

## PROGRESSIONS: PEER-LED TEAM LEARNING

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## FINDING ALLIES ON CAMPUS... LOCATING THE ELUSIVE LEARNING SPECIALIST

How can faculty find “learning specialists” on their campus to help them with the training of leaders, and possibly the dissemination of the Peer-Led Team Learning (PLTL) Model? The best approach to this topic is to relay how I was found. A chemistry faculty member who had participated in a summer Chautauqua<sup>1</sup> course on PLTL approached me, the Assistant Dean of Students and Director of the Learning Assistance Center. He scheduled an appointment and we met in my office. During that meeting he outlined the model and asked if my office could help in any way. In retrospect, that was a very smart approach. I was first struck by the fact that this faculty member was initiating contact with my office. Typically it is the other way around. Secondly, he didn’t tell me

what he wanted me to do. Instead, he gave me an overview of the program and asked me if I thought it complemented the mission and goals of my office, and if we could support his effort in any way. He was diplomatic and charming in his presentation. I was baited and hooked! Since that initial meeting we have worked together for over four years. I helped him raise money in support of the program and my office adapted and teaches a section of its tutor-training course to train peer leaders. We have presented together at national conferences and meetings; we are the co-authors of a chapter<sup>2</sup> on PLTL, and we co-facilitated a Chautauqua short course on PLTL. I can honestly say we have a true partnership.

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## PLTL AT THE UNIVERSITY OF KENTUCKY

Five years ago, in the fall of 1997, Peer-Led Team Learning (PLTL) was born at the University of Kentucky (UK). About 45 students in six groups, each with a peer leader, met once a week for two hours to work problems in General Chemistry. In the two years before the birth of PLTL, collaborative learning in Chemistry at UK was initiated on a small scale (about 25 students) using the Excel model of Uri Treisman as it was pioneered on the UK campus by Professor Mike Freeman of the Math Department. During that period, the chemistry program acquired the name ChemExcel, and the PLTL program still carries that name on campus. Despite the confusion the Excel name may cause for some folks off campus (including, recently,

confusion with the Microsoft spreadsheet), it is a brand of considerable reputation on the UK campus and one that we are reluctant to change.

The pilot PLTL program was supported for a year by the College Dean. Then, from the fall of 1998 through the spring of 2000, UK was part of a coalition of several universities that received a National Science Foundation “Adapt and Adopt” grant. Those were critical years for establishing a solid record of achievement and developing a reputation on campus for academic excellence.

If 1997 was the birth year for PLTL, the millennial year, 2001, was the year it achieved immortality. In the fall of 2001

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## PROJECT NOTES: EXPANDING OUR LEADERSHIP ROLE

Included below is an adapted summary statement of *Leadership Reconsidered*, a report sponsored by the W.R. Kellogg Foundation. This report is in striking sympathy with the philosophy and goals of the Peer-Led Team Learning (PLTL) Project, boldly proclaiming the potential of "students as leaders." The report urges all members of the academic community to rethink their conventional hierarchical top-down *modus operandi*, and move to a more collaborative approach, with all members of the academic community taking leadership roles.

We believe that the PLTL Project embodies many of the principles laid out in *Leadership Reconsidered*. By including a peer-led component to our courses we are enabling a compelling example of student leadership that has enormous impact on other students and the academic community. Engaging in PLTL offers opportunities for leadership for change to students, faculty, administrators, and staff at colleges and universities. We should take advantage of these opportunities to strengthen our PLTL programs across the country, and assert and illustrate the positive influences that PLTL is having in the courses and on the college community at large. We can leverage the leadership experience that our students obtain in the classroom to the college, and the university community. A review of current and past articles in *Progressions* indicates that the members of the PLTL Project are constantly embarking on leadership roles, by initiating inter- and intra-campus collaboration, new PLTL courses, innovative scholarship and satirical skits, and promoting new thinking on the part of administrators.

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We should make more explicit the discussion of our leadership role in changing our institutions, and develop strategies for promoting the change that we seek.

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### Leadership Reconsidered:

*Engaging Higher Education in Social Change*

#### Who, Me? A Campus Leader?

Yes, you. A new report by a dozen prominent scholars and practitioners in the fields of higher education and leadership concludes that you can be a campus leader, no matter where you sit or what your title is.

*Leadership Reconsidered: Engaging Higher Education in Social Change* defines a leader as "anyone -- regardless of formal position" who works effectively to make change. "In this sense," the report notes, "every faculty and staff member, not to mention every student, is a potential leader."

That's a lot of leaders, you may say. To what end?

"We need more and better leadership *on* campus to produce more and better leadership *off* campus," says Alexander Astin, who, with Helen Astin, directs UCLA's Higher Education Research Institute. They are the editors of *Leadership Reconsidered*.

The quality of leadership in American society will not improve, the authors say, unless colleges and universities make sweeping changes in undergraduate education, campus culture and governance.

"It's not enough to turn out graduates who have mastered knowledge in traditional disciplinary fields," says Alexander Astin, author of *What Matters in College?* "Higher education institutions need to help students develop the personal qualities and abilities that are crucial to effective leadership."

The report, funded by the W. K. Kellogg Foundation, urges everyone on campus -- from college presidents to faculty to staff to the students themselves -- to rethink their roles, practices, and beliefs, with the explicit goal of producing future generations of effective leaders.

Specifically, the report calls on higher education institutions to intentionally encourage the development of leadership skills in all students; seize on opportunities to model effective leadership; replace hierarchical, individualistic, and competitive styles with collaborative ones; and reaffirm campus connections to the community and to the common good.

**What is quality leadership?** *Leadership Reconsidered* stakes out new territory by suggesting ten qualities -- five group

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## PEER LEADER TRAINING: LESSONS FROM SCOUTING

In 1907, Robert S. S. Baden-Powell took a group of boys to the first Boy Scout camp on Brownsea Island off the English coast. The emphasis of the camp was on building leadership skills and learning Scoutcraft (camping, cooking, knots, hiking, orienteering, observing nature, first aid). One year later he published *Scouting for Boys*, the first handbook. Scouting soon spread to the United States, and in 1910 the Boy Scouts of America was incorporated by William D. Boyce, a Chicago publisher, who happened upon Scouting in 1909 while passing through London. When lost in the fog, Boyce was aided by a boy who refused a tip because he said it was a Good Turn, and a Scout could not accept pay for such an act. Boyce was so impressed that he immediately went to the British Scouting headquarters to “find out what kind of program would have such an effect upon a city boy.”<sup>1</sup> Since then, Scouting has become a worldwide phenomenon with millions of youth participants in hundreds of countries.

