



VIRTUAL SUMMIT | SEPT. 27, 2023, 1 - 6 PM ET  
PLUGGING INTO CS POLICY, PRACTICES & PATHWAYS



# Equity Unveiled:

## A Journey Through the Development of California's and Nevada's CS Equity Guides

Roxana Hadad, PhD - UCLA Center X  
Jaci McCune, PhD - Nevada Dept. of Education

# Presenter Introductions



## Roxana Hadad, PhD

Associate Director, CS Equity Project, UCLA Center X

**How did I get to this point?** Was an artist who wanted to make my illustrations interactive, learned to code, then wanted to teach kids to code.

**Fun Fact:** Although both my parents are Cuban, I am a terrible dancer with no rhythm and I don't drink coffee. I am, however, very good at eating Cuban food.



## Jaci McCune, PhD

Computer Science, Technology, & STEM Content Lead, NV Dept. of Education

**How did I get to this point?** Former boss thought I was “good with technology” and sent me to help write our state standards in 2018. I was hooked from then.

**Fun Fact:** My dad was a hot air balloon pilot my entire life. I got my pilot's license when I turned 15.



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# Where are you in the equity guide journey?

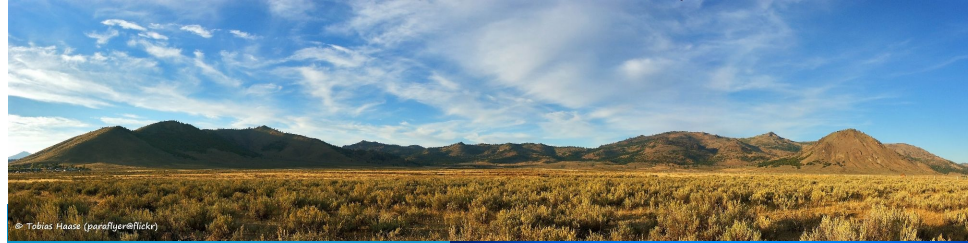


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# California



## 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.



# SCALE - CA

Supporting Computing Access, Leadership and Equity in California



## 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

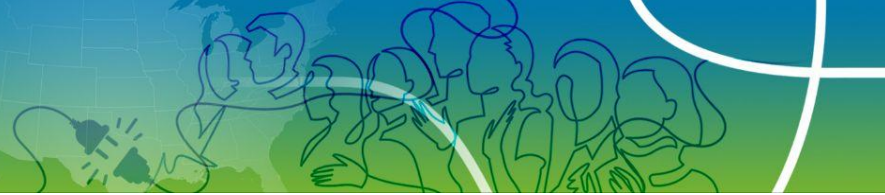
**INFORMING  
POLICYMAKERS FOR  
SYSTEMATIC REFORM**



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

# SCALE-CA 2018-2022





# INITIAL GUIDE DEVELOPMENT

- Documented questions and answers from 2 early adopter districts

	A	B	C	D	E
1		<b>Community Advocates</b>	<b>District Officials</b>	<b>District CS Lead</b>	<b>Principals</b>
2	Why Computer Science?	<p>Computer Science education is essential to the future of California. Computer science provides all students the essential problem solving and critical thinking, creativity and collaboration that students need to succeed in the 21st century. Students should learn to become creators of technology, not just passive users of it. With increased access to CS, students will discover innovative ways to solve problems in their communities, they will be exposed to careers they may never have imagined or they may seek a college degree in a discipline they never thought was possible. Special attention must be paid to providing access to students historically underrepresented in CS, including students of color, women, English language learners, and students with special needs.</p> <p>The introduction of the California K-12 Computer Standards explains why it is critical to teach computer science in California's schools in greater detail. Code.org has created many great advocacy materials.</p> <p>Common Misconceptions:            --CS prepares students for tech careers.            --CS teaches only coding.            --Not all kids are cut out for computer science.            --You have to be good at math to be good at computer science.            --Any learning involving computers is computer science. (Or, ed tech / tech integration is the same as computer science.)</p>			
3	Current California Initiatives	<p>-- CSforCA with ACCESS supporting state-wide implementation            -- Standards drafted, slated for adoption in September 2018            -- NGSS supports CS, appendix created to articulate connections            -- UC and CSU policy changes with a-g ("d" for UC and "c" for CSU)            -- CSSIPP developing policy recommendations for the state, ~1 year away from plan adoption            -- CS supplementary authorization programs are being created: UC Irvine, UC Riverside, SFSU, etc.            -- Link to examples of district implementations: SFUSD, OUSD, LAUSD, + small districts</p>			

