



BERKELEY SCHOOL OF EDUCATION  
RESEARCH DAY

# 2024 BERKELEY SCHOOL OF EDUCATION RESEARCH DAY CONFERENCE PROGRAM

Friday, April 5, 2024 - 10:00AM - 4:00PM

2121 Berkeley Way West - Floor 4  
University of California, Berkeley

## Registration

9:00AM  
4th Floor Lobby

Participants will check in, receive name tags and conference program.  
*Light breakfast and beverages will be served.*

## Welcome Address

10:00AM  
Room 4500

**Dr. Michelle D. Young, Dean and Professor**  
Berkeley School of Education - University of California, Berkeley

## Keynote Sessions

10:10AM  
Room 4500

**Dr. Valerie Shapiro (UC Berkeley)** will present her research/practice partnership work on social emotional learning and levers for transformative systems change in education.

**Dr. Jennifer Higgs (UC Davis)** will present findings from her study on AI and young people's perspectives and everyday composing.

## Lunch

12:00-1:00PM  
4th Floor Lobby

Lunch and beverages will be served at the 4th Floor Lobby.  
*Catering by Ann's Catering of Berkeley, CA*

# Paper Presentations - Session 1

1:00 pm to 1:55 pm

Room 4500

## Learner Identity: Place, Space, and Learning

Moderators: Patricia Baquedano-Lopez, Glynda Hull, & Derek Van Rhee

Julissa Navas

UC Berkeley

[Presentation Link](#)

### Ethnic-Racial and Gender Differences in High Schoolers' School Climate Perceptions, Motivation, Academic Self-Concept, and GPA

Data documenting worsening school climate trends in the United States have reignited concerns about the importance of understanding how school climate influences various academic and psychosocial outcomes (Duckworth et al., 2021; Klugman et al., 2015; Maiya et al., 2021; WestEd, 2021). This paper presentation examines the relationships among students' perceptions of school climate, motivation, academic self-concept, and academic achievement. Using data from a large, diverse sample of high school students (N = 2,524), I analyze (a) if there are any relationships among students' school climate perceptions, motivation, academic self-concept, and academic achievement; (b) if there are any ethnic-racial group differences in the relationships among students' school climate perceptions, motivation, academic self-concept, and academic achievement; and (c) if there are any gender group differences in the relationships among students' school climate perceptions, motivation, academic self-concept, and academic achievement. Findings suggest that significant positive correlations exist among all four academic and psychosocial variables. Moreover, I found evidence of some ethnic-racial differences, but no significant gender differences, in the strength of the relationships examined. These findings suggest that there may be some additional internal or external factors that are differentially influencing the strength of the relationships among students of color and White students. The implications of these findings are important because they can help educators make more informed decisions about what types of schoolwide interventions to focus on given their limited time and resources.

Alexis Atsilvsgi

Zaragoza

University of California, Goldman School of Public Policy and Department of Geography

[Presentation Link](#)

### The Small-Town Dilemma: Understanding the Spatial Imagination of Rural California and the Implications of Physical Place in Access to Higher Education for Black, Indigenous, People of Color (BIPOC)

Popular perceptions of rural California as "conservative, old-fashioned, and overwhelmingly white" exclude diverse populations and conceal geographic confinement and exclusion embedded in the state, especially in the California Central Valley.

On one end of the valley lies the prison system that follows the California Highway-99, creating cycles of movement to and from the Bay Area via the transport of prisoners to the periphery and pushing urban Black, Indigenous, and People of Color (BIPOC) "out" via gentrification. These simultaneous processes create destabilization in urban communities and create geographies of economic confinement to young and low income people residing and working in prison towns.

On the opposite end of the valley is Interstate-5, where small towns find themselves exposed to techno-capitalist takeover as the soil erodes, the water dissipates, and Amazon covers the grounds of once-thriving agricultural landscape with warehouses. Black, Indigenous, and Students of Color in the Central Valley are facing a proximity problem: local high schools have extended programs that push students directly into the warehouses, while programs for college are taken away due to lack of funding.

While the influx of "industry" and "opportunity" on both ends of the valley create an illusion of choice, these spaces create psychological and spatial boundaries that manifest in physical barriers. The creation of new rural systems of exploitation directly impact the geographic imagination of young generations, resulting in fixed spatialities and the confinement of dreams to those afforded the opportunity to see beyond the divisions of place.

In my research, I am examining the spatial imaginaries of BIPOC in the capitalist-entrenched Central Valley of California as it relates to spatial constrictions that illuminate geographic

