SO, WHAT ARE YOU WORKING ON?
4th ANNUAL STUDENT CONFERENCE

SWAYWO
2018

ENVISIONING EDUCATION FOR JUSTICE & EQUITY
KEYNOTE SPEAKER: DR. RONALD GLASS

FRIDAY, MAY 18
9AM - 5PM
CENTER FOR EDUCATION RESEARCH AT STANFORD
Conference Schedule

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<th>Time</th>
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<tr>
<td>9:00 – 9:30</td>
<td>Sign-in, Breakfast, and Dean’s Welcome</td>
<td>CERAS 101</td>
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<td>9:40 – 10:25</td>
<td>Session 1</td>
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<td>10:35 – 11:20</td>
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<td>11:30 – 12:15</td>
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<td>12:15 – 1:45</td>
<td>Lunch and Keynote Speaker</td>
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<td>Session 4</td>
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<td>Session 5</td>
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<td>3:50 – 5:00</td>
<td>Social Mixer</td>
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Mission Statement

We aim to build collegiality within the Graduate School of Education and to showcase the extraordinary work in education by Stanford students. SWAYWO invites students to present their research in an environment modeled on regional, national, and international conferences important to various fields, associations, and affiliations.

Conference Planning Committee

Catherine Lemmi, Rosa Chavez, Robin Anderson, Shadab Hussain, Kimiko Lange, and Anthony Muro Villa III

Acknowledgements

We would like to offer special thanks to Dean Dan Schwartz, John Baker, Debbie Belanger, Shu-Ling Chen, Olivia Crawford, Paul Michael David, Meg Hardin, Sofia Kukhar, Katya Kuzmina, Laura McCarty, Kate McKinney, Ellen Muller, Amanda Ruiz Charles, Ellen Torres, and Terrance Turner for their ongoing support in the planning process, and to all volunteers for their help with moderating, registration, breakfast, lunch and the social mixer.
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<td>Session 2</td>
<td>10:35 – 11:20</td>
<td>Visiting UTSA Scholars Panel 2 Saeni Castillo Ana Trevino Vanessa Sandoval Gabriel Aguilar</td>
<td>CTE 1st Year Panel 1 Kristin Keane Matthew Wilsey</td>
<td>Equity and Justice in Science Teaching for Multilingual Communities Catherine Lemmi</td>
<td>&quot;When I Do Outside Science Activities, I Get Really Excited and Happy.&quot; Stephanie Rafanelli</td>
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Program Overview

- Individual Presentations
- Workshop
- Panel Discussion
### Lunch & Keynote Speaker

**Dr. Ronald Glass**, *Im/Possibilities of Ethical Research for Justice*

12:15 – 1:45  
CERAS First Floor Lobby & 101

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<td><strong>Session 4</strong> 2:00 – 2:45</td>
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<td>The Abider-Avoider Achievement Gap: The Association Between Religiosity and GPA in Public Schools  Ilana Horwitz</td>
<td>Designing Computer Science Curriculum &amp; Instruction  Monica Yupa</td>
<td>Engaging in Political Conversations Around Mathematics: Rehearsing Ways to Practice Creative Insubordination with Pre-Service Teachers  Rosa Chavez  Robin Anderson  Teacher-curiosity in early math  Madhu Anantharajan</td>
<td>Maximizing Student Benefit from Instructor Interactions with MOOC Discussion Forums  Glenn Davis</td>
<td>Increasing Equity in the Classroom through Arts Integrated Teaching and Learning  Andrea Landin  The Phoenix Corps: A Graphic Novel for Learning Thermodynamics  Petr Johanes</td>
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<td>Taking STEPs Towards Equitable Math Learning  Mint Ariyapongsital, Eric Brenner, Diarra Gueye, Michael Johnson, Molly Kovacs, Danica Lauden, Nan Li, Marcos Muñoz, Summer Ng, Joonsung Oh, Caryn Shreve, Julia Smith, Isabel Solis, and Monica Yupa</td>
<td>domino: Mobile Phones as Accessible Microcontrollers  Aashna Shroff  Digital Tools for Peer-Based Reading Recommendations: A Case Study of Bookopolis  Cindy Lam</td>
<td>The Philosophy and Analytics to Integrate the Learning Sciences  Petr Johanes</td>
<td>How Do We Create the Greatest Thinkers for the World? Elevating the Generative Thinking of Multilingual Students and Teachers  Jane Weiss</td>
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### Social Mixer

3:50 – 5:00  
CERAS Rooftop
Individual Presentation: *Fighting "Bad Science" in the Information Age: Misinformation and Improving Students’ Critical Reading Skills*
Anita Tseng
Room: CERAS 101

