



Summit

CSTA

Chapter Leadership Summit

#2023CLS

10 July 2023

MENTORS in CS

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Share in Chat

Does your chapter support mentoring?

- If yes, what are some successes? some struggles?
- If no, what are you interested in learning?





Matching Experienced and Novice Teachers for Ongoing Rigorous Support in Computer Science



1:1 based on goals/
strengths + context

new-ish to
teaching CS

5+ years CS
teaching experience

Matching Experienced and Novice Teachers for Ongoing Rigorous Support in Computer Science

personalized, 2x/mo mentorship meetings
focused on 3 professional learning goals

high school,
focused on
ECS + AP CSP



Project Team



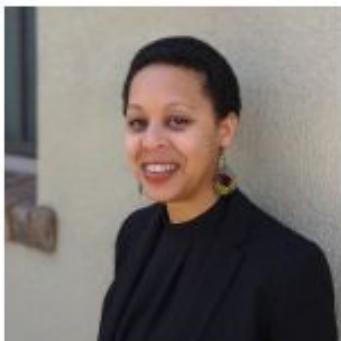
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Project Overview

- CSforAll Research/Practitioner Partnership (RPP) funded by the National Science Foundation (NSF)
- small grant funded first two years of implementation (2021-22, 2022-23) in one community: CSTA Wisconsin
- medium grant proposal will fund three years of implementation across three communities: CSTA Wisconsin, CSTA New Jersey, and CSTA's Black Affinity Group
- with success, we will scale to more chapters & affinity groups!



MENTORS in CS

Activities & Resources

- Teacher recruitment & matching
- One-on-one mentoring
- MENTORS in CS resources
- Mentor training & community of practice

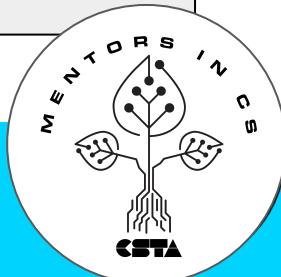


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CS Teachers

- Growth in CS teaching knowledge & confidence
- Growth in mentoring skills
- Increased use of equitable & inclusive teaching practices
- Increased commitment to CS teaching



Multi-tiered system of equity supports

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Multi-tiered system of **equity** supports

MENTORS in CS **Activities & Resources**

- Teacher recruitment & matching
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- MENTORS in CS resources
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- Targeted recruitment & prioritized selection
- Discussions about classroom practice that promotes equity
- Professional learning goals focused on equity & inclusion
- Ongoing training of mentors related to inclusive teaching practices & support



Mentor / Mentee Recruitment & Matching

Eligibility

Secondary CS teachers in the target community

- *Mentees:* new to CS but not teaching (Y1)
new to teaching, CS, or CS equity (Y2)
- *Mentors:* 5+ years CS teaching experience

Prioritized Selection

- *Mentees:* teachers serving rural communities, Title I schools, and high concentrations of Black or Latinx students
- *Mentors:* experience with equity-focused PD and expertise with inclusive teaching practices

Recruitment

- CSTA Chapter
- CS PD Weeks and other PD
- School district partners
- Targeted outreach

Matching

- CS courses
- School and community context
- Mentees' goals and mentors' strengths
- Teachers' preferences



