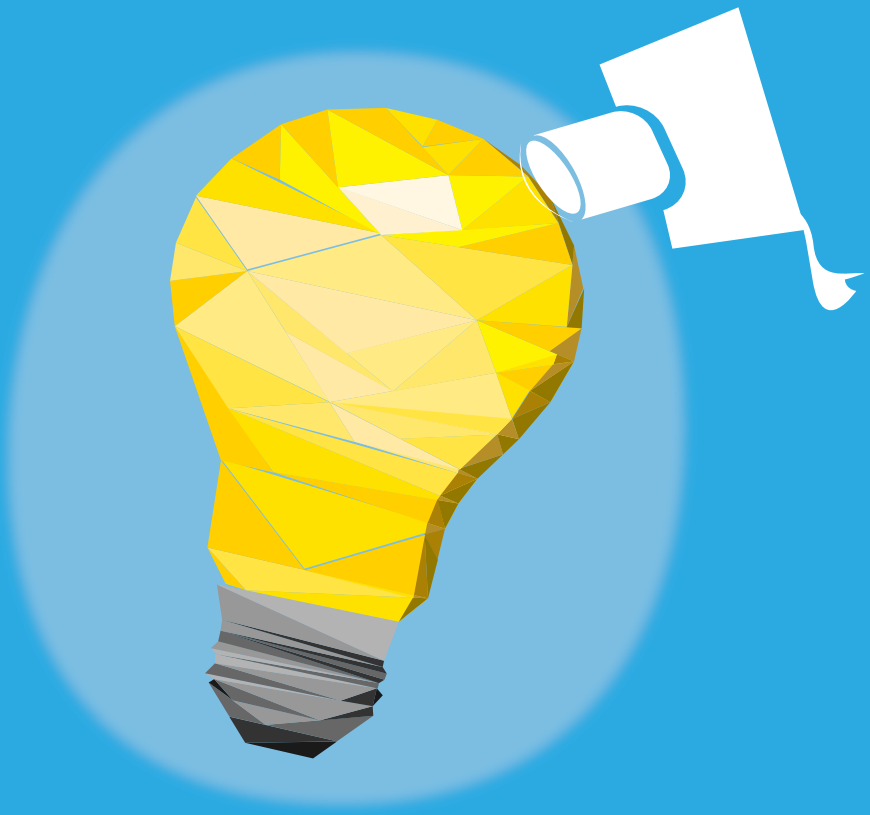
SJSU Second Annual Student Success Symposium

Connect, collaborate and innovate for success



4/15/19

Diaz Compean Student Union

This event is co-sponsored by the First in the World grant (DOE: P116F150112), Project Succeed (DOE: P031A140081) and the Divisions of Academic Affairs and Student Affairs at SJSU

SJSU SAN JOSÉ STATE UNIVERSITY

SJSU Second Annual
Student Success Symposium

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SJSU Second Annual
Student Success Symposium
Agenda

7:30 am Registration Opens, Student Union Ballroom A

8:00 am Breakfast, Student Union Ballroom
The breakfast is sponsored by SJSU's Division of Academic Affairs

8:30 am Welcome and Keynote, Student Union Ballroom

Welcome to the Event
Dr. Patricia Backer, Executive Committee

Introduction of Keynote Speaker
Dr. Mary Papazian, SJSU President

Student Success with Focus on Latinos and First Generation Students
Dr. Laura Rendón

Laura I. Rendón is Professor Emerita at the University of Texas-San Antonio. She is also an educational consultant and featured speaker at over 100 higher education institutions and conferences throughout the nation. Her presentations focus on topics such as student success, Latinx STEM students, and sensing/thinking deep learning experiences, as well as self-care and healing.

A native of Laredo, Texas Rendón's passion is ensuring that the nation's educational system fosters success for all students, especially those who are low-income and first generation. Rendón developed "validation theory," an asset-based student success framework that has been employed to frame research studies and programmatic activities in two- and four-year colleges and universities.

Rendón is also a teaching and learning theorist and thought leader. She is the author of the book, Sentipensante (Sensing/Thinking) Pedagogy: Educating for Wholeness, Social Justice and Liberation (Stylus, 2009), as well as numerous publications focusing on student success and contemplative education.

She is a Fellow of the Mind and Life Institute, a member of the Board of Directors of the John N Gardner Institute for Excellence in Undergraduate Education and former Fellow of the Fetzer Institute. In 2013 the Texas Diversity Council awarded Rendón the title of being one of the Most Powerful and Influential Women in Texas.

10:00 am Breakout Sessions

Session S1A: Flipping STEM classes across three CSUs
Interactive Discussion Session
Location: Student Union Ballroom A

Laura Sullivan-Green, Moderator
Speakers: Laura Sullivan-Green and Ravisha Mathur

Session S1B: Student Success Strategies
Poster Session
Location: Room 3A
Cynthia Fernandez-Rios, Moderator

Presentations:

- The Effects of Service-Learning Participation on Alumni Career Trajectories, Tyler Brown
- Promoting Students' Sense of Belonging in a Freshman Block Course, Dina Izenstark
- Examination of the impact of various factors on student success in an introduction to circuit analysis course, David Parent
- SJSU Graduate Engineering Corporate Programs, Afifa Hamad

Session S1C: Using Technology to Improve Student Success
Poster Session
Location: Room 3B
Jennifer Redd, Moderator

Presentations

- Comparing three strategies for providing feedback on a research assignment, Amy D'Andrade
- Exploring the impact of optional Canvas modules in course design, Michael Vallerga
- Integrating Canvas in student teaching: A strategy for coherence and support, Dean Sexton
- Digital Storytelling in Asian American History, Apryl Berney and Soma de Bourbon

Session S1D: University advising culture impact on developing meaningful relationships with students from diverse backgrounds
Workshop
Location: Room 4A
Amber Sylva, Moderator
Speakers: Sarah Ellison, Jessica Davis, and Maria Domingo

Session S1E: Student Success at the CSU--Brainstomring Models to Engage Student Voice Both in and out of the Classroom

Workshop
Location: Room 4B
Speakers: Heidi Livingston Eisips and Alora Frederick

11:00 am Breakout Sessions

Session S2A: Improving Retention and Graduation Rates at SJSU, Project Succeed

Interactive Discussion Session
Location: Student Union Ballroom A
Patricia Backer, Moderator
Speakers: Patricia Backer, Cindy Kato, Deanna Peck, James Morgan, Dianna Seah, Maureen Smith, and Lina Anastasovitou

Session S2B: Service and Community Engaged Learning by CommUniverCity SJSU

Panel
Location: Room 3A
Anita Manuel, Moderator
Speakers: Katherine Cushing, Michael Oye, Imelda Rodriguez, Alex Dahl, and Janice Garcia

Session S2C: Defining Student Success

Interactive Discussion Session
Location: Room 3B
Cindy Baer, Moderator

Presentations

- Defining Student Success: A Disciplinary Perspective from the U.S. History Survey Course, Katherine Chilton
- Defining Success-First Year Students and RA's from Campus Housing, Saili Kulkarni

Session S2D: Enhancing University Student Success through a Chicanx/Latinx Student Success Center: Insights from a Research-Based Model of Student Engagement

Workshop
Location: Room 4A
Speakers: Lilly Pinedo Gangai, Marcos Pizarro, Magdalena Barrera, Vanessa Fernandez, Jonathan Gomez, Celinda Miranda, Erick Macias-Chavez, and Maria Elizabeth Montes

Session S2E: Student Perceptions of Success
Interactive Discussion Session
Location: Room 4B
Maureen Scharberg, Moderator

Presentations

- Celebrate the Journey: Student Perspectives on Success, Nayelly Albiter, Karen Alfaro, Brianna Calderon, Shirley Canela, Markis Derr, Vicky Gomez, Karen Jarnagin, Sarina Jensen, Justin Menchaca, Cynthia Perez, Sumana Praharaju, Rae-Ann Santos, and Miranda Worthen
- URM Students' Perceptions of Student Success, Amy Leisenring

12:00 pm Buffet Lunch, Student Union Ballroom
The lunch is sponsored by SJSU's Division of Student Affairs

12:30 pm Keynote, Student Union Ballroom

Introduction of Keynote Speaker
Dr. Laura Sullivan-Green, Project Director, FITW

Potentials and Pitfalls of Flipping
Dr. Scott Freeman

Dr. Scott Freeman is a Principal Lecturer at the University of Washington. His research interests center on the impact of active learning strategies and high-structure course designs on student performance in college science courses and phylogenetic analyses of change in blackbird morphology. He is currently working with colleagues in the University of Washington's Department of Biology to determine whether certain types of course designs have a positive impact on achievement by underrepresented minority and economically disadvantaged students. This study is part of a broader effort to evaluate the role of active learning in improving the quality of science education.