From the start, Scouting has been rooted in peer leadership, and there are many parallels to the Peer-Led Team Learning model. A Scout troop is organized into “patrols,” small groups of six to eight youth led by a Patrol Leader (peer leader). There is a Leadership Corps consisting of a Quartermaster, Assistant Senior Patrol Leader, and Senior Patrol Leader (experienced peer leaders). The Scoutmasters (faculty) have the responsibility of training the youth leaders, and only intervene directly if it is absolutely necessary. The Scoutcraft (Chemistry, Biology, Physics, Mathematics) is accomplished within the framework of the patrol (small group). In a well-run Scout troop, the youth are the true leaders, just like in the PLTL model.

In Scouting, Scoutmasters have the prime duty to start and continue the development of troop leaders. Their own preparation in this area is essential to the success of the program. The most effective (and fun) Scouting troops are those whose adults and youth have received leadership training. Scouting has trained youth in leadership skills for nearly a century. What are some lessons we

can learn from Scouting to help us train peer leaders?

Each local Boy Scout council throughout the United States runs a troop leader training conference for youth of ages 13-18. The conference is a week-long experience designed to prepare boy leaders for more effective patrol and troop leadership. During the week, Scouts from different communities come together and “live” as a troop, camp, prepare their own food, and participate in Scouting activities. The organizational structure is the same as it would be in their home troop. The conference has the following<sup>2</sup> broad objectives:

1. To give the Scout an understanding of the eleven skills of leadership and how to apply them in his patrol or troop responsibility.
2. To give the Scout experience in a variety of Scoutcraft skills to enable him to assist in his patrol and troop members as they participate in programs leading to Boy Scout advancement.
3. To help the home troop and Scoutmaster to provide a quality program through trained troop leaders.
4. To give the Scout an opportunity to share experiences with other troop leaders, thus enriching his patrol or troop program.

A lesson we can take from Scouting is to devote sufficient time to leader development. Do you spend several days at the beginning of the term training peer leaders? Do you emphasize skills of leadership? Do you incorporate discipline-specific skills into training? Are peer leaders given plenty of opportunities to share experiences? Is leader *development* an ongoing, constant process?

Recognizing the eleven skills of leadership has been a central focus of leader training in Scouting, and we would be wise to adopt a similar strategy. The eleven skills of leadership are:

1. Resources of the Group: What resources are available to faculty? To peer leaders? To students? Are people resources? What resources do peer leaders bring? How are resources most effectively used?
2. Communicating: What are the key features of good communication? How do we receive in-

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*From the start, Scouting has been rooted in peer leadership, and there are many parallels to the Peer-Led Team Learning model.*

*The most effective (and fun) Scouting troops are those whose adults and youth have received leadership training.*

*How can learning be managed? Is “managing learning” the same as “teaching”? What are the parts of the process of managing learning?*

*Why is setting a good example a skill of leadership? How do we set the example? Why is this the most important of the eleven skills of leadership?*

*(Continued from page 3)*

formation? How do we retrieve information? How do we give information? How do we interpret (filter) information? Who should be communicating in the PLTL model?

3. Needs and Characteristics of the Group: Who is the group? What are their needs? What are their characteristics? How does this impact group learning?

4. Representing the Group: Who do peer leaders represent? Students? Faculty? How do we effectively represent without consultation? How do we represent with consultation? Does representing work in two directions?

5. Managing Learning: How can learning be managed? Is “managing learning” the same as “teaching”? What are the parts of the process of managing learning? (Learning objectives, discovery, teaching-learning, application, evaluation.) How do hearing, seeing, and doing apply to learning? What are “minidiscoversies”? What is “recycling”?

6. Evaluating: What do we mean by “evaluation”? How does evaluation help to get the job done? When do we evaluate? Who do we evaluate? Why is evaluation a part of the process of managing learning?

7. Counseling: What is counseling? Why do we counsel? When do we counsel? What are some counseling techniques? What are the six principles of counseling? (Listen, ask yourself “Do I understand?”, do not give advice, summarize, add facts, check alternatives.) What are five ways to respond? (Restate in your own words, ask about feelings on the matter, show you are listening, ask a question now and then, encourage them to go on talking.) When is it best to refer to a more experienced counselor?

8. Sharing Leadership: Who shares leadership? What are some styles of leadership? (Telling, persuading, consulting, delegating, joining.) How is leadership shared? What is the difference between responsibility and authority?

9. Planning: What is the need for planning? How do we effectively plan? What are seven steps to effective planning? (Consider the task, make a decision, consider the resources, consider alternatives, write down the plan, put the plan into effect, evaluation.) Who does the planning?

10. Controlling the Group: Does a group really need to be controlled? Who controls the group? When should we control? Who is controlled? What is controlled? How do we control? (Observing, instructing, helping, inspecting, reacting.)

11. Setting the Example: Why is setting a good example a skill of leadership? How do we set the example? Why is this the most important of the eleven skills of leadership?

The “patrol method” of Scouting has worked for nearly a century, and applying the lessons learned from Scouting should have a positive impact on the effectiveness of peer leaders, and result in more effective student learning in our courses. We would do well by following the Boy Scout Motto and “be prepared” through ongoing peer leader development as an integral part of PLTL workshops.

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#### References

- <sup>1</sup>*The Scoutmaster Handbook* (1990). Irving, TX: Boy Scouts of America. ISBN 0-839506502-X.  
<sup>2</sup>*Troop Leader Training Conference Staff Guide* (1981). Irving, TX: Boy Scouts of America. No. 6535.

Eric J. Voss, Associate Professor of Chemistry, first attended troop leader training in 1978 at the age of 13, and has served on the staff of many youth leadership courses, including positions as course Senior Patrol Leader and course Scoutmaster. Eric is an Eagle Scout, is a Vigil Honor member of the Order of the Arrow (BSA Honor Camper's Service Organization), and has received the Founders' Award, the National Order of the Arrow Leadership Award.

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## PROJECT NOTES: EXPANDING OUR LEADERSHIP ROLE

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traits and five individual ones -- that define effective leadership. Group traits are collaboration, shared purpose, disagreement with respect, division of labor, and a learning environment. Individual traits are self-knowledge, au-

thenticity/integrity, commitment, empathy/understanding of others, and competence.

For more information, contact the James MacGregor Burns Academy of Leadership at the University of Maryland: <http://www.academy.umd.edu/publications/LeadershipReconsidered/index.htm>.

