

2021

PLTLIS CONFERENCE PRESENTATIONS



PEER-LED TEAM
LEARNING
INTERNATIONAL
SOCIETY

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Pre-Conference Workshop

Introduction to the Peer-Led Team Learning Model

- **James Becvar**, The University of Texas at El Paso
- **AE Dreyfuss**, Peer-Led Team Learning International Society
- **Ana Fraiman**, Northeastern Illinois University
- **Mitsue Nakamura**, University of Houston Downtown
- **Allison McKee**, Peer Leader, University of Houston Downtown
- **Jacob Najera**, Peer Leader, The University of Texas at El Paso
- **Paulina Torres**, Peer Leader, The University of Texas at El Paso

Part 1: The workshop introduces the experience of working in collaboration with colleagues to solve a problem, facilitated by a trained Peer Leader. The focus on the process of learning is highlighted as well as the critical attributes that students gain. The Peer-Led Team Learning model's six critical components are introduced.

Part 2: Three components of the PLTL model are introduced, with collaborative exercises that support participants' understanding of each so that they will be able to choose how to apply the concept to implement the program. Recruiting and training Peer Leaders, faculty roles and responsibilities, and the rewards/ challenges in implementation are discussed.

Part 3: The importance of challenging problems to promote interaction, the issues of integrating peer-led workshops into schedules, and physical space, and the attention to issues of assessment and integration for the implementation of PLTL at participants' institutions will be explored through brief exercises and discussion.

Oral Presentation

Overcoming Challenges to Learning in PLTL Spaces: The Experiences of Underrepresented Students

- **Robin D. Frye**, University of Rochester
- **M. Cecilia Barone**, University of Rochester
- **Nicholas B. Hammond**, University of Rochester
- **Kyle F. Trenshaw**, University of Rochester
- **Sasha Eloi-Evans**, The State University of New York College at Geneseo
- **Melissa Raucci**, University of Rochester

At our STEM-focused, predominantly white institution, student attendance at PLTL sessions consistently correlates positively with successful course outcomes. Research at similar institutions supports the notion that these small-group collaborative learning sessions particularly benefit underrepresented minority (URM) students. Despite the clear benefits, our data suggest that, on average, URM students attend fewer PLTL sessions than the majority of students and get lower final grades. To better understand our data, we asked URM students to describe their experiences in PLTL spaces and what factors affect their choice to attend or not attend each week. We ran individual and focus group interviews with URM students who had taken at least one PLTL course. Our data suggest there are many barriers to participation in PLTL spaces including factors related to Peer Leader facilitation behaviors, the degree to which adherence to the dominant culture is accepted, and the degree to which personal relationships are

cultivated. We also found that race and ethnicity were persistently salient factors in these students' experiences even though they are often reluctant to talk about them. Our interviewees also highlighted benefits to PLTL participation including relationships with other students, academic advice, and improved study strategies. They emphasized the role of the leader, both positive and negative, in affecting the value of their PLTL experience. We conclude that PLTL learning environments need to be carefully planned and implemented to have the equitable potential for learning effectiveness for all participants.

Oral Presentation

Dominican University STEM Success Model: PLTL, Inclusive Pedagogy, and Student Success Case Management

- **Tina Taylor-Ritzler**, Dominican University
- **Persis Driver**, Dominican University
- **Kate Powers**, Dominican University
- **Jennifer Stockdale**, Dominican University
- **Christopher Anderson**, Dominican University

In January 2019, Dominican University was awarded a United States National Science Foundation Improving Undergraduate STEM Education: Hispanic-Serving Institutions grant to improve the quality of undergraduate STEM education and to increase the retention and graduation rates of undergraduate students pursuing STEM degrees. The project includes three components: (1) peer-led team-learning (PLTL) approaches and course-embedded tutors to improve academic performance; (2) inclusive pedagogy to improve student course engagement and student-faculty relationships; and (3) supplementary support through a Student Success Case Manager who connects students to university and community resources related to financial, social, or emotional challenges, and who will facilitate their academic success. This presentation will discuss the extent that the project strategies improve academic performance and persistence in Gateway STEM courses and improve retention in STEM. Furthermore, the research study is generating evidence regarding the extent that these supports create stronger relationships, a sense of community, and improved outcomes for participating students.