He also have projects underway to: (1) evaluate hypotheses on the most effective ways to mitigate the pattern of underperformance often observed for women taking undergraduate STEM courses; (2) design a course-based undergraduate research experience (CURE) focused on experimental evolutionary studies of antibiotic resistance in *E. coli*; (3) meta-analyze the STEM education literature to compare the performance of at-risk students in a traditional lecture versus active learning setting supported by high-structure courseware; and (4) design a companion course to support the success of underprepared, at-risk students in general chemistry.

1:30 pm Breakout Sessions

Session S3A: From Freshmen to Matriculation: Managing African American Student Success

Panel
Location: Student Union Ballroom A
Linda Mitchell, Moderator
Speakers: Altovise Rogers, Michael Randle, and Nikki Yeboah

Session S3B: An intimate Q&A session with Laura Rendón

Location: Room 3A
Patricia Backer, Moderator
This is a ticketed event and is limited to 20 attendees.

Session S3C: Flipping as a Pedagogy in STEM Classes

Location: Room 3B
Poster Session
Ravisha Mathur, Moderator

Presentations:

- How flipped learning meets the diverse learning need in a first programming class, ChrisTseng
- Flipping a General Physics class using Mastering Physics, Ranko Heindl
- Defining Student Performance Expectations for Engineering Mechanics of Materials, Kurt McMullin
- Observations from a Flipped Section of CE 95 – Statics, Steven Vukavich
- On the Road to Flipping, Raji Lukkor

Session S3D: Creating communities of support for Black/African American Students to increase student success

Location: Room 4A
Workshop
Mei-Yan Lu, moderator
Speakers: Christin Roberson, Damarea Parker, Jahmal Williams, and Diana Ogbevire

Session S3E: Discussion Circles

Location: Room 4B

Lina Anastasovitou, Moderator

Circles

- Circle 1: Our department differences will only complement each other, Edwin Lee
- Circle 2: "Where is Everyone?" Fostering a Cross-Disciplinary Graduate Student Community, Julia Dunn and Grace Shefcik
- Circle 3: Using analytics to support campus-wide student success efforts, Maureen Scharberg
- Circle 4: Classroom Entertainment Protocol, Palak Shah

2:30 pm Breakout Sessions

Session S4A: Designing Asset-Based Educational Experiences

Location: Student Union Ballroom A

Workshop

Speakers: Kristina Barger, CSUCO & Cathy Avila-Linn

Session S4B: MARC U*STAR Program: Path to PhD in Science

Poster Session

Location: Room 3A

Cleber Ouveryney, Moderator

Presentations

- The Transition Edge Sensor and Examination of Nitrogen Moieties on Nanoscale Diamond, Jocelyne Valenzauela
- Amine Functionalization of a Nanodiamond for Application in Early Cancer Detection or Neuronal Sensing, Grace Jeanpierre
- Individual differences in long-term conditioned threat responses do not depend on learning acquisition, Mulatwa Haile
- Sensory activity is required for synaptic integrity in C. elegans, Nebat Ali
- Glutamate Increases the Sensitivity of Individual Muscle Spindle Receptor Endings to Muscle Stretch in Adult Mice, Natanya K. Villegas

Session S4C: eCampus Student Success Programs

Poster Session

Location: Room 3B

Jennifer Redd, Moderator

Presentations

- Exploring the impact of a flipped course redesign, Krissy Connell
- Incorporating a point-of-care instrument into existing laboratory exercises to expand and diversify exposure to laboratory tools, John Geing
- Investigating interventions to determine if stress levels among students can be reduced, Pamela Wells
- Beyond SOTEs: Exploring formative and summative assessment in a GE college classroom, Mei-Yan Lu
- Evaluating undergraduate nursing students confidence and anxiety speaking with patients. Sheri Rickman Patrick
- Including robots in class to increase student-instructor interaction and provide hands-on experiences, Wencen Wu
- Student engagement: A key to success in the classroom, Linda Mitchell and Amber Sylva
- Providing hands-on field/laboratory experiences using drones, Kimberly Blisniuk, Emmanuel Gabet, and Hollianne McClure

Session S4D: Proof by assembly line: Using peer scratch work and outlines to enhance mathematical communication and master induction

Location: Room 4A
Workshop
Speaker: Marion Campisi

Session S4E: An intimate Q&A session with Scott Freeman

Location: Room 4B
Laura Sullivan-Green, Moderator
This is a ticketed event and is limited to 20 attendees

3:30 pm Breakout Sessions

Session S5A: Partnering with Peer Educators to Support Student Learning across Disciplines at SJSU

Panel
Location: Student Union Ballroom A
Deanna Peck, Moderator

Speakers: Amna Jaffer, Ching Ching Tan, Karin Jeffery, and Faith Kirk

Session S5B: Innovations in Teaching

Poster Presentations

Location: Room 3A

Mark Van Selst, Moderator

Presentations

- Epidemiology in Action: Applied Research in the Classroom, Miranda Worthen
- Leveraging Technology and Design Thinking in Social Entrepreneurship: Course Re-design Project in BUS4 188, Yu Chen
- How can Business Simulation Games Enhance Student Learning in Revenue Management? Yinghua Huang
- Promising Results from massive FYE course model and Intrusive Student Success Interventions, Michael Randle

Session S5C: Factors in Student Success and Engagement

Interactive Discussion Session

Location: Room 3B

Heidi Livingston Eisips, Moderator

Presentations

- What Can Behavioral Economics Tell Us About Student Engagement in Career & Professional Development? Catherine Voss Plaxton and Anita Manuel
- Does taking more units help undergraduates succeed? Scott Heil

Session S5D: Reaching Students Through Innovations

Interactive Discussion Session

Location: Room 4A

Ellen Middaugh, Moderator

Presentations

- SJSU Supplemental Instruction Program and Student Success, Joshua Kas-Osoka, Amy Rodriguez, Yen Huynh, Mark Casapao, Fatima Rizvi and Thaw Myint
- Messaging to Reach Students, Cynthia Rostankowski and James Lindahl

Session S5E: Strategies for Success in Engineering

Interactive Discussion Session
Location: Room 4B
Palak Shah, moderator

Presentations

- Implementation of Brain-based Protocols to Deliver Concepts in Engineering Courses, Vimal Viswanathan

4:30 pm Reception, Student Union Ballroom

5:00 pm Flipped Workshop
Location: Room 4A
This is a ticketed event and is limited to 200 attendees

Abstracts

10:00 am Breakout Sessions

Session S1A: Flipping STEM classes across three CSUs
Speakers: Laura Sullivan-Green and Ravisha Mathur

Abstract: The project focuses on an active and intuitive learning technique, flipped classroom. In this technique, the usual student- teacher centered lecture is replaced by a more student driven approach where a student prepares prior to a class, which gives more time for in class discussions and problem solving. This project is a combined effort from three universities: SJSU, CalState-LA and Cal Poly-Pomona. This project aims to improve retention rates in STEM courses thereby increasing the number of students who graduate with STEM degrees. The three universities belong to the CSU system which is the largest university system in the entire country. The program is funded by the U.S Department of Education under the First in the World program. The outcome of this project is to check if the flipped teaching style helps in reducing the failure rates of students in gateway STEM courses.