## TRAINING LEADERS AT PORTLAND STATE U.

The preparation of workshop leaders is integral to the success of the peer-led teaching and learning Workshop Model, where leaders must understand the basic principles of the PLTL Workshop Model, as well as understand the role of a facilitator. For the past two years we, two professors of chemistry at Portland State University (PSU), have run a training workshop that endeavors to give the new leaders experience in their new role and provide them with the opportunity to address the challenges associated with leading a diverse group. The major goals for the training period include wanting leaders to:

- ? understand the PLTL Workshop Model. We emphasize to the leaders that they are not to function as tutors and that our goal in including workshops as part of our teaching/learning program is to help students become independent learners and to take more responsibility for their learning;
- ? understand the diversity of their group and ways to be inclusive of all students;
- ? feel confident in their role and know what resources are available to them and how to access those resources.

The training session takes place over two days, and incorporates a range of activities. Many of these are covered in the PLTL Handbook for Team Leaders (2001, Prentice Hall). We minimize the lecture mode of presenting material, balancing the providing of information with the experience of actual workshops and trainee-generated presentations or idea sessions. We begin by getting the students to talk. Portland State University is a commuter campus and as such, many of the students do not know each other and may not be familiar with the faculty. A favorite starter for the session is the "icebreaker" that involves interviewing a partner and then introducing that person to the group. To help get this going we provide guiding questions and include an unimportant and perhaps silly question, such as "How do you eat a Reese's?" to set a casual tone to the morning. This activity gets the participants talking to the group without the pressure to contribute something significant to the discussion or worry about providing a correct answer. Fac-

ulty and experienced leaders are included in these interview pairs to support the idea that we are all peers in this working group.

We feel it is important to include a session with a sample workshop and we choose to do this with experienced leaders or faculty facilitating the workshop. This is a good introduction to the PLTL approach and allows the opportunity for the session leader to stop the process and point out techniques used, and particular actions demonstrated by the leader. The portions of our training that are perhaps unique are the use of learning styles inventories and the assignment by the new leaders to prepare a workshop and teach it.

Early on in the workshop we have students complete the Gregorc Style Delineator instrument<sup>1</sup>. This particular tool develops a style profile where the person has degrees of four dimensions, which are combined, resulting in styles characterized as concrete sequential, abstract sequential, abstract random and concrete random. It is expected that all persons will score in all four quadrants but that one or two will be dominant. We choose not to focus heavily on the interpretation of these styles, but do record on an overhead a plot showing where each person in the room falls on the scale. This allows a brief discussion that typically we represent many learning styles or preferences, but all have been successful in studying science. This idea provides a very nice introduction to the next session discussing group problem-solving techniques, more icebreaker activities, and some of the challenges of being a workshop leader. We also found the "Imagine" scenarios prepared by Vicki Roth from the University of Rochester and the list of frequently asked questions (FAQ) from the Workshop Project to be very useful (Note: FAQ's can be found at [www.pltl.org](http://www.pltl.org)). These scenarios can provoke a thoughtful discussion about how unique individual responses may be to identical situations, and the FAQ list can be used to stimulate a brainstorming session on how to deal with difficult situations. We urge leaders to continue discussion until they reach a consensus about a problem or issue. Again, we feel this is in keeping with the Workshop Model and helps build leader confidence in their own

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*[The Gregorc Style Delineator instrument] allows a brief discussion that typically we represent many learning styles or preferences, but all have been successful in studying science.*

*As the discussion became somewhat heated we could readily point to the need to recognize that, particularly for difficult chemical concepts, multiple approaches need to be presented and appreciated.*

*Another problem for workshop leaders (and teachers of all kinds and levels) is how to facilitate group learning without lecturing, tutoring or jumping in and providing answers.*

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abilities to problem-solve. This portion of the training is particularly well received when facilitated by experienced peer leaders.

The use of learning styles inventories is common in workshops of many kinds, but actual applications of them are less frequent. We chose to group students by their dominant learning style and then assign them the task of preparing a lesson outline. All the participants had completed the general chemistry course, so we asked them to develop a lesson to teach the concept of limiting reactants. When presenting their lessons the preferred strategies of the dominant learning styles were readily apparent. The most striking difference was the starting point the different groups chose. One group preferred to begin with the chemical equation and its symbolic representation, while another group chose to start with the macroscopic food analogy. As the discussion became somewhat heated we could readily point to the need to recognize that, particularly for difficult chemical concepts, multiple approaches need to be presented and appreciated. The group format of the workshops makes this simple! The members of the group can bring multiple approaches to the table and more students may make the connections they need to make. This exercise provides an opportunity for the new leaders to be very active in the problem-solving discussion about diversity among the groups.

Another problem for workshop leaders (and teachers of all kinds and levels) is how to facilitate group learning without lecturing, tutoring or jumping in and providing answers. In the training workshop it is difficult to set up a situation where only the "leader" is the expert since all the students have similar chemistry backgrounds. This past year we chose to have each new workshop leader prepare a workshop lesson on a topic that they were an "expert" in and felt comfortable. The assignment was given at the end of the first day, to be presented the following day. To alleviate anxiety, we let students know we had backup workshops they could lead if they did not come up with a lesson plan.

This was a truly fun exercise! The groups the next day were formed to include the expert, a faculty member or former leader, and several workshop participants. The groups

were asked to assign one person to the role of observer (they could also participate), whose job it was to help evaluate how well the leader facilitated and guided the group. We learned about ballet, haiku, electrical circuits, magic bread and DNA, to name only a few of the topics that were introduced in workshop format.

The impact of these workshop exercises was readily apparent from the assessment forms we received at the end of the training days. Our form consisted simply of four prompts:

1. The training workshop helped me feel more confident about...
2. The most valuable aspect of the two days of training was...
3. I wish we had...
4. I still need to know/have questions about...

Participant responses were very positive. *The workshop helped me feel more confident about "my role as peer mentor," "dealing with various situations," and "the entire workshop process."* *The most valuable aspect was the "practice of leading a workshop the second day helped me the most," "seeing the different approaches to problem-solving by different learning styles groups," and "tips for different ways of leading workshops."*

We feel that this set of experiences has helped develop a group of very strong peer leaders. They enjoy their work with their workshop groups, develop close ties with these students and approach their responsibilities with sincere effort and good will. As the faculty supervising these workshops, we have found working with the leaders to be a truly exciting and rewarding experience and an unexpected benefit to the PLTL Model.

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#### Reference

- <sup>1</sup>Gregorc, A. F. (1979). Learning styles: Differences which the profession must address. Reading through content, 29-34. and Gregorc, A. F. (1979) Learning/teaching styles: Their nature and effects. Student learning styles: Diagnosing & prescribing programs, 19-26.