For today’s students who have spent their formative years in the Digital Age, the use of Web media as an informational source is ubiquitous. With developments in Web technology, such as “Web 2.0” sites that allow Internet users to author and create media content, the quality of science information now ranges vastly in quality as publication barriers have been removed, resulting in the spread of misinformation about science. As such, the role of critical thinking for reading science has become pressing issue for educating students in K-12 schooling. This field-based study tested the efficacy of structured reading support for evaluation and critique on cultivating a critical awareness towards flawed scientific claims in a Web context. This study included survey development and validation and a randomized controlled trial (N=1,081) of an original reading activity that elicits evaluation and critique of scientific claims. Quantitative and qualitative findings will be discussed.
Classroom Libraries: Books for Bilingual Learners
Gabriela Sanchez-Killorin
The nature of this exploratory survey research proposal is to quantify genres of books in dual language classrooms (English and Spanish) that reflect the languages used by the students’ population but also genres that reflect their cultures and traditions. The theoretical Framework is based in the Critical Literacy Theory. Critical Literacy Theory refers to an awareness of how power is established unconsciously, or consciously, through varied literacy practices, either in written form, with visuals, or through media sources. In an educational setting, the content in books, the language used, the visuals displayed, and the way that a teacher presents it to his students, embodies a philosophical, political, psychosocial, linguistic, and cultural influence. Conflicts arise when the literacy around us mostly or completely represents the values of one individual, of the dominant social group, and aims to acculturate or influence the less powerful groups unconsciously or consciously. Recognizing the diversity of languages and cultures in schools, and using it as a tool to enhance global knowledge and reinforce self-esteem, identity, and respect among social groups, creates a balance of power that results in social justice, the major goal of Critical Literacy Theory. My assumption in this survey research proposal is that if bilingual teachers in dual language programs have a variety of genres in books in Spanish and English, the practice will be more alginate to the core idea of a dual language program that aims to develop biliteracy and bilingualism and reaffirms cultural identity while acquiring the English language.

An Investigation of Middle School Classrooms Libraries
Christopher Terrazas
Given that much of the research on classroom libraries focus on elementary school classrooms, this study sought to examine classroom libraries at the middle school level. Access to books is especially important for middle school students given the persistent decline in reading engagement at this level. The research questions guiding this investigation focused on the nature of the libraries, the physical features of the libraries, the contributions made by the libraries to the literacy environment of the classrooms, the contents of the libraries, and teacher perceptions of their own classroom libraries. Findings indicate that teachers value classroom libraries for promoting literacy engagement and understand how these libraries provide students with immediate and easy access to books. The contents of the 41 libraries that were examined varied in terms of genre, multicultural literature, and social justice issues.
Workshop: Using Model-Eliciting Activities to Assess Student Learning
Jaime Garza and Shon Brewington
University of Texas at San Antonio
Room: CERAS 204

This workshop will focus on how standardized testing can limit learning outcomes and how using alternative assessments, ones like Model-eliciting activities (MEA), can help facilitate higher cognitive processing skills. MEA are defined as activities designed for students to have more autonomy in completing tasks by generating models that express deep and rich understanding of academic concepts taught in the classroom. The relationship between standardized testing and MEA are explained through the theoretical framework of self-determination theory, which states providing higher levels of academic autonomy, competence, and relatedness can lead to better learning outcomes. After a brief presentation, attendees will engage in a demonstration of an MEA that illustrates practical use of mathematical concepts used in everyday situations. This demonstration seeks to advocate three goals. MEA’s can provide environments for critical thinking. Second, MEA’s can promote interest in mathematical concepts. Lastly, MEA’s can encourage underrepresented groups to pursue professions in mathematics.

Individual Presentations: Psychological Perspectives on Education
Emily Schell and Gregory Sims
Room: CERAS 302

Does Autonomy Matter? A Mixed Methods Study on the Linkages of Acculturation, Autonomy, and Noncognitive Development
Emily Schell

In this study, I: (1) explore the relationship between cultural identity and autonomy development; (2) flesh out the relationship between autonomy and the noncognitive skills of tenacity and passion for learning (PFL); and (3) better understand autonomy development in young adults. My target populations are European-American, Chinese-American, and Chinese international university students. My study seeks to enable universities to better support their students holistically. When determining whether a student is flourishing, understanding autonomy’s relation to cognitive or psychological outcomes is insufficient, as understanding students’ development is incomplete without insight into noncognitive faculties. Research on gifted education also suggests that tenacity and PFL are key prerequisites for adult accomplishment. Thus, my study will generate knowledge on a pathway to noncognitive development by studying linkages among acculturation, autonomy, and certain noncognitive skills.

35 Seeds of Peace for Adaptive Daily Living
Gregory Sims

In working with the at-risk populations in Mendocino County, CA. I discovered the extreme need for Educational curricula and methods to use in didactic, group, screen play, video, take home audio, etc. In coordination with the program CEO I developed a matrix comprised of 5 life skills and 7 developmental areas for the establishment of a field of 35 blends plus the overall. These learning areas provide a foundation for the growth of openly engaged peaceful caring and a familiarity with life's blending flow which is readily transmitted to adaptive daily living. For each of the 36 areas a fictional scenario was composed for use in classes and individual tutoring. In addition, a fictional narrative was composed based upon an adaptive group of street people and outliers who found means through which to overcome despair through manifesting their peacefulness outwardly through offering their helpful intent and caring service in behalf of others, other life forms and the environment.
Workshop: Culturally Responsive Teaching: One Step at a Time
Livia Macedo and Andrew McCabe
Room: CERAS 435