	<p>barriers to college access and in turn, upward mobility. These economic restrictions created by corporate expansion and carceral geographies can be witnessed in mapping the landscape of hope (or lack thereof) within the heartland of the state. I will demonstrate these through mapping peripheral distance to centers of hope, maps of exits and movements from the Bay Area, and as understanding the feelings of loss and disconnection from land through historical geopoetics.</p>
<p><b>Zoe Silverman</b>          Doctoral Student, Learning Sciences and Human Development          UC Berkeley</p> <p>Presentation Link</p>	<p><b>"They sing songs": Unpacking sensory encounters with Native California collections at the Oakland Museum of California</b></p> <p>To get a grip on how doing, knowing, and being are accomplished in museums, I examine touch as a pedagogical strategy and epistemic modality in the exhibit "Before the Other People Came" within the Gallery of California History at the Oakland Museum of California. Despite the increasing regulation of touch in museums since the nineteenth century, touch—both sanctioned and unsanctioned—has never been entirely absent from the museum visitor experience. Furthermore, with the increasing awareness of the history of the senses in museums and new interpretive practices that share authority with descendant communities, museums are taking up multimodal engagement with objects. Once denigrated as one of the "lower" senses, touch seems to be undergoing something of a renaissance in critical museum scholarship and practice. As museums seek to topicalize their participation in colonialism through new curatorial practices, touch as a pedagogical strategy seems to offer pathways around these violent histories and toward affective or empathetic engagement with the lifeworlds of others.</p> <p>In this paper, I analyze the juxtaposition of two objects—an abalone shell as handling object and an encased Klamath River woman's dance skirt as artifact—to assess how museums like OMCA have attempted to make sensory worlds comprehensible across times and cultures. Listening closely to early ethnographic accounts of Klamath River tribes' lifeways, contemporary cultural experts' guidelines for interpreting regalia, and conversations arising from collaborations at other museums, I argue that hearing rather than touch is the relevant sense through which this skirt is understood by Klamath River tribes. Additionally, I analyze a short interaction between a young child, the two objects, and myself to uncover how one visitor probed the silence of the shell and offered an embodied, nondiscursive critique of the museum's choice of sensory pedagogy.</p> <p>Bringing contact as both an embodied and metaphorical process back into the museum, I aim to address the indexical trace of the human bodies and more-than-human presences left out of the museum's interpretation and make explicit the museum's assumptions about visitors' learning. Ultimately, despite the progressive values guiding OMCA's designers, the introduction of a handling object in this case risks replicating colonizing dynamics of touch rather than clarifying the aural universe in which the skirt was made more than one hundred years ago and is valued today by living descendants.</p>
<p><b>Room 4422</b></p> <p><b>Higher Education Access and Pathways</b></p> <p><i>Moderators: Gina Garcia &amp; Laura Sterponi</i></p>	
<p><b>Konstanze Rausch</b>          California State University, Northridge - Educational Leadership &amp; Policy Studies</p> <p><a href="#">Presentation Link</a></p>	<p><b>Transitional Pathway Programs for Students with Learning Disabilities on College Campuses</b></p> <p>Is college education truly accessible to everyone? All students should be the co-creators of their knowledge, to be able to equally share and have access to information. Allowing equal participation inspires innovative ways to resolve or address existing social problems that they may experience. Nonetheless, there can be an unequal and accepted implicit bias that students with learning disabilities (SLD) are not as important. There can be a lack of funding for disability services, overall disability awareness, and resources which is hindering SLD's success.</p> <p>In the process of helping increase SLD's retention, I found specific ways to assist SLD transition to college by qualitatively interviewing individuals managing variant college transitional pathway programs. Specifically, my research question is, how are the pathway programs being implemented for SLD transitioning to campus/academic life? My study will</p>

consider the following: Whether SLD have the skills to properly self-advocate, whether they are represented on campus, and how colleges can improve inclusive services for these students. My ultimate goals align as well with opportunities in addressing the inequities of the achievement gap. It is crucial to provide an opportunity for all students to feel heard and that they can equally challenge and or embrace attending college. More people are being diagnosed with learning disabilities and it is a growing issue.

As an emerging higher education leader, I hope to advocate for reform to increase resources and programs on college campuses that will enhance SLD's educational outcomes. To expect people to entirely save themselves is unfair and inequitable. Everyone has the opportunity to thrive, as long as they have support and equity. Even when SLD try to advocate for themselves, they still do not always receive equitable care. Solving these inequalities SLDs face will take the whole community's effort and more awareness of SLD's life experiences.

**Nathaly Santos**  
Berkeley School of Education

[Presentation Link](#)

**Hispanic-Serving Institutions for Whom: Understanding Complexities of Institutional Race Expropriations**

To understand Hispanic-Serving Institutions (HSIs) is to recognize the complexities of their position within higher education. HSIs are institutions that enroll at least 25% Hispanic/Latinx students, yet, HSIs also enroll a high percentage of racially diverse students (Pirtle et al. 2021). Historically, arguments have been made that challenge HSIs and other Minority Serving Institutions (MSIs) as being exclusionary in practice towards students who do not encompass the racial-ethnic category that they have been designated to serve. We therefore position our study within the Transforming HSIs framework, which calls on organizations to enact servingness through a race-guided lens and elevate the experiences and outcomes of people of color (Garcia, 2023). Through a quantitative approach, our analysis centers on exploring the causal relations between the educational outcomes of Black students who attend HSIs. Building off the work of Nuñez et al. categorizing different higher education institutions embedded with the HSI framework, we hope to build a case of easing the homogenization of the data set by implementing the conceptual framework of institutional diversity (Nuñez et al., 2016). Utilizing the IPEDS dataset of national public four-year universities, we aim to analyze the effect of the HSI designation using propensity score matching of intuitional characteristics that include size, racial composition, and degree granting options. We hypothesize that there will be no effect on academic outcomes for Black students at HSIs, indicating that the HSI designation is not causing a negative effect on the educational attainment of other racial-ethnic groups present on HSI campuses. Given the growing number of institutions aiming to become HSIs, we hope this study can shed light on the macro-level implications of the HSI designation in terms of funding, implementation and overall success of minoritized students at all levels of higher education.

**Room 4401**  
**Supporting Teacher Development and Retention**  
*Moderators: Karen Draney & Libby Gerard*

**Alexandrea Creer Kahn**  
Berkeley School of Education,  
Leaders for Equity and Democracy (LEAD)

[Presentation Link](#)

**The Promises and Complexities of the Teacher Residency Model**

There has been a growing movement in the last two decades for more practice-based and community-embedded teacher training (Gist et al., 2019). In a swiftly shifting teacher education context influenced by accountability measures, dissatisfaction from school-based leaders around teacher preparation (Zeichner & Bier, 2012), and compounded by teacher shortages, there is a growing movement to create teacher residencies. Residencies offer a unique opportunity for prospective teachers from school communities to step into teaching in ways previously proven inaccessible. Early research suggests that teacher residencies reduce teacher shortages and create pipelines for teachers of color in TK-12 schools. As districts seek teachers of color to address persistent inequality issues in student learning, school settings must also be prepared to support teachers of color who leave the field at higher rates than their White counterparts (Campoli, 2017). While research has been done on preservice teachers' experiences, more research is needed to explore the unique experiences of teachers of color within the teacher residency contexts to understand the push and pull factors that foster teacher efficacy and perseverance within the field.