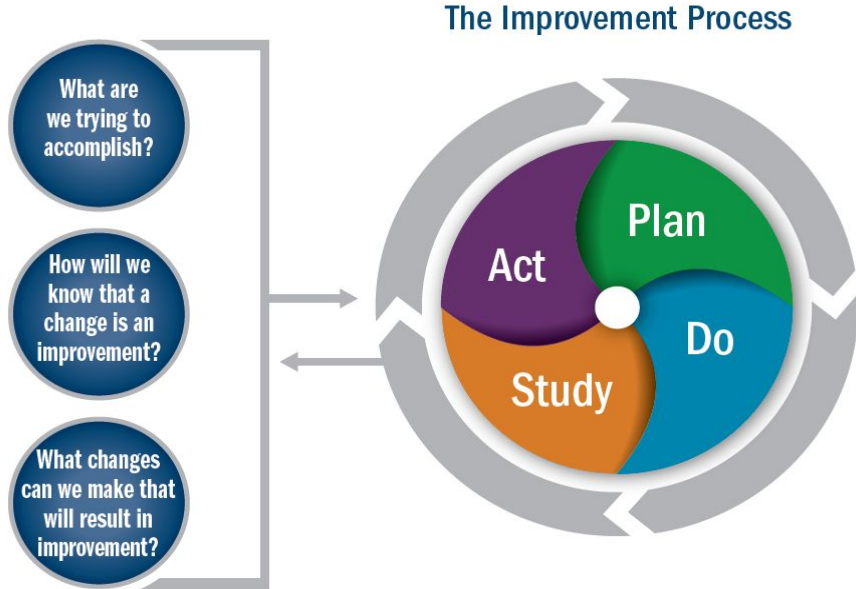




## GOALS FOR THE GUIDE

- Inform education leaders statewide about what and how to bring high-quality CS into their schools that is equitable, scalable, and sustainable.
- Provide “nuts-and-bolts” information that is based in real administrative experiences
- Respond to on-the-ground challenges faced by administrators at the school/district/county level
- Supply a resource to be used in CS Equity Workshop for School Leaders
- Not prescriptive but provide important considerations

# PDSA CYCLE



- *Plan*: Identify the knowledge and resources administrators need
- *Do*: Develop and deploy a guide
- *Study*: Gather feedback about the guide
- *Act*: Revise guide



