

2017

Thursday – Saturday | June 1st – 3rd
Northeastern Illinois University
Chicago, Illinois, USA | Sixth Annual Conference
Peer-Led Team Learning International Society

Poster Presentation

Abstracts





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For each presentation, there's a feedback form available for the delegates to provide informative feedback and suggestions. Below there is a QR Code which will take you to the survey form. In the form, you will choose the session you wish to comment on. The results will be compiled into reports, including written comments, and sent to the session speakers, presenters, and facilitators. Again, thank you for your engagement in this process.



Benefits of PLTL Workshops for Engineering Students

Karla Pena, Brandow Rojas, and Melanie Villatoro
New York City College of Technology

Peer leading is an asset that can teach new and experienced peer leaders communication skills, problem-solving techniques, responsibility, and procedures that can be applied to aid other students as well as themselves. Statics is the branch of mechanics that deals with bodies at rest or forces in equilibrium. It is the cornerstone for most engineering courses as well. Peer leaders who lead this workshop will be able to understand how forces act on different bodies at rest; they will also develop techniques that can be utilized to approach different kind of problems. By peer leading statics workshops, peer leaders will use this basic knowledge to move forward on different engineering courses.



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Bilingual Workbook

Katia Ochoa, Paulette Ramirez, Rogelio Valles, Jaime Ayala, James Becvar, Juan Noveron,
and Geoffrey Saupe
University of Texas at El Paso

El Paso, Texas borders Ciudad Juarez, Mexico. The first language for University of Texas at El Paso (UTEP) students is most often Spanish. Peer leaders in chemistry at UTEP continue to develop an all-English workbook for PLTL workshop which facilitates students' understanding by giving explanations and problems that parallel topics taught in lecture. At PLTLIS IV in San Jose, peer leaders from UTEP described the development of a second semester general chemistry workbook in Spanish. We describe progress toward a bilingual workbook for first semester general chemistry which could benefit many UTEP students. The workbook explanations would be in Spanish along with some practice problems. After the students have practiced in both languages, the Module Worksheets in English would allow students to fully transition their knowledge for examinations. A future all-Spanish workbook would open new opportunities for Latin American students to experience PLTL.

Assessing Peer Leaders and their Approaches to Leading PLTL Workshops

Amanda Canellas, Stephanie A. Martinez, Jose L. Alberte, Albert Cruz, and Thomas R. Pitzer
Florida International University

The Approaches to Leading Inventory (ALI) is a 22-item Likert-scale questionnaire used to assess peer leaders' pedagogical approach to PLTL workshops. Peer leaders can fall into one of three categories: Peer-centered, Leader-centered, or Equal. It was expected that leaders with more experience would tend to be more peer-centered. Data was analyzed among leaders who had 1, 2, or 3+ semesters of leading experience. Data showed that regardless of experience leading, the percentage of individuals who fell under a "Peer-centered" approach was the largest. Trends in data demonstrated that with more experience, the percentage of peer-centered approaches also increased. This pilot study provides preliminary data to aid in determining the relationship between peer-leader experience and pedagogical approach in PLTL workshops.



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Assessing the Development of Peer Leader Metacognitive Skills after Exposure to PLTL Pedagogy

Stephanie A. Martinez, Amanda Canellas, Jose L. Alberte, Albert Cruz, and Thomas R. Pitzer
Florida International University

The Peer-Led Team Learning (PLTL) model has been shown to have a positive effect on undergraduate peer leaders' (PLs) professional and personal growth skills, one of these being metacognitive skills. To explore the relationship between PLs exposure to the PLTL program and the three subcomponents of metacognition (metacognitive knowledge, regulation, and responsiveness), the Awareness of Independent Learning Inventory (AILI), a 45-item Likert-scale questionnaire, was administered to a sample of PLs after the Fall 2016 semester. It was predicted that after having been exposed to the PLTL pedagogy while leading their own sessions for one semester, PLs would have higher average scores in their overall metacognition as well as in each subcomponent. This pilot study will provide preliminary data to aid in determining the correlation between PLs PLTL exposure, demographical differences, and metacognition.

The Development of a Critical Thinking Assessment for General Biology Students: A Proposal for Methods and Analysis

Nicole Vargas, Jose L. Alberte, Alberto Cruz, Daniel Flores, and Thomas R. Pitzer
Florida International University

Critical Thinking is the mental process of manipulating information to reach a conclusion. We previously tested critical thinking through logic by establishing a relationship between the length of time a student is a Peer Leader and their logical reasoning skills. Based on these data and the available resources in the literature, there was a need to develop and test a discipline-specific assessment in the field of Biology to test critical thinking skills. To do this we propose to develop an assessment for General Biology students based on the Critical Thinking Model for Nursing Judgment. Assessment questions must be created, questions must be made reliable, and the test must be made valid. We are currently in the process of writing and formatting questions to then establish reliability and validity using multivariate analyses.