My research presentation aims to engage the audience with emerging research on teacher residency efficacy and considerations for supporting preservice teachers of color in their clinical placements. Pre-service teachers frequently encounter “disconnects” between supportive programs and school climate experiences (Shand et al., 2023), elevating the need for favorable learning conditions within this context. Complicating the matter, few novice or experienced teacher educators have formal education around teacher education (Cochran-Smith, 2003) and lack the knowledge about equity necessary to advance their and preservice teachers’ practice (Merryfield, 2000). Given the vulnerable positions teachers of color occupy when encountering clinical placements, my presentation will explore the leadership opportunities teacher educators within residency contexts have to create supportive conditions for preservice teacher development and learning.

**John Kim**

Berkeley School of Education  
San Francisco State University  
Joint Doctoral Program  
in Special Education

[Presentation Link](#)

**Heuristics for Sociocritical Engagement with Data Artifacts: Why, When, and How Might Teachers Use Them?**

A number of heuristics have been developed to support learners and educators in engaging not only the mathematical but also the social, ethical, and critical dimensions of data. We refer to this diverse collection as heuristics for sociocritical engagement with data (HSED). Still little is known about how teachers envision HSEDs fitting within the curriculum. In this proposal, we ask: What do teachers themselves attend to as key aspects of data when engaging with HSED? and, For what purposes do teachers envision leveraging HSEDs in their classrooms? Drawing from interviews with secondary school teachers with a variety of backgrounds, student populations, and identities, we highlight emerging themes and tensions in how teachers conceptualize these tools.

Teachers significantly shape how curricula and pedagogical practices are enacted within the classroom context (Remillard & Heck, 2014). In cases where curricula highlight multiple learning goals or cross-disciplinary content, additional tensions may emerge around what aspects of those activities are important to highlight for students (Authors, 2017). Therefore, to understand how students might experience HSEDs as part of their classroom curriculum, it is useful to better understand how teachers envision integrating these activities into instruction and their pedagogical motivations for doing so. It is also reasonable to assume that these motivations may be manifold and complex—changing as it relates to different students or student experiences.

To identify these potentially manifold motivations, we draw from research that highlights how epistemological framing can impact what one might understand to be the goal of a given activity (Scherr & Hammer, 2009). Briefly, the theory of epistemological framing posits that changes to one’s context or imagined content—such as imagining oneself in a room at home, rather than in a classroom—may change how they perceive the goals and relevant knowledge for a given task (Hammer et al, 2005). Translating this to our current study, we similarly posit that if teachers reflect on what learning with HSEDs might look like in slightly different, yet relevant contexts (e.g. for their own learning versus for their students’ learning), this might provide more insight into teachers’ thinking.

**Ivon Gomez**

Berkeley School of Education,  
Leaders for Equity and  
Democracy (LEAD)

[Presentation Link](#)

**The Role of Leaders in Fostering Teacher Recruitment and Retention to Enhance High-quality in California’s Pre-Kindergarten System**

California has adopted a mixed-delivery model to provide early childhood education for all 3-4- year-olds through Universal Pre-Kindergarten (UPK). This initiative focuses on centering family choices while assuring access and high-quality in all early childhood education (ECE) programs, moving ECE from a predominantly privatized industry to a public good (Kagan, 2009; Lombardi, 2003; Zepeda et al., 2011). Universal Pre-Kindergarten includes programs like Head Start, California State Preschool Program (CSPP), Afterschool Programs, Family Childcare Providers (FCC), Private Preschools, and Transitional Kindergarten (TK) (<https://www.cde.ca.gov>). This is California’s opportunity to create a unified collaborative system that centers on children’s right to receive high-quality ECE regardless of the program they are part of. For California to successfully implement high-quality ECE, leaders must prioritize the well-being of the ECE workforce in the design and implementation of UPK. The “secret sauce” of a successful UPK mixed-delivery system

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in California that centers high-quality for all children lies in the well-being of the teacher. To contribute to the scholarship in ECE leadership, this literature review will explore:

How do leaders in California's Universal Pre-Kindergarten System enact teacher recruitment and retention to enhance high-quality early childhood education?

- a. How do leaders conceptualize high quality in CA's UPK System?
- b. What practices and strategies do leaders endorse to increase teacher recruitment and retention in CA's UPK System?

This research utilizes ecological systems theory as a framework to highlight that CA's UPK System must amplify that high quality is both holistic and personalized, emphasizing the interconnection of different complex interactions over time between the child, family, teacher, school, school leaders, community, policy, mixed-delivery model, and the overall history of ECE. Through the ecological theory lens, a deeper examination of high quality clarifies the complex processes affecting the child and teacher at the microsystem level that are simultaneously influenced by school leaders' recruitment and retention of teachers at the mesosystem. Using ecological systems theory as the theoretical framework, this work investigates three domains of literature: (1) high quality in early childhood education, (2) teacher recruitment and retention in Universal Pre-Kindergarten, and (3) leader's role in Universal Pre Kindergarten.

By addressing these questions, this research aims to make three contributions to research and practice on educational leadership. First, it intends to add to the literature on how a mixed delivery system supports high quality in early childhood education, specifically in California, as it is currently under implementation. Second, it provides the literature on strategies and practices that leaders in early childhood can utilize to recruit and retain teachers. Lastly, it adds to the limited literature that connects high-quality and teacher recruitment and retention practices in early childhood education through a systems approach.