## INTERVIEWS WITH ADDITIONAL DISTRICT/COUNTY LEADERS (PLAN)

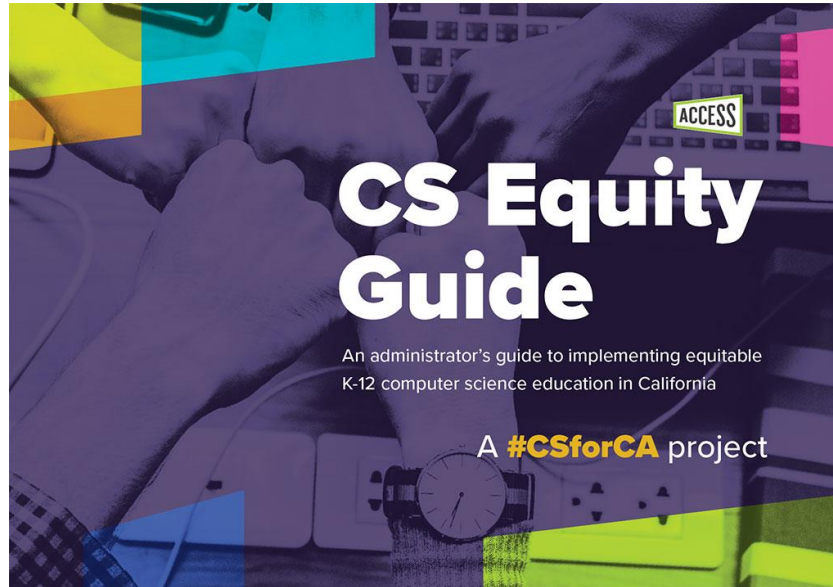
- What would you have wanted to know about CS implementation before you were tasked with this role?
- What were your priorities and challenges in the first 6 months of implementation?
- What is most important for a new district leader to know about implementing high quality CS?
- What are the issues that district leaders need to pay attention to in terms of equity in CS education?
- What resources do you use when you have questions about CS implementation?



## CONSTRUCTION OF GUIDE (DO)

- Answers grouped into themes, themes became chapters
- Participating districts/counties provided photographs of students and student work
- Quotes from school leaders that were especially illustrative were included verbatim and highlighted
- Trusted colleagues reviewed, edited, and provided feedback

# VERSION 1



46 pages  
Released April 2019

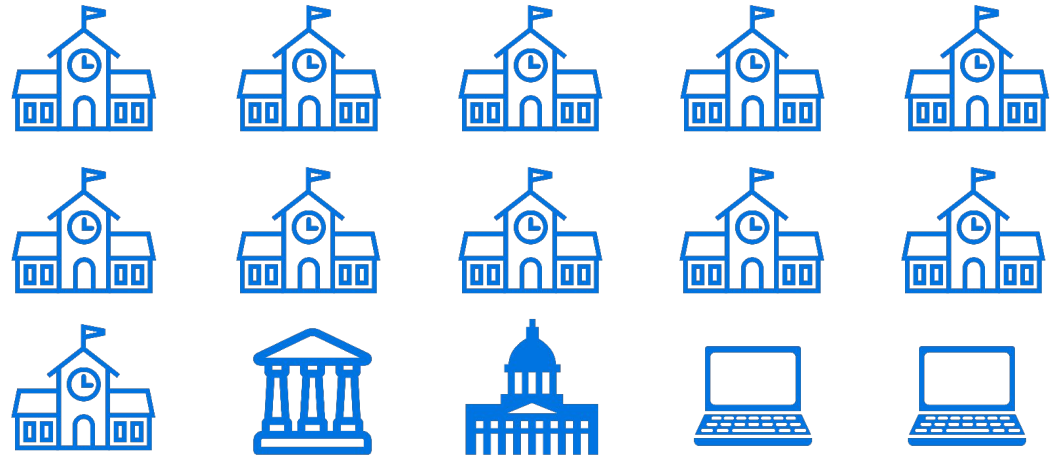
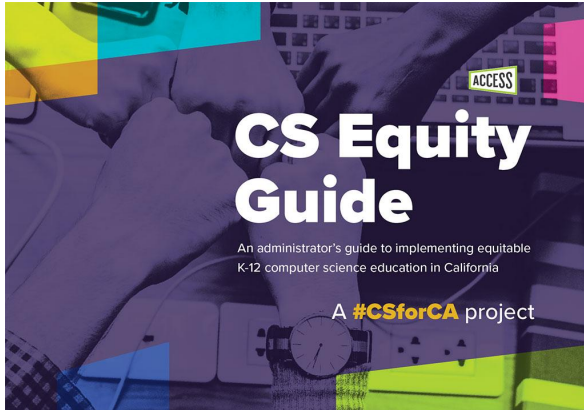