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Effects of Peer Leader Experience on Student Performance

Roberto Pereira, Alberto Cruz, Jose L. Alberte, and Thomas R. Pitzer
Florida International University

PLTL leaders help facilitate student learning with the core concepts of general biology. While it has been demonstrated that the PLTL model is beneficial for all students, it has been hypothesized that more experienced leaders help students achieve greater levels of student knowledge and retention. To investigate the effects of experience on student knowledge, course exam grades were compared using an ANOVA linked to leader experience. Pre/post knowledge assessment surveys were also used to see significance with student retention of the material. Leaders with more experience showed a significant impact on exam scores and a significant increase on post knowledge assessment scores. Experience plays a major role in the personal development of not only the leader but also has an effect on the students they lead as well.

ChemisTri-naming Puzzle Game

Paulette Ramirez, Katia Ochoa, Ruben Guzman, Jaime Ayala, and James Becvar
University of Texas at El Paso

At the San Jose PLTLIS Annual Meeting, peer-leaders at the University of Texas at El Paso described the ChemisTri-naming triangle puzzle activity which aims to improve understanding of nomenclature that students in first semester General Chemistry struggle with mightily. Small triangles with chemical names and formulas must be arranged appropriately into a larger triangle shape. Some of the triangles display mistakes that students frequently make and might mis-use. Timed quizzes seemed to place the students at a disadvantage. During the 2016-2017 academic year, more time was provided for before and after quizzes. Even though quizzes were created with a higher difficulty, students' performance increased from the previous academic year. Compared to the 5% improvement observed for spring 2016, scores for students using Chemis-Tri naming in fall 2016 and spring 2017 improved by 13% and 15%, respectively. ChemisTri-naming is suitable for review purposes and can be reconstructed for other academic fields.



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Great Minds Think Alike: Promoting Full-Class Participation through Competition

Daniel Najera, Alejandra Belmont, Ashley Priego, John Hornbrook, and Alejandro Camarena
University of Texas at El Paso

Competition is a common method for promoting active learning. However, some of these activities fail to engage all the students in the classroom. We propose a competitive activity that aims to engage all the students in Peer-Led Team Learning workshops. In *Great Minds Think Alike*, two students are separated in a way that they cannot interact with each other. Then, the other teams take turns asking questions that both participants must answer correctly to earn a point. If they answer incorrectly, another team replaces the participants and the process repeats. The purpose of this activity is to engage all the students by having them pose their own questions to their peers. The winner is rewarded to promote competition. Overall, the objective of this activity is for students to develop and evaluate their knowledge by asking difficult questions while promoting full-class engagement, a vital characteristic of effective Peer-Led Team Learning.

Illustrated Storytelling for Enhanced Learning in STEM in a PLTL Environment

Paulette Ramirez, Mariana Gallegos, Aiyana Ponce, Adam Boyea, Abril Chavez, James Becvar, and Juan Noveron
University of Texas at El Paso

At the San Jose PLTLIS Annual Meeting, peer-leaders at the University of Texas at El Paso described the ChemisTri-naming triangle puzzle activity which aims to improve understanding of nomenclature that students in first semester General Chemistry struggle with mightily. Small triangles with chemical names and formulas must be arranged appropriately into a larger triangle shape. Some of the triangles display mistakes that students frequently make and might mis-use. Timed quizzes seemed to place the students at a disadvantage. During the 2016-2017 academic year, more time was provided for before and after quizzes. Even though quizzes were created with a higher difficulty, students' performance increased from the previous academic year. Compared to the 5% improvement observed for spring 2016, scores for students using Chemis-Tri naming in fall 2016 and spring 2017 improved by 13% and 15%, respectively. ChemisTri-naming is suitable for review purposes and can be reconstructed for other academic fields.



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Integrating CRLA Certification within a PLTL Program. Innovative ways of getting PLTL CRLA Certified

Ne'Shaun Jones, Michael Saenz, Usman Hyder, Anisha Lobo, Zaara Qasim, Anisha Lobo
University of Texas at Dallas

CRLA (College Reading and Learning Association) is a national association that certifies tutoring programs across the country. PLTL programs have the opportunity to integrate the CRLA certification program, providing leaders with a set of professional standards of skill and training. This certification provides recognition and positive reinforcement for leader's successful work. This poster presentation provides tools of how to implement and develop a certification program that will enable PLTL leaders to earn CRLA certification for level 1 and level 2.

Microstudying with a Mobile App for General Chemistry

Daniel Andrade
University of Texas at El Paso

For every class a student takes, there should be an equal or greater amount of studying dedicated to it. However, students at a college level tend to have busier schedules, thus resulting in lack of studying. We propose a time efficient cellphone application that will enhance micro studying, which enables students to answer questions at any given time. The Mobile App for General Chemistry allows students easy access through their phones to thousands of flashcards that will test their knowledge on any subject regarding general chemistry. With this app, students will appeal more easily to studying due to the app being easily accessible and time efficient. At any given time, students can access the app and practice problems for minutes at a time which will amount to hours of studying in the long run. Although other chemistry apps exist providing problem examples, this one comes in the form of flash cards of different difficulties ready to test their knowledge. For every problem there will be a "mother question" following nine "daughter questions" worded slightly different. This will serve the purpose of assessing how well they understood the content.