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## Paper Presentations - Session 2

2:00 pm to 2:55 pm

Room 4422

### Leadership and Systems Transformation

Moderators: Lihi Rosenthal & Ozge Hacifazlioglu

**Cyndee Mai Nguyen**

California State University, Fresno

[Presentation Link](#)

#### **Supporting the Disrupters: A Phenomenological Inquiry into Social Justice School Leaders' Identity Development**

Most educators enter the profession with a strong sense of purpose, often connected to a love of children and hope for the future, a desire to make a difference and give back to the community, or a belief in education as a catalyst for social justice. However, competing educational goals and purposes, as well as current educational reforms rooted in neoliberalism, detract educators from their why and create barriers that rob students of equitable educational experiences (de Saxe et al., 2020; Labaree, 1997; Slater, 2015). There is a need to better understand how social justice school leaders navigate this neoliberal educational landscape. The purpose of this phenomenological study was to understand how social justice school leaders understand their identities as social justice advocates within a neoliberal school system that continually challenges their ideas of equity and social justice and how they maintain their social justice beliefs and identities amongst this resistance. This phenomenological study explored the lived experiences of social justice school leaders, the conditions that supported or hindered their social justice leadership formation, and the actions that they took to advance social justice in their schools. Seven participants co-created knowledge with the researcher over a series of two to three semi-structured interviews. Participants included social justice school leaders in the San Francisco Bay Area who held formal leadership positions at the site and district levels. Data was analyzed through a hermeneutic circle (Peoples, 2021; Vagle, 2015) and the conceptual framework of social justice leadership as praxis (Furman, 2012). Research findings indicate that (1) social justice school leaders develop their social justice leader identities with a strong sense of their why, (2) the barriers that social justice school leaders face daily challenge their social justice leader identities, (3) despite these challenges, social justice school leaders lean into their social justice leader identities to enact change and disrupt inequitable systems from the inside, and (4) social justice school leaders seek opportunities outside of their organizations to remain deinstitutionalized and strengthen their social justice leader identities.

**Ankita Rakhe**

Berkeley School of Education  
Leaders for Equity and Democracy  
(LEAD)

[Presentation Link](#)

#### **The Collision of Free Speech & Inclusion: Student Affairs Women of Color Leaders and Institutional Influence**

At universities and colleges across the country, free speech is a hallmark of education. In tandem, universities similarly value diversity and inclusion and strive to ensure student belonging. When headlines flash nationwide declaring colleges are not responding to students experiencing bias, harm, and hate, many times, those incidents often fall under the threshold of protected (free) speech. That juxtaposition has the potential to create an unwelcoming campus climate that does not foster belonging and inclusion for students. First to respond to these incidents are staff who work in Student Affairs. These staff members' educational backgrounds and professions root themselves in diversity, equity, inclusion, belonging, and justice. These conditions could create a paradox: How does one react to incidents contrary to their values with the expectation to maintain the scope of policies and laws? This environment sets the stage for the research I am interested in exploring about the conflict caused by the collision of free speech and inclusion through the experiences of women of color (WOC) leaders in Student Affairs.

This presentation focuses on a literature review in the domain of women of color in Student Affairs. Three areas arise in my cursory review of the literature: understanding the meaning and application of intersectionality to women of color in student affairs, contextualizing staff in the field of student affairs, and finally, belonging of women of color in student affairs. The other two domains in my literature review include free speech and inclusion and institutional campus climate. Additionally, I will weave my theoretical framework, Helms Mills et al.'s critical sensemaking, with my three domains.

Based on the seminal work of Weick's (1995) sensemaking framework, critical sensemaking adds a layer of intersectionality, power, and privilege to examine: How did this happen, and what does it mean? Each of my domains will help clarify the problem of context: How can women of color student affairs leaders' sensemaking of the confluence of free speech and inclusion shape the institution's commitment to ensure inclusion and belonging of students?

**Mohammed Soriano-Bilal**  
Berkeley School of Education  
Leaders for Equity and Democracy (LEAD)

[Presentation Link](#)

**The Impact of DEI-Centered Communities of Practice on Senior Leaders who Influence or Implement Equity-Focused Organizational Change in Higher Education.**

In this study, I plan to use qualitative case study methods to understand the experiences of equity-focused leaders, members of a DEI-centered community of practice, tasked with change initiatives at a medium-sized, private higher education institution. Using social learning theory (Lave & Wenger, 1991), specifically liberatory design, “an approach to addressing equity challenges and change efforts in complex systems” (Liberatory Design, National Equity Project, n.d.), this interpretive, exploratory study asks: How do DEI-centered communities of practice impact equity-focused leaders tasked with influencing, designing, or implementing change initiatives in higher education? Since diversity, equity, and inclusion (DEI) work is organizational change management work and “DEI at present does not create the impact it promises” (Zheng, 2022, p. 32), DEI-centered communities of practice hold potential for leveraging collective tacit knowledge toward organizational improvement (King et al., 2023, p. 61).

**Room 4401**

**Technology and Education**  
*Moderators: Larry Nucci & Dor Abrahamson*

**Mingfeng Xue**  
Berkeley School of Education

**Huaxia Xiong**  
Beijing Normal University

[Presentation Link](#)

**Expansion and Adaptation of a University Belonging Scale through Generative Pre-trained Transformer**

The rapid advancement of large language models has demonstrated remarkable potential in addressing various natural language processing challenges. This research endeavors to contribute to the field of psychometrics using the Generative Pre-trained Transformer (GPT) by focusing on two crucial tasks: expanding an existing scale and adapting it to different cultural contexts. As a case study, we employ the University Belonging scale developed by Slaten et al. (2018), originally comprising three dimensions: University affiliation, University support and acceptance, and Faculty and staff relations.

