

PEER-LED TEAM LEARNING IMPLEMENTATION

TIERED TEAM SUPPORTS SELF-FUNDED PEER-LED TEAM LEARNING AT FLORIDA INTERNATIONAL UNIVERSITY

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Introduction

Launched in early 2000, Peer Led Team Learning (PLTL) has grown into an integral component of Biology-related pedagogy at Florida International University (FIU). At its onset, PLTL encompassed one course—our introductory biology sequence for majors. To date approximately 1,400 students register per semester in this two-semester sequence. Roughly 80% choose to participate in PLTL.

In The Beginning...

Concerned with the quality of first year biology education, and frustrated with poor assessment performance, our faculty sponsor, Mr. Thomas Pitzer, started PLTL at FIU for General Biology. Guided by his own experience as an instructor and lab coordinator and using resources obtained in conferences and training sessions, he created the first workshops. These workshops were tailored with several tools made available through the national PLTL web site. He designed questions based on his Ph.D. studies in higher education, emphasizing active learning and using Bloom's taxonomy. Given students' lack of initiative to form study groups on their own, he realized the utility of PLTL in accomplishing a number of worthy cognitive changes.

For the first semester, Mr. Pitzer selected top-performing students to be leaders, all of which were volunteers. After a successful pilot semester, various amounts of data and feedback were gathered and analyzed. By the second semester, it was evident that PLTL and biology lab were mutually beneficial. Empowered with educational zeal and positive results, Mr. Pitzer was granted departmental approval for one PLTL coordinator to assist in the maintenance of this large enrollment sequence. For the following five semesters, students participating in PLTL had a higher passing rate than those not participating (Fig. 1, next page). Our data strongly suggested that students who participated in PLTL did ten points, or a letter grade better in the course.

Two Heads Better Than One...

Jose Alberte was selected to be the first PLTL coordinator out of a pool of experienced leaders. For ten consecutive semesters, Jose was able to recruit, train and organize leaders without funding and with minimal faculty support. Every semester the coordinator edits workshops, using feedback from a number of sources to create questions and scenarios which students find engaging, interesting and stimulating.

Semester	PLTL Attendance	(A,B,C)/ <i>n</i>	% of Students
Spring 2004	PLTL	179/232	77.16%
	No PLTL	23/46	50.00%
Summer 2004	PLTL	78/104	75.00%
	No PLTL	18/36	50.00%
Fall 2004	PLTL	197/334	58.98%
	No PLTL	116/213	54.46%
Spring 2005	PLTL	182/299	60.87%
	No PLTL	50/105	47.62%
Summer 2005	PLTL	88/114	77.19%
	No PLTL	26/44	59.09%

Figure 1. The chart above shows the percentage of students who passed the General Biology majors course after having attended PLTL sessions, versus not having attended PLTL sessions. This is shown across five different semesters (when only one General Biology course was taught at a time at FIU). (A, B, C) represents the number of students who passed the course, with or without PLTL respectively. The sample size *n* is the total number of students who did or did not take PLTL respectively.

This coordinated leadership between Thomas Pitzer and Jose Alberte has nurtured, guided and molded PLTL into the educational force it is today. The department expanded General Biology, offering more lecture sessions per semester which in turn led to an expansion in PLTL. This expansion then continued into the upper division courses through the Q'BIC (Quantifying Biology in the Classroom) Program. With more success came a higher demand for more PLTL sessions on campus. Due to the influx of student participation, our program needed a larger team to be able to expand even further.

It Takes A Village...

Beginning with the Spring 2010 term, PLTL at FIU now encompasses eight different biology courses spanning several campuses with enrollment nearing 2,000 students. The Department of Biological Sciences approved three additional assistant coordinator positions to help further expand the program. These positions were filled by Jade-Michelle Hernandez, Alberto Cruz, and Kent Calero. A student-based tiered team was now firmly established. This tiered team is central in our program expansion plans (see Figure 2).

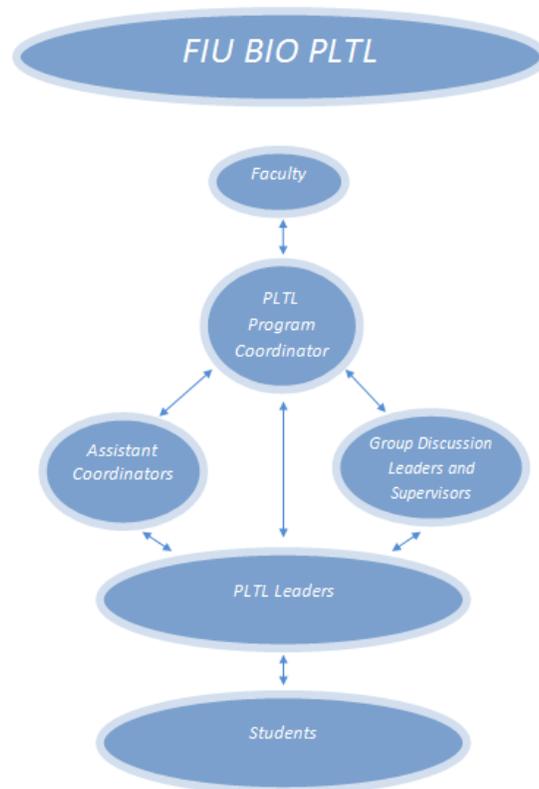


Figure 2. A schematic of the Tiered-Team Model for PLTL at FIU.

Student participation in the coordination of PLTL is essential. Experienced leaders (called “supervisors”) supervise actual sessions to provide constructive feedback to both leaders and coordinators. They sit down with the leaders at the end of the session and discuss techniques to improve the quality. A select number of the supervisors are chosen to run the preparatory meetings called group discussions. During group discussions, the PLTL model is emulated and used to guide the leaders through the material they will use in their peer-led groups. In this way, both the PLTL model and traditional content knowledge is reinforced.

Lacking grants, the program is sustained by volunteers and departmental assistance alone. Leaders are offered recommendation letters, community service hours or a research credit as incentives. Most of our leaders have health-related postgraduate goals and find these incentives attractive. The program is completely dependent upon student body involvement. It is student enthusiasm that fuels the success in our tiered-team model at FIU PLTL.

Computers Run the World...

As the number of participating students swelled, it became necessary to utilize the expertise of an information technology expert, Kent Calero, to build a system by which all of the numerous PLTL sections could be maintained (<http://www.fiupltd.org>). The natural progression to electronically signed syllabi allows paper conservation and less paperwork for leaders and coordinators alike. Fall 2009 was the first semester that the website was used and, with minor tweaks throughout the semester, students were able to log on and view their progress. Expeditious feedback and communication remains vital to the success of the website. It is

evolving to become not only a place where students can check their progress in PLTL, but a place where they can freely discuss topics in biology on their own time. The future of <http://www.fiupltd.org> is a promising hub for all PLTL offspring at FIU.

Roots...

The student-based, tiered-team remains firmly rooted in active learning pedagogies. This provides students with the opportunity to build stronger foundations, focus on information retention, and make connections across concepts and disciplines throughout their collegiate careers and beyond. Roughly ten years after the inauguration of Peer Led Team Learning at Florida International University, what began in one office of the Biology Department, has spread throughout the sciences and continues to modernize the pedagogy of upper division, majors and non-majors Biology courses.

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