ORAL PRESENTATIONS

Oral Presentations I

Room: S-202

SJCC'S METAS CENTER DRIVES THE SCALE-UP AND EXPANSION OF SMALL-GROUP PEER-ASSISTED LEARNING PROGRAMS TO SUPPORT STUDENTS' SUCCESS

Perla Amaro, Sandy Rosas, Ana Evans, and Jennifer Rath
San Jose City College

PLTL workshops at San Jose City College were first implemented in an introductory chemistry course during the summer of 1999 with funding from an NSF grant. Student success and retention rates increased along with student enthusiasm and demand for the program. Over the next eight years, additional funding from local, state and government agencies also grew as did the number of PLTL-designated sections, not only in chemistry, but also biology and physics. Funding to employ student Peer Leader (PL) workshop facilitators and thus, financial support for weekly workshops offered in years beyond 2007 waxed and waned, that is until Fall 2010, when SJCC's PLTL program collaborated with the Metas Center. Since 2010 and with consistent funding by the U.S. Department of Education, strong institutional support, and personnel committed to student success, SJCC's PLTL program scaled-up not only within STEM disciplines but also expanded across the campus. Concomitant with the scale-up and expansion of the program and in an effort to preserve the program's integrity, effectiveness and efficiency, it became necessary to hire and train student support personnel, including program and instructional support coordinators, student success counselors, student assistants, and faculty. It is important to mention that Supplemental Instruction (SI), another of the Metas Center's student support programs, shares many program components with PLTL. For example, PLTL and SI programs share: (a) PL orientation and training materials that emphasize leadership, pedagogies, and student success strategies, (b) monitoring and assessment tools and (c) policies and procedures for referring, interviewing, hiring, and evaluating peer leaders. In our presentation you will learn how SJCC's Metas Center monitors and promotes the robustness of both PLTL and SI programs with the ultimate goals to support student success and foster a community of learners. We will also share accountability measures that both help (a) ensure proper implementation of program components and (b) assure program quality.

STRENGTHENING COMPUTING SKILLS THROUGH A PEER-LED MATHEMATICS WORKSHOP: A PILOT STUDY

Janet Liou-Mark, Lin Zhou, Holly Carley, Carlos Alvarez, Mukadder Cinar and Jeremy Sanchez
New York City College of Technology

New York City College of Technology was recently awarded a Department of Education Minority Science and Engineering Improvement Program (Grant #P120A150063) grant to recruit, retain, and graduate more underrepresented minorities including women in the Computer Science associate degree program. Since Computer Science majors are required to take an intermediate algebra and trigonometry course, a peer-led mathematics workshop section was redesigned to include modules using Desmos, a graphing calculator application. Initial results from this study will be shared.

ORAL PRESENTATIONS

SERVING STUDENTS FULL STEAM AHEAD

Judith Bell
San Jose City College

To ensure the growth of our future economy and success of students especially, those who are under-represented in STEM, it is vital we not only invest in STEM fields but also in the arts. STEAM is putting the Arts in STEM and providing students with enriched perspectives about the world and enriching their emotional development and intellectual capital. This session will provide information on how educators, particularly those from Hispanic Serving Institutions like San Jose City College, can help maximize the potential of their students and help them prepare for careers in the hard sciences as well as the creative sector of Silicon Valley.

Room: S-204

WORKSHOP: PEER LEADER SUPERVISOR TRAINING: CRITICAL THINKING

Daniel Flores, Roberto Pereira, Isamar Camarena, Alberto Cruz, and Jose Alberte

As part of the reformation of the Peer Leader (PL) Supervising program at Florida International University (FIU) in 2015, professional development workshops were implemented for the PL Mentors Supervisors (PLMS). One of the most popular workshops was a critical thinking workshop. This workshop allowed for the development of critical thinking skills by the PLMS, while training them on how to foster better critical thinking by students in Peer-Led Team Learning (PLTL) workshops. Using videos, written scenarios, and phenomenological approaches, PLMS are guided through different variations of activities each semester.

ASSESSING PEER LEADER ACQUIRED CRITICAL THINKING SKILLS USING THE GALT

Jose Alberte, Nicole Vargas
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. We administered the GALT to the Peer Leaders in the semester of Spring 2015 and Spring 2016, showing a positive correlation between length of time as a Peer Leader and GALT scores. In addition, we will be developing a survey to test critical thinking more effectively in the field of biology using a model that examines the levels and components of critical thinking. The survey will show the progression of critical thinking skills over time in first time leaders versus returning leaders. The assessment will be comprised of questions that will test content, reasoning, and confidence. This assessment will provide a novel vehicle to test critical thinking skills within biology.