Utilizing the GPT, we embark on a multi-stage process to augment the scale. Through iterative iterations, GPT generates three new items for each existing dimension and introduces a novel dimension titled Peer relations, along with corresponding items. Then the updated scale undergoes translation into Chinese in GPT, followed by a qualitative evaluation conducted by two experts with a focus on the adaptation to Chinese cultural nuances.

Subsequent to this linguistic adaptation, approximately 300 Chinese college students are administered the revised scale. Psychometric analyses will be conducted to scrutinize the efficacy of GPT in both expanding and culturally adapting the University Belonging Scale.

**Brian Simmons**  
Berkeley School of Education  
Leaders for Equity and Democracy (LEAD; Director of Curriculum and Instruction, San Mateo Union High School District

[Presentation Link](#)

**Challenging Assumptions: A Critical Inquiry Into District Educational Technology Leadership in the Era of Artificial Intelligence**

The COVID-19 Pandemic saw an unprecedented increase in public school investments in educational technology (EdWeek, 2023) as almost every student across the United States was suddenly pushed to online learning in March 2020. These investments in hardware and software left school districts with a new ecosystem of digital learning resources that have yet to exist at the scale they now do. Then, on the heels of this new technology-infused educational landscape came the introduction and proliferation of Generative Artificial Intelligence (GAI) platforms that became widely accessible to students and their educators in the fall of 2022 (US Department of Education, 2023). As an equity-focused public school district administrator who oversees curriculum,




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instruction, and assessment in a diverse suburban school district in California, I have been challenged to know how these new tools function, but more importantly, how this new environment might be coordinated in general to serve the needs of all students. This early-stage study leverages critical theory in analyzing school district leadership practices related to educational technology integration amid this unprecedented growth in the availability and complexity of these tools and platforms. The key research questions this study seeks to answer are:

1. Do PK-12 system leaders leverage their positionality to support social-justice-oriented approaches to educational technology?
2. How do these leaders' approaches to Generative AI tools align with or differ from other forms of social-justice-oriented educational technology implementation?
3. How do system leaders intentionally or unintentionally enable disparities in the use and impact of educational technology on historically underserved students?
4. How do system leaders intentionally disrupt differences in the use and impact of educational technology on historically underserved students?

Through a mixed-method case study of district leaders that includes surveys, interviews, and educational technology investment analyses, this study looks to critically analyze how leaders currently lead the use of these resources.

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## Poster Presentations

4th Floor Lobby

3:00 pm to 4:00 pm

### EDUC 222C “Design-Based Research Forum,” Fall 2023

*Prof. Dor Abrahamson, Instructor*

Graduate students participated in a practicum introduction to the Learning Sciences. They will present their final projects, including various artifacts used in their empirical evaluations of their educational products and activities, and they will explain their conjectures, methods, findings, and conclusions.

**Dongho Shin (MDes):** Narrative-Driven Board Game: Exploring Carbohydrate Digestion and Its Impact

**Ilana Roberts Krumm, MD (UCSF):** 3D-Printed Pleural Procedure Simulator: A solution to the simulation problem

**Marissa Maldonado (MDes):** Identity Structuring through Diagrammatic Reasoning

**Sam Hilkey (SESAME):** Building Understanding: Leveraging Learning-Through-Design

**Tianqi (Bob) Wei (MDES):** Building Professional Hearing: Research on New Tools and Educational Methods for Enhancing the Understanding and Processing of Polyphonic Music

### “A” is for “Best,” “D” is for “Hazardous”: Exploring Associations between Historical Redlining and School Contexts in California

*Jacob Barton, University of California, Berkeley School of Education*

A growing body of research has started to examine historical and contemporary associations between racist Home Owners’ Loan Corporation (HOLC) residential security mapping practices (commonly referred to as “redlining”) and a range of challenging life circumstances and adverse environmental quality contexts for racially and economically marginalized communities (see, e.g., Huggins, 2017; McClure et al., 2019; Nardone et al., 2020; Hoffman et al., 2020; Lane et al., 2022; Gao et al., 2022; Nelson et al., 2023). Within this emerging field, a small number of empirical studies have investigated relationships between redlining and public K-12 schooling, including school funding, diversity, attainment, achievement, and localized air pollution (Lukes & Cleveland, 2021; Aaronson et al., 2022; Hwa Jung et al. 2022). The intersection of these approaches – assessments of school performance alongside evaluations of community health in schools’ immediate neighborhoods – represents an important expansion of our methodological toolkit for investigating relationships between schooling, the built and natural environments, and historical patterns of discrimination and injustice.

In this poster, I present the preliminary results of my exploratory research into associations between redlining and contemporary a.) student performance on standardized assessments, b.) teacher demographics, and c.) environmental quality metrics for communities in eight California cities that were “redlined” in the late 1930’s. My approach follows Lukes & Cleveland (2021) and Hwa Jung et al. (2022) in particular, whose work models this approach for investigating relationships between redlining, schooling, and school context. My inquiry explores factors both new and existing that parallel these authors’ work; incorporating teacher demographics (with a focus on years taught) is unique, to my knowledge.

For each of these categories above I found statistically significant associations between factors of interest (e.g. student standardized assessment performance) and redlining grades for neighborhoods where schools were located; I also found relationships that were not statistically significant. The associations between redlining and school context described here will help orient us more precisely toward directions for future research, including investigations that can more rigorously model (both theoretically and statistically) the nature of the relationship between redlining and contemporary schooling.

## **Alternative Schools, Leadership, and Resilience: Lessons from the Literature**

*Irma Muñoz Daniels, Leaders for Equity and Democracy, Berkeley School of Education*

It is widely accepted that the social hierarchy of schools presents significant challenges for high school students (Crabbe et al., 2019). During this pivotal period of development, students experience the pressure to “fit in.” Students outside the accepted social norms face risk factors for marginalization from their school community (Surace & McGee, 2023). From a systems leadership perspective, this study will examine the conditions within alternative school settings that foster students’ resiliency to succeed socially and academically. Informed by risk and resilience theory and an inclusive leadership framework, this research will investigate how systems leaders have created the conditions to support student success in an alternative high school setting.