Session S1B: Student Success Strategies

The Effects of Service-Learning Participation on Alumni Career Trajectories
Speaker: Tyler Brown

Abstract: Service-learning is a teaching strategy that integrates meaningful community service with instruction and reflection related to a disciplinary curriculum (Corporation for National Service, 2018). Participation in service-learning classes has been demonstrated to increase undergraduates' civic involvement, leadership skills, academic achievement, and career development (Astin et al, 2000). Service-learning is a high-impact practice, meaning that it is associated with enhanced student learning, engagement, retention, and the development of career skills (Pascarella & Terenzini, 2005; Tinto, 1993). Thus, it is essential to study the perceptions of college graduates who participated in service-learning to examine whether their service-learning experiences influenced their career pathways and to understand the mechanisms of this influence. An exploratory qualitative study was conducted to examine the perceived effects of participation in service-learning on the career development of public, comprehensive university alumni. Fifteen semi-structured interviews were conducted. Exploratory findings revealed 5 primary themes regarding the effects of service-learning on alumni career trajectory.

Promoting Students' Sense of Belonging in a Freshman Block Course
Speaker: Dina Izenstark

Abstract: This poster presentation provides a variety of evidence-based strategies (that can be modified to meet the needs of all disciplines) to promote students' sense of connectedness to peers, peer mentors, faculty, and the campus community. Using research literature on teaching effectiveness and student development, we highlight the central role that faculty play in building community on college campuses to maximize students' classroom engagement and skill development (Kim & Lundberg, 2016) and increase students' achievement, persistence, and sense of community (O'Keefe, 2013). Second, we provide a variety of classroom activities that faculty may use to facilitate a sense of belonging through group-work (Schweinle & Helming, 2011), peer mentors (Dennehy & Dasgupta, 2017), and providing information about campus and community events (Walsh, 2009). Participants will learn new ideas to increase student motivation and build a sense of community in their classrooms.

Examination of the impact of various factors on student success in an introduction to circuit analysis course
Speaker: David Parent

Abstract: In this work in progress, several models to predict student success in a sophomore introduction to circuit analysis class were created based on prior grade point average, grade in a pre-requisite physics class, the semester

the pre-requisite physics class was taken, the number of units a student was taking, the number of times a student repeated the circuits class, and the number of times a student repeated any class prior to enrollment. While all models were statistically significant, the model that included prior GPA and the grade in a pre-requisite physics was the most significant for the data collection effort. While further study is needed, this is an important first step in creating a reliable model of student success that can be used to investigate educational treatments.

SJSU Graduate Engineering Corporate Programs
Speaker: Afifa Hamad

Abstract: This proposal addresses key questions of this Symposium including where we need to go as institutions of higher education and how do we get there. The College of Engineering at San Jose State University (SJSU) recognizes the need to design and deliver agile programs to prepare skilled professionals for short-term industry demands. Therefore, it collaborated with corporate partners in Silicon Valley and delivered tailored master's programs to their employees. Since most students in these programs are non-traditional in terms of age, employment status and family obligations, additional accommodations were offered to support student success. These include holding courses at the corporate partner's facilities in the evenings, offering one course at a time with a hybrid delivery component and having a dedicated program specialist to help students navigate SJSU processes. The poster will present a model for corporate graduate programs and discuss how it can be adopted by institutions around the U.S. In addition, presented data about these programs demonstrates higher graduation rates and achievement of intended learning goals which are both strong indicators of student success. Some programs have been offered up to four times in the last ten years and continuously produced positive outcomes for all stakeholders.

Session S1C: Using Technology to Improve Student Success

Comparing three strategies for providing feedback on a research assignment
Speaker: Amy D'Andrade

Abstract: Anecdotal experiences suggests students value and absorb instructor feedback on written assignments differently based on the method of delivery. This small classroom study examines this question in a graduate level research seminar. Students are assigned to one of three delivery modes for instructor feedback - written, in-person, or screen-shot video - on a first draft of their research project paper. Two measures of feedback effectiveness will be used, one measuring students' perceptions of the value of the feedback, and the second measuring students' absorption of the feedback, based on instructor assessment of the revised final paper submitted. Results, conclusions and recommendations are pending.

Exploring the impact of optional Canvas modules in course design
Speaker: Michael Vallerga

Abstract: Recently, in an effort to streamline and simplify the process of completing General Education (GE) requirements, the California State University has removed the prerequisites to any course that meets the undergraduate mathematics GE requirement. As a result, any student with any mathematics skill level and experience can take these GE courses, which can lead them to struggle as courses often rely upon assumptions of previously learned concepts. This research evaluates an intervention to supplement the coursework of an online introductory statistics course with some remedial algebra modules (covering variables, algebraic equations, and order of operations). The grades of students who complete these optional modules are compared to the grades of students who did not.

Integrating Canvas in student teaching: A strategy for coherence and support
Speaker: Dena Sexton

Abstract: With over twenty adjunct faculty members in the role of supervising teacher candidates in the elementary education program, we faced the issue of providing coherence for teacher candidates along with

support and flexibility for our teacher supervisors. To address these needs, we transitioned the two-semester student teaching course sequence in the 2018-19 academic year from a mostly analog process to one that is fully integrated online. This research describes that process and draws on survey data from the teacher supervisors to understand how this transition influenced their supervision practice. Data about their technology use, technology help-seeking, and areas for future growth are described as well.

Digital Storytelling in Asian American History
Speakers: Apryl Berney and Soma de Bourbon

Abstract: For this VR Storytelling project, students design a virtual environment that tells the story of people and events in Asian American history. Students will draw from multidisciplinary research, evaluate social science information, draw on different points of view, identify and conceptualize how dynamics of ethnic, cultural, gender/sexual, age, class, regional, national, transnational, and global identities impact people, and demonstrate a knowledge of how US political institutions work.

Session S1D: University advising culture impact on developing meaningful relationships with students from diverse backgrounds
Speakers: Sarah Ellison, Jessica Davis, and Maria Domingo

Abstract: Advisors are responsible for many facets of a student's educational life cycle, focusing intentionally on the well-being of each student to ensure they feel validated, encouraged, and confident in their ability to accomplish their educational goals. Many students represent an expanding student population within the higher education environment, that present to advising with conflicting and competing goals for their education. The purpose of this workshop is to explore through discussion, reflection, and activities the importance of creating a safe and collaborative working relationship with students from diverse backgrounds; understanding that listening empathetically and having an awareness of self, are some of the best skills university advisors can have. This workshop is best suited for students, staff, and faculty that work with diverse student populations from an advising perspective. Workshop attendees will break into groups and share their personal experiences either as a student, university advisor, or staff working with diverse student populations discussing the impact, drawbacks, and opportunities for growth. Workshop attendees will also identify ways that advising practices and techniques could be adjusted to create equity and understanding for students from diverse backgrounds.

Session S1E: Student Success at the CSU--Brainstomring Models to Engage Student Voice Both in and out of the Classroom
Speakers: Heidi Livingston Eisips and Alora Frederick

Abstract: This session addresses the critical question: What can we do, and what are we doing, to address student success at SJSU? In this session, participants will: (1) hear from an experienced entrepreneur, student mentor and recent SJSU alum about the established G.o.A.L. student success program (see program overview after Literature Review), which was founded in the Lucas College of Business (LCoB) but serves students campus-wide; (2) hear from an LCoB faculty member (and concurrent EdD doctoral researcher) about latest research on and best practices for incorporating student voice in the higher ed classroom; and (3) share—and collaboratively brainstorm—strategies for scaffolding student voice initiatives into CSU educational programs, both inside and outside the classroom. (Programs represented and included span SJSU Campus-wide G.o.A.L. initiative, as well as Lurie College of Education, Lucas College of Business, Aerospace Engineering Department and SJSU Writing Center).

11:00 am Breakout Sessions

Session S2A: Improving Retention and Graduation Rates at SJSU, Project Succeed
Speakers: Patricia Backer, Cindy Kato, Deanna Peck, James Morgan, Dianna Seah, Maureen Smith, and Lina Anastasovitou

Abstract: Project Succeed is a campus-wide initiative at SJSU funded by the U.S. Department of Education. Its focus is to improve the 5-year graduation and retention rates and close the achievement gap for Under-Represented Minorities (URMs) across all majors at San José State University (SJSU). In addition, SJSU has a high percent of first generation students. We have several thrusts under this project: block scheduling, Faculty/Staff Mentor program, expanding Peer Educators, developing a First Year Experience Program, and developing more student living learning communities. This project is in its fifth year. In this presentation, we will discuss the implementation and results from each of our initiatives with respect to the impact on the retention of freshmen and sophomore students.

