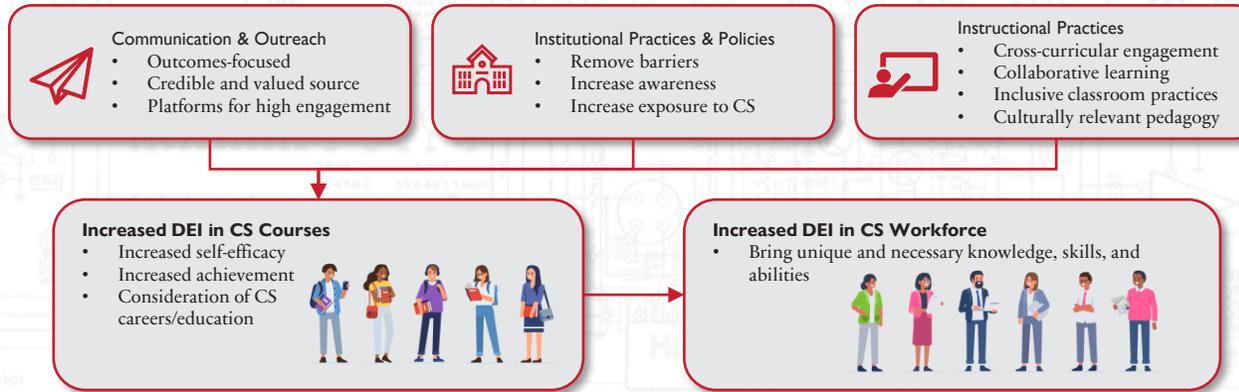


Methodology

The RPP mechanism affords educational partners an avenue to explore best practices and strategies as presented in academic and practitioner published research. It also provides the opportunity to share actual practices being used in the field around these same issues.



Through conversations with teachers, administrators, guidance counselors, and other stakeholders, combined with insights gleaned from RPP meetings, semi-structured interviews, and an inventory of internal online forums, we have compiled past experiences, current practices, and future plans into a three-tiered approach to recruit and retain diverse students in CSE.



Background

Inequities in computer science education (CSE) are profound and widespread. Increasing diversity, equity, and inclusion (DEI) in CSE ensures that:

- ✦ Industries benefit from diverse perspectives
- ✦ Progress is made in addressing social justice issues
- ✦ CS workforce will see greater diversity & representation

Given the importance of proactive and intentional recruitment of historically underrepresented students to CSE, we have leveraged our work within a researcher-practitioner partnership (RPP) to explore recruitment strategies that are both being used and/or have been shown to be productive in practice.

Communication & Outreach

Area	Key Ideas	Practices
Effective Communication	Know your Community, Audience	<ul style="list-style-type: none"> ♥ Meet audience where they are ✦ Communicate based on their needs, experiences, predispositions, goals, and values ✓ Effective communication is relevant, timely, trusted, and actionable ♥ Tell your audience why they should care about the topic and what they can do
Design for Information	Use the Right Tools	<ul style="list-style-type: none"> ✦ Create properly "packaged" messages ✦ Use emotional appeals, fact sheets, or other information as needed ➔ Use a source and channel that will reach and engage most of your audience ✦ Consider sending personalized letters home or hand-delivering flyers
Interaction		
Tailoring Communication & Messages	Audience Analysis	<ul style="list-style-type: none"> ✦ Assess audience knowledge, beliefs, and expectations for CS learning ✦ Focus on what outcomes are valued by the audience
	Audience Segmentation	<ul style="list-style-type: none"> ✦ Segment your audience based on their roles and results of audience analysis ✦ Create communications tailored to each partition of the audience ☐ Consider what forms of media each group interact with and what they respond to

Institutional Practices & Policies

Area	Practices
Access, Prerequisites, & Sequencing	<ul style="list-style-type: none"> ✦ Begin recruiting 8th graders to high school CS through course planning ✦ Purposefully reexamine the necessity of exiting pre-requisites ✦ Ensure that course sequencing allows options for student choice and no "dead ends"
Status & Branding of CS Courses	<ul style="list-style-type: none"> ✓ Place CS courses in course scheduling systems/catalogs in an easy-to-find place ➔ Consider renaming CS courses to accurately reflect content and recruit students ✦ Leverage connections with guidance counselors to make students aware of what CS is, and what it isn't
CS Curriculum & Pathways	<ul style="list-style-type: none"> ✦ Provide spaces for MS and HS teachers to collaborate on creating a continuous CS pathway to retain students ☐ Design course pathways that include wide-reaching, varied entry points to CS ➔ Mindfully articulate curriculum across courses to avoid repeated material while preparing students to progress along course sequences
Student & Parent Engagement	<ul style="list-style-type: none"> ✦ Grow community culture and beliefs around CS through outreach events ✦ Create accessible, inviting spaces for parents to learn about CS and its possibilities ! Support after-school clubs and organizations to build excitement ♥ Establish and maintain partnerships with neighboring districts, higher-education, and industry

Instructional Practices

Area	Practices
Recruit from Inside & Outside the Classroom	<ul style="list-style-type: none"> ✦ Utilize unplugged activities to cultivate a computational thinking mindset ✦ Incorporate CS concepts outside the classroom to reach larger audience (clubs, events) ✦ Engage students in collaborative work such as pair programming
Cross-Curricular, Project-Based Coursework	<ul style="list-style-type: none"> ♥ Work with teachers to bring CS into classrooms in other subject areas ✦ Allow students the space to bring their own interests to their work in CS ✦ Utilize culturally—responsive pedagogies and tools to reach and retain typically underrepresented students

How can you "program" your partner to paint or draw a specific image?

Art



How can we code and decode messages? (symbolism, favorite quotes, etc.)

English

How could Napoleon use graph algorithms to optimize conquering Europe?

History

How can we code a repetitive song on paper? Is sheet music just code?

Music