Oral Presentation

Strategies and Materials that Support Best Practices for the Professional Development of Peer Leaders in San Jose City College's PLTL & SI Programs

- **Artie Evans**, San Jose City College
- **Andrea Gomez Garcia**, San Jose City College
- **Mariajose Garcia Morones**, San Jose City College
- **Eva Angelina Ibarra**, San Jose City College
- **Carroll Anne Santanocito**, San Jose City College
- **Sophia Carrillo**, San Jose City College

San Jose City College has effectively implemented all six critical components prescribed for a successful PLTL program, since 1999. This presentation aims to describe our rigorous PLTL and SI Peer Leader training programs. Co-presenters represent a mix of both experienced Peer Leaders (PLs) and PLTL workshop student participants. We will present important elements

which comprise each of the four professional development activities that Peer Leaders (PLs) engage in, following their interview and date of hire. The four professional development components include participating in: (1) 2 X half-day orientations; (2) weekly meetings with lead faculty PLTL practitioners (LFPPs) to discuss both, weekly planning sheets and align course content with PLTL workshop activities; (3) a 3-course series which leads to a Certificate of Specialization in Peer Leader training, and (4) our unique peer-to-peer (P2P) observation and feedback process. We look forward to sharing SJCC's implementation strategies and materials that support best practices for the professional development of PLs.

Workshop

Fostering Communication Skills in Peer Leaders

- **Nataly Amaya**, Florida International University
- **Jose Alberte**, Florida International University
- **Alberto Cruz**, Florida International University

Conveying emotions through facial cues has been determined to be universal. Support for universal facial expressions is strongest for conveying joy, surprise, contempt, sadness, anger, disgust, and fear. Recognizing the facial cues expressed by students can help Peer Leaders accurately identify student emotions to better manage discussion during workshops. Facial cues can signal to the Peer Leader to respond in a particular way, but through enhancing the Peer Leaders' positive communication skills we develop their ability to provide a quality learning environment. Positive communication is a behavioral approach that can enhance a Peer Leader's ability to engage with their students in an authentic and meaningful way. By exploring how to recognize universal facial cues and responding using positive communication they can enrich discussion and increase the potential for enhanced human connection during workshops. This workshop offers an opportunity to discuss what certain facial cues may imply, and follow to apply the determinations to their role, and how this application assists student learning. The workshop also includes an opportunity for Peer Leaders to think about what positive communication means in their role, citing their past experiences.

Oral Presentation

Developing a Machine Learning Strategy to Identify STEM Students Most in Need of PLTL

- **Pliny Smith**, Dominican University

PLTL has been shown to improve the learning outcomes of students in STEM courses at many institutions. One challenge to implementing PLTL at an institution is that PLTL programs require additional resources for each class that adopts the model. If a program cannot accommodate all students in the PLTL model, it would be preferable to preferentially enroll students with a higher risk of receiving a DWF grade rather than randomly assign students to sections. Supervised machine learning is a technique with promising predictive power to identify students most at risk of receiving a DWF grade. As part of the Dominican University STEM Success Program and a Northeastern Illinois University Master's project, three machine learning algorithms were used to predict the students that are likely to receive DWF grades based on one academic year of data. The predictive power of one of the machine learning algorithms, the artificial neural network, ranged from finding 73% to 85% of students receiving DWF grades using this initial data set. Continued optimization of the feature sets selection, the data preprocessing, and the parameters used for the machine learning protocols will likely lead to increased recall and predictive power.

Oral Presentation

Peer Leader Training: Using Interactive Theatre to Challenge Peer Leaders' Assumptions About Student Participation in PLTL Workshops

- **M. Cecilia Barone**, University of Rochester
- **Joseph Dinnocenzo**, University of Rochester
- **Robin D. Frye**, University of Rochester
- **Nicholas B. Hammond**, University of Rochester
- **Kyle Trenshaw**, University of Rochester

PLTL has been successfully implemented at our institution for over two decades and is considered a staple of the undergraduate student experience on our campus. However, research at our and other institutions has revealed that students in PLTL Workshops may experience barriers to participation in group work that is related to their social identities and sense of belonging, thus limiting the potential benefits of PLTL. Drawing from the scholarship of teacher education, we hypothesized that including an interactive theatre experience in our existing Peer Leader training program could raise leaders' awareness of student participation barriers and provide leaders with strategies to mitigate these challenges. In 2016, we started a collaboration with a theatre-based training company to train Peer Leaders in recognizing possible barriers to participation experienced by students in diverse teams and in using inclusive strategies to troubleshoot complex group dynamics in this setting. Our leaders found that the most valuable components of this training were: (i) seeing challenges to group work in a simulated collaborative session, (ii) interviewing the actors in character to understand students' hidden stories, identities, and behaviors, and (iii) collaboratively problem solving with other leaders. Additional benefits reported by leaders included: (i) increased awareness of participation issues experienced by other students, (ii) increased self-awareness as leaders, and (iii) increased agency in making specific changes in the way they led their sessions and responded to their students. We will discuss implications for Peer Leader training and future directions, including producing theatre-based video modules through a grant funded by the National Science Foundation.