Culturally relevant teaching (CRT) is important for education and societal well-being, whereas it faces significant challenges: teachers' cultural background and ethnicity are not matched with students; not all teachers are aware of the relevance of this subject; and teachers are not necessarily trained to effectively apply CRT in classrooms. This project aims to design and test a solution to provide teachers a set of resources that can be used to implement CRT in classrooms across United States and Brazil. We expect that teacher attending this program will become aware of their cultural biases, will gain the practice to assess their students' cultural background and will become prepared to transfer this knowledge into classrooms.
Panel: Visiting UTSA Scholars Panel 2
Saeni Castillo, Ana Trevino, Vanessa Sandoval and Gabriel Aguilar
University of Texas at San Antonio
Room: CERAS 101

Where Do Deferred Action of Childhood Arrivals (DACA) Recipients Stand During Trump’s Era?
Saeni Castillo

During the Trump administration, the future of undocumented youth in the United States has become increasingly uncertain. Texas has long been known for its conservative political climate. Consequently, there is a lack of research highlighting the strategies that undocumented youth use to negotiate through the Texas higher educational system. The objective of my study is to explore the factors affecting students who have obtained Deferred Action of Childhood Arrivals (DACA) status. I am interested in the diverse motives that brings DACA students to pursue higher education and the experiences they encounter given the hostile anti-immigrant climate in the United States. This study will be conceptualized through cultural framing. Cultural framing is the central dynamic of understanding the negotiation processes that undocumented youth experience. I will utilize qualitative research methods, specifically in-depth interviews to re-tell and analyze the experiences that DACA recipients have encountered. While I will focus on undocumented students who have obtained deferred action status and who are students enrolled in colleges and universities in Bexar county, I will also interview other students who are enrolled at other campuses across Central Texas. In addition, I will interview DACA students who have previously graduated from post-secondary institutions and others whose academic careers were truncated after high school completion or General Education Development (GED) certification. My research objective is to compile a group of narratives exemplifying the strategic negotiation processes that affects DACA recipients throughout their lives.

UTSA DACA Students and the Resources Provided to Them
Ana Trevino

The purpose of this research was to raise awareness regarding the issues affecting UTSA DACA students by investigating the resources provided to them and recording their feelings towards the institution and their legal status. Deferred Action for Childhood Arrivals (DACA) was implemented on June 2012 during Barack Obama’s presidency and was rescinded, on September 2017, by President Trump’s administration (USDHS, 2017a). Mansilla (2005) stated that interdisciplinarity is when “two or more disciplines produce a cognitive advancement” (as cited in Repko, 2008). Within my interdisciplinary research, I used a sociological and educational approach. For my design, I followed Patton’s (1987) standardized open-ended interview, used pre-drafted questions and ensured my participants safety (Maslow, 1943). Through this research, people will acknowledge the hardships DACA students encounter; need for financial aid assistance, support from the university and assistance regarding their mental health.

Exploring the Identity, Agency, and Activism of Mexican American Educators Implementing Mexican American Studies in South Texas
Vanessa Sandoval

This paper examines the identity, agency, and activism of Mexican American educators promoting and/or implementing a Mexican-American Studies (MAS) curriculum in their local communities. In particular, this study examines educators' teaching practices—those who work in K-12 settings and in higher education—invest in MAS with the hope of transferring this knowledge to youth to develop their empowerment and agency. Couched in critical education theories (Delgado-Bernal, 2002; Darder, 1995), this study begins with the premise that the dominant historical narrative that Mexican Americans are exposed to socially and institutionally lacks representation. In the context of recent activism surrounding MAS and recognizing how resistance and activism is historically part of Mexican American identity (Delgado-Bernal, 1998), I explore how Mexican American educators channel paths of resistance through their social and institutional relationships and how they understand, negotiate, and reinterpret dominant representations in relation to their understanding of identity. To evaluate the educators’ experiences, I collected the narratives of 5 Mexican Americans who either currently run a MAS-focused after-school program at a middle school in South Texas as well as university educators who organize and lead a summer training on MAS curriculum for K-12. teachers. Through the collection of personal narratives, other informal interviews, and participant observations of an after-school MAS program, my preliminary findings indicate that educators involved in promoting/implmenting MAS programs have found a collective space where they connect with peers in a meaningful manner; have felt empowered during a time of nationwide disillusionment/distress; and have furthered their own critique of systemic and structural discrimination.