## COMBINING PLTL WITH THE CASE STUDY METHOD OF INSTRUCTION

Peer-Led Team Learning will be incorporated into three different courses at Finger Lakes Community College (FLCC) in Canandaigua, NY, for the 2002 spring semester. As Assistant Professor of Biology and the director of the program, I obtained funding for a pilot project that will test the efficacy of incorporating PLTL in General Chemistry, Abnormal Psychology, and a course in Human Anatomy and Physiology. With grant support from FLCC and the State University of New York (SUNY) system, the project involves three different faculty members, ten peer leaders, and approximately 80 students. Although the courses cover a diversity of topics, they will be united by the fact that all three will be using case studies as materials for the peer-led groups.

Case studies have long been used as a method of instruction in the legal, business, and medical communities, but recent reforms in science education at every level have turned to more contextually based instructional models. This has led to an expansion of the use of case studies into a wide variety of scientific disciplines. The University of Buffalo established a National Center for Case Study Teaching in Science<sup>1</sup>, which hosts several workshops in the Case Study Method and maintains a library of peer-reviewed cases. The *Journal of College Science Teaching* (JCST) devotes an entire issue to the Case Study Method and Clyde Herreid, Distinguished Teaching Professor and Director of the National Center at the University of Buffalo, is a Column Editor for JCST.

The project at FLCC will combine the case method with PLTL. The grant was used to support a PLTL training workshop held September 27-28, 2001 for all of the peer leaders and faculty involved in the pro-

ject. The workshop was led by Vic Strozak from the Center for Advanced Study in Education of the City University of New York, and Dennis Bartow from Prince George's Community College in Largo, MD. Several faculty from neighboring Monroe Community College, and experienced peer leaders from the University of Rochester were also in attendance. As part of their training, the FLCC faculty also attended a workshop at the University of Buffalo to learn more about how to write their own cases and how the case method can be used in their classrooms. After taking part in these training workshops, the FLCC faculty have been spending their time writing case studies and working with the peer leaders to prepare them for incorporating the cases into their PLTL groups in the spring semester.

The effectiveness of the project in the three courses in this initial effort will be evaluated using a variety of performance indicators. The goal is to show benefits in academic performance and retention among the students in the three courses. It is expected that the well-documented positive effect on these two variables will justify an extension of the FLCC program for another year. In the second year, the experienced faculty and peer leaders will work together to train a new batch of FLCC students along with faculty from a course in Nursing to expand the project into other academic disciplines. The ultimate goal is to institutionalize the PLTL model at FLCC and maintain an active pool of peer leaders in a variety of different courses.

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### Reference

<sup>1</sup> For more information on the National Center for Case Study Teaching in Science, visit: <http://ublib.buffalo.edu/libraries/projects/cases/case.html>.

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### THE PLTL NATIONAL DISSEMINATION PROJECT - UPCOMING EVENTS

|                                |                  |                  |
|--------------------------------|------------------|------------------|
| Chautauqua-West Workshop       | Pasadena, CA     | May 20-22, 2002  |
| Chautauqua-East Workshop       | Philadelphia, PA | June 12-15, 2002 |
| National Leadership Conference | Missoula, MT     | August 1-4, 2002 |

Go to [www.pltl.org](http://www.pltl.org) for more information

## IN THEIR OWN WORDS: STUDENT LEADERS IN PORTLAND, OREGON, COMMENT ON PLTL

*After participating in PLTL, I have decided to pursue teaching as a career. I would like to teach at the undergraduate level. This has been one of the most rewarding experiences I have had.*

*Student leaders reported that teaching was fun. This was a surprise to many.*

Undergraduate facilitation opportunities for science and math majors have expanded recently with the use of PLTL models in introductory science courses. While most analyses of this curricular model have focused on the benefits to the students in the workshops, there are also significant benefits to the peer leaders. According to peer leaders in PLTL programs at the University of Oregon and Eastern Oregon University, these benefits include:

1. **Content mastery:** You learn what you teach. Student leaders reported that they learned the subject matter more effectively when they were teaching it. They also reflected on their own learning styles and needs, which affected how they approached new topics in their own classes.
2. **Teaching skills:** Student leaders recognized that they developed specific skills in classroom management and discussion. For those who had already made a choice to become teachers, this was an opportunity to develop skills that they would need in their future career. These students valued their increased comfort in the classroom, and the confirmation of their interest and talent for teaching.
3. **Fun:** Student leaders reported that teaching was fun. This was a surprise to many.
4. **Service:** Students found value in the service components to teaching. They felt valued by their students, and felt that their efforts were rewarded when students increased their understanding of class material.
5. **Career:** Students who had not considered teaching as a career option reevaluated their possible career goals to include teaching.

At the University of Portland, freshman science students participate in two workshops per week, one in Workshop Biology and a second in Workshop Chemistry. Undergraduate science majors serve as "peer instructors" in a PLTL model in both the introductory biology and chemistry courses. Jenny Blake, a peer instructor in the Workshop Chemistry program, describes the value of the experience both in terms of her own knowledge and in terms of professional rewards:

The most positive aspect of this teaching experience has been explaining chemistry to someone without previous knowledge and to see their improvement throughout the course. Another large benefit has been reinforcing my chemistry background. Teaching or leading the workshop forces you to explain chemistry, which has been helpful for myself. Before my experience as a chemistry workshop leader, I had no interest in being a teacher. This experience has made teaching seem like a rewarding job. This experience has been worthwhile in all aspects of the job. Working with the students to help them understand chemistry, as well as working with the principles of chemistry to further my understanding of chemistry has been extremely beneficial. I would be very likely to participate in something like this again.

Leslie Davis, a University of Portland biology major who has worked with Becky Houck and Mike Snow in the Workshop Biology program and with Agnes Tenney in the Workshop Chemistry program, reflects on her experiences:

There have been many positive aspects to my teaching experience. Among the most beneficial are getting the excellent review (of course topics) for myself and seeing the recognition in a student's eyes when they grasp a concept or help a friend. After participating in PLTL, I have decided to pursue teaching as a career. I would like to teach at the undergraduate level. This has been one of the most rewarding experiences I have had.

Benjamin Sommers, a peer leader of the Chemistry PLTL program at Eastern Oregon University, which is supervised by Anna Cavinato, comments on the success in the sessions:

The key to the success of the PLTL program lies in the ability of the peer leader to relate to the students as a peer, a friend and helper who understands them.

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## FROM BOSTON UNIVERSITY: YES TO WORKSHOPS!

The first semester with PLTL is over and the workshops have been evaluated by the students at Boston University. Of the 63 students in our honors-level general and analytical chemistry course, 58 replied to the question: Were the workshops helpful to you? Forty-nine answered yes, five stated that they were marginally useful, and four answered no.

