CSforCA

GUIDE ON THE SIDE:
School Leaders' Case Studies Facilitating Equitable Computer Science Education in California

SIGCSE 2023 Technical Symposium
Toronto, Ontario, Canada
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INTRODUCTIONS

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AGENDA

- Overview of CSforCA and SCALE RPP
- Overview of SCALE activities
- Overview of case study development
- Details of each case study
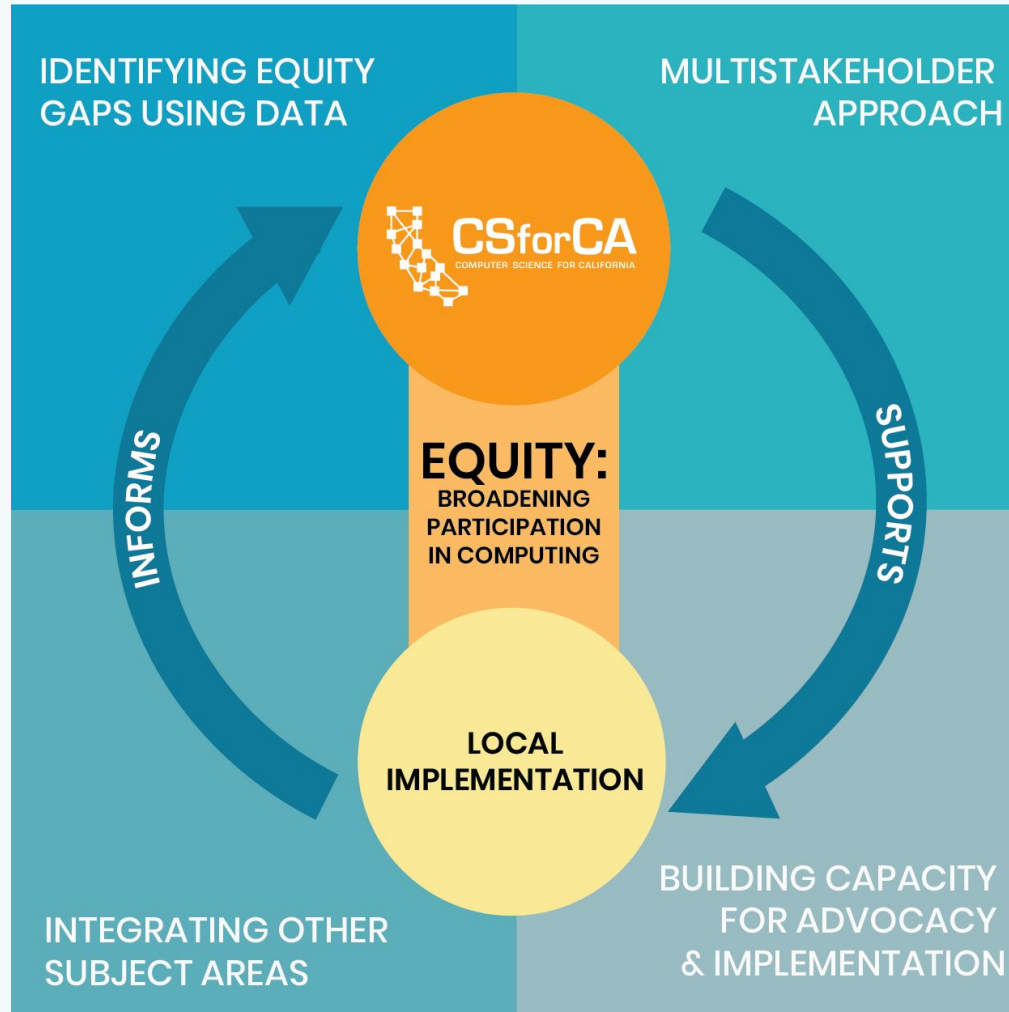- Q&A

CSforCA Mission:

Ensure equity and access to high quality teaching and learning opportunities in computer science in California while prioritizing the needs of low-income students, students of color, and girls.

CSforCA Goal:

By the year 2025, all schools in CA will provide all students with access to, and engagement in, high quality computer science that prepares them for college, careers and community engagement.