Session S2B: Service and Community Engaged Learning by CommUniverCity SJSU
Speakers: Katherine Cushing, Michael Oye, Imelda Rodriguez, Alex Dahl, and Janice Garcia

Panel Goals: Lead a conversation on CommUniverCity's model to bring the collective resources of SJSU and the local community together to bear on community development issues, through engagement of SJSU students and faculty

Abstract: In this panel, we will describe three sample CommUniverCity SJSU programs to highlight engagement between the local community and SJSU faculty/students: We will highlight 3 projects: ACCELERATING 3RD GRADE LITERACY, ENGINEERING IN ACTION, and GROWING SUSTAINABLY. These 3 projects, respectively, cover one-on-one reading tutoring to elementary school programs; SJSU engineering students designing and facilitating workshops aimed to ignite a passion for science and technology; and garden clubs and in-class workshops using the garden as an outdoor living classroom.

Session S2C: Defining Student Success

Defining Student Success: A Disciplinary Perspective from the U.S. History Survey Course
Speaker: Katherine Chilton

Abstract: The presentation portion will be based on research over the past five years by a group of CSU historians into student success in the introductory U.S. History course. Our courses were designated "bottleneck" courses as student failure rates in the courses were impeding progress through the university. Redesigning these courses through the Chancellors Office Course Redesign with Technology program gave CSU historians the opportunity to define how to measure and assess student success in the course beyond grade performance. Drawing on student learning objectives created by the American Historical Association, we emphasized the development of "historical thinking" skills in these introductory classes. By this we mean moving students from a novice mindset towards history which they feel is focused on memorizing names and dates, towards an analytical and critical view of the past and an understanding that our knowledge of past events and experiences are drawn from documents and sources. When we surveyed students before and after the redesigned classes, we found that students who scored highly in historical thinking attributes or who improved their historical thinking abilities during the class achieved a higher grade.

Defining Success-First Year Students and RA's from Campus Housing
Speaker: Saili Kulkarni

Abstract: The transition from high school student to college freshman is often filled with challenges, adjustment and anxiety. This is often exacerbated by a new living context being away from the home for the first time and performance expectations that may require more critical thinking skills. Faculty in higher education are invested in the success of incoming freshman and transfer students, but often feel overwhelmed by the time and efforts it takes to support new students. This presentation highlights the importance of directly involving students in their own successes. I asked first-year and transfer students residing in an on-campus housing traditional dormitory (a) how they defined success, (b) if they knew what it took/takes to be successful, and (c) if they don't feel successful, how they might go about obtaining support(s)? Supported by their resident advisors, who also participated in conversations, this project asked students to post short video clips to the #CV2success answering one or more of

these questions. Students were incentivized for their participation through several tabling events where they were provided snacks and candy and with the promise of a random raffled off grand prize for posting. The presentation will showcase some of their video clips from the #CV2success Instagram handle, and also talk about the implications for faculty and staff in housing who support new students on SJSU campus.

Session S2D: Enhancing University Student Success through a Chicanx/Latinx Student Success Center: Insights from a Research-Based Model of Student Engagement
Speakers: Lilly Pinedo Gangai, Marcos Pizarro, Magdalena Barrera, Vanessa Fernandez, Jonathan Gomez, Celinda Miranda, Erick Macias-Chavez, and Maria Elizabeth Montes

Abstract: This session is intended for college faculty and staff involved in efforts to increase Latinx student engagement and success. Participants will learn from a study that employs innovative forms of assessment to unpack a holistic model of Latinx student engagement based on the Community Cultural Wealth model (Yosso, 2005). The study and the center focus on several key constructs: sense of belonging, holistic well-being, campus engagement, and academic engagement.

Session S2E: Student Perceptions of Success

Celebrate the Journey: Student Perspectives on Success
Speakers: Nayelly Albiter, Karen Alfaro, Brianna Calderon, Shirley Canela, Markis Derr, Vicky Gomez, Karen Jarnagin, Sarina Jensen, Justin Menchaca, Cynthia Perez, Sumana Praharaju, Rae-Ann Santos, and Miranda Worthen

Abstract: This interactive presentation will examine an ongoing community-based participatory research project with undergraduate students. The project aims to promote student success through a collaborative partnership to create digital stories that capture the diverse backgrounds that students bring to SJSU and pathways through SJSU to graduation. Leveraging the diverse experiences of the research team of 10 undergraduate students, a graduate student, and two faculty, we embody the many facets of success. This session will begin by students and faculty on the research team explaining the study process and the study aims. Then we will screen a small selection of the digital stories for the audience. Students will lead the audience through breakout discussions that explore different concepts of success and how we can use non-normative stories to promote student wellbeing and sense of community. The session will also ask participants to reflect on how their own college experiences have influenced their perceptions of student success and connections with their own students at SJSU. We will end our interactive session by coming back together to reflect and brainstorm a more inclusive collective vision of what success means to students, faculty, staff and administrators.

URM Students' Perceptions of Student Success
Speaker: Amy Leisenring

Abstract: This paper draws from qualitative interviews with 55 social science students at a large comprehensive state university. The students targeted for interviews were junior and senior students from underrepresented racial and ethnic minority backgrounds who have persisted at the university. The interviews explored how the students understand what it means to be "successful"? They were asked whether or not they considered themselves to be successful and what influenced their perceptions. Finally, they were asked about the challenges they have faced, if any, while attending college that they believed impacted their ability to be successful.
The students that were interviewed reflected two general understandings of academic success: (1) understandings based primarily based on academic factors (e.g., high GPA, graduating, and passing classes); and, (2) understandings based on broader, more transformative indicators (e.g. acquiring important knowledge, bettering oneself as a human being, and building relationships with peers and faculty).

1:30 pm Breakout Sessions

Session S3A: From Freshmen to Matriculation: Managing African American Student Success

Speakers: Altovise Rogers, Michael Randle, and Nikki Yeboah

Panel Goals: To provide a look at the opportunities and challenges, SJSU has had in engaging black students at every step of their journey here at SJSU - from Freshman to Matriculation.

Abstract: This panel will include a discussion of past, present efforts to sustain AFAM student success on SJSU campus, from discussion of the AFAM taskforce, the formation of Black Scholars floors in residential housing, AFAM advising of freshmen and the creation of the AFAM success center. Additionally, we will include African – American students to provide their perspective on minority student success at SJSU.

Session S3B: An intimate Q&A session with Laura Rendón

This is a ticketed event and is limited to 20 attendees.

Session S3C: Flipping as a Pedagogy in STEM Classes

How flipped learning meets the diverse learning need in a first programming class
Speaker: Chris Tseng

Abstract: It was always a challenge in ensuring all students achieve the learning outcomes in a first programming class. It is even more challenging when one considers the background of those students enrolled in such a class. In a recent CS46A (Introduction to Programming) class I taught, there are students ranging from Asian studies majors, business majors, to Java Gurus who self-learned Java back in high school. To meet the diverse background and learning need of these students, we adopted flipped class format coupled with in-class hands-on drills. By releasing online videos related to the topics ahead of the scheduled teaching, students had the opportunity to spend more or less time to get prepared before attending the class. Beginners could study more to catch up and re-visit the videos to review as often as they want. Those who already have the basics can explore deeper with supplemental online resources I added along with the videos. Overall, the passing rate was higher than the same class in traditional teaching format. Students commented in the end of the semester survey that "I liked the opportunity it gave us students to potentially get ahead and have our questions answer upon the next lecture class".

Flipping a General Physics class using Mastering Physics
Speaker: Ranko Heindl

Abstract: This poster will present my experiences with flipping the General Physics II (Electricity & Magnetism) class over the past three semester. The instructor has extensively used Mastering Physics for most of the activities inside and outside the classroom. The instructor will outline some general tips for flipping a STEM class that focuses on problem-solving (e.g. Math) and specify some minimum requirements for the classroom infrastructure.