## DISTRIBUTION OF VI

- Printed and distributed over 2,000 guides, both physically and online
- Promoted
  - ACCESS/CSforCA website
  - CSforCA Twitter account
  - CSforCA monthly meeting
  - Conferences/national meetings

# PDSA CYCLE 1: INTERVIEWS ABOUT THE CS EQUITY GUIDE (STUDY)

15 Interviews in April & May 2019



# FEEDBACK



- Equity – Areas of interest
  - Working with families
  - English learners
  - Students with disabilities
  - After-school learning

“Some emphasis needs to be made on your underrepresented communities and how to get to them. It’s really about building trust with those communities to get them on the school site to participate in a family code night. There’s nothing around guidance on that.”



# FEEDBACK



- Pay attention to the diversity of settings in which CS education takes place
  - Rural and urban
  - Small and large
  - Elementary and secondary
  - Student population

“Districts across the state that are in our rural areas that have small populations...they still want to do this work, but how do we motivate them to this work without feeling like they need to be like San Francisco in order to be able to do this?”

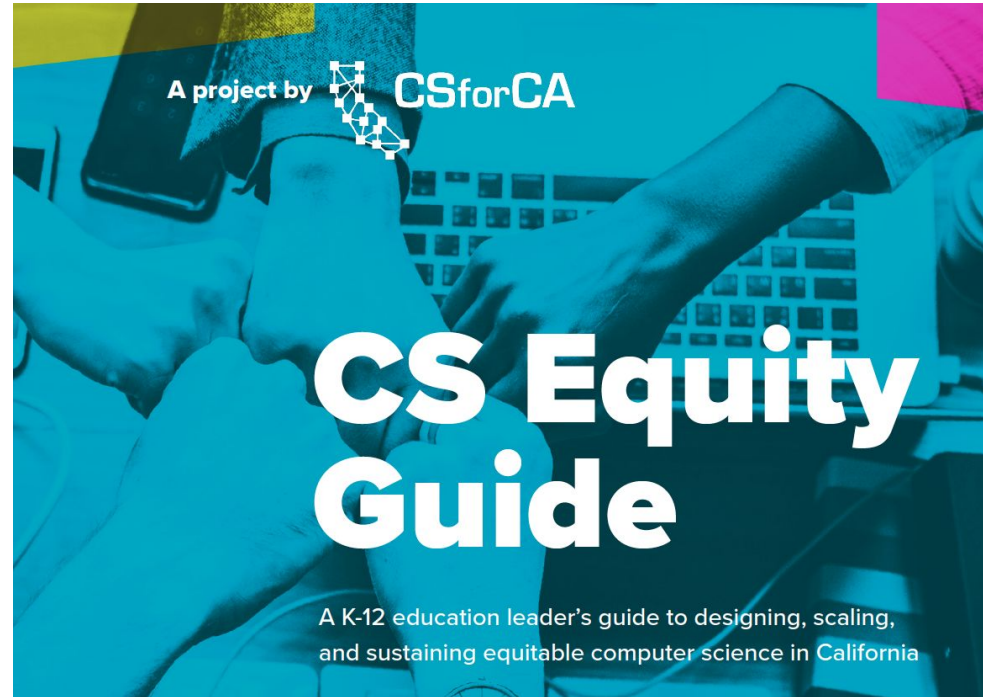
# FEEDBACK



- Suggestions for CS Equity Workshop for School Leaders
  - Focus on key chapters
  - Prioritize equity
  - Differentiate by administrator or school level