Aztlan vs Arizona
Gabriel Aguilar

Aztlan vs. Arizona follows the student-led protests of the 2012 Tucson, Arizona ethnic studies ban. Mexican-American ethnic studies student protestors enacted Chela Sandoval’s (2000) differential consciousness to “gearshift” from their indigenous languages to the languages of their oppressors to combat the 2012 Tucson superintendent, Tom Horne’s rhetorical appropriation of Martin Luther King Jr.’s rhetoric of equality and ban of ethnic studies. The ethnic studies students are able to “gearshift” and present itself as a counterpublic, a Western term invented by Western thinkers. As a counterpublic, these students are able to enact demonstrations, sit-ins, and protests as spaces for their demands for the return of ethnic studies. Overall, while these students seem to represent a counterpublic, indigenous ideology does not believe in “countering” and only does so in differential consciousness; the true nature of Aztlan is a contrapublic, a not-a-public, in which articulation and bridge-making are at the forefront of its spaces, not countering and opposition.
Panel: CTE 1st Year Panel 1
Kristin Keane and Matthew Wilsey
Room: CERAS 123 (SCANCOR)

First year Curriculum and Teacher Education (CTE) PhD students will present their developing ideas and research plans for their Qualifying Papers. Current thoughts on their conceptual frameworks, research questions, and methods will be discussed.

*Studying the Impacts of Preservice Certification Experiences on Mid-Career Teacher Literacy Practice*
Kristin Keane

*How Does a Science Methods Course Sequence Change Preservice Secondary Science Teachers’ Conceptions of Effective Science Teaching?*
Matthew Wilsey

Individual Presentations: Science Education
Sara Dozier, Catherine Lemmi and Stephanie Rafanelli
Room: CERAS 204

*Too Much of a Good Thing? Unraveling the Relationship Between Inquiry-Driven Instruction and Science Literacy*
Sara Dozier

International test results have suggested a negative correlation between inquiry-driven instruction and scientific literacy, as measured by the PISA questionnaire. Using the PISA data, this study seeks to unravel this relationship and to describe additional factors which are related to inquiry-driven instruction.

*Equity and Justice in Science Teaching for Multilingual Communities*
Catherine Lemmi

What does it mean to teach science for equity and justice? What does it look like and sound like to teach science equitably in a multilingual society? Can "monolingual" teachers accomplish these goals? In this session, we will discuss the notions of equity and justice as they apply to science teaching and multilingualism/language diversity. We will also explore the concept of using students' linguistic repertoires as resources for science teaching and learning.

"*When I Do Outside Science Activities, I Get Really Excited and Happy.*"
Stephanie Rafanelli

Nurturing the development of science interest in adolescents has been identified as a key concern of educators, policy-makers, parents, and employers. Recent research has suggested that out of school experiences may be uniquely able to support science interest development for students who may be disengaging from school science in disproportionate numbers, such as girls or non-majority status students. I will present the first in a series of studies that seek to explore motivational and environmental factors that diminish or support adolescent girls’ participation in extracurricular science activities. In Study One, focus group discussions were held with Bay Area high school girls who participate in out of school science activities. Findings reveal elements that either challenge or support girls’ participation in extracurricular science, suggesting promising avenues of further exploration. I will conclude with the progress of Study Two (underway) and plans for Study Three.
First year Curriculum and Teacher Education (CTE) PhD students will present their developing ideas and research plans for their Qualifying Papers. Current thoughts on their conceptual frameworks, research questions, and methods will be discussed.

Facilitating Distal Tangible Collaboration in an Online Mathematics PD Environment
Kelly Boles

Understanding How Teachers Use Caring Mathematics Practices to Support Student Mathematical Identity Development
Tanya LaMar

Individual Presentations: International & Global Perspectives
Tenaer Yin and Seungah Lee

Room: CERAS 435

How does Chinese Private Tutoring Correlate with Students’ Academic Performance and Well-Being?
Tenaer Yin
Private tutoring has been a prevalent education service around the world. We are interested in exploring it in the context of China. In this research, we want to examine: How does Chinese Private Tutoring correlate with students’ academic performance and well-being? We analyze the largest national data set available with over 19000 student observations. By looking at the data, we want to answer: What is the relationship between attending PT and student academic performance? We will compare student performance across different regions, of different SES backgrounds, different aspiration levels, and aptitude. We will also explore the relationship between PT participation and student psychological wellbeing, controlling for their student health, SES and confidence level.

Seungah Lee
The idea of global citizenship has quickly spread throughout academic and popular discourse in recent years. I ask to what extent various aspects of global citizenship are emphasized in textbooks cross-nationally over time. Using a dataset of over 500 social science textbooks from around the world, spanning 1950 and 2011, I identify three aspects of global citizenship reflected in textbooks (i.e. global awareness, competence, and agency) and use multilevel models to determine the textbook and country-level variables associated with incorporation of these dimensions. I find that global citizenship has increasingly been incorporated in textbooks over time and that democracy and connection to the international community are positive country-level predictors for emphasis of global citizenship in textbooks. Results suggest that incorporation of global citizenship dimensions are manifestations of a world culture that increasingly emphasizes an interconnected, globalized world.
Individual Presentation: *Learning Your Place: An Education in Racialized Hierarchy*
Amanda Frye Leinhos  
**Room:** CERAS 101

