THE PEER-LED TEAM LEARNING INTERNATIONAL SOCIETY
PROCEEDINGS OF THE INAUGURAL CONFERENCE
MAY 17-19, 2012
NEW YORK CITY COLLEGE OF TECHNOLOGY OF
THE CITY UNIVERSITY OF NEW YORK
BROOKLYN, NY 11201-2983

# PLTL in Pajamas: Lessons Learned

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Abstract

Peer-Led Team Learning (PLTL) in the Biology Department at Florida International University (FIU) incorporates the use of "cyber" learning (cPLTL). Using laptops and cameras, students and Peer Leaders communicate in real time, fulfilling the requirements of the standard model of PLTL. Participants are trained in the use of required software and technology. Initial observations indicate that students perform at least as well in cPLTL as in traditional workshops. Students who cannot or will not attend in-person PLTL workshops are able to take advantage of the boost. FIU is successfully moving toward cPLTL institutionalization alongside the in-person model.

Introduction

Florida International University (FIU), a Hispanic Serving Institution (HSI), serves a transient and non-traditional student population. Peer Led Team Learning (PLTL) at FIU implemented Cyber PLTL (cPLTL) in the Summer 2011 term. Traditional PLTL is institutionalized at FIU. This program was established in 2000 within the gateway majors biology course, and has since expanded into 14 plus courses, involving several thousand students and approximately 200 Peer Leaders (PLs) each semester. FIU has an increasing population of non-traditional students who encounter obstacles in the traditional PLTL paradigm.cPLTL serves as an alternative opportunity to allowpotentially disenfranchised students to participate and benefit from PLTL (Common Data Set, 2012).

cPLTL is a fully synchronous online version of PLTL. cPLTL was first conceptualized by Dr. Pratibha Varma-Nelson's team at Indiana University Purdue University Indianapolis (IUPUI) (Mauser *et al.*, 2011). It is designed to foster a distance learning environment using the six traditional PLTL critical components. (1) The PLTL workshop must be an established component of the course. (2) Instructors and Learning Specialists must be involved in module development, PL supervision, and training. (3) PLs are students who have successfully completed the course and are properly trained in course content and pedagogy to facilitate group learning. PLs are also supervised to ensure proper implementation of the student-centered active learning environment. (4) Workshop modules are designed to promote group cooperation, critical thinking, and discussions appropriate for the course and its assessment. (5) The workshops consist of a small group of students, ideally six to eight students per group, which meets once a week in an appropriate learning environment suitable for small groups. (6) The program must have institutional and/or departmental support to expand and prosper (Gafney and Varma-Nelson, 2008).

Our administrative structure differs from the traditional model of PLTL described by Gosser (Gosser *et al.*, 1996). A central PLTL office manages the administration and dissemination. The PLTL staff at FIU coordinates all aspects of program management (paperwork, PL training, module development, faculty consultations, etc.). This is opposed to the typical paradigm of having each instructor implement and manage each individual course. cPLTL workshops follow the same procedures and guidelines as in-person workshops (Gosser *et al.*, 2001).

cPLTL workshop discussions are facilitated by cyber Peer Leaders (cPLs). The cPLs have all of the same qualifications as a traditional PL does—undergraduate students who successfully complete the course he/she is mentoring with at least a "B" and have a cumulative GPA of 2.5 or higher. Being a cPL/PL requires a certain level of maturity to fulfill the role of a discussion facilitator with fellow undergraduate peers. PLs are responsible for surveying their peers, running and maintaining a productive active learning environment throughout each workshop, and addressing all of their students with respect (Gosser *et al.*, 2001). Additionally, it is beneficial that PLs who are interested in running cPLTL carry some level of technological savviness (Mauser *et al.*, 2011). The cPLs have additional technological training before the first workshop.

cPLTLImplementation

In-person PLTL's effectiveness is based on the active participation and engagement in discussion; therefore, a web-based platform that allows for real-time discussion was necessary (Gafney and Varma-Nelson, 2008).Adobe Connect (Skype-like software) allows for synchronous participation between students and cPLs during a workshop. Adobe Connect was used during the design and initial implementation of cPLTL. The cPLTL workshop includes students interacting real-time in an electronic classroom setting (Figure 1). Adobe Connect is just one option--there are a number of programs which allow students to attend their workshop from wherever they are. cPLTL provides an opportunity for commuters and non-traditional students to engage in the workshop (Mauser *et al.*, 2011).

cPLTL caters to non-traditional students by increasing the flexibility of participating in PLTL. We have seen many examples of students who work fulltime or are in other ways precluded from being able to attend in-person session taking advantage of the PLTL boost by using this synchronous learning environment. Using cPLTL fills the hole created by the many responsibilities of a commuter campus.