Defining Student Performance Expectations for Engineering Mechanics of Materials
Speaker: Kurt McMullin

Abstract: A multi-year project undertaken at San Jose State University is to define appropriate faculty expectations to monitor student success in the Mechanics of Materials course, taken by junior engineering majors as part of the engineering fundamentals core. For faculty members, it is usually quite obvious which students are performing at a high level and should receive high marks. But defining a level of performance that all students who pass a course should meet is more challenging. To move this process forward, this poster will define work by the Course Coordinator to define student performance skills in the ability to use equilibrium to determine internal forces and moments of solid objects. This work started by defining evaluation rubrics for Free Body Diagrams and the application of equations of equilibrium. The current stage of the process is scaffolding the challenge level of equilibrium problems and monitoring how students perform on varying levels of challenge in exams. The next stage will be to hold discussion with various stakeholders (fellow faculty of the course, prerequisite courses,

subsequent courses, and general engineering) to determine an appropriate level of challenge that students who successfully complete the course can achieve.

Observations from a Flipped Section of CE 95 – Statics
Speaker: Steven Vukavich

Abstract: The speaker will present final exam data that will compare and contrast performance for the San Jose State University statics course (CE 95) taught with both flipped active learning delivery and traditional delivery. The presentation will highlight the benefits and results of flipped pedagogical approach with engineering students and discuss the experience with both delivery methods.

On the Road to Flipping, Raji Lukkor

Abstract: The poster presentation will address the following topics: experience taking the Flip Workshop, How the instructor went from a "no" to a "yes" on considering implementing the flip, the frenzied list of activities that helped set up the framework for a mini-flip in approximately a week's time, the actual development of content in under 4 weeks, and the role played by my support network.

Session S3D: Creating communities of support for Black/African American Students to increase student success
Speakers: Christin Roberson, Damarea Parker, Jahmal Williams, and Diana Ogbevire

Abstract: The goal of our workshop is to present and discuss best practices in engaging Black/African American students on college campuses to increase their student success. With the increasing number of minoritized students attending college, campuses continue to struggle with providing the resources and support systems needed for their student success. We will present and solicit suggestions and guidance for faculty & staff who want to learn or continue to develop new pedagogies or methods for connecting with Black/African American student community in and outside of the classroom. The desired outcome is for attendees to leave with new ideas and a plan of action for engaging Black/African American students that are drawn from the proven student success strategies we will present.

Session S3E: Discussion Circles

Circle 1: Our department differences will only complement each other
Circle Leader: Edwin Lee

Abstract: Although departments at universities have their differences, they can find a way to collaborate effectively by finding a method to work on a common goal. Each university department works persistently to achieve their goal of providing appropriate resources to assist their students to succeed both inside and outside of classroom. In multiple departments, they have student organizations or programs that are designed to give their students a hands-on learning experience, professional development opportunities, and academic advising. As they all work together to assist students, they must find a way to create a symbiosis because each department possesses a strength that can help another department overcome their weakness. At this discussion session, we will examine what type of organizations, programs, and services are available in departments at San Jose State University. Next, we will discuss about how each department can assist one another when they find their weaknesses. Participants of this discussion session are recommended to come with information on the following: How and why a departmental program was founded, how successfully students have engaged in university or departmental activities after the program's establishment, and how the program's board is preparing for the future. By attending this discussion circle, participants will exchange ideas on how to engage in interdepartmental activities that can incorporate different strengths from each department to help students succeed. Students,

Circle 2: "Where is Everyone?" Fostering a Cross-Disciplinary Graduate Student Community
Circle Leaders: Julia Dunn and Grace Shefcik

Abstract: This circle will focus on strengthening a sense of community between graduate students across divisions. Our experiences as graduate students have been turbulent thus far; for both of us, establishing a personal connection with SJSU took many months. Although we have developed valuable relationships with other students in our respective programs, we do not necessarily feel as connected to the wider graduate student community at SJSU—and SJSU has the highest number of graduate students in the California State University system. Graduate students may not necessarily need the same degree of socializing that undergraduate students may need to feel a sense of belonging on campus. However, to combat the various pressures that graduate students face, which can often lead to discouragement, burnout, and isolation, it is imperative that we discuss solutions and ideas for strengthening a sense of community among the graduate student population. This will directly increase student success, achievement and greater well-being.

Circle 3: Using analytics to support campus-wide student success efforts
Circle Leader: Maureen Scharberg

Abstract: This discussion session is for campuses that use or are planning to use analytics such as EAB Navigate to improve student success for high concern student cohorts. Our discussion will include data-driven strategies and campus-wide actions to facilitate undergraduate progress to degree. The discussion will also include using these analytics to strive to close the equity gap using coordinated care approaches.

Circle 4: Classroom Entertainment Protocol
Circle Leader: Palak Shah

Abstract: How often have students entered a course ready to learn, but end up listening to lectures on end, with little to no student-teacher interactions, a high desire to sleep in class or skip it all together? Find easy ways to keep the classroom a learning AND fun environment with simple strategies to improve attendance, student/faculty involvement, student's long-term retained knowledge, and most importantly, student success. We all have had different experiences from a variety of courses, so bring them to this circle, find ways to improve your teaching skills, have more students not only present in class but willing to participate, and take one more step closer to achieving your dream of assigning more and more deserving students As.

2:30 pm Breakout Sessions

Session S4A: Designing Asset-Based Educational Experiences
Speakers: Kristina Barger, CSUCO & Cathy Avila-Linn

Abstract: Institutions in the United States, including universities, were not created with people of color, low-income communities and women in mind. Traditional models of education focus on the deficits of students and use them to explain persistent achievement and graduation gaps for students from historically and currently underrepresented group. The CSU STEM VISTA program aims to eliminate race, class and gender disparities in undergraduate STEM education across the CSU system. The program is grounded in sustainable, asset-based approaches designed to engage and support students of color, students from low-income communities, women and students who are first in their family to attend college. In order to remove the predictability of students' success and failure that currently correlate with social and cultural factors, we must interrupt inequitable practices, examine bias and create inclusive learning environments for all students. Using participatory facilitation methods, students, staff and faculty will be invited to: Reflect on their cultural identities and educational experiences; Deepen their knowledge of Yosso's Community Cultural Wealth Model as a framework for discovering and embracing students' unique assets; Brainstorm ways to incorporate practices and policies that actively promote inclusive, asset-based teaching and learning experiences; and Craft their next steps.

Session S4B: MARC U*STAR Program: Path to PhD in Science

The Transition Edge Sensor and Examination of Nitrogen Moieties on Nanoscale Diamond

Speaker: Jocelyne Valenzauela

Abstract: The nitrogen-vacancy center in diamond is a promising tool for oncology, magnetometry, electric field sensing, quantum cryptography, and quantum communication. High-pressure high-temperature (HPHT) nanodiamonds (NDs) host nitrogen-vacancy centers (NVCs) and can be deployed in biological applications. Amine chemistry was used to activate the inert surface of HPHT NDs to provide a flexible platform for biological applications, such as bioconjugation of small molecules and plasmonic shells. To characterize the surface of aminated NDs, samples were deposited onto gold wafers and probed with 100-1300eV radiation at the Stanford Synchrotron Radiation Lightsource (SSRL beamline 10-1) with the transmission edge sensor (TES) under ultra-high vacuum conditions. The ultra-sensitive TES can provide element-specific and background-free x-ray detection without a diffraction grating. With the TES, background signal from carbon was eliminated to reveal compelling nitrogen signals from the modified HPHT NDs. X-ray emission spectra reveal amine and imide moieties at 397-410eV, verifying the success of our amination chemistry and enabling new reaction pathways targeting amine moieties. The TES detector provides unparalleled nitrogen signal-to-noise and is a powerful tool to investigate fluorescent ND surface chemistry.

