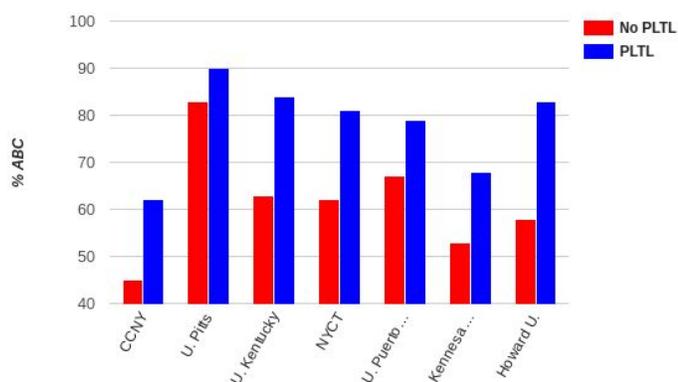


The Case for Peer-led Team Learning in Chemistry

In the early 1990's, in order to address the problem of low student success rates in General Chemistry, we introduced a model of teaching that introduced new elements of collaborative learning and peer-leadership. Students who had done well in the course previously were recruited to become *peer-leaders*: students who facilitate weekly chemistry study groups (*workshops*) to complement the lecture. To support the peer-leaders in this new role, faculty met with the, to review the workshop problems and to discuss group leadership and methods for collaborative discussion. The initial results were a revelation - students enthusiastically discussed chemistry and their performance on exams improved. Focus groups of students revealed the remarkable dynamics of peer-led workshops. Students felt that the leaders “know where you are coming from” and “the way you understand things.” Peer-led workshops afforded students the “opportunity to make a lot of little mistakes” and the give and take of the workshop was contrasted to lectures where “they might not say anything the whole semester.” The number of students obtaining an A,B, or C as a fraction of enrollment in the course jumped 40% from a baseline of less than half of the students. **Peer-led Team Learning (PLTL)** was substantially helping students succeed in Chemistry!

With support from the NSF¹ the PLTL Project embarked on a program of national dissemination. PLTL was implemented at community colleges, liberal arts colleges, and large public and private research institutions. Faculty found that PLTL was an accessible model that had great impact on student success in Chemistry and other disciplines. The monograph **Peer-led Team Learning: Origins, Research, and Practice**² includes a comprehensive review of the research on PLTL over a 20 year period. Over twenty individual studies of both %ABC and GPA in Chemistry have all demonstrated improved performance in Chemistry.



Chemistry: Exploring the Molecular Vision

A critical component in implementing PLTL is the choice of materials for peer-led team learning. Unfortunately, the typical textbook is inconsistent with an active learning model such as PLTL. Students have difficulty relating the often lengthy and discursive passages to the more focused learning goals set by the instructor. Additionally, the collaborative round table discussion of the workshop offers more opportunity for model building, graphical representations, and other approaches that are not available in typical end of chapter problems.

Chemistry: Exploring the Molecular Vision³ is a textbook written specifically for teaching chemistry with PLTL. It is an affordable and accessible textbook that includes both core readings and peer-led workshops, as well as online resources including animated lessons and quizzes. The textbook rigorously introduces all the essential topics of General Chemistry and helps faculty create a seamless learning environment that includes lecture, peer-led workshops, and online learning. It reflects the author's twenty five years experience in teaching Chemistry and developing the PLTL model.

¹ National Science Foundation Grants # 9150842, #9450627, #9455920, #9972457, and #0231349 supported the development of PLTL.

² Peer-led Team Learning: Origins, Research and Practice. D. Gosser, Linus Publications 2015.

³ Chemistry: Exploring the Molecular Vision. D. Gosser, Linus Publications 2015.

Peer-led Team Learning (PLTL) is a model for teaching STEM coursework that is proven to increase student success.

The 2016 Summer PLTL Institute will be at the Glenpointe Marriot, Teaneck, NJ

Register for either day or both days.

July 11: \$150

July 12: \$150

July 11 & 12: \$250

Register
www.pltl.org

Center for PLTL
City College of NY
David Gosser, Director
gosserch@gmail.com

Peer-Led Team Learning 2016 Summer Institute

July 11

Starting a PLTL Program

Learn about the keys to a successful Peer-led Team Learning program.

- Introduction to PLTL
- Tips for Training Peer-Leaders
- Effective Workshop Materials
- The Research on PLTL
- Steps for Starting PLTL

For those who are interested in or intending to implement PLTL.

July 12

Chemistry: Exploring the Molecular Vision

Explore a new approach to teaching chemistry using PLTL.

- A textbook for Active Learning
- PLTL Chem Workshops
- Integrating Thermodynamics and Kinetics
- Animated Lessons & Online Quizzes

For those new to or experienced with PLTL.

Critical Components of Peer-led Team Learning

1. Peer-led Workshops are integral to the course: they are regularly scheduled, integrated with lecture, and all students are expected to attend.
2. Faculty teaching the course are closely involved with the PLTL workshops and with the peer-leaders.
3. Peer-leaders are guided in a review of materials and methods of group leadership.
4. Workshop materials are challenging and encourage collaborative learning.
5. Organizational arrangements including group size (6-8), space and time are conducive to group learning.
6. The institution places student success and retention as a high priority and encourages innovative teaching to reach that goal.

The Center for Peer-led Team Learning

www.pltl.org

The City College of New York

David Gosser Jr., Director

gosserch@gmail.com