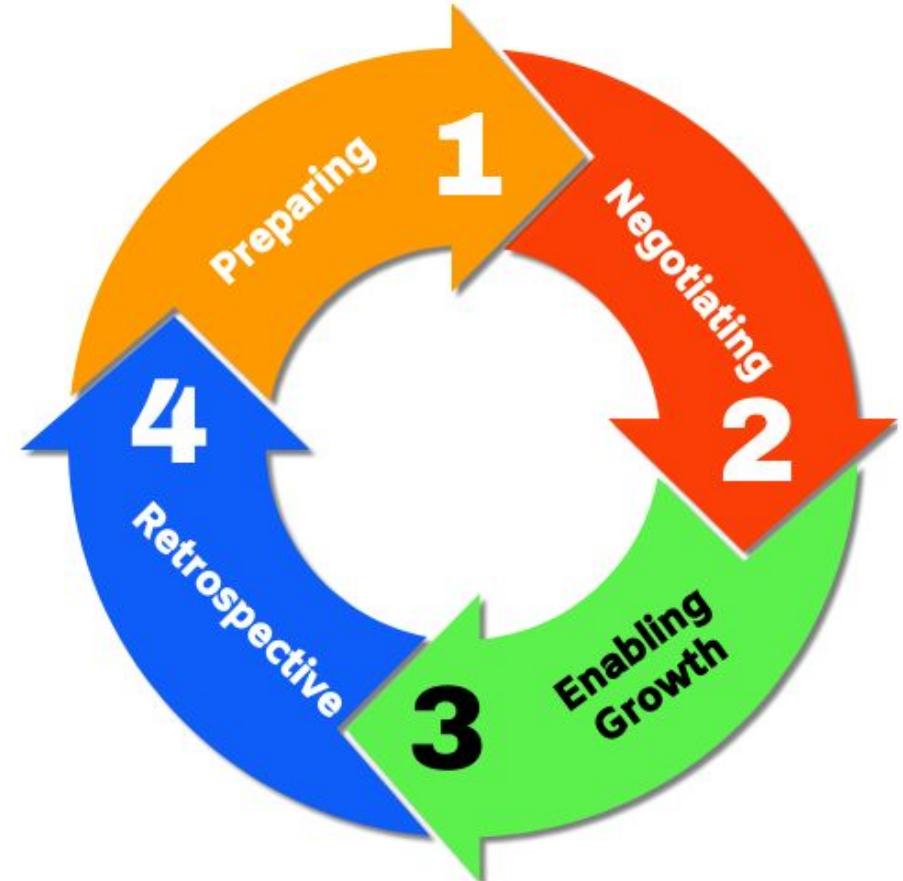
Mentorship Cycle

1. Preparing - Build relationships, and self reflect.

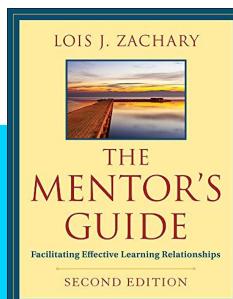
2. Negotiating - Set learning goal, and define partnership agreement.

3. Enabling Growth - Focused attention towards meeting the learning goal: Plan, implement, and reflect on action.

4. Retrospective - Reflect on successes, and identify next steps.



adapted from Zachary, 2012



Standards for CS Teachers

Our framework for

- Guided self-assessment
(at beginning and end of year)
- Goal setting
- Progress monitoring