Oral Presentation

Growing from Peer Leading: Improving Confidence and Self-esteem in Peer Leaders

- **Reagan N. Hudson**, University of Texas Permian Basin

As a student at the University of Texas Permian Basin majoring in chemistry and biology, I became a General Chemistry Peer Leader in the Fall of 2020. In my first semester of Peer Leading, my anxiety and stress levels were high because I constantly compared my abilities in chemistry to other Peer Leaders. As I started doing my weekly workshops and preparing for the upcoming topics each week, I was able to refamiliarize myself with the content and adequately facilitate students in their learning. After a few workshops, I felt I was doing well but my confidence in the material was still lacking. I finally realized that it does not matter how I compare to the other Peer Leaders as long as I can effectively move through a workshop and make sure students are understanding. I have discovered that I am not the only person on the PLTL team who had this fear. It is important to vocalize this concern to potential Peer Leaders. I have told several of the students I had in workshop that they should Peer Lead and every time they say, "I don't feel confident enough in Chemistry". I enjoy telling these students my personal experience so that they know they are not alone in their fears, but they can overcome

these fears. The Peer-Led community helped me develop a sense of belonging in the scientific community, increased my confidence, and improved my self-esteem.

Oral Presentation

UHD Peer Led team Learning Journey: From Content Facilitation to Inclusive Leadership Development

- **Mitsue Nakamura**, University of Houston Downtown
- **Mary Jo Parker**, University of Houston Downtown

Many studies show that Peer-Led Team Learning (PLTL) pedagogy does not only help students to retain difficult concepts but also helps students to acquire leadership skills. Many of the post-graduate industries look for a graduate who is a team player, creative, and possesses critical thinking skills. Some medical schools even promote collaboration in their classrooms so that students will know how to collaborate with their colleagues when they become doctors. We started implementing PLTL workshops in College Algebra in 2001 which was the beginning of our PLTL journey at the University of Houston Downtown (UHD). The majority of our Peer Leaders belong to UHD Scholars Academy (SA) which is a competitive STEM scholarship program. We have created PLTL training programs to train workshop leaders, peer mentors, and research leaders. In this presentation, we will share the journey of PLTL at UHD from Peer Leaders conducting workshops in College Algebra to Peer Leaders taking positive roles of research leaders in undergraduate research. We will also include the results of the post-training workshop survey, and how we funded the journey.

Oral Presentation

Learning by Video, a Critical Skill for Education and Communication

- **Enid Martinez**, The University of Texas at El Paso
- **Dania de La Hoya**, The University of Texas at El Paso
- **Jacob Najera**, The University of Texas at El Paso
- **Lester Ibarra**, The University of Texas at El Paso
- **Mahesh Narayan**, The University of Texas at El Paso
- **Geoffrey B. Saupe**, The University of Texas at El Paso
- **James E. Becvar**, The University of Texas at El Paso

Remote learning during the COVID-19 pandemic has opened the door for creative use of technical skills to engage students and instructors alike to communicate complex and abstract concepts into a manageable format such as educational videos. The general chemistry courses at the University of Texas at El Paso have engaged Peer-Led Team Learning (PLTL) strategies over the past twenty years to enhance the facilitation of learning. We have found that educational videos integrate new concepts with existing knowledge and enhance learning in PLTL Workshop. Students today capitalize on YouTube's seemingly endless resources for their courses, as such providing playlists geared specifically for the progression of course topics would be the ultimate reference source for students seeing complex concepts for the first time. The video creation process requires a thorough understanding of a topic to present the concept in the most understandable manner. To transform an idea for a video into an effective educational tool and minimize time spent on weeding out verbal tics and extraneous information from an explanation, writing a script helps the narrator stay on track, speak at a consistent pace, and avoid mistakes. To avoid overwhelming the viewer with a high cognitive load, video editing is

essential in removing unnecessary visual or auditory distractions, adding images to the recorded video file, rearranging clips to maintain viewer attention, and manipulating soundtracks to balance narration volume, speed, and tone. Video editing for education is not limited to large budgets as today's students carry recording phones in their pockets and college facilities provide ample equipment and software for student use.