This poster session presents a literature review exploring the elements of effective alternative school settings. It provides insights into the role of social justice practices in alternative school leadership and will examine the development of alternative school leaders’ resilience. By examining these interconnected themes, the review aims to provide insights into fostering inclusive educational environments that serve diverse student needs, promote equity, and support the well-being of alternative school leaders.

## **"But there's still little for us": Black Students' Experiences in a Biology Program at a Minority Serving Institution**

*Analisa Brown, Ph.D. Candidate, University of California, Davis*

What accounts for the lack of diversity in science fields? This question has inspired much debate and research as to what and/or who accounts for the deficit of racial diversity of Black and brown bodies in higher education science programs. Research has shown that Black students at universities outside of Historically Black Colleges and Universities (HBCUs), often face excessive racial microaggressions, hostile racial campus climates, and hyper-surveillance that impacts their day-to-day interactions with their peers and faculty. Thus this study examined the supportive and non-supportive elements of a biology program at a four-year Minority Serving Institution (MSI), through the lived experiences of Black undergraduate and master-level graduate students majoring in biology. Participants reported that while they had ample access to funding and research programs, the overall biology classroom environment and the lack of access to Black faculty and mentors, led to feelings of isolation and lack of access to critical information needed in their science journeys. This study draws attention to the unique experiences of Black students majoring in biology at MSIs and the components of their programs that could hinder them from succeeding in science.

## **Creating Equity-Centered School Sites: Strategies of African-American Male Principals**

*Malcolm Norrington, Leaders for Equity and Democracy (LEAD), University of California, Berkeley School of Education*

This study explores the strategies employed by African-American male secondary site principals in creating equity-centered school environments that address key factors contributing to educational inequities. Grounded in critical race theory and qualitative research methodology, this research investigates how African-American male principals navigate and challenge systemic barriers to promote equity and inclusivity within their schools. Through in-depth interviews and document analysis, this study will examine the leadership practices, policies, and initiatives African-American male principals implement to foster a culture of equity and address disparities in educational outcomes. I will examine the various strategies African-American male principals employ to create equity-centered sites, including culturally responsive leadership, community engagement, and data-informed decision-making. There will be further exploration into how African-American male principals prioritize building relationships with students, staff, families, and community stakeholders to create a supportive and inclusive school culture. Additionally, I will explore how African-American male principals develop and implement policies and practices that address inequities in areas such as discipline, resource allocation, and academic opportunities. This research will investigate and highlight the challenges African-American male principals face in creating equity-centered sites, including resistance to change, limited resources, and systemic barriers. I seek to spotlight the resilience and commitment of African-American male principals in advancing equity and social justice within their schools. The findings of this research will contribute to the existing literature on educational leadership and equity by providing insights into the strategies and

practices of African-American male principals in creating inclusive and equitable learning environments for all students. Lastly, recommendations for policy, practice, and future research will be discussed.

## **Designing for the Virtual Classroom: Social Presence, Placemaking, and Belonging**

*Meg Everett (UC Berkeley); Pa Vue (UC Berkeley); Nevin Bangloy (UC Berkeley); Kelsey Choe (UC Berkeley)*

The Immersive Virtual Classroom, equipped with a video wall and a comprehensive audio-visual system, enables on-site faculty to deliver dynamic, interactive instruction to fully remote students. This presentation documents the pedagogical shifts in teaching and instruction that fostered engagement, participation, and a sense of community in the newly constructed virtual classroom on campus. Given the unique challenges and opportunities associated with multimodal shifts in learning environments, and new, immersive technologies (Selber, 2004), we consider what possibilities exist when virtual classrooms are designed to center relationships and promote belonging.

## **Fostering Civic Engagement**

*Sofia M. V. Ulisses, University of California, Riverside; Ambrosia Solis, University of California Riverside*

In the United States, the absence of formal civic education in public elementary and middle schools poses a significant obstacle to the cultivation of essential civic engagement skills among youth, ultimately leading to diminished participation in civic affairs and decreased indicators of overall life success in adulthood. This policy brief advocates for a fundamental shift in federal policy to address this critical issue, emphasizing the core values of democracy, civic engagement, and inclusivity.

## **Grounding Auxiliary Geometrical Constructions as Semiotic Articulation of Tacit Attentional Anchors: The Case of Balinese Dance**

*Ratih Ayu Apsari, University of California, Berkeley School of Education*

Mathematical reasoning and proof, a key competency in standards-based curricula (NCTM, 2000), remains an educational challenge (Hsu, 2017). Within geometry, studies implicate students' cognitive difficulty specifically in generating auxiliary lines to investigate latent properties of spatial structures (Palatnik & Dreyfus, 2018). From an embodiment perspective, this design-based research project explores the potential of dance as an activity context for geometry students to practice the ideation of auxiliary lines. Learning to perform movement forms often elicits the spontaneous mental generation of imaginary ecological Gestalts, attentional anchors (AA), that tacitly solve motor-coordination problems (Abrahamson & Sánchez-García, 2016). Yet, cultural norms surrounding the movement arts may not include discursive practices for articulating these covert auxiliary forms as overt semiotic constructions. In this study, we propose a diagrammatic artifact—a gridded floor mat—called GRiD (Geometry Resource in Dance) to bridge the construction of geometrical reasoning from traditional Balinese dance practices.