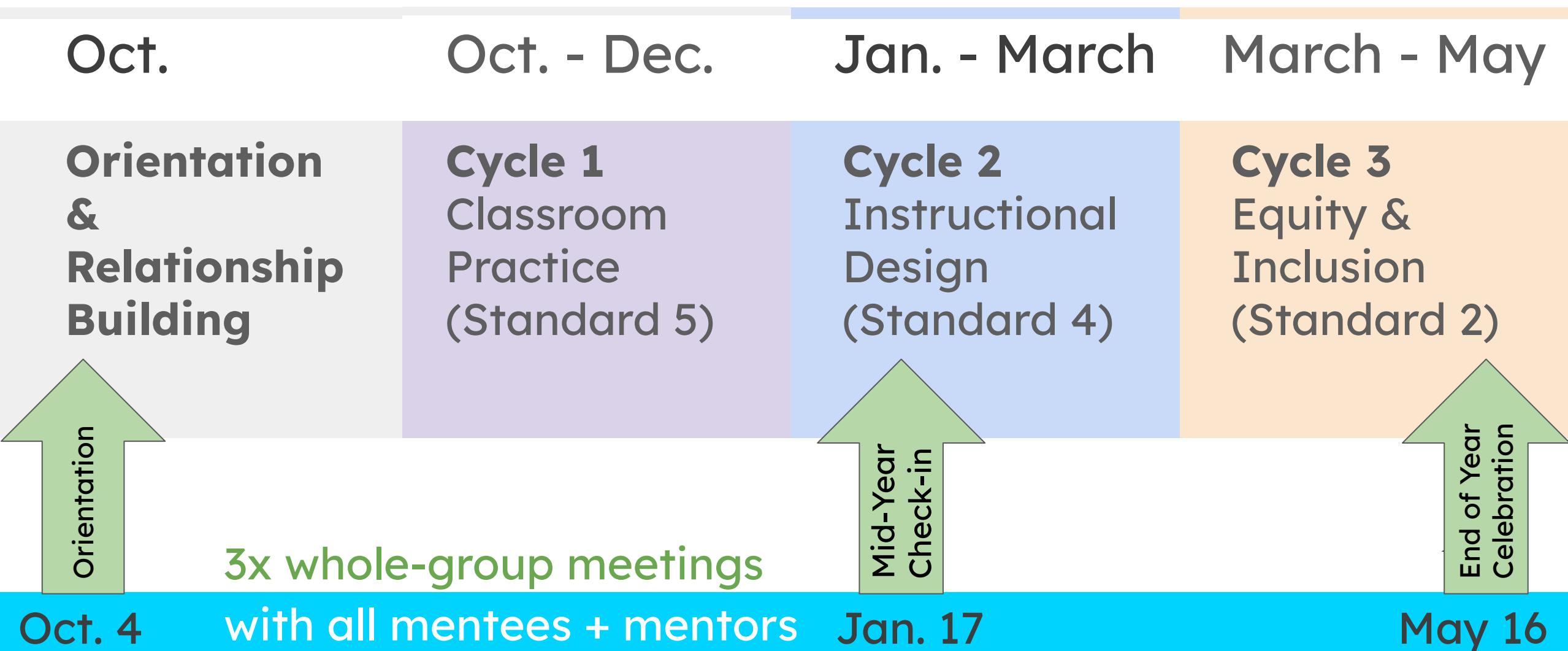
csteachers.org/teacherstandards



CSTA, 2020



Program Timeline: 3x 2.5-mo mentoring cycles



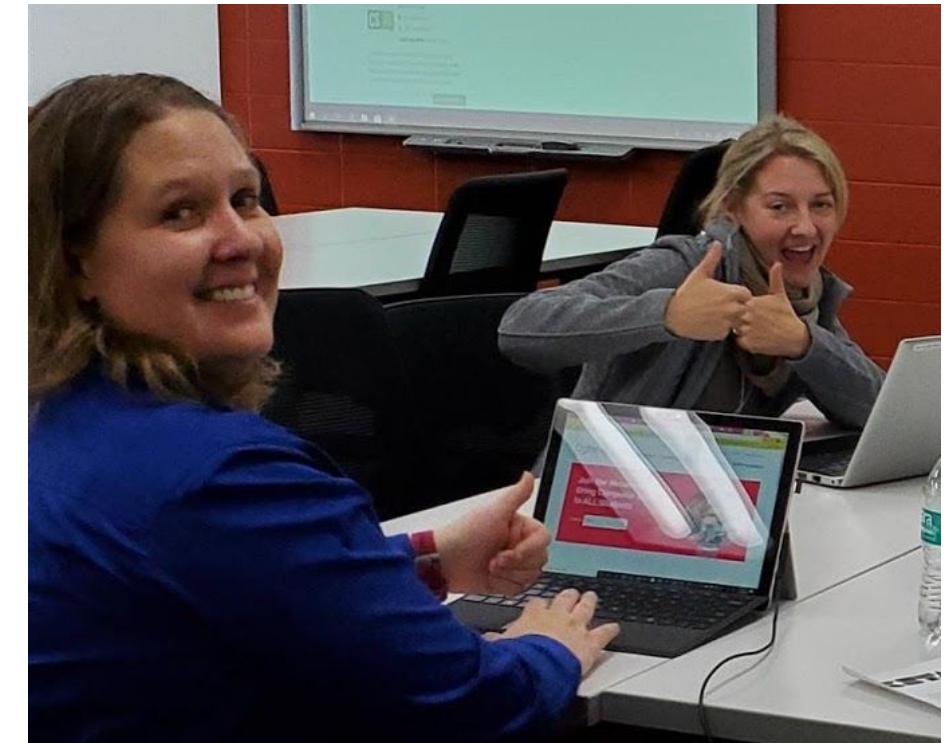
One-on-One Mentoring - Initial Research Findings