Oral Presentation

Shadow Peer Leading in PLTL

- **Madeline R. Olivas**, The University of Texas at El Paso
- **Luis R. Duran**, The University of Texas at El Paso
- **Sarah A. Reyes**, The University of Texas at El Paso
- **Paulina R. Torres**, The University of Texas at El Paso
- **Geoffrey B. Saupe**, The University of Texas at El Paso
- **James E. Becvar**, The University of Texas at El Paso

The UTEP Chemistry Peer-Led Team Learning (PLTL) Program has expanded to include Shadow Peer Leaders: volunteer leaders mentored by and paired with experienced Peer Leaders. This program allows including more undergraduate students in the peer leading program each semester, to participate in PLTL, while gaining the confidence and the skills to handle a workshop alone in the following semester. The Shadow PL assists the mentor Peer Leader by contributing to quiz and assignment design, by conducting workshop activities such as explaining content topics, and by grading assignments and uploading scores. Communication is a key component between the mentor and the shadow. From the beginning, the mentor and the shadow need to establish a professional, easy-going relationship where the shadow feels confident to share ideas and the mentor gives constant constructive feedback. By the end of the semester, the Shadow Peer Leader should feel comfortable facilitating a workshop on their own and should be able to effectively interact with students and answer their questions. The program has grown from two in 2019 to four for the current semester.

Oral Presentation

Peer Leaders Training Program Workshop Style: Transitioning to a Virtual Environment

- **Allison McKee**, University of Houston Downtown
- **Thanh Vu**, University of Houston Downtown

Pre-COVID, we made a transition from training Peer Leaders by a faculty member explaining the requirements and objectives of the workshop to the prospective leaders to training them using the Peer-Led Team Learning (PLTL) pedagogy, training them using the workshop style. The University of Houston-Downtown (UHD) adapted the PLTL Training Program Workshop Style to better suit the needs of both the students and the university by incorporating the workshop ideals into the training sessions. UHD Peer Leaders experience first-hand the benefits of the workshop style and are given the chance to become familiar with the student's perspectives before they begin running workshops themselves. Trainees also learn how to better facilitate collaboration by watching the Peer Coordinator conduct training sessions in workshop style. However, the way that the Peer Leaders have been trained must transition to better suit the new virtual environment due to the circumstances of COVID. Over time, UHD had adopted a set of 11 one-hour sessions during which the Peer Leaders are trained with the Peer Coordinator; the

major aspect of the recent change is the delivery of these training sessions. In the past three semesters, instead of meeting face-to-face, the Peer Coordinator trains the prospective leaders via Zoom. Several such changes were made to the pre-existing training materials over the past semesters to better suit the challenges presented by the newly imposed virtual environment. This presentation will discuss the idea of a PLTL Training Program Workshop Style, and the modifications that we implemented into the same training program virtually.

Oral Presentation

Peer-Led Team Learning and Student Success

- **Rita Upmacis**, Pace University

Peer-Led Team Learning (PLTL), a nationally recognized teaching and learning model, was introduced in General Chemistry at Pace University in 2014. Since that time, Peer Leaders have been trained on an annual basis in a day-long session at the start of the academic year and have been assigned 10 - 12 undergraduate students with whom they met for one hour per week during the semester. Peer Leaders worked in this capacity to facilitate student discussion of pre-assigned homework and workshop material. Additionally, the Peer Leaders met collectively with the Instructor weekly to discuss these materials, where it often became evident that different approaches can sometimes be used to solve a particular problem. Successful undergraduate students became Peer Leaders in the following year. As a result of PLTL implementation, there was a >10% increase in the students' final exam scores, thereby corroborating results from the literature. Furthermore, it was found that those students with Peer Leader experience performed better in upper-level classes compared to those with no Peer Leader experience. Peer Leaders were surveyed with respect to their experiences, and they were also regularly evaluated by undergraduate students. The implementation of PLTL has led to greater interactions between the instructor, Peer Leaders, and undergraduate students, thereby furthering a greater interest in chemistry and increasing the students' sense of belonging. Although the arrival of the COVID-19 pandemic resulted in programs having been cut, there is interest in instituting creative means to sustain this program.

