students respond to “I would recommend Workshop courses to other students”, 78% “agree strongly” or “agree.” This data is from 7 classes over four years. ■

How much has the workshop/course helped make gains in:	PLTL	Non-PLTL	Non-PLTL
understanding the main concepts in chemistry?	60	42	51
understanding the relationship between concepts in chemistry?	53	36	46
feeling comfortable with complex ideas?	50	23	33
your ability to solve problems?	55	37	40
your ability to think through a problem or argument?	55	27	40
your ability to work effectively with others?	51	9	27
your ability to communicate ideas to others?	47	11	25
confidence in your ability to do well in chemistry?	48	24	31