Mentees demonstrated:

- a **reflective stance** towards their teaching
- increased **confidence** in CS teaching knowledge and pedagogical practices
- increased use of **equitable and inclusive teaching** practices

Mentors demonstrated:

- high **confidence** in CS teaching
- greater skills and confidence in their **abilities to mentor** and support other teachers



MENTORS in CS Resources

- Self-reflection
- Relationship building
- Partnership agreement
- Goal setting templates and example goals
- Mentoring meeting logs

available online at

csteachers.org/mentors

The image shows a screenshot of a website. On the left, a blue box contains the heading 'Mentoring Tools' and a description of the resources available. On the right, a white box contains a circular diagram divided into four quadrants, each representing a step in a mentoring process: 'Preparing' (orange, top), 'Negotiating' (pink, top-right), 'Enabling Growth' (green, bottom-right), and 'Retrospective' (blue, bottom-left). The steps are numbered 1 through 4.

Mentoring Tools

Our team has developed several tools to support a structured mentoring process aligned to the *CSTA Standards for CS Teachers*. Tools include a self-reflection, relationship building structures, partnership agreement, goal setting templates, example goals, and mentoring meeting logs.

MENTORS IN CS TOOLKIT

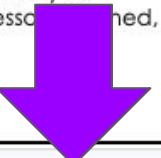
1
2
3
4

Preparing
Negotiating
Retrospective
Enabling Growth



Self-Reflection

Standard 3. Professional Growth and Identity Continuously develop knowledge, practice, and professional identity to keep pace with the rapidly evolving discipline. Participate in the larger CS education community and collaborate with others to develop the skills that enable all students to succeed.	Rating	Justification (Brief Explanation of Rating)	Ideas for Growth & Next Steps
3a. Pursue targeted professional development Develop and implement a plan for targeted professional development to continuously deepen your CS content and pedagogical knowledge and skills.	<input type="button" value="▼"/>		
3b. Model continuous learning Model willingness to learn from others and to continuously develop new skills. Demonstrate comfort in problem solving and perseverance when encountering new or challenging content.	<input type="button" value="▼"/>		
3c. Examine and counteract personal bias Examine how their personal perspective, privilege, and power impact student success and classroom culture and continuously work to counteract biases.	<input type="button" value="Growth ▼"/>	I was able to join a book club last year with other CS educators from my chapter that helped me examine my own biases, my place of privilege, and how both impact classroom culture. It was eye-opening and helped me begin working to counteract these biases with the ultimate goal of lifting up all students to academic and personal successes. I have a long way to go, decades to undo, and I am planning on joining another book club this year.	Join a book club or discussion group that my CSTA chapter hosts. If my chapter decides not to host, I know there are other chapters hosting virtual book clubs that I can join (some listed at csteachers.org/events).
3d. Commit to the mission of CS for all students Develop a personal teaching philosophy reflecting that all students can and should learn CS.	<input type="button" value="▼"/>		
3e. Leverage community resources Identify and connect resources in the local community and broader CS ecosystem to support student learning in CS.	<input type="button" value="▼"/>		
3f. Participate in CS professional learning communities Participate in CS professional learning communities (PLCs) to collaborate with peers, celebrate successes, share lessons learned, and address challenges.	<input type="button" value="Strength ▼"/>	I participated in our chapter's AP CSP cohort last year, with quarterly meetings and asynchronous resource sharing. I found the guidance and support extremely valuable, especially discussing how to prepare for the PT Create, exchanging example problems, and sharing successes and concerns. It was very helpful to learn from others who had taught the course longer than me and could anticipate some of the problems I might experience.	This year, in addition to joining the CSTA 9 - 12 Virtual Community, I am also looking to start or join an AP CSP Virtual Community through CSTA. This will allow me to find resources and share ideas with an even broader community of teachers.