Oral Presentation

The Impact of the Shift to Virtual Learning on Latinx Students and Peer Leaders in the Peer-Led Team Learning (PLTL) Program at UTEP

- **Vanessa Rodriguez**, The University of Texas at El Paso
- **Geoffrey B. Saupe**, The University of Texas at El Paso
- **James E. Becvar**, The University of Texas at El Paso

The Peer-Led Team Learning (PLTL) Program at the University of Texas at El Paso (UTEP) is a program that provides leaders with the training necessary to host small workshops for students enrolled in each of their first two semesters of Chemistry. Peer Leaders are tasked with the responsibility of facilitating learning of Chemistry through the creation of practice problems, reviews, and interactive games. Since the implementation of this program, a larger percentage of first-semester chemistry students have passed the course. Additionally, UTEP is a Latinx-serving university. A significantly large portion of Peer Leaders and students are Latinx. Therefore, the PLTL program is empowering Latinx students through the development of Peer Leaders' leadership and the strengthening of students' foundation in chemistry making them more likely

to succeed in the STEM field. Recently, Peer Leaders in the program have had to adapt to an online format due to the COVID-19 pandemic and have adopted several methods to facilitate virtual learning. Breakout groups, review games, explorations, and simulations are among some of the tools student leaders have adapted and used in their workshops to engage students. This video also includes ways in which the pandemic has affected students' lives and how the PLTL program has helped these students to be successful.

Oral Presentation

PLTL Ambassador Program: Expanding Peer Leading To Early College Students

- **Alissa G. Saenz**, The University of Texas at El Paso
- **Jonathan Tipo**, The University of Texas at El Paso
- **Geoffrey B. Saupe**, The University of Texas at El Paso
- **James E. Becvar**, The University of Texas at El Paso

Early College High School (ECHS) programs are becoming increasingly popular due to the unique opportunity they provide students to receive their Associates degree and their high school diploma simultaneously. Despite the advanced and rigorous nature of the ECHS programs, we have observed that many ECHS students struggle to be successful in University level courses. To help alleviate this problem, we have implemented the PLTL Ambassador Program into Northwest Early College High School (NWECHS) in El Paso, TX. This program uses the techniques and philosophies of Peer-Led Team Learning (PLTL) and applies them in the Early College school setting. Since the University of Texas at El Paso (UTEP) has seen remarkable strides in the success rate of General Chemistry students, we believe Early College students also benefit from the facilitation of learning through Peer Leading. We not only implement workshop into the Chemistry class at NWECHS, but also introduce effective studying, time management, and critical thinking skills in the College Prep course. This helps students as they make the transition into a higher education environment by equipping them with the tools necessary to succeed. We assess the effectiveness of this program by doing monthly evaluations as well as comparing their course scores after each testing period. We have observed that students have taken these techniques and applied them to other areas of their academics to become more prepared and engaged students. PLTL has countless benefits for both the Peer Leader and the students. We strive to diffuse these benefits to those in the greater El Paso community. We will present the details of our pilot PLTL enhanced ECHS program and the lessons learned for successful future implementations.

Oral Presentation

Enhancing Metacognition in PLTL Sessions Through Reflective Practice

- **P. Brandon Johnson**, University of Texas at Dallas
- **Marie Schier**, University of Texas at Dallas
- **Michael Saenz**, University of Texas at Dallas

The Peer-Led Team Learning program at the University of Texas at Dallas is one of the most highly sought-after support programs the Student Success Center offers. With consistently higher course grades and lower DFW percentages, administrators were interested in finding additional ways to enhance the student experience and increase metacognition.

During spring 2020, the PLTL program at the University of Texas at Dallas piloted the use of

reflections in their General Chemistry II PLTL sessions. Sixty-five students and leaders were recruited across 12 PLTL sessions. Data was collected through reflections at the end of each session and an end-of-semester survey to determine the perceived value of the reflections. Additional data was collected from the PLTL leaders who, using a rubric, were able to evaluate students' proficiency with the material. Leaders also had access to the student reflections which enabled them to provide targeted feedback during subsequent sessions.

This presentation will discuss preliminary findings from this semester-long study. Attendees will engage in a brief reflective exercise as well as learn about the implementation of reflections, its potential benefit to students, and the next steps for expanding its use in additional courses.