# VERSION 2

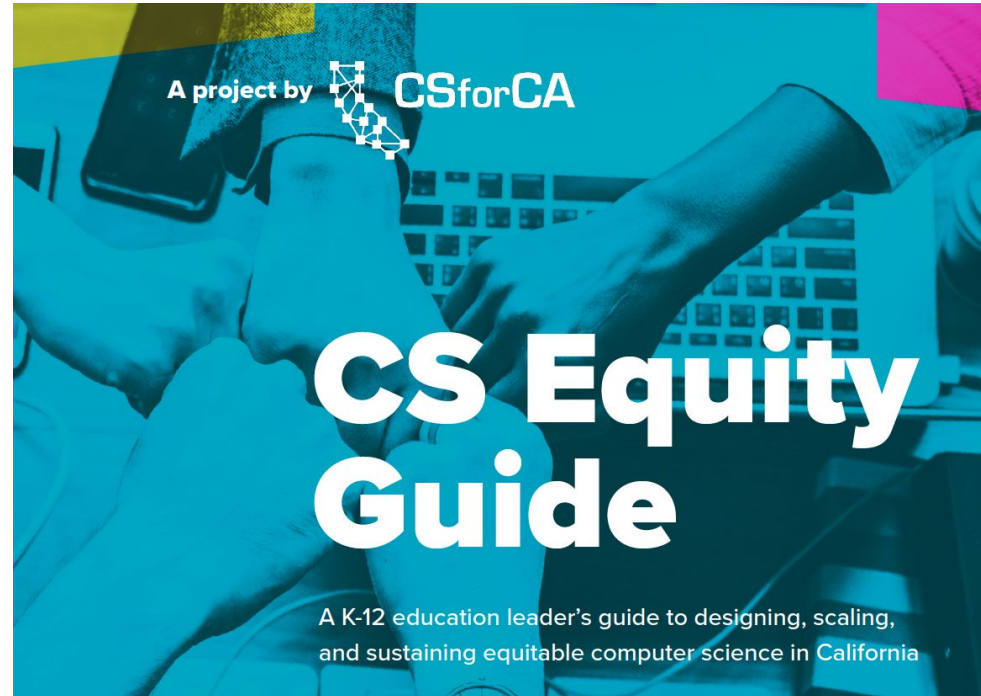
- Feedback from PDSA Cycle
- Interviews and focus groups with members of Teaching & Learning working group
- Released September 2020



[CSforCA.org/CSEquityGuide](https://CSforCA.org/CSEquityGuide)

# CHAPTERS

- Program design & development
- Student recruitment
- Classroom culture and structure
- Preparing & supporting teachers
- Funding
- Family, community & industry partnerships
- Extended learning time opportunities



[CSforCA.org/CSEquityGuide](https://CSforCA.org/CSEquityGuide)



## DISTRIBUTION OF V2

- Printed and distributed over 3,000 guides
  - Impacted by COVID
- Promoted digitally
  - ACCESS/CSforCA website
  - CSforCA Twitter account
  - CSforCA monthly meeting
  - Conferences/national meetings

# ATTRIBUTION



## Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0)

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# Nevada







# Nevada Computer Science Mission & Vision

## Mission:

Our mission is to provide engaging and rigorous computer science and integrated technology education for ALL Nevada students, regardless of their age, race, gender, disability, socioeconomic level, or what school they attend, and to prepare them for a wide variety of postsecondary experiences and careers in the digital age. Our students will not only be consumers of technology, but creators of it.

## Vision:

Nevada's vision is that our students are informed citizens who can:

- critically engage in public discussion on CS and technology topics;
- develop as learners, users, and creators of CS knowledge and artifacts;
- better understand the role of computing in the world around them; and
- learn, perform, and express themselves in other subjects and interests.