This presentation is drawn from a chapter of my dissertation, which examines the institutional, organizational, and interactional factors that contribute to differences in academic achievement among African American students at an affluent middle school in Silicon Valley. Research on elite education typically examines private secondary schools and elite colleges, while affluent suburban communities are understudied. This study disentangles race from class allowing for a clearer examination of the work race does in high-income, high-achieving learning environments and inverts traditional paradigms of achievement gap and opportunity gap research. Sustained school and classroom observation supplemented by interviews and documentary analysis illuminate the overlooked constraints and contradictions of even the most well-intentioned and well-resourced school environments in providing an equitable and excellent education to all students. I will present a classroom-level analysis.
Visiting Student UTSA Scholars Panel 3
Shon Brewington, Sydnee Garcia, Ariana Marroquin and Cristal Martinez
University of Texas at San Antonio
Room: CERAS 108 (Big Tree)

High-Stakes Testing Limits Curriculum and Instruction
Shon Brewington
The effects of high-stakes testing on curriculum and instruction can be examined through the theoretical framework of self-determination theory. High-stakes testing is defined as standardized assessments that are used to make important decisions about students and school personnel such as grade promotion or school funding. Curriculum is defined as a predetermined course sequence to be completed by students, and instruction is defined as how the content of the courses are facilitated to meet the needs of the students. The reviewed literature illustrated high-stakes testing has narrowed curriculum, undermined instruction, and struggles to assist in closing the academic achievement gaps between advantaged and disadvantages students. These unintended effects also hindered students’ sense of autonomy, competence, and relatedness in the classroom, which can decrease academic motivation. Thus, these findings suggest policymakers should reconsider utilizing high-stakes tests as a main method of evaluating student achievement and to review alternatives to address the United States’ academic achievement gap.

Equal, Not Equitable: Instructional Spending in Bexar County
Sydnee Garcia
With school funding at the forefront of topics being discussed by the Texas State legislature, this proposed study reframes the educational inequalities found in the Texas public school system. The need for resources unrelated to instruction by low property value districts may be overlooked when creating policies for public school funding. Using the Texas Education Agency’s publicly available Actual Financial Data, I present the findings of a correlational analysis examining the relationship between school district per pupil property value and the dollar amount spent on instruction per pupil in the 15 districts within Bexar County, Texas. Findings from this study contributes to the conversation on the relationship between district property values and school district funding policies, both state and local.

The Effects of Blasé Affect in Modernist Texts
Ariana Marroquin
When Charles Baudelaire first coined the term “modernity” he intended it to be the manifesto of the artist’s goal, that being to shock their audience into self-awareness and reflection. What modernist texts evince, however, is not a transfiguration of the present in response to an idealized past but rather, an atemporal aesthetic reaction to the present. Modernist authors crafted protagonists whose blasé attitudes were more appropriate to the culture of shock prevalent at the beginning of the twentieth century. Now the cyclical nature of history is reproducing cultural instigators at the start of the twenty-first century that mimic those of first modernist era. Today’s second-wave modernist protagonists, however, are rejecting the blasé dispositions of their ancestors and instead are working towards re-inserting themselves into the human experience with feeling and agency.

Use of Emotional Support Coping, Teacher-Student Relationships, and Social Integration Among College Students
Cristal Martinez
Studies suggest that entering college can be stressful as student have to adapt to new academic challenges, cope with the stress of adjusting to a new environment and develop new sources of emotional and social support. The failure to meet these challenges can result in feelings of depression, and potentially have a negative impact on academic performance. The current study suggests that developing a teacher-student relationship, engaging with the university environment and coping emotionally are significantly related to depression. No differences were found between traditional and first-generation students on these variables.
Workshop: *Language Socialization: Learning Ecologies as Cultural Artifacts for Language Development*
Greses A. Perez-Joehnk, Alexander Mejia, Melissa Mesinas, Danielle Marie Greene and David Shuang Song
Room: CERAS 204

This workshop engages in an interactive discussion of the role of language in five sociolinguistic contexts in the United States: an Elementary and Secondary Spanglish engineering program, Newcomers in high school, a Zapotec philharmonic band, public schools in African American communities, and Chinese language schools in the Bay Area. Through these five cases, we seek to understand sociolinguistic settings as (a) practices that influence the development of language, and (b) spaces where language is conceptualized with an intended purpose. At the student level, these qualitative studies explore (a) how individuals navigate various linguistic and learning contexts, and (b) the ways they engage both in content and language learning. Our scholarship has implications for how members of ethnic- and language-minority groups assign value to language practices and deploy them, but also how they develop their sociolinguistic self.

Kimiko Lange and Raquel Coelho
Room: CERAS 302

This project explores the learning journey of one of the most influential blues artists the “Deep Delta” has ever produced: Muddy Waters. Often cited as the “father of the Modern Chicago Blues,” Muddy mentored and influenced a whole generation of artists and bands, including Buddy Guy and The Rolling Stones. Yet, he had no formal training in music. How, then, did Muddy learn to be such an accomplished artist? We use Barron’s (2006) learning ecology perspective to understand the dynamics of Muddy Waters’ interest-driven learning and its relationship to access and use of resources across multiple contexts. Using life story interviews with Muddy and available biographies and historical narratives as major sources of evidence, we develop a biographical account of Muddy’s learning journey.
Individual Presentations: Organizational and Higher Education
Ayushi Vig, Gabriela Gavrila and Keith Bowen
Room: CERAS 300