Amine Functionalization of a Nanodiamond for Application in Early Cancer Detection or Neuronal Sensing

Speaker: Grace Jeanpierre

Abstract: Few robust routes exist to yield molecular control of the inert nanoscale diamond surface after aerobic oxidation. High pressure high temperature (HPHT) nanodiamonds (ND) containing nitrogen vacancy centers (NVC) are attractive due to their electron spin properties, all carbon matrix, photostability, and electric and magnetic field sensing in biological environments. The NVC emits non-bleaching fluorescence that can flexibly be used as a biolabeling marker for early cancer detection or voltage sensing in live neurons (neuronal sensing). The ND surface interacts with an external environment and affects characteristics such as colloidal stability and NVC photophysics. Amine chemistry is a flexible platform for further modification in comparison to the inert alcohol-rich surface (which covers the surface of an oxidized ND). The nanodiamonds were oxidized in a tube furnace at 500 C for 6 hours to remove carboxyl groups. Hydrogen bromide (HBr) was used to add alkyl-bromides on the oxidized ND surface. All wet chemistry was performed in a glove box under nitrogen due to the brominated NDs' high sensitivity to water. Two routes for amination ensued: gas and liquid amination. Gaseous amination was performed in the tube furnace under ammonia flow for 2 hours at 200-700C. Liquid amination was performed by reacting the ND solution with ammonia in tetrahydrofuran (THF), ammonia in isopropanol (IPA), and ammonia in methanol (MeOH) in the glovebox for 24 hours. X-ray photon spectroscopy (XPS) and X-ray absorption spectroscopy (XAS) were used to compare the surface chemistry of the bare, unoxidized NDs and aminated NDs. Conversion of hydroxyl groups to amines was approximately 1-5%. With inactivated diamond there were limited activation rates, which highlights the difficulty in performing amination chemistry on inert diamond surfaces. The potential uses of the aminated ND are highly flexible. Amine chemistry can be used for the functionalization of PEG, antigen/antibody conjugation, biolabeling markers for early cancer detection, or as voltage sensor for brain activity sensing since ND-NH_3 may pass through the blood brain barrier.

Individual differences in long-term conditioned threat responses do not depend on learning acquisition

Speaker: Mulatwa Haile

Abstract: Understanding the mechanisms underlying threat memory formation can inform us of the origins of certain anxiety disorders such as PTSD. In the laboratory, we can study threat processing using Pavlovian Threat Conditioning (PTC). PTC involves presenting a neutral conditioned stimulus (CS, tone), together with an aversive or unconditioned stimulus (US, electric shock). Subsequent CS alone presentations induce conditioned responses such as freezing. Most studies investigating PTC report population averages of the experimental measures, making homogeneous populations heterogeneous. Here we aim to establish and characterize different groups of animals based in their different reactivity towards the same threatening stimulus. Rats were conditioned and the memory to the tone was measured 48 hours later in a long-term memory test (LTM). We use mathematical data mining techniques to discover individual freezing patterns during the LTM test. Specifically, the rats are grouped applying unsupervised cluster analysis with an algorithm computing Euclidean weighed distances among freezing values during LTM test in an exclusive, sequential, hierarchical, agglomerative and polythetic fashion. The

analysis revealed three groups: high (20%), regular (70%), and low freezers (10%). During conditioning, Two-way ANOVA test showed no interaction when comparing groups and CS-US trial ($F [8, 70] = 0.788$; n.s.) with a significant main effect of the trials ($F [4, 70] = 355.6$; $p < 0.0001$) suggesting that all groups achieved the same level of learning. By contrast a two-way ANOVA test comparing group and CS revealed no interaction between them ($F [14, 112] = 0.5966$; n.s.) ; however, there is a main effect of the group ($F [2, 112] = 17.86$; $p < 0.0001$) and a main effect of trial ($F (7, 112) = 4.32$; $p < 0.001$). These results are a first step to search for neural correlates that allow to find biomarkers to predict trauma or resilience phenotypes.

Sensory activity is required for synaptic integrity in C. elegans
Speaker: Nebat Ali

Abstract: Sensory activity has been implicated in the establishment and maintenance of appropriate synaptic connections in vertebrate and invertebrate systems. Defects in the formation and plasticity of neural circuits are thought to underlie neurological disorders, such as schizophrenia and dementia. However, much remains unknown about the molecular mechanisms by which sensory activity affects connectivity. We found that the srb-6 GPCR, the odr-3 Gαolf, and the tax-2 and tax-4 CNG-channel subunits are required for SDS chemosensation by the phasmid chemosensory circuit. To determine if defects in sensory signaling affect sensory synapses, we utilized the split-GFP-based trans-synaptic marker NLG-1 GRASP (Neuroligin-1 GFP Reconstitution Across Synaptic Partners) to visualize synapses between PHB and AVA neurons in live animals. Interestingly, we find that neuronal activity is required for these sensory synapses. Time course experiments indicate that odr-3/Gαolf mutants in the first larval stage have normal synapses, but synapses are significantly reduced in later larval stages, although phasmid neuron morphology appears to be unaffected. Cell-specific rescue of chemosensation and synapses indicates that odr-3/Gαolf likely functions cell-autonomously in PHB neurons. By developing an odr-3/Gαolf translational fluorophore fusion, and expressing it with a cell-specific promoter, we found that ODR-3/Gαolf localizes to sensory cilia. Our results indicate that C. elegans may be a powerful model organism to further characterize the mechanism by which sensory activity regulates synapses using molecular genetic and physiological approaches.

Glutamate Increases the Sensitivity of Individual Muscle Spindle Receptor Endings to Muscle Stretch in Adult Mice
Speaker: Natanya K. Villegas

Abstract: Proprioception is the sense responsible for maintaining position and balance, even in the absence of visual cues. Muscle spindle afferents (MSAs) sense muscle stretch and movement and provide the main sensory input for proprioception. The mechanosensitive ion channel in MSAs is Piezo2, however, Piezo2 adapts rapidly and the mechanism(s) that maintain MSA firing during prolonged stretch are unknown. A previous study showed that glutamate, a neurotransmitter shown to be released from synaptic-like vesicles (SLVs) from MSA sensory endings, can cause a 100% increase in entire nerve firing. However, in those studies, nociceptors could have been activated by glutamate. As a result, our goal was to obtain neural firing from isolated MSAs. We tested the hypothesis that MSA firing rate will increase when exogenous glutamate is applied during static ramp-and-hold stretch and vibration, and decrease with xanthurenic acid (XA), which inhibits glutamate packaging into SLVs. To test this hypothesis, we dissected the extensor digitorum longus (EDL) muscle and attached sciatic nerve from C57BL/6 2-3-month-old adult male mice and sutured it into an in-vitro tissue bath. Afterwards, we found single MSAs with a glass suction electrode and exposed the muscle to 4-second-long ramp and hold stretches (5% optimal length (Lo); speed of 40% Lo/s), followed by two 9-second-long vibrations (50 and 100 Hz; 50 μm amplitude) every minute between ramps. We collected baseline firing for 18 minutes before circulating 1 mM glutamate or 3 mM XA for 36 minutes. We then compared MSA firing rate at baseline during stretch and vibration, and before and after we added the drug. During 1 mM glutamate treatment (n=11), MSA firing 3.25-3.75 seconds into the static stretch (final static time; FST) increased significantly by a mean (± SD) of 19% ±15.4 compared to baseline ($p<0.01$). Likewise, MSA firing at FST during XA treatment (n=17) decreased significantly by a mean of 39% ±42.1 after treatment with 3 mM XA ($p<0.05$). Meanwhile, MSA firing during 1 mM glutamate treatment (n=11) increased significantly by a mean of 41% ±46.9 for 50 Hz vibrations and 39% ±41.2 for 100Hz vibrations ($p<0.01$). On the other hand, MSA firing during 3 mM XA treatment (n=17) decreased by a mean of 26% ±32.0 for 50 Hz vibrations and by 28% ±34.0 for 100 Hz vibrations, but not significantly ($p>0.05$). These results support the

hypothesis that glutamate can maintain firing of individual MSAs during static stretch, while dynamic changes are caused by mechanical stimulation of Piezo2. Additionally, our work provides further information about the mechanisms of proprioception and potential insight into other sensory systems that also use SLV release of glutamate, such as baroreceptors and hair follicles.

Session S4C: eCampus Student Success Programs

Exploring the impact of a flipped course redesign
Speaker: Krissy Connell

Abstract: This study sought to determine the effects of an active learning teaching style on student outcomes in an upper-division child development course. Specifically, the effects of multiple active learning strategies (e.g., flipped classroom, iClicker quizzes, and collaborative activities during lecture time) on students' final grades, withdrawal rates, and evaluations of teaching effectiveness were examined before, during and after all course changes occurred. Between subjects univariate ANOVA analyses revealed significant increases in student evaluations and a decrease in failure rates across conditions. The data suggest that incorporating active learning strategies in undergraduate courses can significantly improve students' classroom experiences, engagement with material, and academic outcomes.