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THEORY OF ACTION

IDENTIFYING EQUITY GAPS USING DATA

MULTISTAKEHOLDER APPROACH

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COMPUTER SCIENCE FOR CALIFORNIA

EQUITY:
BROADENING PARTICIPATION IN COMPUTING

INFORMS

SUPPORTS

LOCAL IMPLEMENTATION

INTEGRATING OTHER SUBJECT AREAS

BUILDING CAPACITY FOR ADVOCACY & IMPLEMENTATION

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SCALE - CA

Supporting Computing Access, Leadership and Equity in California

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CLASSROOM

BUILDING CAPACITY FOR EDUCATORS

"Summer of CS" professional learning for teachers, counselors and administrators prototype to be replicated regionally.

COUNTY/DISTRICT/SCHOOL

SUPPORTING LEADERSHIP FOR SUSTAINABLE IMPLEMENTATION

CS Equity Guide for Administrators and accompanying workshop

CAPITOL
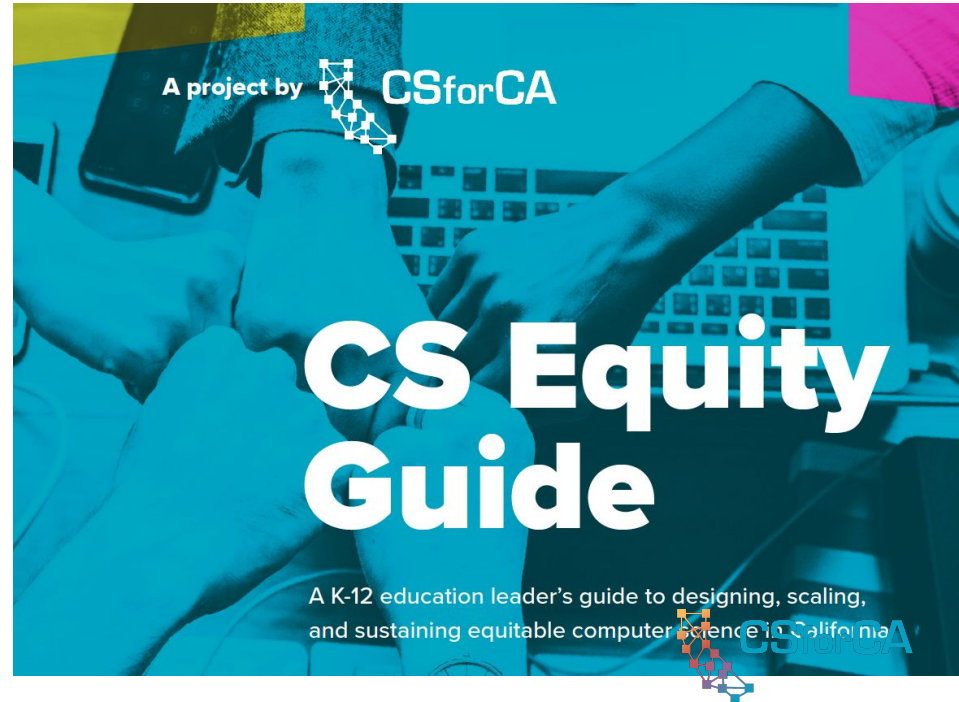
INFORMING POLICYMAKERS FOR SYSTEMATIC REFORM

Evidence-based research to inform policy and amplify voices of CSforCA, a multi-stakeholder coalition.

SCALE-CA 2018-2022

csforca.org/csequityguide

- Program design & development

- Student recruitment

- Classroom culture and structure

- Preparing & supporting teachers

- Funding

- Family, community & industry partnerships

- Expanded learning time opportunities

A project by **CSforCA**

CS Equity Guide

A K-12 education leader's guide to designing, scaling, and sustaining equitable computer science in California

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CS EQUITY WORKSHOP FOR SCHOOL LEADERS

CASE STUDIES

- RPP discussion - key topics
- Develop an interview protocol
- Interview LEA teams
- Code and pull key themes from interviews
- Organize themes into a case study document addressing the "who, what, why, how, successes, and challenges"
- RPP teams edit and offer input; also answer new questions not addressed in the interviews