Insight about how the peer leaders view the PLTL approach comes from the following comments, included as part of their reports about Workshop #10 (Maxwell-Boltzmann distribution):

"Well, the last workshop of the semester is over and I am really going to miss it. Now I can understand why people become teachers even though it must be a very difficult profession."

"I am going to miss that group, but I am also very excited to get a new group and experience its new personality."

"In the end, we ran over to about 7:15, we did spend the usual two hours actually on the workshop. They all hung around a bit at the end - didn't quite want to leave. Does seem a bit strange that the next one

isn't for nearly two months..."

"This workshop was a lovely end to the semester. I was very pleased with the progress my group has made with Excel over the past month."

"Things seemed to be clicking left and right throughout the whole workshop and it was so good to watch them discovering so much. I was also discovering quite a few things in the process. It was such an atmosphere of learning that it was scary. It made me really happy though."

"They were particularly interested in the workshop and seemed to find the results pretty impressive. The phrase, 'that blows my mind' was actually used."

"Overall, the workshop and the semester went well. I enjoyed myself and I hope the students did too."

We do know that we have an increase in the number of majors in the sophomore class that we would like to attribute to the success of our course in general. Almost all the workshop leaders are now chemistry majors even though they were not so at the start of the semester.

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## IN THEIR OWN WORDS...

(Continued from page 8)

Communication is paramount to the learning process, but is often far removed in a typical classroom setting. In order to relate and communicate as a group, I discuss the issues of chemistry in the context of my experiences, the students' experiences, as well as working on the basic conceptual ideas of what the students are learning in class. Understanding the differences in learning styles and strategies of different students greatly improves the desire to learn, and the success of the process, so I utilize many different approaches to one idea, until it is clear that all students have an understanding of the subject matter. For instance, the behavior of

gases can be looked at graphically, or drawn as diagrams of individual molecules, or algebraically determined (i.e.,  $PV=nRT$ ), or visualized on a small scale (i.e., blowing up a balloon), or looked at on a large scale (i.e., the Earth's atmosphere). Then, all the different methods are linked together and shown to represent the same initial concept. For further reinforcement, students discuss these concepts and attempt to explain everyday phenomena using the combined methodology, and utilizing their newfound knowledge of the concepts at hand.

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*Well, the last workshop of the semester is over and I am really going to miss it. Now I can understand why people become teachers even though it must be a very difficult profession.*

*The key to the success of the PLTL program lies in the ability of the peer leader to relate to the students as a peer, a friend and helper who understands them. Communication is paramount to the learning process, but is often far removed in a typical classroom setting.*

## IMPLEMENTING PLTL AT MONROE COMMUNITY COLLEGE

*Without any prompting on my part, five or six students told me that they find the workshops helpful in understanding the course material. One even offered to write a letter of support to our dean to urge continued funding for PLTL.*

I am about two months into my initial experience using PLTL in the organic chemistry course at Monroe Community College (MCC), Rochester, NY. I first learned of PLTL when I heard Jack Kampmeier speak of his experiences at the 2000 Biennial Conference on Chemical Education at the University of Michigan. I was interested in the idea and had been doing a lot of cooperative learning group problem-solving in my classes, but I was very concerned with problems that I might have in trying to implement workshops in organic chemistry at a community college. A few months later I attended a presentation by Victor Stozak and Dennis Bartow at a 2YC3 meeting in New York. I was still concerned about implementation problems, but intrigued enough with the concept that I decided to apply for a WPA grant and implement PLTL in the fall of 2001. I was awarded a WPA grant and received matching funding (including some needed release time) from MCC. I went to the Chautauqua course training session in Philadelphia in June and to the national PLTL meeting at Goucher College in July. I found those to be very useful in preparing me for the problems and opportunities facing me.

The biggest implementation problem I faced was in finding peer leaders for workshops. There were five PLTL workshops scheduled for my organic class of about 40 students. I had identified three workshop leaders and thought I was all set, since two of them had agreed to do two sections. About a week before classes started, two of the leaders informed me that they were not going to be able to be workshop leaders. My first reaction was to panic and wonder whether I would be able to do this after all! Fortunately with some scrambling around and some invaluable assistance from Jack Kampmeier and Lydia Tien of the University of Rochester, I was able to get

all of our sections staffed. I now have four workshops leaders including one each from the University of Rochester and Nazareth College. One of my nontraditional workshop leaders is an adjunct faculty member who agreed to step in at the last minute to staff a PLTL section that none of the others could take.

I tried to prepare the workshop materials before the course began and am making minor adjustments during the semester. The workshop problems have come from the problems I had written for the cooperative learning assignments I was doing previously and the book, *PLTL: Organic Chemistry*, written by Jack Kampmeier, Pratibha Varma-Nelson and Don Wedegaertner (2001, Prentice Hall). I have needed to adapt some of the PLTL problems in the book to my course and the text (Bruice) I am using.

It is too early to have hard data yet as to how PLTL is working. However, I have had a very favorable response from students. Without any prompting on my part, five or six students told me that they find the workshops helpful in understanding the course material. One even offered to write a letter of support to our dean to urge continued funding for PLTL.

I have received a lot of useful assistance and advice on launching PLTL on my campus. I'm particularly grateful to Jack Kampmeier and Lydia Tien for their help in locating and training peer leaders. I would be happy to share my experiences with anyone thinking of attempting to implement PLTL, particularly anyone interested in doing PLTL in organic chemistry at a two-year college.

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*For back issues  
go to  
[www.pltl.org](http://www.pltl.org)  
and click on  
Progressions*

### NEW DEADLINE FOR WPA GRANT APPLICATIONS

Applications for Workshop Project Associate (WPA) grants are due by:  
May 1, 2002 for Fall 2002 implementation

For more information including application guidelines, please go to  
<http://www.pltl.org/> and click on "Workshop Project Associate Grants"

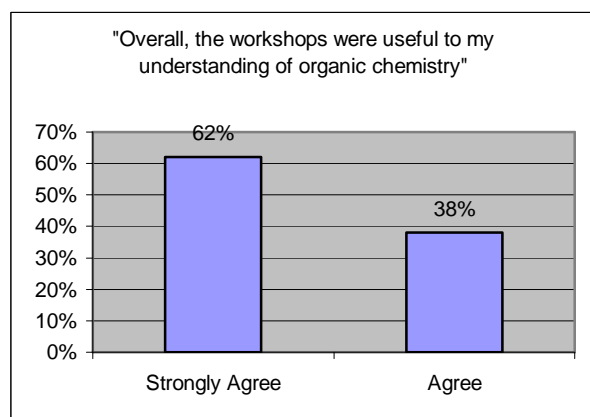
## POSITIVE CHANGES THROUGH WORKSHOPS SEEN IN ORGANIC CHEMISTRY AT CCNY

About five years ago, in an attempt to improve retention rates and overall class performance in the first course of the organic chemistry sequence at the City College of New York, Professor Valeria Balogh-Nair adopted the PLTL Workshop Model. Ever since, results have been very positive as demonstrated both by the success rate of her students and their improved attitude towards the course. These two aspects have been evaluated using a series of surveys and historical data. The graphs shown here are based on responses from students (N=48) from the Spring 2001 semester.