Mentoring Partnership Agreement

	Name	Cell Phone	Preferred Email
Mentee			
Mentor			

We have agreed on the following areas of emphasis as the focus of this mentoring relationship:

(1)

(2)

(3)

We have discussed the protocols by which we will work together, develop, and, in that same spirit of partnership, collaborate on the development of a work plan. In order to ensure that our relationship is a mutually rewarding and satisfying experience for both of us, we agree to:

1. Meet regularly. Our specific schedule of contact and meetings, including additional meetings, is as follows:	[specify a consistent meeting day/time, about one hour, twice per month]
2. Communicate frequently. If we need to reschedule a meeting, or if one partner is unresponsive, we will:	[note how and when partners will communicate about rescheduling or issues]
3. Maintain confidentiality of our relationship. Confidentiality for us means:	
4. Honor the ground rules we have developed for the relationship. Our ground rules are:	
5. Provide regular feedback to each other and evaluate progress. We will accomplish this by:	



Relationship Building

Use one or more of these activities to get to know one another and develop your relationship during Phase 1 of the mentoring cycle. Use the space below to record notes as is helpful. You do not need to complete all of these activities.

1A - First Meeting: Cultural Empathy Map

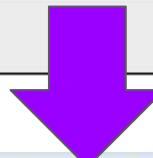
You can use this "Cultural Empathy Map" as an Icebreaker during your first meeting and even revisit it throughout your relationship as each of these is most likely to change over time.

	Mentee	Mentor
What are you reading lately?		
What are you listening to?		
What are you watching lately?		
Is there anything happening with your family or friends you'd like to share?		

1B - Goals and Values

The following are a set of recommended icebreakers and relationship building questions. Feel free to answer just one or two at a time and address them throughout the program year. Recording notes is optional but recommended.

	Mentee	Mentor
What are some personal goals for the year?		
What are some professional goals for the year?		
What's a memory in your educational career that brings you joy?		
Describe your career vision. What led you to that vision?		
What do you value most?		
What is your purpose? Why do you teach?		



Mentoring Cycle #1

Goal Related to Standard 5. Classroom Practice	
Area of Emphasis	CS Teacher Standards Indicator
Focused exit slips	5a. Use inquiry to facilitate student learning
Specific Goal: How will you measure whether this goal is achieved? Implement exit slips in at least two lessons per week, with 1-2 short questions targeting student understanding of the focal concept from that lesson.	Timeline: When will you achieve this goal? Between the beginning of November and middle of December, I will implement two exit slips or more per week, at the end of lessons when I introduce or reinforce new concepts.
Ideas/Plans for Achieving Goal	Resources
-- Exit slip once a week -- Using an exit slip via google form for SEL check as well as formative assessment progress/engagement -- Can use form data over time to show individual growth/point of pride or celebration of learning or review -- Examples are Tracing Robot or a chunk of code	-- K-12 CS ed assessment item repository
Reflection & Lessons Learned (Complete after mentorship cycle)	

Phases 1-2: Preparing & Negotiating	1st October Meeting Notes (Orientation)
	Focus / Feedback Wanted -- Start getting to know each other -- Start partnership agreement
	Mentee Tasks -- Complete self-reflection: St5 , St4 , St2 -- Complete consent form and pre-survey
	Mentor Tasks -- Schedule 1:1 meetings for the rest of the semester

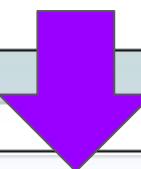
Mentoring Cycle #2

Goal Related to Standard 4. Instructional Design

Area of Emphasis	CS Teacher Standards Indicator
Design lesson to provide multiple means of expression.	4c. Design inclusive learning experiences
Specific Goal:	Timeline:
Use the UDL (Universal Design For Learning) framework to design three or more lessons using the Engagement, Representation, & Action/Expression Guidelines.	2nd Jan mtg - plan lesson 1 1st Feb mtg - debrief lesson 1, plan lesson 2 2nd Feb mtg - debrief lesson 2, plan lesson 3 1st Mar mtg - debrief lesson 3, retrospective
Ideas/Plans for Achieving Goal	Resources
Review UDL resources and identify 1+ focus before next mtg 2nd Jan mtg - explore UDL4CS interactive table, plan lesson 1 1st Feb mtg - debrief lesson 1, plan lesson 2 2nd Feb mtg - debrief lesson 2, plan lesson 3 1st Mar mtg - debrief lesson 3, retrospective	UDL4CS Interactive Table UDL Universal Design For Learning Improving Accessibility using UDL (article)
Reflection & Lessons Learned (Complete after mentorship cycle)	