- Finalize and publish the case studies
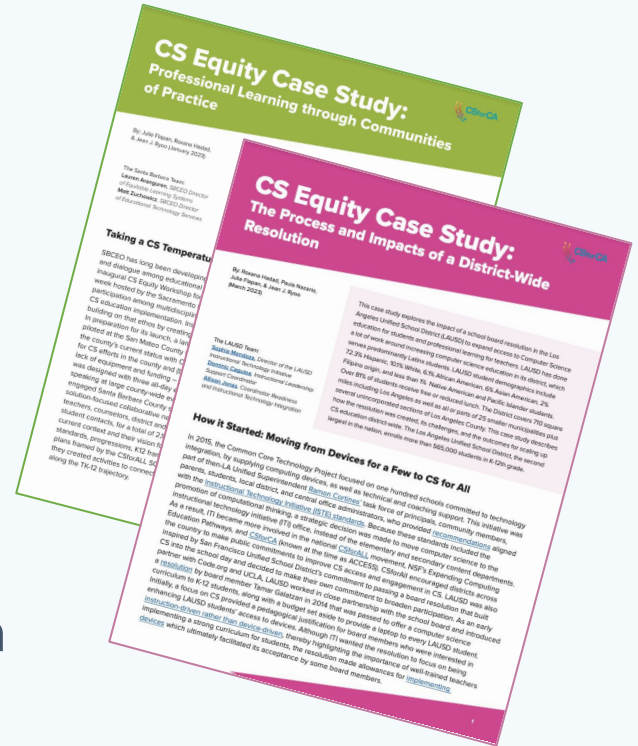
RIVERSIDE UNIFIED SCHOOL DISTRICT:
Engaging Families & Communities to Support CS

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SANTA BARBARA COUNTY EDUCATION OFFICE:
Professional Learning through Communities of Practice

CS Equity Case Study:
Professional Learning through Communities of Practice

By: Julie Flapan, Roxana Hadad, & Jean J. Ryoo (January 2023)

The Santa Barbara Team:
Lauren Aranguren, SBCEO Director of Equitable Learning Systems
Matt Zuchowicz, SBCEO Director of Educational Technology Services

This case study explores how the Santa Barbara County Education Office (SBCEO) organized a professional learning network to support district leadership to implement the newly adopted Computer Science Standards in an equitable manner. SBCEO serves 20 school districts—from small and rural to large and urban—with nearly 70,000 students. Over 71% of the student population are Latinx and one-quarter are English Learners. 62% of students in the county qualify for free or reduced lunch and 286 are foster youth.

Taking a CS Temperature: Where are we now and what is our vision?

SBCEO has long been developing inter-district communities of practice, or networks, to support learning and dialogue among educational partners with shared challenges. In 2019, the SBCEO team attended the inaugural CS Equity Workshop for School Leaders at the Summer of CS, a CS professional development week hosted by the Sacramento County Office of Education and CSforCA. Summer of CS encouraged participation among multidisciplinary teams of teachers, counselors, and administrators, to foster equitable CS education implementation. Inspired by what they learned at Summer of CS, SBCEO envisioned building on that ethos by creating a local computer science education network to share new resources. In preparation for its launch, a landscape survey was distributed to educators modeled on a template piloted at the San Mateo County Office of Education. This survey gave them a "temperature reading" of the county's current status with CS implementation. Survey results revealed: (a) who was a good contact for CS efforts in the county and (b) what barriers districts were facing. The greatest barriers included a lack of equipment and funding – barriers that were minimized by COVID relief a year later. The network was designed with three all-day events throughout 2019 – 2020. They recruited for the network by speaking at large county-wide events and communicating with their contacts throughout the region. They engaged Santa Barbara County schools and district leaders to develop TK-12 CS pathways through a solution-focused collaborative network culture. Fifty-two educators participated in the network - including teachers, counselors, district and site administrators; thirty-five were teachers, with an average of 60 student contacts, for a total of 2,100 student contacts. Each district shared flash talks describing their current context and their vision for equitable CS implementation. Activities were facilitated to discuss CS standards, progressions, K12 framework, and issues around CS and equity. District teams developed action plans framed by the CSforALL SCRIPT rubric. Intentionally providing "vertical and horizontal" connections, they created activities to connect educators in the same grade span, and whose programs would articulate along the TK-12 trajectory.

Incentives for Educators

In Santa Barbara County, educators are accustomed to paying for their own professional learning. However, the SBCEO team did not want the cost to inhibit participation. When district teams made a commitment to join, Assistant Superintendent Ellen Barger helped secure additional funds to support them. SBCEO found that a barrier to participation was finding substitute teachers for educators attending network meetings. Now, instead of inviting districts to come to professional learning opportunities where they would need a substitute, they work directly with the district, and attend meetings during their school day, typically during an early release day.