Incorporating a point-of-care instrument into existing laboratory exercises to expand and diversify exposure to laboratory tools
Speaker: John Geing

Abstract: The emphasis of care is shifting toward prevention and early detection of disease, as well as management of multiple chronic conditions. Point-of-care testing (POCT) is the provision of a test at the point in time at which the result will be used to make a decision and take appropriate action, which will result in an improved outcome. Students were exposed to POCT in a classroom laboratory setting, and basic knowledge, use, and understanding of this instrument was assessed. Overall, students reported increased knowledge through their exposure and use of the POCT instrument during lab, and that this hands on understanding will be very useful in their professional careers.

Investigating interventions to determine if stress levels among students can be reduced
Speaker: Pamela Wells

Abstract: Mindfulness can be defined as proactively viewing information from different perspectives and making novel connections. Mindlessness, on the other hand, is a state of mind that is a result of repetition or habit and utilizes existing cognitive frameworks. The act of being mindful can be applied to all aspects of life, including learning. Research shows that being mindful positively contributes to students' success in the classroom. In this present study, students' current state of mindfulness is examined and interventions to improve mindfulness are implemented. It is hypothesized that students will perform better in the classroom after mindful interventions are introduced and practiced.

Beyond SOTEs: Exploring formative and summative assessment in a GE college classroom
Speaker: Mei-Yan Lu

Abstract: At SJSU, Student Opinion of Teaching Effectiveness (SOTE) is required for all classes at the end of every semester. However, the instructor generally does not receive the result back until months after the class ended. This is a miss-opportunity to improve instruction. The author proposes a systematic way to collect a series of formative assessments from students, a mid-term anonymous survey, and a customized summative evaluation that has different questions than SOTE to improve instruction. The author is excited to share the preliminary results, student feedback, her plan to move forward and discussion with the Symposium participants at the poster session.

Evaluating undergraduate nursing students confidence and anxiety speaking with patients
Speaker: Sheri Rickman Patrick

Abstract: Part of the nursing role is the ability to discuss sensitive subjects with patients regarding human sexuality like intimacy issues and the disease process. Providing pre-licensure nursing students opportunities to practice essential communication skills with patients on certain subjects is very challenging. Health organizations or practice partners want new graduate nurses to enter the workforce as an expert novice being able to discuss sensitive subjects like disease related intimacy issues. With the use of technology (iPads and Zoom), it could be possible to provide students more opportunities to interface with patients facing intimacy issues due to their medical conditions and in turn increasing the student's confidence in communicating with patients on sensitive subjects.

Including robots in class to increase student-instructor interaction and provide hands-on experiences
Speaker: Wencen Wu

Abstract: Through the implementation of the robots (TurtleBots) in the course, students will have hands-on experiences. Through these experiences, students will gain an intuitive understanding of the software and hardware components of a mobile robot, implement the learned algorithms on the TurtleBots, design new algorithms and validate them on the TurtleBots, and gain familiarity with the most start-of-the-art robot systems.

Student engagement: A key to success in the classroom
Speakers: Linda Mitchell and Amber Sylva

Abstract: Consistent findings in educational research demonstrates that the more time students spend engaged during instruction, the more they learn (Gettinger & Ball, 2007). This project investigates the level of authentic engagement (Schlechty 2002) in a classroom setting of the English 125 Homer to Dante course. In authentic engagement, students are immersed in work that has clear meaning and immediate value to them (reading a book on a topic of personal interest). A pre-survey of English 125 students indicates that they preferred class lectures to student-engagement activities because they thought they learned more by listening and taking notes. However, after a semester of authentic engagement, a post-survey shows that students easily preferred engagement activities to lectures because they had learned more by being actively involved.

Providing hands-on field/laboratory experiences using drones
Speakers: Kimberly Blisniuk, Emmanuel Gabet, and Hollianne McClure

Abstract: Our class projects in Geology 143 and Geology 255, will apply a technique called Structure from Motion, where a drone is used to take overlapping photos to construct high resolution digital topography data in the x, y, and z orientation at cm scale to quantify the recent uplift rates of the southern Sierra Nevada Mountains.

Session S4D: Proof by assembly line: Using peer scratch work and outlines to enhance mathematical communication and master induction

Location: Room 4A
Workshop
Speaker: Marion Campisi

Abstract: In Discrete Mathematics, students move from interacting with mathematics via computation and following algorithms to creating mathematics and communicating findings. This class presents students with several significant hurdles, including the technique proof by induction. This workshop will describe an activity in the Discrete Mathematics class, which helps students get past these roadblocks. In this activity students produce and present a proof by "assembly line". Each group is responsible for one stage of the development of the proof, passing their work on to the next group when they are finished. By using their classmate's work as the basis of their proofs, students are forced to examine how clearly they are communicating. Finally, students are required to present proofs prepared by classmates and be responsible for answering questions about the work, which requires

them to fully understand the format of the proof. After this activity students highlight the aspects of their classmates work that allowed them to proceed with understanding. Students walk away from this exercise with a much better sense of what makes a proof understandable and clear. Participants in this workshop will have an opportunity to develop a "create by assembly line" activity for their own particular class.

Session S4E: An intimate Q&A session with Scott Freeman

This is a ticketed event and is limited to 20 attendees

3:30 pm Breakout Sessions

Session S5A: Partnering with Peer Educators to Support Student Learning across Disciplines at SJSU

Panel Goals: To demonstrate what embedded peer-to-peer learning looks like in practice and to share teaching materials
Speakers: Amna Jaffer, Ching Ching Tan, Karin Jeffery, and Faith Kirk

Abstract: Embedding peer educators in classroom learning communities creates positive outcomes for students and teachers. For students, peer-to-peer learning models support developing effective study habits and increase course pass rates. For teachers, partnering with student educators can be a transformative learning experience that increases the impact of their teaching strategies. For this panel, SJSU faculty members from different disciplines and their student partners will demonstrate how their partnerships have positively impacted students in their courses. Sharing materials from their courses and artifacts from their teaching, these faculty and peer educator partners will demonstrate the benefits of peer mentoring, embedded tutoring, and supplemental instruction in the CSU.

Session S5B: Innovations in Teaching

Epidemiology in Action: Applied Research in the Classroom
Speaker: Miranda Worthen

Abstract: Epidemiology is a required course for Public Health majors and is typically taken in students' junior year. For the past four years, students taking the course have completed a team research project where they select a health topic, develop a cross-sectional study to assess that health issue, collect and analyze data, and present their findings. With weekly deliverables, the project is scaffolded to match course content, allowing students to immediately apply the critical thinking and research methods that they learn in the classroom to real-world problems. Topics range from food insecurity to depression to drug use and for many students this is their first experience conducting research, a high impact educational practice. In 2018, students replicated their class project and presented their findings at the American Public Health Association annual meeting. Current modifications to the project aim to incorporate IRB approval and connect with community partners so research is immediately applied by county agencies or organizations – e.g. working with Tobacco Free Communities to assess youth vaping. Students who wish to publish or present their work are mentored to do so after they complete the class, during their senior year.

Leveraging Technology and Design Thinking in Social Entrepreneurship: Course Re-design Project in BUS4 188
Speaker: Yu Chen

Abstract: This poster summarizes a new component called "Innovation Farm", a semester-long student team project as part of the course BUS4 188 (Business Systems and Policy) taught in Spring 2019. The project involves student teams designing innovative solutions using information systems and technologies and business models to address pressing social problems in the Bay Area. In this project, students work in teams to find pain points -- a pressing problem in the Bay Area, such as housing, homelessness, transportation – and then offer "pain killers" to the identified pain points by using business (in the form of entrepreneurship) and technology (e.g., AI).

We will invite experts from IBM to give students tutorials on design thinking (IBM enterprise design thinking) as well as AI technology toolkits (e.g., IBM Watson). The invited speakers from the industry will help students get exposed to the industry, provide helpful feedback, and serve as external judges to students' startup ideas. The goal of the project is to help students actively engage in creative activities using business systems. Eventually, the project does not preach everyone to be an entrepreneur, but to encourage each and every single student to proactively solve real-world problems with what they learned in creative ways.