Real-time, interactive participation is a cornerstone of PLTL. In cPLTL, this is facilitated through the use of webcams, headsets with microphones, and personal document cameras. Students can borrow these materials directly from the PLTL office if they do not personally own the materials. There are no additional costs incurred for the students. Most students already have webcams and microphones. Even though many computers and webcams have built-in microphones, it is best to use a microphone that is directly attached to a headset, in order to reduce feedback, background noise, and the "echoing effect." To facilitate the real-time sharing of student work, personal document cameras are used. This is particularly important when the learning objectives of the workshop module include the understanding of mathematics or the manipulation of chemical equations. (Using the document cameras is extremely beneficial, but it is not an absolute requirement in order to have a successful cPLTL workshop.) The iPEVO P2V USB personal document cameras were used at IUPUI and FIU (Mauser *et al.*, 2011).
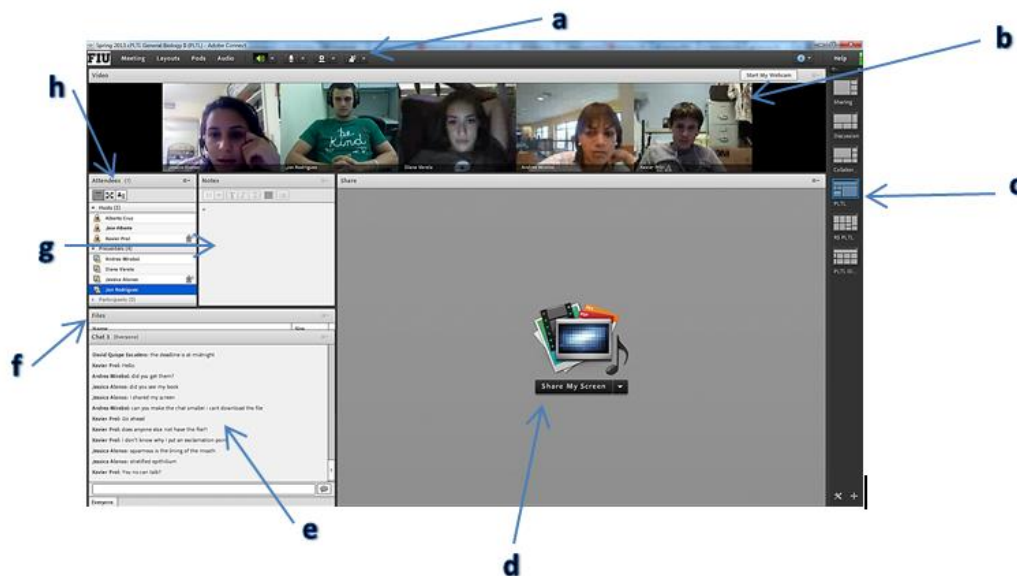
Figure 1. Screen capture of Adobe Connect Interface. (a) Tool bar with webcam and microphone activation buttons; (b) Video share pod; (c) Discussion layouts available only to the cPL and administrators; (d) Share Pod, allows students or cPLs to share their screen (desktop, whiteboard, or a document) with the workshop participants; (e) Chat Pod; (f) File Share Pod- currently partially covered by the expanded Chat Pod; (g) Notes Pod; (h) Attendees List Pod.

Tablets can be a good alternative to using a desktop or laptop computer. However, users must have a high speed internet connection to avoid any problems with delay. For reliability, a wired connection is recommended over a wireless connection, but no additional problems have been encountered when using a reliable high speed wireless internet connection. There is a whiteboard option in Adobe Connect, which functions just like a physical dry-erase board. It can be manipulated when using a computer, tablet, or laptop which serves as a useful option on Adobe Connect. Adobe Connect also allows for students and cPLs to share their desktops. For example, if there is a video that demonstrates a biological mechanism, the cPL can share their desktop to show the video. Students can also use the "Share My Screen" pod to share reference materials in their e-books and to sharetheir written work through the document camera. The Adobe Connect program also has an option where documents can be provided by the cPL and downloaded by the cPLTL students. This feature allows the students to have access to the modules for each workshop.

Student and cPL Training

All PLs, both in-person and cyber, must first undergo a mandatory 10 hour pre-semester orientation which covers pedagogy, administrative procedures, and mock PLTL workshop sessions. In addition to this pre-semester orientation, all cPLs must undergo technological training, vital to the success of the cPLTL program.The students that are participating in the cPLTL workshops also receive technological training, which includesthe use of the website and materials.Students and cPLs are also encouraged to bring in their own laptops or tablets, to practice using their equipment. The training occurs simultaneously with a "meet-and-greet" where students and cPLs can physically meet each other. This training is usually referred to as "Workshop -1."

After the students and cPLs have been properly trained, they are instructed to log in to the Adobe Connect system to practice using the equipment from home (*or anywhere*). A PLTL staff member also logs in to resolve any final technical issues to ensure maximum efficiency before the student attempts an actual workshop. Students are not allowed to attend the first cyber workshop

without having first attended the training sessions. This portion of the training is usually referred to as "Workshop 0."