Recently, Professor Valeria Balogh-Nair (balogh@sci.ccny.cuny.edu) was interviewed by Christian Gonzalez, one of the course's workshop leaders, to discuss her involvement with workshops.

*Christian Gonzalez:* How did you get started with workshops?

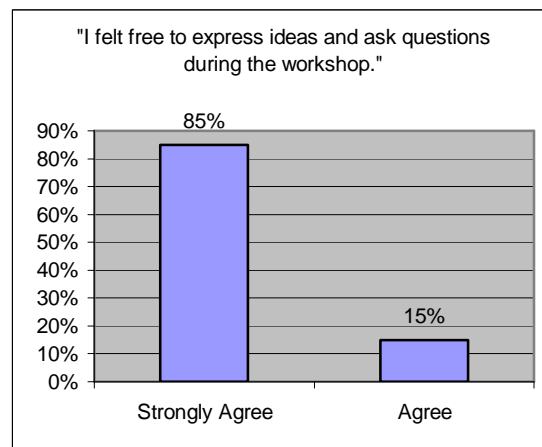
*Valeria Balogh-Nair:* I like to try new things, and especially those that seem to offer good results. The workshops in general chemistry at CCNY and other institutions seemed to be having a lot of success. My students have also been a



concern to me, and I really did not feel comfortable failing over seventy percent of the class while being aware that other teaching methods could be used. The old recitations really did not seem to work very well, and since they were eliminated anyway, starting workshops seemed the right thing to do.

*CG:* What difference in student behavior and learning have you noticed?

*VBN:* After workshops were implemented, the attitude of the students towards the course completely changed. They started to seem more attentive and motivated in lecture. I



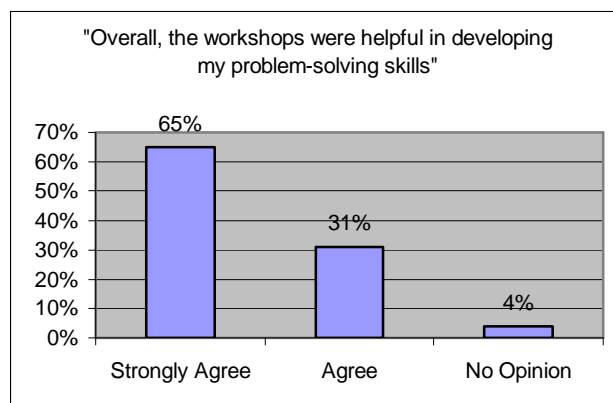
could see that they were up to date with the readings and problems as they asked more questions in class and visited more frequently during my office hours. Also, they started doing better on the tests, and the class average dramatically improved that first semester the workshop was implemented. Indeed, the rate of students passing the course improved, and that is quite an accomplishment as organic chemistry is one of the courses most feared.

*CG:* How has using workshops changed you as a teacher?

*VBN:* It totally changed my attitude towards students. It made me become more involved in their learning as I started to tailor the workshop modules to those points I wanted to emphasize the most. Not only that, but the input from the workshop leaders has been invaluable because it identifies the weaknesses the students have and so these points can be reinforced during the lecture. On a different aspect, the whole concept of using workshops is very refreshing and gets rid of other old and monotonous alternatives.

*CG:* Would you like to see the use of workshops expanded?

(Continued on page 12)



(Continued from page 11)

VBN: Certainly! The use of workshops has met great success in the general chemistry sequence. It is wonderful to see this same success expand to the organic chemistry courses. Organic chemistry is taken after a full year of general chemistry and workshops, but this is not a good enough reason to prevent the use of workshops in this course as well. In fact, it is in more advanced courses where students need to realize that they have the support of others who have been through the same path. Some might argue that having workshops is additional work, and indeed it is, but it is fully worth it.

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## TEACHER PREP PROGRAM FEATURED ON VIDEO

A videotape highlighting the *Science and Mathematics Teachers for the New Millennium* program is now available. The goal of this City University of New York (CUNY) distance education-based program is to prepare students in Associate Degree and Bachelor Degree programs to become secondary school teachers in the critically needed areas of mathematics and science.

The program's principal investigators, Dr. Mike Weiner of the Chemistry Department of City College of New York (CCNY) and Ellen Goldstein of the CCNY Center for Teaching and Learning, candidly discuss the background and key elements. The tape includes a description of peer-led team learning by A.E. Dreyfuss, Project Manager of the PLTL Project, who is also the lead teacher in the program's first course which introduces teaching and learning concepts to workshop leaders and tutors.

Both Goldstein and Dreyfuss explain and illustrate the use of technology-based distance learning. The roles and responsibilities of the faculty liaisons who addi-

tionally serve as program counselors and mentors are discussed by Dr. Janet Liou-Mark of the Mathematics Department of New York City Technical College (NYCTC) and Dr. Ruth Herz of the Science Department of Borough of Manhattan Community College (BMCC). Both two-year and four-year students provide testimonials, revealing their advisement, learning and teaching experiences, and their commendable career goals. These students best exemplify how well this innovative program is meeting its goals.

Special thanks to Luis E. Acosta of the Media Center of BMCC for his masterful expertise in producing and editing this videotape, and to Leonard Edmonds of the iMedia Center at CCNY for his work taping interview segments.

To obtain a copy of the videotape, please send e-mail to [egoldstein@smtnyc.org](mailto:egoldstein@smtnyc.org).

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## RECENT ARTICLES ON PLTL

*Implementation of a Peer-Led Team Learning Instructional Approach in an Undergraduate Chemistry Course*, by Lydia Tien, Vicki Roth and Jack Kampmeier, has been accepted for publication in 2002 by the *Journal of Research in Science Teaching*. The eight-year study of student outcomes "suggest that using undergraduate leaders to implement a peer-led team learning model that is built upon a social constructivist foundation establishes a workable mechanism for effecting change in undergraduate science courses."