1st January Meeting Notes

Focus / Feedback Wanted	Notes
-- Catch up from winter break, and continue getting to know each other -- Discuss adjustments to make in mentoring partnership in the second semester -- Set specific goal related to standard 4 (record in the table at the top of this sheet)	
Mentee Tasks	Mentor Tasks



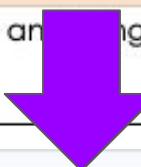
Mentoring Cycle #3

Goal Related to Standard 2. Equity & Inclusion

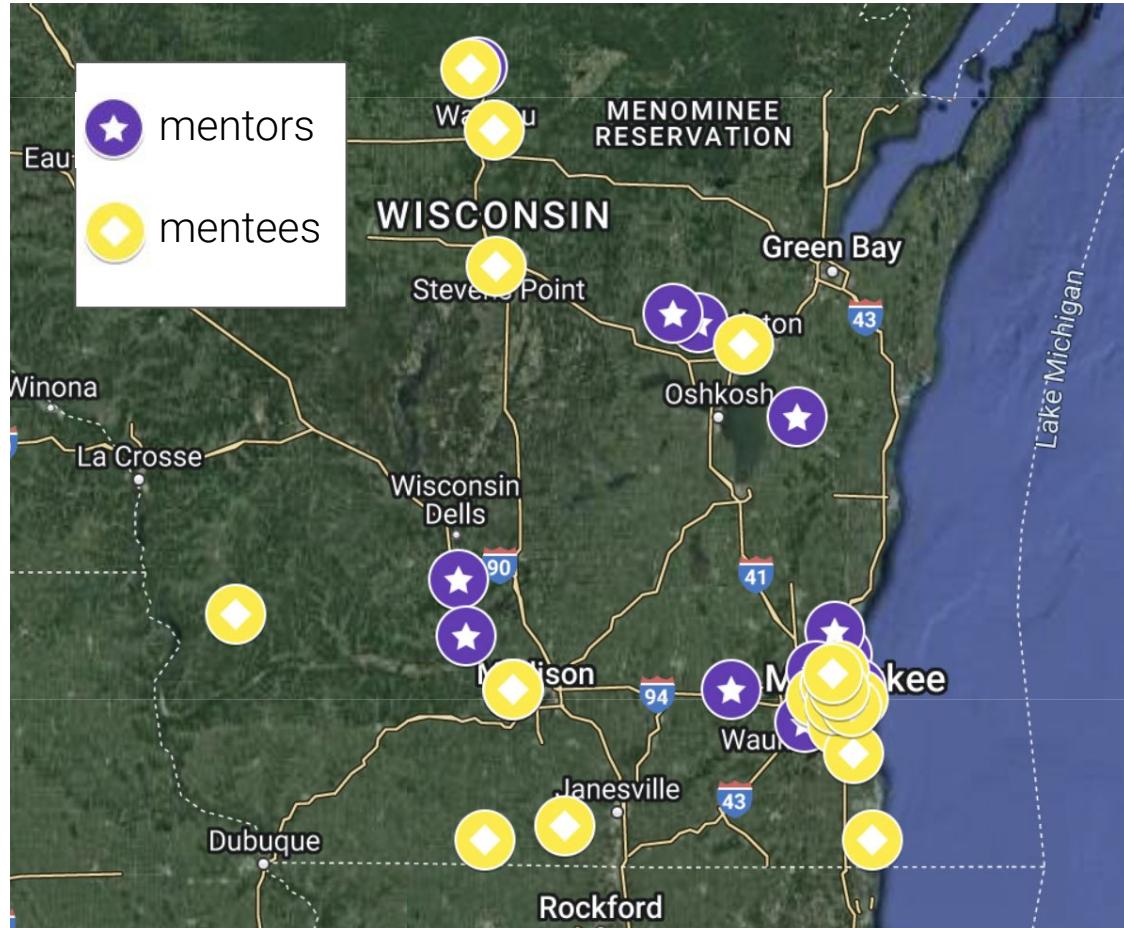
Area of Emphasis	CS Teacher Standards Indicator
Diverse representation	2c. Incorporate diverse perspectives and experiences of individuals from marginalized groups in curricular materials and instruction.
Specific Goal: How will you measure success?	Timeline: When will you achieve this goal?
Increase the diverse representation of Black, Indigenous, and Latinx people in my CS curricula by adding career connections videos or activities once per week.	Implement once per week through the end of the mentoring cycle (May). Check in during each mentoring meeting to reflect on successes and challenges.
Ideas/Plans for Achieving Goal	Resources
Incorporate within Friday Do Now activity each week: Explore CS career connections using videos or other resources featuring Black, Indigenous, Latinx, and other people of color.	CS Heroes > Class Opener Activities Code.org: Careers with CS > Viewing guide and reflection worksheet
Reflection & Lessons Learned	(Complete after mentorship cycle)

