

CS Equity Case Study: Professional Learning through Communities of Practice

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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?

Keys to Success:

Justice-Centered Leadership

Having a united vision about the network's purpose and priorities was central to the network's success. The SBCEO network offered space for meaningful reflection for educators, modeled by its leaders, with a shared focus on equity in computing.

SBCEO leadership held deep beliefs in and support of all equity initiatives. At the highest level of the organization, Dr. Susan Salcido, Santa Barbara County Superintendent of Schools, and Ellen Barger, Assistant Superintendent of Curriculum and Instruction deliberately center equity. Trusted by their leadership, Lauren and Matt spearheaded equitable CS implementation professional development efforts in ways that would be more challenging without leadership support. In addition, working at SBCEO allowed them to connect and support teachers as well as school and district leadership.

Lessons Learned

The SBCEO team learned the value of deepening relationships through personalized communication that would provide customized support once COVID stymied the network. Bringing the professional learning directly to the teachers eliminates the barriers of finding time and substitute teachers. The network planted the seeds for the work to blossom. Several network attendees are developing plans for CS implementation, becoming further engaged with others in the network, and attending professional learning experiences, such as the Winter of CS.

Keys to Success:

“Learner Stance”

Lauren and Matt's approach to building a network that centers equity in CS implementation began with a “learner stance.” After attending the CS Equity Workshop for School Leaders, they subsequently joined various groups throughout the state and nation to learn about CS education and key equity issues.

This learner stance was also the ethos of the network, elevating the idea that “we are all working on this together, and together as learners we are stronger.” This approach informed how they collaborated with each network member to understand their local context and the support they needed.

The SBCEO team learned much from their colleagues across the state and nation to shape an equity-focused CS education network. Matt's work with the California County Educational Technology Consortium helped him connect with others who were also working on equitable CS implementation. Lauren and Matt joined the NSF-funded UCLA SCALE research-practice partnership (that developed the CS Equity Guide), and attended and eventually led CS Equity Workshops in other regions. In this partnership, they built relationships and accessed templates for data collection, information on standards alignment, and support on running their own professional learning activities. They joined the CSforCA coalition meetings and gained support from CSTA as well.

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Reflecting on Challenges, Innovating New Strategies

The third and final meeting of their first network cohort was held just before COVID lockdown. To avoid losing momentum, the SBCEO team pivoted to a virtual format. Unfortunately, it became increasingly difficult to keep the network going: (1) CS became less of a priority when LEAs needed to make sure students were safe, had emotional support, and had access to devices/ wifi during the pandemic; (2) LEAs had increased difficulty finding substitute teachers for the classroom; and (3) Teachers were already feeling overstretched. They reimagined the network as a virtual CS Learning Collaborative that met monthly.

Over time, educators' ongoing competing priorities caused attendance to wane. As a result, they created smaller, more manageable opportunities for their LEAs to engage:

- Offered a CS Ed Week prep session, inspired by a colleague at the San Diego County Office of Education.
- Worked with Sacramento County Office of Education to facilitate the CS Equity Workshop for School Leaders for the Summer of CS Professional Development Week in 2021.
- Provided personal consultations to 8 districts that signed up for the network. 3 of those districts are still working with them: (1) One district which was initially resistant now has a CS pathway in their master schedule; (2) Another wants CS for every student in their district in five years; (3) A third hired Lauren and Matt to help them implement CS schoolwide in the 2022-23 school year.

Initially, they measured success by how many of their districts were participating in the Computer Science Network. Currently, they are measuring success by the districts who are actively working towards CS implementation.

Discussion Questions

1. What elements of the SBCEO case study resonate with you and your LEA? In what ways is it different? What do you see as the biggest challenge for implementing an equitable approach to CS in your LEA?
2. How do you identify the right people in your LEA to lead this effort? What prior experiences or skills are required? Who might you look to for support?
3. In what ways do you embody a “learner stance” or hope to develop one in your work?
4. Before embarking on a new initiative, have you ever considered a landscape survey? What are advantages of taking a temperature in your LEA?
5. SBCEO's region has a large population of ELs and low-income Latinx students overall, but in certain areas, it is upper income with higher percentages of students with access to CS. What special considerations around equity do you have with your region's demographics?
6. Have you ever participated in a professional learning community? If so, what elements would you replicate and what might you do differently?
7. SBCEO discusses successful recruitment strategies to expand access to CS. How might you approach recruitment to ensure diverse perspectives and experiences are represented in your network?
8. The success of the SBCEO network relied on supportive county office leadership that was justice-centered. If you don't have this kind of support, how can you cultivate support from your leadership? If you do have this support, how can you leverage it?
9. SBCEO was very fortunate to have financial support for teacher participation. What ideas do you have to fund your CS professional development and other implementation activities (i.e. LCFF, grants, corporate sponsorships, Title 2 funding, etc.)
10. How has COVID influenced your CS program? What resources are available to support you with these challenges?