# Equity & Diversity Guide Goals



- To explore challenges, opportunities, and consequences for implementing equity-minded K-12 computer science in Nevada
- To demonstrate useful examples of schools and district leaders that have connected equity and computer science implementation
- To offer suggestions for additional resources to confront inequity in computer science education

ECEP  
CONNECT

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## Solicit Input

Multicultural Task Force  
Administrator Groups  
Teacher Advisory Group  
CS Subcommittee  
Higher Education  
Industry

## Draft, then Draft Again

- Explicit connections to Nevada
- Current resources
- Current data, visual, stories
- Writing Team Work Session (6 hours)

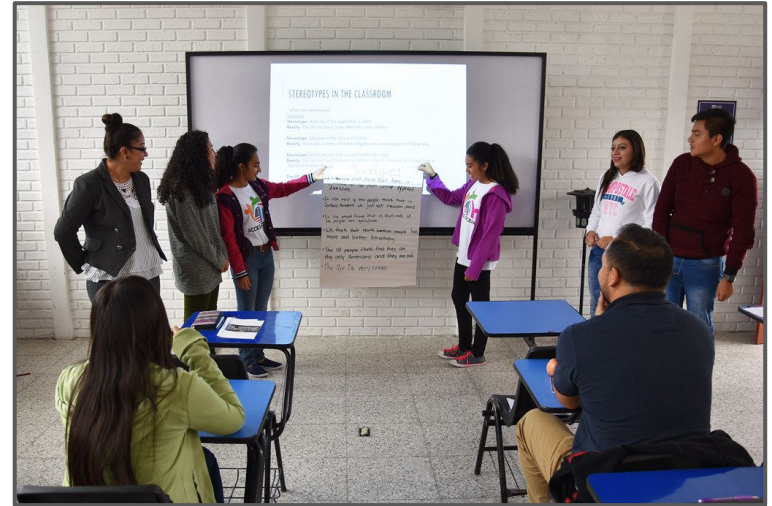
## Feedback

- Local - educators, district superintendent, parent, student
- National - ECEP

# Where are we now? Where are we headed?

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## Considerations and Lessons Learned - CA and NV

- Local control states
- Funding
- State issues around equity
- Balancing stakeholder feedback, boundaries, and when to let things go
- Resources
- Writing for different audiences (educators vs parents vs higher education)



# Where are we now?

## Nevada

After final sign-off from NDE leadership:

- Administrator professional learning
- Implementation support
- Educator professional learning (Train the Trainer Model)
- Disseminating copies

## California

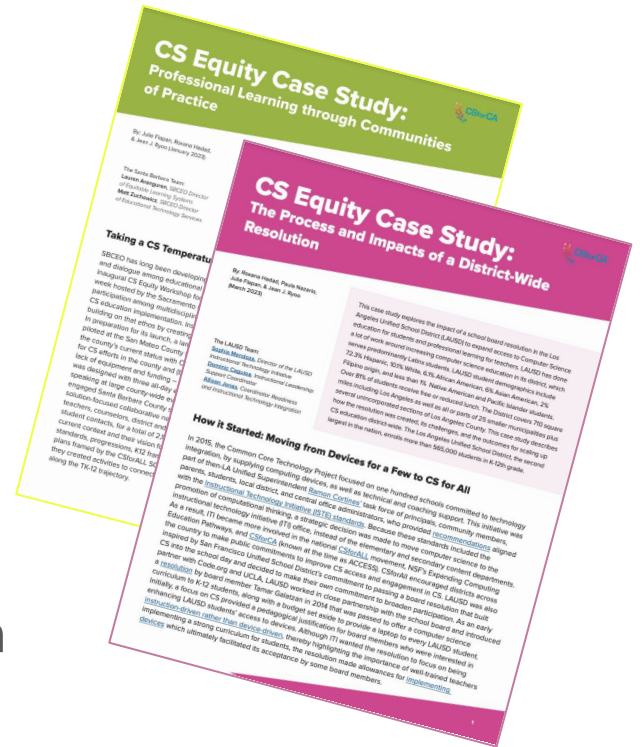
- Administrator workshop revamp
- Disseminating copies physically and online
  - 894 downloads
  - 3000+ printed
- Developing and disseminating case studies



# 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



# Thank you to our partners

National Science Foundation

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(NSF 1837780)

[Google.org](https://www.google.org)







## Questions?

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