Towards a Philanthropy of Empowerment: Bottom-Up Learning as a Response to the Principal-Agent Problem
Ayushi Vig

Philanthropic foundations are emerging as one of the most significant global development agents of our time, yet much of their potential for social change is yet to be realized. The sector is evolving into an increasingly top-down system, reducing the sustainability & democracy of its impact. Through interviews with staff at 25 grantee organizations & 17 foundations, this study examines foundations through the lens of the principal-agent problem to identify problems of social trust and coordination that contribute to this top-down nature, and organizational learning mechanisms (particularly of bottom-up learning) used to address these problems. Learning mechanisms were found to occur in five relationships—board-foundation officer, officer-grantee, board-grantee, officer-officer, and grantee-grantee. Overall, the officer-grantee relationship presented the strongest pathway for bottom-up learning in response to philanthropy’s principal-agent problem, especially in community foundations.

The Rise of Diversity Management in Higher Education
Gabriela Gavrila

Although the conditions that led to the emergence of multicultural initiatives on college campuses varied according to student body compositions and local factors, many US universities today display surprisingly similar organizational structures (i.e. ‘diversity offices’) and most feel compelled to address diversity at least informally. My intention is to illuminate why universities around the country, from small to large, from least to most selective, and regardless of location, increasingly aim to present themselves as diverse and inclusive, making diversity management an indispensable feature of US higher education. Based on a nationally-representative sample of 237 universities, I test a series of theory-driven hypotheses and conclude that the institutionalization of diversity management in US universities is more accurately predicted by neo-institutionalist models. As an extension, I also descriptively compare the US findings against an equivalent set of universities from the UK.

Virtual Student Exchange: Connecting University Classrooms in Western and Muslim-Majority Countries
Keith Bowen

Over 50 years of research have given us a good understanding of the value of study abroad programs. Students who have the opportunity to study abroad exhibit reduced stereotyping, improved attitudes, and more productive collaboration with international counterparts. But going abroad in-person is difficult and expensive. Most universities encourage study abroad, and many students express interest, but only a very small percentage actually take advantage of the opportunity. With this in mind, I have begun my investigations with a simple question: Do new media and technology, in the form of Virtual Student Exchange, have meaningful potential to make the profound benefits of study abroad more accessible? And subsequently, if there is meaningful potential, through what theory-driven learning designs can we optimize it? Early results connecting university classrooms in distant Western and Muslim-Majority countries demonstrate the intriguing potential of this innovative use of technology, and provide insights into fruitful learning designs.
Im/Possibilities of Ethical Research for Justice

Dr. Ronald David Glass

Ronald David Glass, Ph.D., is a Professor of Philosophy of Education and Director of the Center for Collaborative Research for an Equitable California. He currently investigates the ethical issues raised by justice-oriented collaborative research methodologies, and his forthcoming book with Natalie JK Balow and Sheeva Sabati, provides a framework for re-conceptualizing research ethics and supporting academic professional development: *The Ethics of Research: A Praxis for Engaged Scholars* (SAGE Publishing).

Professor Glass has long focused his philosophical work on education as a practice of freedom, ideological (trans)formation, and the role of education and public learning processes in creating a just, pluralistic democracy. Professor Glass’s philosophy of praxis is rooted in his Civil Rights and anti-Viet Nam war movement experiences, and his many years of working with organizations and aggrieved communities struggling for justice and democracy. Prior to serving on university faculties, he directed the San Francisco-based Adult Education Development Project, and collaborated with Paulo Freire and Myles Horton, the world-renowned educators for democracy.
Individual Presentation: The Abider-Avoider Achievement Gap: The Association Between Religiosity and GPA in Public Schools
Ilana Horwitz
Room: CERAS 101

Religion is a powerful social force that is typically ignored in sociological studies of academic achievement. Using nationally representative survey data (N = 2,491) and semi-structured interviews from the National Study of Youth and Religion (N = 30), I test for and explain differences in GPAs of public school students based on different forms of religiosity: Abiders, Adapters, Assenters, Avoiders and Atheists. I find that Abiders report the highest GPAs while Avoiders report the lowest GPAs, even after controlling for a host of background factors and behaviors. Furthermore, middle-class students benefit the most from being religiously engaged. I argue that religious communities socialize adolescents to cultivate two habits highly valued in schools: conscientiousness and cooperation. The achievement gap between Abiders and Avoiders illustrate how public schools are structured to reward the very habits that religious students embody.