## **Increasing Study Group Success With a Supplementary Course for Students in Gateway Engineering and Computer Science Classes**

*Manooshree Patel (BSE and EECS), Bridget Agyare (EECS), Dr. Gireeja Ranade (EECS)*

In Fall 2020, we introduced a study group formation system within a gateway EECS class (EECS16A) to help students, especially underrepresented students, form academic and social communities. This intervention presented a systemic solution shifting the responsibility of group formation onto course staff. Through a qualitative analysis of student feedback performed in Spring 2023, we discovered groups who opted in and actively participated reported many benefits. However, many assigned groups did not actively meet with each other, primarily due to communication and scheduling barriers. In response, in Fall 2023 we piloted a first of its kind supplementary study groups course for students to meet with their groups once a week.

## **Participatory Practices in Action: Redefining Family-Centered AAC Service Delivery**

*John Kim, University of California, Berkeley School of Education and San Francisco State University Joint Doctoral Program in Special Education*

Individuals with complex communication needs (CCN) are identified as those who require adaptive supports to communicate effectively due to their developmental and/or acquired disability (Elsahar et al.,

2019). Approximately five million people are identified with CCN who use various forms of Augmentative Alternative Communication (AAC) in the United States (Beukelman & Light, 2020). Using an AAC system provides numerous benefits for children with complex communication needs. One of the main advantages is that it can enhance communication skills and facilitate social interactions between children with disabilities and their communication partners, allowing for meaningful interactions (Clarke & Kirton, 2003; Ronski & Sevcik, 2005). However, existing evidence suggests that families are not fully embracing AAC in their homes. To ameliorate these obstacles, the findings in the literature valued “participatory practices” as a family-centered approach. This clinical practice involves the caregivers and the user from the beginning of the AAC recommendation and treatment process (e.g., assessment, recommendation, treatment) (Dunst & Trivette, 2009). At this point, the notion of “participatory practices” in AAC service delivery is still an abstract concept for practitioners. To implement “participatory practices”, clinicians must comprehend the clinical procedure and its potential outcomes. With this aim, the following research questions are proposed:

RQ1: How are speech language pathologists defining participatory practices?

RQ2: How has their understanding of participatory practices design AAC service delivery?

This investigation utilized an intrinsic case study methodology with two purposes: (i) to describe an intervention (e.g., participatory practices) in a real-life context and (ii) explore how graduate student clinicians are understanding participatory practices and demonstrating it in their clinical settings (Creswell, 2013; Stake, 1995).

## **The Impact of White Women Leaders on PK-12 Education Systems**

*Sara Stone, Leaders for Equity and Democracy (LEAD), Berkeley School of Education, University of California, Berkeley*

White women dominate PK-12 Education systems, with 74.3% of teachers and 79.3% of them being white (Zippia, 2023). However, while they hold most classroom and middle management positions, securing a superintendency can be challenging. Only 26% of superintendents are female, with a disproportionate number leading urban (33.5%) and suburban (30.1%) districts (White, 2023). Among these female superintendents, 17% are white (AASA, 2023). Viewing the PK-12 education system through a Critical Whiteness (Owen, 2007) and Inclusive Leadership (Young & Arnold, 2020) lens, this system perpetuates oppression, particularly affecting Black children (Love, 2023). While historically implicated in discriminatory actions, white women in education have the opportunity to address inequities both in classrooms and leadership positions. The superintendent role, with its potential to change oppressive systems, is crucial (Ladson Billings, 2006). However, despite the desire and qualifications of some equity-focused white women, limited numbers of them ascend to the superintendency. And once the small number do attain the superintendency, the inequity in PK-12 systems persists. This research project intends to answer the following questions: 1) What are the conditions necessary to enable women to attain superintendency in PK-12 systems? 2) How do white women who attain this position either perpetuate or mitigate white supremacist policies, practices, and perspectives? 3) What leadership dispositions are needed in order to transform and create inclusive experiences for all students, families, and staff?

## **The Pathways and Practices of Transformative and Justice-Oriented Teachers**

*Alexis Patterson-Williams (UC Davis), Téa Pusey (UC Davis), Valeria Romero (UC Davis)*

There are 300 bills, 28 laws, and 4000 books banned in 17 states aimed at limiting students' exposure to socially just teaching. Nevertheless, we need justice-oriented teachers to provide transformative learning experiences. The objectives of this study are to learn how teachers develop a justice-oriented approach to teaching and understand what justice-oriented teaching can look like. This study focuses on the pathways of 16 justice-oriented educators and the various instructional approaches they take. Transformative instruction requires teachers to develop an equity orientation towards students and their community. The teachers in our study have learned to see and disrupt inequities in their teaching practice and curriculum. In our work, we emphasize the importance of developing an inner witness that is equity oriented and supports transformative teaching (Patterson et al., 2020). To understand the pathways and practices of justice-oriented teachers, we collected data via surveys and follow-up interviews. To analyze our survey and interview data, we used NVivo to engage in inductive coding, followed by deductively coding the data

using thematic codes developed from theory and frameworks on socially just teaching. Our teachers described pivotal learning experiences in their careers that shaped them as justice-oriented educators, such as conversations with other educators and classroom experiences. We also asked our teachers about the foundational principles in their classroom and how they enact them, and found that many teachers discussed principles including “empowering students” and centering student voice and identity. Our teachers also gave examples of putting these principles into practice, such as supporting students in developing a critical consciousness, using student-centered teaching practices, and building relationships with students and families. These data represent a subset of our findings. In compiling the pathways and practices of our justice-oriented teachers, we provide teacher educators with a blueprint that can develop teachers' critical consciousness and orient themselves towards justice. This adds to the literature focusing on the development of criticality and justice orientations for broader teacher learning.

