

PEER-LED TEAM LEARNING SUSTAINABILITY

FROM PEER LEADERSHIP TO RESEARCH

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The Peer Leaders' Viewpoints

University of Houston-Downtown (TX)

If PLTL would help get students involved in student research, it would be very beneficial to all the students and help them build their career as an undergraduate. PLTL could hold an internship/job fair that brought in representatives from different institutions or companies. Also, PLTL could get in contact with students who were a part of PLTL in the past to recruit in their fields and talk to students about how PLTL helped them get where they are. PLTL could provide speakers to discuss the importance of undergraduate student research.

The only barrier that I could think of is that the students would not be interested in student research; however, I find that very difficult to happen since undergraduate research is very beneficial to them and it looks good on a resume and on graduate school applications.

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Peer Leader
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The City College of New York (NY)

In the beginning of this semester I was lucky enough to be invited to a presentation sponsored by the Chemistry department at CCNY of all the new Chemistry professors. At this meeting, the faculty each gave a 15-minute talk on their research and answered any questions. I was the only undergraduate in the room and I wondered why. It was a totally engaging experience, and even though I didn't understand about half of the science, the good part was that I understood the other half.

At this institution there are a number of undergraduate students who are working in labs, not just in the Chemistry department but in all the science departments. They are working either through volunteer work or independent study for credit. I think it would be great to have them meet in a workshop, present their work to other undergraduates and answer question. For me this is a perfect moment for the workshop model. It would give students experience with communicating science work, formulating and sharing ideas.

This kind of arrangement would need unified support from at least the level of the science faculty. It could start informally and easily if mentored by one faculty member who could attend.

*Heather D'Adamo
Peer Leader
Major: Premed
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"Give a man a fish and he'll eat for a day, teach a man to fish and he'll never go hungry again." Peer-led team learning is an excellent model to catapult students into research opportunities in interdisciplinary fields. As leaders are trained, they are required to investigate topics on ideas in learning, group dynamics and information processing. These skills are critical not only in developing capable leaders, but also useful in doing scientific research. A student who understands group dynamics can work very well on a research team and even lead its organization much like he or she does in a workshop. Also information processing is essential when gathering a mass of data, which often takes place in scientific investigations, especially in Biology. The PLTL project is ideal when it comes to getting students to participate in research; it incorporates the skills necessary for a scientist to have with the skills that are essential to a workshop leader, ultimately sharpening both aspects for the student.

In order to help PLTL support its leaders in research endeavors, which will help them achieve their goals in science, as well as in their workshops, funding must be obtained. The NSF National Dissemination grant can help set up workshops in participating schools; however, an accessory source of funding would be needed to fund individual students who wish to participate in interdisciplinary research (biology, chemistry, physics, etc). This alternative source could come from scientific foundations like the National Science Foundation (NSF), the National Institutes of Health (NIH), and NASA. These organizations, as well as others help support student involvement in research projects. The peer-led team learning model can be used to link a university's research programs, by using trained peer leaders (who have good research skills already) to join research groups that they may be interested in and who have this alternate funding already. Also most research professors benefit from having undergraduate students in their groups because they receive additional funding for having students involved in their research.

The only barriers that may appear are the time commitments involved with research. In chemistry and physics, time is not entirely a crucial factor, as successive experiments can be carried out at one's leisure. However, in biology time is usually very important because you are dealing with live material, which may have a certain life expectancy. Also in community colleges, there may be not many research professors available, as the student turnover rate is high.

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Peer Leader
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The Faculty Viewpoint

Coastal Carolina University (SC)

This is my third year coordinating PLTL Workshops in Introductory Biology at Coastal Carolina University (CCU). The program began with a WPA Grant in 2002 and we are continuing it for our first semester students. I have been able to combine PLTL with student research projects as well as future teacher preparation through my own research focus on science education.

My position as Assistant Professor in the Department of Biology at CCU was our first hire in the College of Natural and Applied Science with a specific directive to focus on research in science education. CCU also has an emphasis on undergraduate research, with faculty expected to involve students in their own research. PLTL offered a good opportunity to do this, since I was collecting survey data to assess the effectiveness of the program in Introductory Biology.

In Summer 2003, I taught a graduate course for our Master of Arts in Teaching (MAT) Program and thereby got to know some of our graduate students who were planning to be teachers. That Fall semester, two of the MAT graduate students and one undergraduate student interested in science education approached me about possibly working on research in science education. I had all my PLTL survey data, but had not had a chance to really look at it, so I basically handed it over to these students with the charge to write up the study and report on what kind of impact PLTL was having on our students. That Spring semester, another undergraduate planning to become a science teacher asked about similar research possibilities, so I gave him the initial student report and the next semester's worth of data. His charge was to incorporate the new data and put together a presentation for the annual meeting of the South Carolina Academy of Science in Spring 2004.

This has been a win-win situation for everyone. I've had assistance in compiling, analyzing, and presenting my data. Four students, two of whom are now high school science teachers and two of whom are considering that career choice gained experience in conducting and communicating research in science education. While this did not give them teaching experience directly, it did give them research experience which they may be able to apply in assessing their own classroom programs or graduate work. It also introduced them to the PLTL program in general, which could be used in some form in a high school setting.

I think the main barrier to this type of program is the idea that research in science education does not quite "count" as real science research. However, I think that barrier is going away, at least here at CCU. Since I was hired, we have hired two chemists whose focus is also science education. None of us has made it through the tenure process yet, but my sense is that most of our faculty now supports this type of research.

As far as support, certainly having a student symposium become part of the annual PLTL conference would be helpful. It's easier to convince your administrators to pay for student attendance at conferences when the students are presenting. Secondly, it would be helpful to have some sort of mini-travel grant program to facilitate student travel for presentations elsewhere. This not only gives the students valuable experience, but also helps to disseminate the PLTL program.

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