ORAL PRESENTATIONS

Oral Presentations II

Room: S-202

PLTL ENHANCES CHEMISTRY INSTRUCTION FOR STUDENTS WITH HEARING IMPAIRMENTS

Monthserrat Serna and James Becvar
University of Texas at El Paso

The first author participates in the University of Texas at El Paso's chemistry PLTL/High School project. As a consequence of a particular high school visit, a new focus emerged. Two students at Burges High School, located in El Paso, TX, have hearing impairments and are learning to understand the concepts of general chemistry through the use of an American Sign Language interpreter. During the course of the spring 2016 semester, it became apparent that one-on-one college-peer-leader to high-school-student interaction, along with the use of an interpreter, proved extremely important and necessary for the students to comprehend and retain key concepts of the chemistry content being taught. A hands-on exploration activity, led by the author and the teacher, involved the reaction of vinegar and baking soda. The results further enhanced the students' learning and understanding of the principles of chemistry. The students were able to visually experience the outcome of the reaction of the resulting gas production and rapid decrease in temperature.

FROM PEANUT BUTTER SANDWICH TO LINEAR FUNCTION

Mitsue Nakamura
University of Houston Downtown

One of the most essential partsof a good workshop is to create and use effective workshop materials. In this presentation, materials created for various mathematics courses will be discussed and shared. This presentation also discusses and shares some of the workshop materials which were not effective, and how they were improved.

PLTL IN COMPUTER SCIENCE AT CSUDH: ISSUES AND SOLUTIONS

Jianchao Han and Mohsen Beheshti
California State University Dominguez Hills

PLTL has been practiced for several years at CSUDH for the introductory courses in computer science. Some issues and challenges have been encountered. To proceed with this practice, solutions to these issues and challenges have been developed and practiced. In this presentation, the issues will be discussed, and solutions will be presented.

Room: S-204

EFFECTIVE PEER-LEADING PROMOTES STUDENTS' MOTIVATION AND PERFORMANCE

Kevin Cardenas, Bao-Minh Nguyen-Phuc and Dr. Jose A. Cabrera
San Jose City College

Student motivation may be divided into three tiers: (1) those who strive for deep understanding, (2) those who are content with a surface understanding, (3) and those whose learning strategy is rote memorization. Students who take the deep approach to learning are reflective in the strategies they employ, they are able to relate the content to the "real world." They have developed the skill to generalize abstract concepts. Students who are satisfied with a surface understanding employ a strategy whereby their aim is to achieve the highest grade with the least effort. Students who rely on rote memorization have not developed critical thinking skills and are not able to synthesize concepts when asked to solve problems that are unfamiliar to them. The latter students are able to reproduce concepts covered

in class, but lack the skills to generalize these concepts beyond those covered. Students in tier three also pursue a surface approach to their learning. Unfortunately, many of the students place themselves in the lower tiers two and three: content with surface understanding and memorization. Unfortunately, the reasons why students are in tiers two and three are beyond what we can control. Factors such as self-esteem, poor time management to consider are possible circumstances that may cause or promote specific motivations and thus promote specific learning styles. However, via the PLTL workshop we (PLTL Leaders) may be able to ameliorate some of these effects. Developing higher self-esteem is a primary candidate towards success while a low self-esteem inhibits student's cognitive development. Having a low self- esteem will prevent students from trying new things and from challenging obstacles. We propose a method to develop student self-esteem and motivation, resulting in increased student performance. To assess the learners' self-perception, students were interviewed so as to learn how their motivation and performance changed as a result of the employed method. Students also commented on their peer leader's performance over a one-semester workshop.

PRACTICES IN POGIL AND APPLICATION TO PLTL

Allan Wilcox
San Jose City College

POGIL is a student based approach to teaching that trains students to learn STEM subject matter by completing guided inquiry activities in small groups. This approach motivates students, increases comprehension and understanding of course material, and gives students experience in communication and team work skills. The instructor must facilitate group work in successful implementation of POGIL to help assure student success. However, students take responsibility for their learning. Practices in student group work, examples of POGIL activities, and ways to assess student progress will be presented. A strategy to incorporate POGIL activities into PLTL will be discussed.