"We believe all students need and deserve access to high quality equitable CS education. We believe CS is meaningful and offers us an opportunity to grow. We believe implementing CS can be challenging, but working with other committed and enthusiastic educators empowers us to create relevant inspiring learning experiences."
— **SBCEO CS Network Vision Statement**

Recruitment Strategies

- Meet people where they are: Every local education agency (LEA) has different priorities, contexts, and needs that need to be considered and validated.

- Be intentional and strategic: SBCEO made personal connections with potential network members, physically visiting partners across Santa Barbara County.

- Clear messaging across multiple platforms: SBCEO used emails, phone calls, in-person meetings, Twitter, and flyers to encourage participation by amplifying key outcomes of the network such as becoming familiar with CS concepts, practices, and standards; developing a CS implementation plan; developing time for an equitable, inclusive, sustainable computing education in one's local context.

- Recruit through storytelling & explaining the value of CS: Stories about students and perspectives from classroom contexts helped educators understand the value of CS education and the CS Network.

A Focus on Equity

The SBCEO team was clear about their focus on equity in their messaging about the network, stating in their marketing, "There is a broad and urgent need to provide gateways into CS for all identities and voices, not just for a privileged few." They also shared a clear equity-focused vision statement with their network (see above). They maintained this focus throughout the network in the activities they facilitated, including:

- Guided readings of the CS Equity Guide;

- Joint readings of the Issues of Equity section in the Introduction to the California Computer Science Standards; and

- Asking participants to consider their current system: Who has access to CS education? Who doesn't? What aspects of the current system provide access and opportunity to some students and not to others?
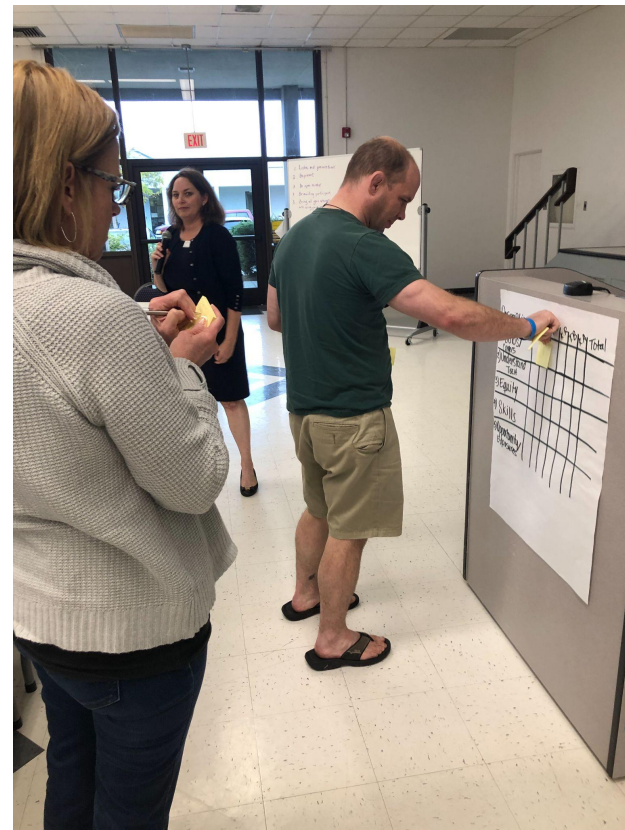
SANTA BARBARA COUNTY EDUCATION OFFICE:
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LOS ANGELES UNIFIED SCHOOL DISTRICT:
The Process & Impacts of a District-Wide CS Resolution

CS Equity Case Study:
The Process and Impacts of a District-Wide Resolution

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By: Roxana Hadad, Paula Nazario, Julie Flapan, & Jean J. Ryoo (March 2023)

This case study explores the impact of a school board resolution in the Los Angeles Unified School District (LAUSD) to expand access to Computer Science education for students and professional learning for teachers. LAUSD has done a lot of work around increasing computer science education in its district, which serves predominantly Latinx students. LAUSD student demographics include 72.3% Hispanic, 10.1% White, 6.1% African American, 6% Asian American, 2% Filipino origin, and less than 1% Native American and Pacific Islander students. Over 81% of students receive free or reduced lunch. The District covers 710 square miles including Los Angeles as well as all or parts of 25 smaller municipalities plus several unincorporated sections of Los Angeles County. This case study describes how the resolution was created, its challenges, and the outcomes for scaling up CS education district-wide. The Los Angeles Unified School District, the second largest in the nation, enrolls more than 565,000 students in K-12th grade.