Workshop: Designing Computer Science Curriculum & Instruction
Monica Yupa
Room: CERAS 108 (Big Tree)

Curriculum and instruction classes for K-12 Computer Science education are a necessary step in ensuring that our students are receiving a rigorous and inclusive Computer Science education. This year, STEP is piloting its first Computer Science C&I class, focused around (1) Preparing future K-12 educators to plan, teach, and assess Computer Science, (2) Increasing educators’ knowledge about the Computer Science field, and (3) Understanding the importance of equity in the development of Computer Science education. Please join us if you are interested in the development of K-12 Computer Science education. We will be workshopping and building on our current design of a Computer Science Curriculum & Instruction class.
Engaging in Political Conversations Around Mathematics: Rehearsing Ways to Practice Creative Insubordination with Pre-Service Teachers
Rosa Chavez and Robin Anderson
Fourteen Stanford secondary mathematics pre-service teachers (PSTs) participated in In My Shoes during the final quarter of the 3-course methods sequence. To introduce PSTs to the activity, the instructors modeled the protocol using a scenario from their own teaching experience. PSTs then proposed experiences from their practice. While some PSTs provided ideas around sequencing of lessons or how to convince students that learning mathematics is important, the majority of them proposed issues related to the ways their colleagues were categorizing students based on mathematical ability, which candidates perceived to be linked to issues of race, ethnicity, and gender. PSTs drew upon their own experiences, keeping in mind the different contextual factors within their placements, and proposed ideas to counteract dominant narratives being presented by colleagues. Through these rehearsals, candidates generated multiple strategies to practice creative insubordination and learned how to better navigate situations that may implicitly influence their mathematics teaching.

“What Do You Wonder?” Conceptualizing Teacher-Curiosity About Student-Thinking in Early Mathematics
Madhu Anantharajan
There is a long tradition of thought in mathematics education that takes students' thinking as the central guide to teaching. One such well-known framework is Cognitively Guided Instruction (CGI). Two simple questions guide teachers' practice in CGI as they watch and talk to young children engaged in mathematical work - "What do you notice?" and "What do you wonder?" These two questions, which teachers continually ask themselves, are the basis of how teachers make sense of student thinking. The first question, "What do you notice?" has been theorized and studied substantially. The teacher-noticing framework has helped us better understand what it means for teachers to notice student-thinking, why it matters, and how we can support teacher-noticing. The second question, "What do you wonder?" has not been similarly studied or understood. I propose that the construct that underpins the question "What do you wonder?" can be understood as teacher-curiosity. This question is meant to help teachers identify a generative and useful question about students' thinking - a question into which teachers can inquire so as to support students' mathematical learning. Teacher-curiosity also seems vital in that it can help teachers approach their practice as learners, and view teaching as an inquiry, guided and shaped by their own questions. In my research, I hope to understand what teacher-curiosity is conceptually, why it matters, and how it can be studied and supported in early mathematics teaching practice.
Individual Presentations: Analyzing What Is Said
Glenn Davis, Sebastian Muñoz-Najar Galvez and Quentin Sedlacek
Room: CERAS 300

Maximizing Student Benefit from Instructor Interactions with MOOC Discussion Forums
Glenn Davis
We develop and test algorithms to rank MOOC (massive open online course) discussion forum threads in ways that are most beneficial to instructors. Our algorithms incorporate text information from the body of each post, other post-level information such as upvotes and timestamps, and thread-level information such as the chronological position of a post. We verify the effectiveness of our algorithms at identifying threads that would benefit from instructor intervention through a human rater study using experts in the domain of the course studied (statistics).

Computational History of Graduate Educational Research 1980-2010
Sebastian Muñoz-Najar Galvez
Education Research is an academic field with a varied, often contentious, research agenda. We analyze graduate dissertations—the writing practice meant to show deference or challenge the field to obtain a position in it—in order to understand the individual and community consequences of staking a discursive position in a polarized field. For this purpose, we employ structural topic models to recover latent research topics from a large corpus of over 130 thousand dissertation abstracts. Between 1980 and 2010 we find a meaningful rise of qualitative methods interpretive approaches, and theory. These topics manage to displace RCTs and other quantitative topics in popularity in the early 1990s. This phase transition mirrors the strong oppositional language in which the intellectual history of the field describes the so-called “paradigm war”. We also find that students who became early contributors to the rising topics obtain a boost in their probability if becoming an advisor.

Who’s Afraid of a Science Book? Language, Equity, and Professional Identity in Science Education
Quentin Sedlacek
Reading is a core activity of Western science and can play an important role in science education. Numerous professional development (PD) programs promote strategies for supporting reading comprehension in K-12 science classes. However, some teacher educators have expressed concerns that many science teachers may be reluctant to actively pursue and utilize such strategies because (1) they do not see the teaching of reading as part of the role of a science teacher and/or (2) they hold deficit views about their students’ linguistic competencies. This study investigates these concerns through a content analysis of open-ended survey responses (n ≈ 2100) from three cohorts of participants in an online PD focused on science reading comprehension. Relationships will be examined among (1) PD activity and completion rates, (2) self-reported conceptions of the role of a science teacher, and (3) self-reported challenges to supporting science reading comprehension.
**Individual Presentations: Art and Learning**

Andrea Landin and Petr Johanes  
**Room: CERAS 302**

*Increasing Equity in the Classroom through Arts Integrated Teaching and Learning*

Andrea Landin  
Arts integration is most commonly defined as an interdisciplinary approach to teaching in which an artistic discipline is taught alongside another academic subject in a way that meets the evolving objectives of both content areas. Research has shown the benefits of arts integration to long term retention of academic content, especially in low income and English Language Learner students. However, there are many challenges in planning and executing effective arts integrated teaching and learning, and there is a need for more research and thoughtful dialogue between teachers, administrators, and artists. This presentation will explore some of the pressing questions related arts integration, addressing issues of access, equity, and the greater field of arts education.