Oral Presentation

Disrupt, Rethink, Reimagine: PLTL Forging Alliances with Pre-service Mathematics Teachers

- **Nadia S. Kennedy**, New York City College of Technology, The City University of New York
- **Ariane Masuda**, New York City College of Technology, The City University of New York

The Peer-Led Team Learning instructional model has been successfully utilized at our institution for close to two decades in STEM disciplines, and extensively in mathematics undergraduate courses. It has been consistently shown that the PLTL program at our institution has benefits for students attending the courses utilizing it, and for the Peer Leaders, who have the opportunity to take a semester-long, one-credit bearing course designed to develop leadership skills and grow as group facilitators. However, anecdotal evidence suggests that the training of Peer Leaders through a one-credit course is not always enough to prepare them well as group facilitators; not only to be able to elicit, scaffold, and facilitate group work, but also to change their implicit beliefs about the role of a Peer Leader. Additionally, in Spring 2020, we have faced enormous academic challenges after the rapid transition to remote teaching during the COVID-19 pandemic, most particularly in engaging undergraduate students during online classes and in providing them with adequate support. This presentation will focus on rethinking and reimagining elements of our PLTL program, and on new modalities, we have designed to meet these challenges in online undergraduate math courses. In its pre-pandemic formulation, a peer-led group would meet, in addition to the regular weekly session, once a week for one hour. At the beginning of the pandemic, two new online modalities of PLTL were designed and adopted - Integrated and Independent -- which targeted student engagement and support in particular. This presentation will offer details of both models -- Independent and Integrative -- and explore the advantages and challenges that each modality presents.

Oral Presentation

Always Learning: Peer Leading as a Nontraditional Student

- **Kaleigh J. Love**, The University of Texas at El Paso
- **Geoffrey B. Saupe**, The University of Texas at El Paso
- **James E. Becvar**, The University of Texas at El Paso

The Peer-Led Team Learning community of facilitators at the University of Texas at El Paso is full of brilliant minds that are welcoming to all, but oftentimes have a small population of nontraditional students. A nontraditional student is someone who is over the age of twenty-four, did not come to college straight from high school, a student that has a family, and/or a student that already established work history. Peer Leading as a nontraditional student can be difficult

because it means working alongside other scholars that are younger and at a different time in their lives than an older student dealing with family and work responsibilities in addition to school. Nontraditional students often avoid becoming involved in university programs or organizations while attending school because they are only focused on obtaining their degree, spending time with their families, and getting back to work. This focus can be beneficial to the peer-led team because it provides an opportunity for traditional undergraduate students to interact with and learn from students with experiences from the working world. Traditional students within the Peer Leading program can develop an appreciation for the working world, from these nontraditional students, including the accountability they will face once they leave college. The hyper-focused nontraditional student can begin to appreciate that the same focus exists within the traditional students on the Peer Leading team. Nontraditional students should engage in university programs like Peer Leading, because they will be invaluable to the program, the other peer-leaders, and the experience will help support their continued growth and learning.

Oral Presentation

The Necessity of Change: The Living Chemistry Workbook

- **Raymundo Aragon**, The University of Texas at El Paso
- **Korina Avitia**, The University of Texas at El Paso
- **Sofia Delgado**, The University of Texas at El Paso
- **Brooke Dorsey**, The University of Texas at El Paso
- **Madeline Olivas**, The University of Texas at El Paso
- **Sarah Reyes**, The University of Texas at El Paso
- **Jonathan Tipo**, The University of Texas at El Paso
- **Geoffrey Saupe**, The University of Texas at El Paso
- **James E. Becvar**, The University of Texas at El Paso

The General Chemistry Workbook is a Peer Leader's and a student's most valuable resource. One of the main ways a Peer Leader uses the workbook is to present practice problems for in-workshop activities and for assigning homework to students. It is common practice to take these problems and count them toward a student's overall workshop grade. The primary goal of revising and changing the workbook is to promote integrity in a student's work. Each semester, most of the homework problems at the end of each workbook module are modified to prevent solved problems from being distributed on the internet and used by future students. These revisions help prevent academic dishonesty and improve learning. The secondary goal for revising the workbook is to enhance the quality and accuracy of the information. As learning techniques and activities are constantly being developed throughout the year, the workbook captures the best of these advancements. These discoveries often happen, either during workshops with the students or after grading the modules and seeing common mistakes or the effect of bad wording. By adding new figures and improving pre-existing ones, we aim to include illustrations that depict real-world scenarios of the Chemistry topics students encounter in the workbook. These graphics include mnemonics and other tricks to remember strong acids and diatomic elements as well as diagrams to facilitate stoichiometry, molarity, and titration calculations. To participate in this revision process, Peer Leaders volunteer to be a part of the Workbook Revisions Committee, which creates intellectual property to supplement the PLTL program at UTEP.