How can Business Simulation Games Enhance Student Learning in Revenue Management?
Speaker: Yinghua Huang

Abstract: This proposed poster presentation will address the factors influencing the effectiveness of using a cloud-based simulation game in an undergraduate course of Revenue Management. The survey data of 57 students in the HSPM 154 Revenue Management course were collected in Fall 2017 and Spring 2018. The students were asked to play a hotel revenue management game through a cloud-based RevSim simulation software that provided a realistic market environment for making hotel business decisions. Students worked in groups to manage a virtual hotel and competed with each other during a period of five weeks. A questionnaire survey was distributed at the end of the fifth week to collect data about the student learning experience. The findings of the survey will be discussed in the presentation.

Promising Results from massive FYE course model and Intrusive Student Success Interventions
Speaker: Michael Randle

Abstract: During the Fall 18 semester SJSU launched a new First Year Experience model in conjunction with the Project Succeed grant, Academic Advising and Retention Services and the College of Education's Counselor Education Department, EDCO 4FY. The course enrolled roughly half of the Undeclared FTF cohort for FA18 (333/678). After a review of academic standing data for FA18 it was determined that only 9% of the FYE UND students were on academic probation after their first semester whereas 22% of non FYE UND were on academic probation after semester one. The campus comparison was such that the FYE frosh (including FTF that were not undeclared but enrolled in the course) were 9% on probation whereas non FYE FTF were 32% on probation as a cohort. The course enrolled approximately 10% (347/3440) of the FTF cohort for FA18. Additionally, Academic Advising and Retention Services has been engaged in Intrusive Intervention Strategies (IIS) which include a collaboration between the offices of: Academic Advising and Retention Services, Graduate & Undergraduate Programs (GUP) and the College of Education in the form of a Student Success course, UNVS 95B and a set of intrusive protocols which include aggressive advising, grade monitoring, and mandatory study.

Session S5C: Factors in Student Success and Engagement

What Can Behavioral Economics Tell Us About Student Engagement in Career & Professional Development?
Speakers: Catherine Voss Plaxton and Anita Manuel

Abstract: To maximize the employment opportunity associated with higher education, students must prepare for the college-to-work transition throughout their time in college. Yet students generally lack PDE, which is defined as engagement in "activities designed to help students prepare for a successful college-to-work transition" (Blau G. , et al., 2014, p. 137). Nationally, 39 percent of students who graduated from 2010 to 2016 never visited or cannot remember having visited their career services office (CSO), where the college-to-work transition is a primary focus (Gallup, 2016). Internships, which are "a form of experiential learning that integrates knowledge and theory learned in the classroom with practical application and skills development in a professional setting" (National Association of Colleges and Employers, 2011) are an aspect of PDE that is highly valuable for exploring careers and developing transferrable skills. Yet, only 48 percent of graduating seniors reported having had at least one internship or similar field experience (National Survey of Student Engagement, 2017). This presentation will discuss what this means for student engagement program design and provide an example of related project design in SJSU Career Center.

Does taking more units help undergraduates succeed?
Speaker: Scott Heil

Abstract: This session will examine in-depth the evidence on undergraduate unit load and several early to intermediate measures of success in college. Based on an evaluation of SJSU's Frosh Finish in Four campaign, the session will share detailed results about the first two years of a large-scale effort to encourage incoming full-time freshmen to take 15 units or more per semester. A major focus of the session will be whether certain subsets of students were impacted differentially by the campaign, including underrepresented minority students and those in STEM majors. Some methodological concerns about self-selection of students into higher and lower unit loads will be briefly addressed. After a short introduction to the topic and the overall findings, participants will be divided into four groups/tables that will each receive a different handout of student outcomes data (GPA, units earned, persistence to the next term) to analyze and discuss as follows: (1) effects for underrepresented minority students; (2) effects for students who entered with lower high school GPAs; (3) effects for students who entered with majors in science and engineering; (4) effects for students receiving the need-based Pell grant and those identified as the first generation in their families to attend college. The groups will spend time reviewing and discussing the results for their respective student populations and then present their conclusions and critiques to the wider group.

Session S5D: Reaching Students Through Innovations

SJSU Supplemental Instruction Program and Student Success
Speakers: Joshua Kas-Osoka, Amy Rodriguez, Yen Huynh, Mark Casapao, Fatima Rizvi, Joara Jimenez and Thaw Myint

Abstract: When considering all of the different parts that work together to increase the success rates of college students, it is vital to consider what the students themselves think about their experiences. The purpose of this presentation is to explain how the SJSU Supplemental Instruction (S.I.) Program impacts college student success through enriching the college experiences of the students who participate in the program. The presentation will begin by outlining the key characteristics of the S.I. program, including how the program contributes to both the SJSU Clearing Bottleneck Initiative and SJSU/CSU Graduation 2025 Goals. The presenters will continue by breaking down how the peer to peer relationship aspect of the S.I. experience positively impacts student development from the beginning to the end of the semester. Additional examples will be given of how the S.I. program impacts student success through facts and statistics as well as actual student feedback about the program. The audience will be asked to view student success through the perspective of the college student receiving services through the S.I. program. An interactive demonstration (mock session) will be carried out by the presenters to provide context to the student experience in a typical S.I. session and the key characteristics of S.I. (redirecting questions, wait time, and check for understanding). Next, the participants will be divided into groups to conduct their own S.I. mock session as a way to experience an S.I. session and practice the key characteristics demonstrated. At the conclusion of the group activity, a whole group discussion will follow to provide a space for feedback about the experience of the participants and provide concluding remarks about how the sessions contribute to student development and student success.

Messaging to Reach Students
Speakers: Cynthia Rostankowski and James Lindahl

Abstract: The Humanities Honors Program at SJSU has always been a notable path for student success. Honors seminars have been "flipped" since the program's inception 64 years ago, and the aim of the program is three-fold: academic readiness for the future (learning how to learn well), an inclusive humanistic foundation for future learning for all majors (relevant in an age of values exploration), and cultivating perseverance in a welcoming learning community. The Humanities Honors Program fulfills most GE requirements, but minimum requirements to enter the program are not exclusionary: a 3.0 overall GPA, and SAT EBRW score of 560 (or other test equivalent), intended to bring in stable learners. More than 11,000 first-year students accepted at SJSU qualified last year. Students accomplish success markers effectively as they move toward graduation. For

example, since 2010, 72% of Humanities Honors students have successfully completed their WST requirement by the end of their second year – earlier than most at SJSU. Why? Evidence shows it is because of messaging. In response to the new student in the age of the internet, one major change the Humanities Honors program has been implementing is how we message students. These improvements include everything from new electronic outreach to eligible students, to new ways professors present assignments in class. There is reliable data that show current students take in information differently than those of previous generations, and Humanities Honors has discovered several effective new ways to reach students. This session will present several brief interactions to exemplify engagement with new messaging using interactive electronics with the attending group, with a concluding brainstorming activity to generate a takeaway for one's own classes.

Session S5E: Strategies for Success in Engineering

Implementation of Brain-based Protocols to Deliver Concepts in Engineering Courses
Speaker: Vimal Viswanathan

Abstract: One of the primary concerns that engineering educators face is the lack of engagement of students in the classroom. While there are several factors influencing the extent of engagement, the incomplete scaffolding of concepts arising from a weak pre-requisite base remains as one of the top issues. Leveraging the idea of "brain-based learning techniques", a framework titled "Tailored Instructions and Engineered Delivery Using Protocols" (TIED UP) has been developed. TIED UP is a blended teaching model where the content delivery follows a set of 9 protocols. In a typical TIED UP classroom, content delivery is performed using short, animated and scripted concept videos that are generated before the class. These videos are discussed further in the classroom followed by a range of active learning exercises. Formative feedback is collected from these activities and this feedback guides the activities in the following class. The videos are made available to the students for their further learning. This presentation will present the results from the implementation of TIED UP framework in an upper division mechanical engineering course. It will also interactively train the attendees to develop the course materials following the nine TIED UP protocols for a concept of their choice. The attendees will be given guidance on the modularization of the topic, developing video lessons for the topic, planning hands-on activities and demonstrations and finally delivering the concepts in the classroom.

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