## **The Purpose and Promise of Critical Data Activities through the Eyes of Teacher Educators**

*Zohal Shah, Jacob Barton and Dr. Michelle Wilkerson, University of California, Berkeley School of Education*

With the increasing ubiquity of data in teachers' professional practice, it is important to understand how the teacher educators who prepare them for the profession conceptualize and engage with data across the preservice teacher curriculum. We report on the design and implementation of a summer 2023 workshop for teacher educators (TEs) whom we supported in incorporating critical, computational data explorations into their planned coursework for pre-service teachers. The workshop was part of a multi-campus effort to introduce culturally-sustaining forms of computing into teacher education programs. We ask: For what purposes did teacher educators, especially those for whom data was not already a major component of their courses, see it fit to incorporate data investigations into their coursework? and, What types of data engagements did TEs construct for the future teachers with whom they work? Preliminary analysis reveals a variety of motivations for supporting data investigations in TEs' courses, including (1) encouraging prospective teachers to understand their teaching context from a variety of perspectives; (2) re-visioning and troubling core theoretical concepts in the courses through data; (3) examining how core course topics intersect with social identity markers (race, income, language); and (4) to engage more deeply with the subject area content that preservice teachers will directly teach to their future K12 students. These emerging motivations highlight a potentially expanded and particularly critical approach to the role and function of data investigation in teacher education, including teachers' abilities to challenge dominant, exclusionary narratives around data and data literacy.

## **Science for Some: Understanding Science Education Outcomes for Rural Minoritized Students**

*Rosanna J. Ayers, University of California, Berkeley School of Education*

Within the K-12 school system, California has the fifth largest Black population in the country. Throughout California's 58 counties, only five: Solano, Sacramento, Contra Costa, Alameda and San Francisco have populations of Black students between 10-16%. The Central Valley of California, Region 7, comprises Mariposa, Madera, Merced, Fresno, Kings and Tulare counties have populations of between 1-5% of African American students. My research question seeks to understand the ways in which these rural areas prepare for the success of minoritized students in high quality science instruction. There have been quite a few research studies that center the educational experiences of minoritized students in an urban setting, however, the plight of the minoritized rural student has not been sufficiently explored. The context of rural life coupled with the small populations of Black students in these areas, creates a need to understand how science instruction must be realized for these students. The assumptions that surface with regard to Black students and science are typically that access to outdoor spaces and science instruction will support the scientific literacy of inner city youth. My area of interest is the students who have access to rural settings and outdoor experiences but are still not achieving science education successes similar to their White counterparts, as evidenced by standardized testing. It appears as though a rural environment does not equalize access to science learning and that Black students are not achieving the same levels of proficiency as White students. Issues of scalability, culturally responsive pedagogy, language demands of science, and educator self awareness have created a vacuum for science educators



to imagine their approaches to be sufficient even in the face of consistently poor outcomes for BIPOC. Further research is needed to understand why the gaps in intention versus outcome persist for students.

## **Sistemas de Apoyo y Conocimiento: The Support Mechanisms that Undocumented Latine Students Draw Upon When Applying to Graduate School**

*Jerusalen Davilam, University of California, Berkeley*

The qualitative research study was conducted in Spring 2023 and it examines the support mechanisms that 8 undergraduate and graduate undocumented Latine students drew upon when they were in their graduate school application process. The research was done to contribute to the emerging literature focusing on undocumented Latine students who apply to graduate school and to inform higher education institutions on the types of support that undocumented Latine students turn to when navigating applying to graduate school.

## **Supporting the Disrupters: A Phenomenological Inquiry Into Social Justice School Leaders' Identity Development**

*Cyndee Mai Nguyen, California State University, Fresno*

Most educators enter the profession with a strong sense of purpose, often connected to a love of children and hope for the future, a desire to make a difference and give back to the community, or a belief in education as a catalyst for social justice. However, competing educational goals and purposes, as well as current educational reforms rooted in neoliberalism, detract educators from their why and create barriers that rob students of equitable educational experiences (de Saxe et al., 2020; Labaree, 1997; Slater, 2015). There is a need to better understand how social justice school leaders navigate this neoliberal educational landscape. The purpose of this phenomenological study was to understand how social justice school leaders understand their identities as social justice advocates within a neoliberal school system that continually challenges their ideas of equity and social justice and how they maintain their social justice beliefs and identities amongst this resistance. This phenomenological study explored the lived experiences of social justice school leaders, the conditions that supported or hindered their social justice leadership formation, and the actions that they took to advance social justice in their schools. Seven participants co-created knowledge with the researcher over a series of two to three semi-structured interviews. Participants included social justice school leaders in the San Francisco Bay Area who held formal leadership positions at the site and district levels. Data was analyzed through a hermeneutic circle (Peoples, 2021; Vagle, 2015) and the conceptual framework of social justice leadership as praxis (Furman, 2012). Research findings indicate that (1) social justice school leaders develop their social justice leader identities with a strong sense of their why, (2) the barriers that social justice school leaders face daily challenge their social justice leader identities, (3) despite these challenges, social justice school leaders lean into their social justice leader identities to enact change and disrupt inequitable systems from the inside, and (4) social justice school leaders seek opportunities outside of their organizations to remain deinstitutionalized and strengthen their social justice leader identities.

## Conference Conclusion

4th Floor Lobby - 4:00 pm

**Thank you for participating in the 2024 Annual UC Berkeley School of Education Research Day!**

**Thank you to all of our professors who volunteered to be session moderators, Nelly Hernandez and Dr. Lihi Rosenthal of BSE Leadership Programs for assisting us with the printing of our programs, and to our dean, Dr. Michelle D. Young, and our BSE Staff for supporting us with our logistical needs.**

**A special thanks to the members of our BSE Research Day Organizing Committee:**

- **Corrine Aramburo (Committee Leader)**, PhD Candidate - Joint Doctoral Program in Special Education, Berkeley School of Education/San Francisco State University
- **Astha Agarwal**, PhD Student- School Psychology, Berkeley School of Education
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