The Peer-Led Team Learning (PLTL) model actively engages students in the learning process by having them solve carefully structured problems in small groups under the direction of a trained peer leader. Peer-led workshops are an effective way to engage large numbers of students with course material and each other. Among the benefits of the PLTL approach are:

- improved performance and retention
- development of communication and team skills
- higher motivation and course satisfaction
- increased interest in pursuing further study in science.

Traditional instruction in introductory science courses relies primarily on the lecture, a method of presentation and demonstration by an expert to a group of listeners. Although many good purposes are served by the lecture/recitation method, it has limitations that are directly related to the lack of student involvement.

The PLTL model preserves the lecture and introduces a new structure, a weekly two-hour workshop, where six to eight students work as a team to solve carefully structured problems under the guidance of a peer leader.

The peer leader is a student who has done well in the course previously and is trained to facilitate the workshop. The peer leader:

- clarifies goals
- ensures that team members engage with the materials and with each other
- builds commitment and confidence
- and encourages debate and discussion.

A good leader liberates students to take responsibility for their own learning and focuses their efforts on negotiating meaning and constructing individual understanding. As one student commented, “When I take an exam now, I hear my workshop colleagues asking “How do you know? Are you sure? Can you explain?”

The PLTL Workshop provides an active, participatory learning experience for students that also creates a leadership role for undergraduates and engages faculty in a creative new dimension of teaching. Each workshop is built around a set of problems and activities designed by the faculty member to focus on central ideas to help the students attain the course goals.

The workshop environment is unique and invites faculty to rethink traditional problems. The workshops invite students to work together and model effective problem-solving tactics. The results of the PLTL Workshop are quite clear:

- students achieve better grades
- retention improves
- students like the PLTL Workshop.
The PLTL model consists of six components; if one is missing, the PLTL workshops are not as effective as they might be.

The Six Critical Components of the Peer-Led Team Learning Workshop Model

- The Workshop is integral to the course.
- Course professors are involved in the selection of materials, training and supervision of peer leaders, and they review the progress of Workshops.
- Peer leaders are selected, trained and supervised to be skilled in group work as facilitators.
- Workshop materials are appropriately challenging, directly related to tests, designed for small group work.
- The Workshops are held once a week for two hours, contain six to eight students per group, in space suitable for small-group activities.
- PLTL is supported by the department and the institution with funds, course status and other support so that the method has the opportunity to be adopted across courses and disciplines.

As David Gosser has noted, "...the greatest strength of the PLTL model is that it presents a structure that creates a real sense of community of scholars, where students can realize the ultimate goal of taking responsibility for their own learning."

The PLTL model is robust and has been successfully introduced in two and four year colleges and research universities. Although the model is most well-developed for chemistry, it has also been successfully implemented in biology, physics, mathematics and computer science courses.

More information on the project is available at http://www.pltl.org.