*The Phoenix Corps: A Graphic Novel for Learning Thermodynamics*

Petr Johanes  
While graphic novels are firmly established in the global and especially American cultural landscape. Graphic novels are already used to facilitate learning, but not at all to research learning. This trend is understandable due to prevailing perceptions of graphic novels as a medium for primarily childhood entertainment and due to the cost and complexity associated with making, editing, and assessing them. Yet, graphic novels represent an incredibly powerful medium for a variety of learning sciences research. This presentation reports on the process of making and deploying in a classroom The Phoenix Corps, a graphic novel that facilitates the learning of basic thermodynamics for a mature audience. The Phoenix Corps is the first graphic novel to our knowledge designed to be editable for teaching and learning research purposes. The goal of this work is to investigate traditionally difficult thermodynamics (gateway concepts advanced science education), while showing a new research medium.
Workshop: Taking STEPs Towards Equitable Math Learning
Mint Ariyapongpisal, Eric Brenner, Diarra Gueye, Michael Johnson, Molly Kovacs, Danica Lauden, Nan Li, Marcos Muñoz, Summer Ng, Joonsung Oh, Caryn Shreve, Julia Smith, Isabel Solis, and Monica Yupa
Room: CERAS 101

STEP offers countless insights into the critical tensions of mathematics education. Students in the math cohort gained meaningful experience with these tensions by taking rigorous courses, undergoing a year of student teaching, and attending the CMC-North conference in Asilomar. In this workshop, you will have an opportunity to engage with the cohort on important topics such as homework in the math classroom, the impact of "giftedness", and equitable use of technology. The workshop will be structured using the Talking Points routine as popularized by Dr. Elizabeth Statmore and demonstrated at CMC-North 2018.
Individual Presentations: Learning Ecologies and Literacies
Aashna Shroff and Cindy Lam
Room: CERAS 108 (Big Tree)

**domino: Mobile Phones as Accessible Microcontrollers**
Aashna Shroff
As the importance of computational devices grows in today’s technology-driven society, tools for teaching computational literacy are becoming more necessary. While microcontrollers have been shown to be an effective way to develop computational literacy in young learners, microcontrollers’ accessibility is limited due to their cost. We present domino, a mobile platform that turns the phone into a microcontroller using its inbuilt sensors and actuators. Learners can create their own cause-and-effect apps with the phone’s sensors as inputs and existing applications as outputs. In this paper, we reflect on the design aspects of domino that enable learners to use their phones to problem-solve in everyday life, as well as the app’s implications for future work in the area of computational literacy.

**Digital Tools for Peer-Based Reading Recommendations: A Case Study of Bookopolis**
Cindy Lam
Learning to read is a fundamental academic skill that begins developing in early childhood. While there is existing research that examines reading development as an individual skill, there is less research on how to nurture motivation and engagement to sustain reading development. In this study, I address this gap by investigating two cases studies of classrooms that use an online literacy tool, Bookopolis, to support reading in third graders. Using qualitative and social network analysis, I investigate questions of 1) what pedagogical choices teachers make to support uptake of Bookopolis in their classrooms, 2) what Bookopolis features teachers found most useful, 3) how Bookopolis impacted students’ early literacy engagement from the perspective of teachers, and 4) what are the patterns of peer-to-peer engagement in the classroom. The findings suggest that teacher pedagogy and peer support are central to how Bookopolis is used in the classroom to foster engagement in reading.

Workshop: The Philosophy and Analytics to Integrate the Learning Sciences
Petr Johanes
Room: CERAS 204
Increasingly, research from across the learning sciences is pointing to learning being a complex enough phenomenon that we might not be able to capture and research it with any of the theories we currently have. One method for overcoming this challenge might be to find a way to translate existing theories that have distinct and irreconcilable epistemological foundations into a multi-theoretical integration that allows us to capture learning in a more complex manner. This workshop shows the current state of a research project to integrate multiple irreconcilable theories of learning with the use of integrative pluralism, a framework from the philosophy of biology. The goal is to find a principled method that learning researchers can use to create theoretical integrations that provide learning measures and analytics across multiple epistemologies. If successful, such a method can accelerate the search for an increasingly coherent and not only increasingly diverse science of learning.
West Linn Wilsonville School District is located in a rapidly changing community in the suburbs of Portland, Oregon where apartment complexes collide with luxury estates. Students whose parents work in agriculture learn alongside children whose families own the farms, and teachers are challenged to address the needs of all types of learners. Despite an equity-minded mission and theory of action, the opportunity gap between native English speakers and multilingual students persists. A range of data reveal a need for more culturally responsive communities; consistent systems to build teacher capacity; and a comprehensive approach to language development within the context of meaningful content instruction. Through elevating the generative and collaborative thinking of multilingual students, families, and teachers to leverage solutions, could we truly create the greatest thinkers for the world?

Thank you!

We hope to see you next year at SWAYWO 2019