## cPLTL in Practice

cPLTL follows the same model and assessment methods as the in-person workshops. During one workshop session each student can earn a total of 20 points. At FIU, all workshops begin with a readiness survey, worth 5 points which encourages students to come prepared. In physical workshops, PLTL students earn another 5 points for bringing their course textbook and class notes every week. This helps incentivize student preparation before the workshop, and the textbook gives students a reference during the discussion. During the cPLTL workshops, these surveys are conducted using the polls pod feature in Adobe Connect (Figure 2).
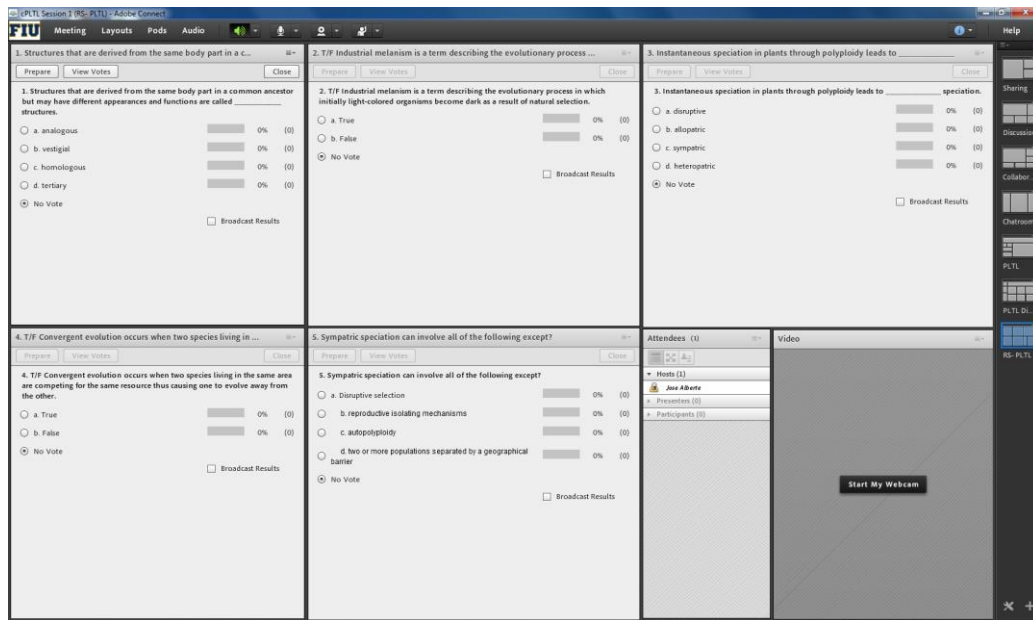


Figure 2. Adobe Connect Interface using the polls pod feature to disseminate readiness survey questions.

The remaining 10 points accounts for each student's participation in discussion. cPLs are only able to assess a student's participation as 0, 5, or 10 points. A student only earns the maximum 10 points for discussion if he/she demonstrated engagement, reasonable and applicable input to the topics provided in each workshop for the entire duration of the session. All PLs and cPLs are provided comprehensive guidelines to properly assess their PLTL students.
cPLs/PLs keep a record of student performance during workshop activities to provide appropriate feedback to the students. The PLTL website, a Moodle-based site, hosts individual class pages for each PLTL section (pltl.fiu.edu). It facilitates record-keeping and it is an efficient feedback system. Strict instructions describing how to go about keeping these records are specified in the general, pre-semester Orientation that all PLs (including cPLs) must attend in order to lead each term.

## Recommendations and Future Aims

We recommend the establishment of a stable in-person PLTL program before attempting to develop a cyber PLTL program. Any program attempting to implement PLTL for the first time faces a number of pragmatic and pedagogical issues that will only be confounded if attempting to implement a cyber-based system(solely or concurrently). Once established it would be far easier to maneuver the technological landscape of cPLTL. During initial implementation of cPLTL, experienced PLs are used to conduct the cyber workshops. These PLs were chosen because of their experience and ability to properly conduct a workshop. This allowed the staff to focus more on technological issues. Starting with only a handful of PLs and PLTL sections is important in learning how to manage, structure, and build a PLTL program.

Regardless of the technological awareness of the faculty involved, an IT representative should be included in the design and implementation of a cPLTL program. It is important to keep track of student-derived troubleshooting methods to conduct more proficient workshops in the future. Surveys and other evaluation methods are necessary to ensure a positive and productive active learning experience (Mauser *et al.*, 2011). Feedback from students will allow for assessment and modifications to the program.

In addition to expanding cPLTL session numbers, our future plans include expansion of cyber workshops into new courses. Preliminary data indicates that cPLTL students perform as well as students participating in the in-person PLTL workshops (Mauser *et al.*, 2011). We will continue to assess the progress and outcomes of cPLTL to further explore its effectiveness on its own and relative to in-person PLTL.

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