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Organization of the PLTL Club and High School Student (PLTL) Training Outreach

Ana Garza, Eva Ruiz, Vanessa Cabrera, Alice Turchaninova

University of Houston Downtown

Peer leaders at the University of Houston- Downtown (UHD), have organized the Peer-Led Team Learning Club (PLTLC). The purpose of PLTLC is to bring awareness to the PLTL program on the UHD campus, and encourage engagement among the peer leaders. Our goals include fundraising, promoting PLTL workshops in more STEM courses, and expanding PLTL beyond the STEM disciplines. Leaders in PLTLC have continued the high school outreach program started as a result of a UHD student's senior project, "Trainability of High School Students as (PLTL) Workshop Leaders." The outreach program makes use of workshops based on the UHD PLTL training materials to address juniors and seniors completing service projects at North Houston Early College High School (NHECHS). The aim of the workshops is to help the high school leaders can learn the skills necessary to lead their peers in active and effective teamwork on their service projects. The training materials include methods to diffuse group conflict, tips on when and how to ask for external help, presentation skills, and advice on the transition from high school to college. PLTLC intends to continue this outreach program, and the long-term outlook is to aid NHECHS students in developing leadership skills while connecting them with PLTLC leaders and opportunities at UHD.

Peer-Led Team Learning in Mathematics: A Five-Year Overview

Janet Liou-Mark, Elizabeth Ferreira Pichardo, Jiehao Huang, Chi Yan Rachel Li, Luis Lora, and Jeremy Sanchez

New York City College of Technology

The Peer-Led Team Learning (PLTL) mathematics program at New York City College of Technology has been overall successful in retaining and passing undergraduates. Mathematics courses with an additional one-hour a week PLTL workshops have showed to have higher pass rates and lower withdrawal and failure rates. Based on a five-year study, the following findings were found: 1) PLTL sections for intermediate algebra/trigonometry, precalculus, and calculus II courses have 10% higher ABC and ABCD pass rates when compared with the institutional data; 2) PLTL sections for calculus I showed no differences in pass rates; and 3) All PLTL sections have lower withdraw and failure rates when compared with the institution rates.



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Progression of a PLTL Mentor Program: A New Way to Train Leaders

Ne'Shaun Jones, Usman Hyder, Anisha Lobo, and Zaara Qasim

University of Texas at Dallas

The PLTL Mentor Program at UT-Dallas was established for students who show great potential as future leaders, but who would benefit from further experience and training. Initially, the program included candidates working with veteran PLTL leaders in order to learn more about how to lead sessions. We have since adjusted our program so as to give the mentees a more interactive experience. Mentees now have the opportunity to work with several leaders throughout the semester as well as to participate in activities which enhance their leadership skills. At the end of the semester, the candidates present what they have learned to the PLTL Supervisor and Team Leaders. In the future, we hope to further improve the Mentor Program by incorporating more group activities for the mentees, as well as by periodically checking in with them over the course of the semester.

The Benefits of PLTLIS After Graduating

Ashley Baker

University of Texas at El Paso

The University of Texas at El Paso is currently focusing on forming an Alumni Network. Students who want to become peer leaders see the short-term goals but never observe the long-term successes that PLTLIS offers. Using old records and documents along with resources from the school allowed the ability to obtain information on members from 10 years back. The Alumni Network focuses on old alumni members that were a part of the organization to see how PLTL has affected them. In addition to showing the positive effects of this organization to students and current PLTLIS members, it presents the opportunity to universities to extract donations from former successful members to continue the organization.

Learning via Illustrated Storytelling: 'Ironic' Chemistry Exploration

Paulette Ramirez, Geoffrey B. Saupe, and James E. Becvar

University of Texas at El Paso

Illustrated storytelling provides a new form of learning. The Ironic Chemistry Exploration gives an example of the use of Illustrated Storytelling to promote understanding of redox processes in chemistry. The term 'ironic' refers to the remarkable difference in oxidizing potential produced by simply doubling the concentration of nitric acid. On treatment of steel wool, 1 M nitric acid produces iron II ion (dark green) while 2 M acid produces iron III ion (yellow) in the presence of air. Storyboards illustrate the process.



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Different Workshop Delivery Modes in CS

Eloy Perez, Juan De La Cruz, Vanessa Cabrera

University of Houston Downtown

The University of Houston-Downtown (UHD) provides workshops for students in both CS I: Intro to C++ and CS II: Data Structures and Algorithms with the goal of improving student performance inside the courses. This semester, leaders have been able to provide online and face-to-face workshops in different settings. The online workshops are conducted in Zoom, a conference software that can be used for collaboration among multiple students. The face-to-face workshops are conducted in class with multiple leaders and groups, as well as in UHD's PLTL Lab with a single leader and group. The settings of each workshop are taken into consideration by listing their pros and cons, talking about the challenges that come with running each type of workshop and identifying different elements of the workshops that can be modified so that the overall experience for the students attending the workshop is improved.