The LAUSD Team:
Sophia Mendoza, Director of the LAUSD Instructional Technology Initiative
Dominic Caguioa, Instructional Leadership Support Coordinator
Allison Jonas, Coordinator Readiness and Instructional Technology Integration

How it Started: Moving from Devices for a Few to CS for All

In 2015, the Common Core Technology Project focused on one hundred schools committed to technology integration, by supplying computing devices, as well as technical and coaching support. This initiative was part of then-LA Unified Superintendent Ramon Cortines' task force of principals, community members, parents, students, local district, and central office administrators, who provided recommendations aligned with the Instructional Technology Initiative (ISTE) standards. Because these standards included the promotion of computational thinking, a strategic decision was made to move computer science to the instructional technology initiative (ITI) office, instead of the elementary and secondary content departments. As a result, ITI became more involved in the national CSforALL movement, NSF's Expanding Computing Education Pathways, and CSforCA (known at the time as ACCESS). CSforAll encouraged districts across the country to make public commitments to improve CS access and engagement in CS. LAUSD was also inspired by San Francisco Unified School District's commitment to passing a board resolution that built CS into the school day and decided to make their own commitment to broaden participation. As an early partner with Code.org and UCLA, LAUSD worked in close partnership with the school board and introduced a resolution by board member Tamar Galatzan in 2014 that was passed to offer a computer science curriculum to K-12 students, along with a budget set aside to provide a laptop to every LAUSD student. Initially, a focus on CS provided a pedagogical justification for board members who were interested in enhancing LAUSD students' access to devices. Although ITI wanted the resolution to focus on being instruction-driven rather than device-driven, thereby highlighting the importance of well-trained teachers implementing a strong curriculum for students, the resolution made allowances for implementing devices which ultimately facilitated its acceptance by some board members.

1

CS EQUITY CASE STUDY

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Photo Courtesy of LAUSD

UCLA researcher Jane Margolis and her team studied disparities in access to CS education in LAUSD. As a result, her research findings highlighted how there were unequal learning opportunities in CS education. Then, UCLA teamed up with LAUSD to address these inequities. LAUSD board member Tamar Galatzan recognized the urgency of expanding CS opportunities throughout the district and introduced a resolution to close this gap. At the time, the 2014 resolution directed LAUSD Superintendent John Deasy to identify CS opportunities within LAUSD and a plan to expand CS course offerings and manage associated costs. In the years following, the ITI division was created in 2016 to expand CS course offerings and then LAUSD became part of the national CSforALL movement. Then, another resolution was passed in 2018. Equipped with research and key data provided by the ITI team and partners at UCLA, then Superintendent Dr. Michelle King advocated for the resolution.[1] Through sharing information and evidence-based practices, Superintendent King communicated the resolution's potential impact, and she became one of ITI's most powerful supporters. The passage of the 2014 board resolution represents LAUSD's institutional commitment to addressing structural barriers to the implementation of CS education in the district. This also demonstrates how the introduction of a resolution to the education board drives priorities, and in this case, it meant providing more CS opportunities for students.

Measuring Success: Equity and Access

Measuring student outcomes can be complicated, especially when there is so much variability in the curricula being offered, as well as the vastly different preparation teachers have received. For example, evaluating the computer science curriculum requires hard choices for the protocols to measure both teacher and student outcomes. More specifically, how to compare the outcomes of different schools that have limited resources and/or access to computer science courses and the teachers that teach them, as well as the professional learning opportunities and access to resources to support teachers and the courses they are teaching. These are common challenges that school administrators face when measuring outcomes and can make it even more difficult without a strong and mandated computer science curriculum.

[1] Item 28, Hour 5:35

2

LOS ANGELES UNIFIED SCHOOL DISTRICT:
The Process & Impacts of a District-Wide CS Resolution

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Key Takeaways

- Centering equity and LEA experience

- RPP learning and growing together

- Case studies as a tool to demonstrate how LEAs are approaching problems of practice

- How can you use case studies for your own learning and RPP work?

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THANK YOU!

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