2nd March Meeting Notes

Focus / Feedback Wanted	Notes
-- Catch up from spring break; continue getting to know each other -- Discuss any adjustments to make in mentoring partnership for the last stretch of the year -- Set specific goal related to standard 2 (record in the table at the top of this sheet) -- Begin action plan for achieving goal	-- We discussed different approaches to adding in career connections and previewed some options together. Will start incorporating next week, and we'll debrief at our next meeting. -- We need to adjust next month's meeting times due to school testing.
Mentee Tasks	Mentor Tasks
-- Ask small group of students for feedback on career connection options. -- Implement career connections next Friday, and bring reflections to our next meeting.	-- Implement CS connection in one class next week, and bring reflections to our next mtg. -- Reschedule next two meetings.



Mentor Training & Community of Practice



- Develop and practice **mentoring skills**, and plan supports
- Reflect on progress, build community, and share **promising practices**
- Apply learnings from **equity & inclusion** book club and discussions



What Makes This Program Different

- Structured mentoring
 - Three cycles focused on one goal each
- Focus on pedagogy, over content
- Explicit focus on equity and inclusion
- Part of a broader community



Our Mentoring Stories



Questions?



I'M GONNA ASK HER A COUPLE OF QUESTIONS.



Applying to Your Chapter...



You can't probably do all of this.

What might make sense?

What is a lighter-lift mentoring program?

What could you adapt?



Planning for Mentoring in Your Chapter

- Use similar application & selection process (assets-based)
- Leverage existing relationships for mentor/mentee matching
- Video orientation for mentors/mentees
- Invest in phases 1-2 (preparation / negotiation): get to know each other, establish boundaries and modes of communication
- Goal setting: tie into structure used in your districts; focus on 1-3 goals for the year
- Celebrate successes and growth often!
- Create community beyond mentor/mentee pairs: hold meetups at CSTA events



Potential Structures & Resources to Use / Adapt

Structures

- Application & selection
- Matching mentors & mentees
- Initial mentor training
- Virtual onboarding with everyone
- Bimonthly 1:1 mentoring sessions
- Regular community of practice
- Close-out + end-of-year celebration

Resources (MENTORS Toolkit)

- Self-reflection
- Relationship building
- Partnership agreement
- Goal setting templates and example goals
- Mentoring meeting logs



Ideas for Simplifying & Adapting

- Identify professional learning priorities / goals as a group activity, then create small groupings or partnerships based on similar priorities
- Focus on a smaller number of goals (1-2 per year?)
- Meet less regularly (monthly? quarterly?)
- Integrate with other events, like CSTA chapter meetings (e.g., mentor partners meet at the end)
- Identify partnerships based on existing relationships and roles
- Support fewer partnerships



Ideas? Other Experiences/Resources?



In breakouts, discuss ideas for mentoring programs in your chapter:

- What experience do you have?
- What would you want to use?
- What could you adapt?
- What other resources are there?





Learn more:
[**csteachers.org/mentors**](http://csteachers.org/mentors)

Contact us:
mentors@csteachers.org





Thank You

csteachers.org/mentors