ASSESSING THE DEVELOPMENT PEER LEADER LEADERSHIP SKILLS

Jose Alberte and Kristianne Enriquez
Florida International University

Leadership is promoting guidance within a group of individuals and maximizing each of their potential while striving towards a common goal. Numerous studies have been done on leadership and also the different qualities of leadership such as motivation, confidence, responsibility, insightful, and more. A.E. Dreyfuss has expanded more on the characteristics that leaders gain based on their experience in the Peer-Led Team Learning program. In the previous research of leadership at FIU, these 44 identified characteristics that were further tested on the Peer Leaders of the Biology program in a variety of courses, including Biology 1 & 2, Human Biology, Physiology, Evolution, Microbiology and Ecology. These test results were analyzed based on the number of semesters the leader has led (1, 2, 3+ leaders), gender, and race. To further this exploration on the 44 characteristics of leadership, we will present preliminary data seeking to narrow down the top five characteristics that are the most occurring within the peer leaders of the PLTL program at Florida International University.

ORAL PRESENTATIONS

Oral Presentations III

Room: S-202

ON-GOING LEAD FACULTY PLTL PRACTITIONER-PEER LEADER TRAINING SUPPORTS THE EFFECTIVENESS OF BOTH PEER LEADERS AND FACULTY AND IS CRUCIAL TO A ROBUST PLTL PROGRAM

Rubi Reyes and Jennifer Rath
San Jose City College

The purpose of the presentation of this research is to further investigate how student performance correlates to effectiveness of Peer Leaders. Toward that goal, we aim to identify components and accountability measures such as biannual Peer Leader orientations as well as weekly training meetings, workshop planning sheets, and Lead Faculty PLTL Practitioners (LFPP)-Peer Leader (PL) mentoring that support PL effectiveness. In 2015, a study was conducted at SJCC and presented at the 4th Annual PLTLIS Conference that suggested the attributes of an effective PL. The data from that study revealed the following three top measures of PL effectiveness: (1) PLs possess competency in the subject matter, (2) PLs have a friendly demeanor and (3) PLs have the ability to create a safe and welcoming learning environment for students. In this investigation we aim to study the impact of PL training components on PL effectiveness. PL effectiveness is measured, in part, by comparing course grades for students who participate and who do not participate in weekly PLTL workshops in three departments: biology, mathematics, and chemistry. Preliminary findings indicate that faculty-Peer Leader engagement is crucial to a well-run program with faculty assisting with Peer Leader recruitment, hiring and on-going weekly training. Lead faculty PLTL practitioners assist PL by providing assistance and input on weekly planning sheets while PLs provide the faculty with students' feedback and perceptions of the course material. During weekly meetings, examples of course content, student success strategies, pedagogies for delivery, and small-group peer assisted facilitation techniques are discussed among the PLs and LFPP.

WORKSHOP: PUBLISHING PLTL MATERIALS ONLINE

Madhavi Sudarsana
San Jose City College

The participants will learn how to use Amazon platform for publishing PLTL materials, and how to make these materials available online across different formats like android and Apple.They will be introduced to, (1) How to open an account for online publishing? (2) How to format materials?

Room: S-204

DATA MANAGEMENT IMPROVEMENTS IN THE PEER-LED TEAM LEARNING PROGRAM AT FLORIDA INTERNATIONAL UNIVERSITY

Jose Alberte and Alberto Cruz
Florida International University

Peer-Led Team Learning (PLTL) at Florida International University (FIU) has four branches for the undergraduate Peer Leaders (PLs). With the addition of the newest branch, Research Assistant PLs (RAPLs), the PLTL program had to implement an improved and structured data management system. Initially, research and data were at risk for becoming lost, and uninterpretable to future research teams. As the program size and aims increased, administrators were finding it increasingly difficult to track and monitor the research and data being analyzed. Through improvements such as the implementation of standard operating procedures, back-up enforcement, and others, the functionality of the program has improved, while ensuring better data quality.

WORKSHOP: PEER MENTORING IN BIOLOGY AT NEW MEXICO STATE UNIVERSITY: A DESCRIPTION AND A DEMONSTRATION

Avis James and Latricia Velasquez
New Mexico State University

The Biology Department at New Mexico State University has utilized peer mentoring for a number of years. The current program will be described. We will then demonstrate a peer mentored activity designed to help students understand phylogenetic trees. The presentation will be Delivered by a peer mentor and faculty member.