*Cafeteria-Style Grading in General Chemistry*, by John Goodwin and Brian Gilbert, has been published in the *Journal of Chemical Education*, 2001, 78, 490. "Self-selected individual course-grade weighting schemes allow students personal choice of course components at Coastal Carolina University...Comparison of student success in the course and content learning suggests that the improvements observed with introduction of a gamut of activities increase even more when the cafeteria-style grading is implemented."

## PLTL AT THE UNIVERSITY OF KENTUCKY

*(Continued from page 1)*

the president of the university included recurring funds for ChemExcel (and Math- and BioExcel) in his annual budget. Until temporary funding was replaced by recurring funding, the long-term survival of the PLTL program was far from assured.

From its inception, students in the PLTL program typically have had Success Rates (percentage of grades of C or better) about 20 points higher than the Success Rates for the class as a whole (see chart, page 14). "Class as a whole" refers to all the students in General Chemistry. About 1100 students are enrolled in General Chemistry I in the fall semester. They include students majoring in science, engineering, preprofessional studies, and agriculture. They meet in large (two to three hundred students) lecture sections with no accompanying recitation or laboratory sections. About 750 students are similarly enrolled in General Chemistry II in the spring semester, this time with an accompanying laboratory course. Because all students in General Chemistry take the same common exams, it is easy to compare the performance of PLTL students with that of the rest of the class.

PLTL is not a required part of the General Chemistry courses. First-year students may elect to enroll in PLTL for one credit (pass-fail grading) when they arrive on campus for advising and registration in the summer preceding fall matriculation. Their awareness of the PLTL program comes from information mailed to all admitted students and from an oral presentation available during the registration period. Close cooperation with the Advising Network on campus has been important in promoting PLTL. Enrollment can be matched to supporting funding to some extent by limiting the advertising and by close communication with the advising staff. Currently we can enroll about 130 students. The maximum demand for PLTL, though not yet measured, may be a fourth to a third of the total enrollment in General Chemistry. Many students don't want to spend an extra two hours a week working problems if they don't have to.

Potential peer leaders are recruited by invitation from a list that includes students who excelled in General or Organic Chemistry, former ChemExcel students recommended by their leaders, students recommended by the Honors Program, and walk-ons who have heard about it from friends. Those who apply are interviewed, and successful applicants are paid about \$400 per semester. There has been no shortage of high quality leaders; most love the job. Leader training consists of an orientation session before classes begin, weekly journal reports, and monthly leader meetings.

Although 70 to 80 percent of PLTL students earn A's, B's or C's compared to 50 to 60 percent of the class as a whole, the composite ACT scores of the two groups are similar. Those who choose PLTL aren't smarter than the others. Can the Success Rate difference be explained by assuming that only well motivated students (that is, those who would be successful without PLTL) choose ChemExcel? As yet there are no data to answer that question definitively, although a test is in progress. A prior experiment shed some light on the question. During the 1999–2000 academic year, all students in one of the three lecture sections were required to enroll in ChemExcel. In the fall semester the Success Rate for the 278 students in the lecture section with ChemExcel attached was 65.0 compared to 62.2 for the rest of the class. (Although the students knew in advance about the extra time required when they chose that particular lecture section, it probably was not a free choice. That section has always been the last to fill because it meets for 75 minutes starting at 8 a.m. and has historically performed below the rest of the class.) In the spring semester, the same conditions applied (except that the lecture time was more favorable). This time the Success Rate for the 257 students in ChemExcel was 67.1 compared with 45.1 for the rest of the class. Although we can speculate about these two widely differing results, probably the fairest conclusion is that we need more data.

It seems likely that self-selection makes some contribution to the elevated Success Rates but cannot account for most of the difference. Student evaluation of the PLTL program is

*(Continued on page 14)*

*[First year students'] awareness of the PLTL program comes from information mailed to all admitted students and from an oral presentation available during the registration period. Close cooperation with the Advising Network on campus has been important in promoting PLTL.*

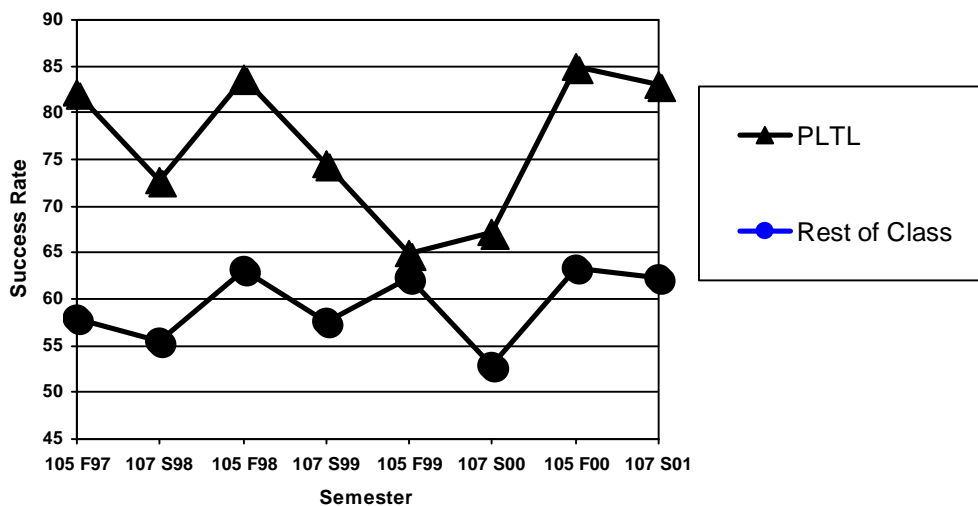
*Although 70 to 80 percent of PLTL students earn A's, B's or C's compared to 50 to 60 percent of the class as a whole, the composite ACT scores of the two groups are similar.*

(Continued from page 13)

consistently enthusiastic. Students overwhelmingly agree with statements like "I believe that the workshops are improving my grade." It becomes harder to attribute the results solely to motivational differences when one repeatedly reads handwritten, anecdotal statements like "ChemExcel was much more effective than lecture in helping me understand chemistry;" and the classic, "without ChemExcel class I wouldn't understand hardly anything."

The immediate future for PLTL at the University of Kentucky looks brighter than it has for some time. Next year will see a change in the faculty leadership of the program, a critical step if it is to survive in the long term. Although the term "recurring funding" has a comforting ring, it will probably recur only so long as the administration favors it. The self-promotion that was a feature of the beginning years and surely one of the reasons for reaching more permanent funding, must continue unabated. More funds are needed to accommodate all students who want the PLTL experience. Students frequently ask for a PLTL program to accompany the courses in Organic Chemistry. More direct involvement of all the General Chemistry lecturers with the PLTL program, a stronger leader training program, and continuing review of the problem sets and group meeting styles are needed.

