

PEER-LED TEAM LEARNING IMPLEMENTATION

PLTL IN CALCULUS I AT THE UNIVERSITY OF MAINE

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Based on the experiences of faculty and students who had participated in Peer-Led Team Learning in other departments at the University of Maine (Orono, ME), we expected that the effectiveness of student leaders was critical to the success of students who were involved in a PLTL effort. During the spring of 2004, we experienced this first hand, as we implemented Peer-Led Team Learning in two sections of Calculus I. We observed excellent student leaders succeed at working through difficult material with students who were struggling. We also found that the best workshop has little chance of success if the student leader is not effective in facilitating the group dynamic. It is therefore critical that the process of recruiting, hiring, training and supporting student leaders be central to any Peer-Led Team Learning project.

Consider the following quotes taken from leader journals, after completing Workshop 3, *Relationship Between a Function and its Derivative*. One leader writes:

“...I started to really pay attention to what one of the students was doing. He was just tracing his graph over and over again and not plotting the derivative. I realized that this is exactly what I used to do when I didn’t understand something. Everyone else is moving along and you don’t really want to bother them by asking for help so you kind of pretend that you understand the material. I asked the student if he needed help and he immediately said, ‘Man, I need help bad.’ I started to explain it to him, but then I asked a member of his group to do that instead, which he did very well...I am always really amazed what sort of ways that other students come up with to view a certain concept. They are all so different from each other and different from mine.”

Contrast this with excerpts from a second leader’s journal:

“...I think the group as a whole was a little confused...Once two of the five groups (pairs) asked me the same question, I decided to explain it to the whole group. So I did some board work.... I also put up my version of $F(x)$. I wanted them to be able to see that there is more than one answer. A couple of students hazarded a guess as to why, but I think they were feeling the need to leave by then. They actually began packing up on me!!!”

Not surprisingly, end of semester student evaluations reflect the very different experiences:

Q: My group leader was effective at facilitating the group:

1 (strongly agree) - 5 (strongly disagree)

Average response of students:

Leader 1: 1.3

Leader 2: 3.4

Q: The PLTL session was more beneficial than an extra hour of lecture:

1 (strongly agree) - 5 (strongly disagree)

Average response of students:

Leader 1: 2.0

Leader 2: 3.1

Both of these leaders were excellent Calculus I students and were highly recommended for the peer leader position. Leader training for both included exercises and discussion designed to develop their skills as group facilitators. For Leader 2, this was not sufficient.

In mathematics, our training sessions principally focus on a discussion of the previous week's workshop experience, followed by preparation of the next workshop using the model of a PLTL group. Although generally effective, this weekly training leaves largely unaddressed the support of leaders who are struggling as group facilitators. Given the small number of student leaders (8) in mathematics, a leader experiencing difficulties can feel extremely isolated. Since PLTL has been effectively implemented in other departments at the University of Maine, interdepartmental training could focus on group leadership skills. This training would be used in addition to the existing weekly training sessions. Currently, there is no mechanism for providing interdepartmental training; this would need to be developed. Resources would need to be allocated for the development and implementation of this model. In addition, participation would require a greater time commitment from the peer leaders, and possibly additional compensation.

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