Workshop

PLTL in the Age of Remediation Reform: A Corequisite College Algebra Model

- **Michele Costabile Doney**, Baruch College, The City University of New York

The City University of New York (CUNY) is undergoing both substantial remediation reform and also the implementation of an Academic Momentum campaign that focuses heavily on gateway course completion. Under these conditions, Baruch College created a new course in which students whose placement scores would normally put them in elementary or intermediate algebra proceed directly to College Algebra with corequisite support. The support component is a modified version of PLTL that uses experienced undergraduate peer tutors who serve as Peer Leaders. This workshop provides an overview of the course, the development of the PLTL program, leader training, first-day activities, assessment of procedures and outcomes, and how we took the entire program online mid-semester in response to the COVID-19 virus.

Oral Presentation

Evaluation of a Peer-Led Team Learning Course Designed to Increase Underprepared Students Success in Engineering

- **Kimshi Hickman**, University of Texas at Arlington
- **Catherine Unite**, University of Texas at Arlington
- **Monica Franco**, University of Texas at Arlington
- **David J. Ewing**, University of Texas at Arlington

Several years ago, the University of Texas at Arlington (UTA), and specifically the College of Engineering, created a first-year engineering course to address student's deficiencies in solving engineering-related problems. This class is called Engineering Problem Solving and teaches in-depth problem-solving methodology and programming in an active and collaborative environment, shown to benefit the most diverse preparedness levels of student groups. Since its inception, however, students placed into Pre-Calculus, instead of being Calculus ready, have suffered from higher failure rates than any other student grouping. While UTA has invested in many studies, programs, and techniques that aid these underprepared students, a few strategies have emerged as being most effective. These strategies were the implementation of Supplemental Instruction (SI), separate sections devoted specifically to Pre-Calculus co-enrolled students, peer-based instruction, and active learning activities as opposed to additional lectures. As a result of these findings, in the fall 2020 semester, UTA combined all these strategies into a learning course integrating these best practices into a required learning lab with problem-based activities and studying practices. The goal is to aid in increasing this group's success rate in this class, which has been shown to increase student retention in the College of Engineering. The students engage in effective "study habits" and problem-based learning practices with a Peer-Led Team Learning (PLTL) leader. What we have found is these practices, which will be shared in this paper, have taken the best parts of our previously effective strategies that have helped this particularly at-risk population. The students receive college credit hours, so they can spend the required amount of time studying the material and are guided by peers rather than their professors, encouraging more interactivity and engagement. This paper will show the effectiveness of this learning course by comparing success rates, defined as an A, B, or C in Engineering Problem Solving, of this student cohort for the fall 2020 semester versus the other singular implementations from previous fall semesters. This paper will show that this learning course is even more effective in its required implementation (lab learning) than the singular

components for all students in the Pre-Calculus entry-level.

Oral Presentation

Building a Team of Peer Leaders through “GDZero”: A How-to Guide

- **Jose Alberte**, Florida International University
- **Alberto Cruz**, Florida International University
- **Bianca E. Bean**, Florida International University
- **Mary Ann Medina**, Florida International University

The six critical components detail important aspects to design and implement in a successful PLTL program. One of these components involves the selection, training, and supervision of Peer Leaders. Commonplace to nearly all PLTL programs are events like orientation and weekly training sessions. Although training methods and content between institutions can differ, these events occur to ensure each course has highly trained facilitators. With the incorporation of an additional training session at the start of the term that focuses on building facilitation skills and team building, Peer Leaders are better equipped to lead their individual workshops and learn how to foster better team dynamics in their groups. This training includes supplemental pedagogical and administrative training, mock sessions, and skill-building exercises.