Success Rates With and Without PLTL



At the end of each semester before the Success Rate is calculated, there is always the worry whether the ChemExcel advantage can be sustained for yet one more time. We hope to avoid complacency and turn a successful first five years into at least a decade of success.

At the end of each semester when the Success Rate is calculated, the heart skips a beat, wondering whether the large 20-point difference can be maintained for yet one more time. That the promise of the successful first five years *not* be taken for granted is probably another essential element needed for the survival of PLTL at the University of Kentucky.

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## LOOKING FOR LEARNING LINKS AT COASTAL

In looking for possible links between learning preferences (Auditory, Visual, Tactile-Kinesthetic) and student preferences for chemistry course components, John Goodwin (Chemistry) and Doug Smith (Education) at Coastal Carolina University have gathered and assessed preliminary data from 80 general chemistry students. The course components assessed in their study were Workshop Chemistry, CAI (ChemSkill Builder), Lecture and Laboratory. Workshop Chemistry was unique among these components in that it showed high component preference scores among all the categories of learning preferences, suggesting that by design it meets all the preferences well.

Goodwin and Smith have recently received a small CCU internal grant of \$3500, enabling them to de-

velop their instrument to assess more than just these factors in learning styles and to extend the course components beyond the four mentioned already. After local development and testing, they hope to be able to gather data electronically about a wider range of general chemistry initiatives at other schools.

If you are interested in assisting with the development of the instrument or in having your students participate in this longer range study, please contact me.

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## LOCATING THE ELUSIVE LEARNING SPECIALIST

(Continued from page 1)

My story sounds easy enough to replicate, but many faculty have indicated that they are unaware of comparable services on their campuses. How do you find the elusive learning specialists on your campus? First, the title, "learning specialist," is a generic term. You will probably not find a person with that title on your campus. Because many of us wear so many different hats and we come in many different forms on college campuses, the PLTL leadership created a term to encompass us all. One sure place to find a learning specialist is in your learning assistance center. It, too, comes under a variety of titles, i.e., academic support center, academic enhancement center, teaching and learning center, to name a few. If you don't have a center find the office or unit that provides tutoring services of some kind. Most campus tutoring programs provide some type of training for their staff. This is a readymade resource for PLTL training. If you don't have this type of academic support program, another resource for training assistance could come from your residence life program. Residence life has a long history of hiring and training students to serve in various capacities. This is a rich source to tap for cross training especially in some of the soft skills, i.e., communication, working in groups, diversity, campus resources, etc. Another resource that can support leader training is your campus leadership programs. This is a growing area of interest in co-curricular programming. Some schools have established leadership programs and centers. Again, student training is central to these programs. The key here is identifying sources on your campuses that hire large numbers of students, i.e., peer educators, peer advisors, etc. Inevitably, training is a part of their hiring practice. You may want to start by looking at your campus web pages. I found this to be a useful exercise.

Once you have identified some possible resources, the challenge will be in persuading that unit to support your effort. In many instances, it will simply be a matter of

asking for help. Many of these resources fall under the category of student affairs. Most divisions of student affairs welcome opportunities to form partnerships with faculty. On my own campus, the Vice President of Student Affairs places a premium on collaboration efforts. Her goal is to create a seamless web between academic and student affairs. The PLTL model complements this goal in many ways. But I am not naïve enough to assume that this is the case on every campus. There are political implications depending on the climate and culture of your campus. The approach described above that was taken with me worked like a charm. I suggest you do a little homework on your own campus to gauge who and what your resources are, to understand what they do and how they work, and to ask for their help.

There is a saying that if you want something done right, you better do it yourself. I think we have all experienced this at some time. Finding allies for implementation and on-going support for PLTL may be challenging. And it may feel easier if you go it alone, but the rewards of cross-campus collaboration far outweigh the effort. Collaborating with learning specialists on your campus models the philosophy of the Workshop Project. Workshop is a team effort and the learning specialist is an essential component of the team.

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### References

- <sup>1</sup>Chautauqua courses are sponsored by the National Science Foundation (<http://www.engr.pitt.edu/chautauqua/>)
- <sup>2</sup>Sarquis, J., Dixon, L.J., Gosser, D.K., Kampmeier, J.A., Roth, V., Stozak, V.S., Varma-Nelson, P. Chapter 26: The Workshop Project: Peer-Led Team Learning in Chemistry. In Miller, J.E., Groccia, J.E., Miller, M.S. (Eds.) (2001). *Student-Assisted Teaching: A Guide to Faculty-Student Teamwork*. Bolton, MA: Anker Publishing Co.

In the *International Nonwovens Journal*, The Director's Corner comments on "Building Team Savvy" and acclaims the PLTL Workshop Project for promoting teamwork in the academic community. Read more at [http://www.inda.org/subscrip/inj00\\_2/direct.html](http://www.inda.org/subscrip/inj00_2/direct.html)

*[The Vice President of Student Affairs'] goal is to create a seamless web between academic and student affairs. The PLTL model complements this goal in many ways.*

*Workshop is a team effort and the learning specialist is an essential component of the team.*

The Workshop Project Newsletter

*Progressions: Peer-Led Team Learning* is a quarterly publication of the PLTL Workshop National Dissemination Project.

*Progressions* is intended to build the Workshop community through discussion of the implementation of the PLTL Workshop Model at institutions of learning.

The editors are looking for contributions. Please submit announcements of upcoming events, articles, or pertinent concerns you would like addressed.

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## TRACKING LEARNING GAINS

Faculty involved with peer-led team learning workshops are encouraged to track students' learning gains by using the Student Assessment of their Learning Gains (SALG) instrument. SALG includes a template of sample questions, and can be modified by individual users (*see Progressions, Summer 2001, Vol. 2, No. 4, p. 4 regarding suggested modifications that address the PLTL model*). SALG is a web-based instrument (<http://www.wcer.wisc.edu/salgains/instructor/>) completed online by students and can be used free of charge.

For more information on the instrument, contact Elaine Seymour, SALG Instrument Designer at the University of Colorado, 303/492-0084, [seymour@spot.colorado.edu](mailto:seymour@spot.colorado.edu) and for information about the website, contact Sue Daffinrud, SALG Website Designer at the University of Wisconsin-Madison, 608/263-9214, [smdaffin@facstaff.wisc.edu](mailto:smdaffin@facstaff.wisc.edu).

Please forward class and course results to Mark Cracolice, University of Montana, Missoula, at [markc@selway.umt.edu](mailto:markc@selway.umt.edu).

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