PEER-LED TEAM LEARNING
IMPLEMENTATION

COASTAL CAROLINA'S EXPERIENCES: SUCCEEDING THROUGH MIS-TAKES

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John Goodwin (Chemistry), Brian Gilbert (Chemistry), David Evans (Chemistry Chair), and Lois Ross (Chemistry Lab), faculty members at Coastal Carolina University (Conway, SC), discussed their experiences by phone with Leo Gafney, project evaluator, in early September, 1999. Coastal Carolina University's Chemistry Department received an Adopt & Adapt grant to implement Peer-Led Team Learning. The following is an edited transcription of their conversation.

Leo: *How did you get started with workshops at Coastal Carolina?*

John: In the spring of 1997 I received a local grant to develop a proposal for funding from the Fund for the Improvement of Post-Secondary Education (FIPSE) to improve our General Chemistry program, and we brought together faculty from all of the sciences. We started out thinking that we needed to shift the content, but the pedagogy message came through. I went to a meeting at Stony Brook and learned more about the Workshop Chemistry approach. We started trying to implement it that fall of 1997.

Leo: *What was it that the workshops added to what you had been trying?*

John: When we first started out we were trying to do it gradually, using materials from another university, and we did workshops within the class, without peer leaders. But we decided that didn't work very well because we didn't have time in class, and the materials weren't right, and the groups weren't formed very well. We realized that we needed to make changes pretty quickly.

Leo: *How many are involved in workshops now?*

Brian: We have about 100 students in workshops, with about seventeen student leaders. The professors are John Goodwin and I, and Doug Smith from the School of Education. He is involved in our leader training program.

Leo: *What will that involve?*

Brian: I think it will mostly be covering education aspects such as small group learning. The leader journals are probably going to drive the content of the course itself. We are leaving most of the problems up to the leaders. We have also set up a discussion group on the Internet where the students can post the problems and communicate that way.

Leo: *What materials are you using? How are they working?*

Brian: We are using the *Gosser, Strozak, Cracolice* materials. We started using the second semester materials last year. I think we are happier withthe first semester materials than those for thesecond semester. My feeling is that the first semestermaterials promote more interaction anddiscussion.

Leo: *Any other start-up problems?*

Lois: Last year we put the students in workshops according to how they signed up for laboratory classes. There weren't any lecture rooms available so we set up tables and chairs in the hallway, and the safety officers complained every day. We had 24 in a lab, so there were eight students in a group with a peer leader. This was supposed to take an hour and a half of the three-hour lab period and it ended up taking about two hours of the lab. By the time I got into the lab it was pretty hard to get into the experimental material. But it did get students working in groups.

Leo: *Could we back up a little and describe the overall structure of lecture, lab, and workshop?*

Brian: The lecture is a three-credit lecture, meeting three times a week for about an hour. Workshops meet once a week for about an hour and a half. The lab is a one-credit course meeting once a week for three hours. These are completely separated from each other. What we have done is what John likes to call cafeteria style grading.

Leo: *Yes, John mentioned a little about it at Montana but I didn't fully understand it.*

John: The way it is set up, we make two of the components completely optional. One component is the workshop, the other is the computer homework, *skillbuilders*. Students can choose from 0 to 15 percent of their grade for each of those components. Similarly, in-class work, quizzes, tests, and the final exam also have flexible weighting. But they are all required at some minimal level. We have played up the fact that computer homework and workshops can help their grades. This summer the group of students selecting workshops registered an 85% agreement that "the optional course components I chose reflected the content of the course well." The group that did not select workshops reported 40% agreement.

Leo: *About how many have selected the workshops?*

Brian: About 100 students out of 180, so that's close to 60%.

John: That's in our first semester course. I also have a second semester course this fall with about 27 students, and of those 24 have selected to do workshops. Most have had chemistry with me where workshops were required.

Leo: *How has the response been?*

John: We used the questions in the workshop manual with the second semester course last year and the reception wasn't all that good. And we talked about some of the problems with materials and leader training. But I used the questionnaire with the first semester course in which we made some of these changes and the response was quite good--better than those reported in the workshop guide. I

think that as we adopt the critical components and train our leaders better, the program is working better.

Leo: *What are some of the arrangements for working with the leaders?*

Brian: John and I meet with them as part of Doug Smith's education course. We also supply hints for the problems on the Internet. If anyone wants to see it, the address is http://kingfish.coastal.edu/discus. Another big change is that last year we graded the workshops based on the answers that we got and this year we are emphasizing that when we grade the workshops we are looking for the work that they do, emphasizing the problem-solving and strategies.

John: We have a specific grading process: 30% of the workshop grade is determined by the workshop leader, whether the student shows up, has done the self test, whether they try to answer questions, and whether they help each other. Another 30% is determined by collecting and checking the completed workshop materials on the exam day. A third component is based on their solution to certain problems given during the workshop that they must do without help from the workshop leader. This review is based more on their reasoning and the information, the kinds of arguments they use.

Leo: *Clearly you have been doing a lot. Do you get good support from your department chair?*

Dave: I hope you will allow me to play administrator for a minute even though I hate to play that role. First, it is not surprising if you do not have a clear picture of what it is we are doing. We don't either. In the five semesters that I have been here we have done the workshops in five different ways. The good news is that the amplitude of the oscillation--I'm an organic chemist—is getting smaller and smaller. We are settling in on a plan, and I think we are real close to a model that is right for Coastal Carolina.

Leo: *So this is all considered important in terms of advancement, promotion, tenure, and things like that?*

Dave: Absolutely. In fact we have cranked it up a notch. Last December on our own time we had a school-wide conference for two days within the School of Natural and Applied Sciences where we had about three-quarters of the faculty participating. We learned about the different learning styles and how they best get information. John and Brian presented and ran a workshop model for our colleagues. We were then asked to huddle up as a department and come back with an action plan for at least one of our courses, to implement next spring, which was last spring. We did that as a department. In fact I think I can say with a clear conscience that our department led the way in the process. I did an organic course this summer with peer leaders but toward the middle of the term the workshops degenerated into minilecture periods. Unfortunately the peer mentors were researchers and had been dragged in to be leaders.

Leo: *Have you been involved with any dissemination activities?*

John: Dave Gosser was invited to give a presentation at Project Kaleidoscope in Washington, DC in late October (1999). And as he usually does he wanted to bring workshop leaders to demonstrate how this works. He has invited me and some of our students from Coastal to come up. Also Brian

and I presented a poster at the ACS meeting in New Orleans to talk about what we have been doing for the last two or three years.

Leo: *I am surprised at how many different things you have tried.*

Dave: Frankly, I'm surprised at how many things that we thought would work failed miserably. We really thought that by now we would be closer than we are. This is not a simple process. You really have to look around and talk around and find out what's working. And keep trying, and trying, and trying.