Oral Presentation

Time Management as a Peer Leader

- **Sofia Delgado**, The University of Texas at El Paso
- **Sophia Adame**, The University of Texas at El Paso
- **Lester Ibarra**, The University of Texas at El Paso
- **Sarah Reyes**, The University of Texas at El Paso
- **Andrea Sariñana**, The University of Texas at El Paso
- **Edna Tepezano**, The University of Texas at El Paso
- **Geoffrey B. Saupe**, The University of Texas at El Paso
- **James E. Becvar**, The University of Texas at El Paso

As Peer Leaders for First Semester General Chemistry at the University of Texas at El Paso, we often portray a mastery of time management. Although this scenario would be ideal, it is not always the case. We strive to ensure the understanding of chemistry-related topics using the skills with which we were selected for our position: academic performance in the course, abilities to work with others and facilitate understanding of chemistry topics, plus one that is very crucial: management of our own time. Good time management is the ability to get all tasks completed by assigning just the right amount of time to complete all activities. Many different methods can be used to better manage our time, but each approach is tailored to individual needs. These skills allow us to successfully navigate all facets of being a Peer Leader. Besides supporting our students through their first semester of general chemistry, a Peer Leader also acts as their role model for academic success. This success requires balancing the different aspects of a Peer Leader’s life, but they can generally break down into three categories: as students ourselves, as Peer Leaders, and satisfying our responsibilities. We all have moments where we need to prioritize our studies and personal life over giving our students assistance outside of office hours. This can make us feel as if we have more things to do than time in a day, which

makes for a stressful situation. When this happens, it is important to take a step back, relax, and use time management to minimize these stressful moments by not only applying time management strategies to our own lives but also by teaching them to our students.

Oral Presentation

The Importance of PLTL Workshop in Improvement of the Performance of UTPB Undergraduates in General Chemistry II

- **Chao Dong**, University of Texas Permian Basin
- **Milka O. Montes**, University of Texas Permian Basin

Ninety percent of students in the Spring 2021 cohort of General Chemistry II are non-chemistry majors, among them, 55% of these students worked part-time including 6 students with full-time work schedules. Based on this situation, the PLTL workshop involved learning cycle was designed (figure of the cycle will be presented in presentation). The survey questions and exam results showed that the PLTL workshop played an important role in helping to improve student's learning outcomes. This presentation will discuss the importance of PLTL and the learning cycle that was tested during the Spring 2021 General Chemistry II course.

Oral Presentation

Quality Control in Peer-Led Workshops

- **Edna D. Tepezano**, The University of Texas at El Paso
- **Raymundo Aragon**, The University of Texas at El Paso
- **Korina Avitia**, The University of Texas at El Paso
- **Brittney Baca**, The University of Texas at El Paso
- **Jeremiah DavisBell**, The University of Texas at El Paso
- **Lester Ibarra**, The University of Texas at El Paso
- **Diego Maldonado**, The University of Texas at El Paso
- **Carolina Melendez**, The University of Texas at El Paso
- **Paulina Torres**, The University of Texas at El Paso
- **Geoffrey B. Saupe**, The University of Texas at El Paso
- **James E. Becvar**, The University of Texas at El Paso

The return to in-person learning in Fall 2021 will benefit from lessons learned online over the past year. The successful twenty-year Peer-Led Team Learning (PLTL) intervention in General Chemistry at the University of Texas at El Paso incorporates quality control oversight of the Program. Students enrolled in large section lectures are co-enrolled in a Peer-Led Workshop guided by undergraduate Peer Leaders who previously mastered the content and completed pre-semester training. Recently, the all online experience for Workshop presented challenges for the Peer Leaders and resulted in a revamped oversight process of evaluation and quality control of Workshop functions. Evaluators have found session reviews to be beneficial particularly to new members of the PLTL program because it reassures Peer Leaders and thus increases their confidence and certainty in their abilities to lead their peers. Peer Leading not only impacts individuals professionally and academically but also shapes who they are outside of the workshop. Suddenly, Peer Leaders begin overcoming some weaknesses they have struggled with for years and become stronger and better in the process. Workshop evaluations have proven to have great value to those reviewed as well as those doing the review. They serve as guidance in this lifelong learning journey.

Oral Presentation

Developing a Peer Leader's Pedagogical Bag of Tricks for Transitioning Learning Environments

- **Jose Alberte**, Florida International University
- **Alberto Cruz**, Florida International University
- **Bianca E. Bean**, Florida International University
- **Mary Ann Medina**, Florida International University

The COVID-19 Pandemic quickly threw the educational world into the 21st century's online environment in 2020. Much like the rest of the educational system, PLTL programs needed to make the transition as well. Transitioning programs is difficult to design, implement, and maintain a high-quality experience. There could be shifts in training, administration, recruiting, supervision, among other things that could lead to potential implementation challenges. Now in 2021, we are about to shift from a fully online environment to include in-person learning environments again as public health concerns are assuaged. This presentation will address concerns regarding transitioning programs from each environment and how to provide your Peer Leaders with a pedagogical Bag of Tricks to maneuver through these changing environments.