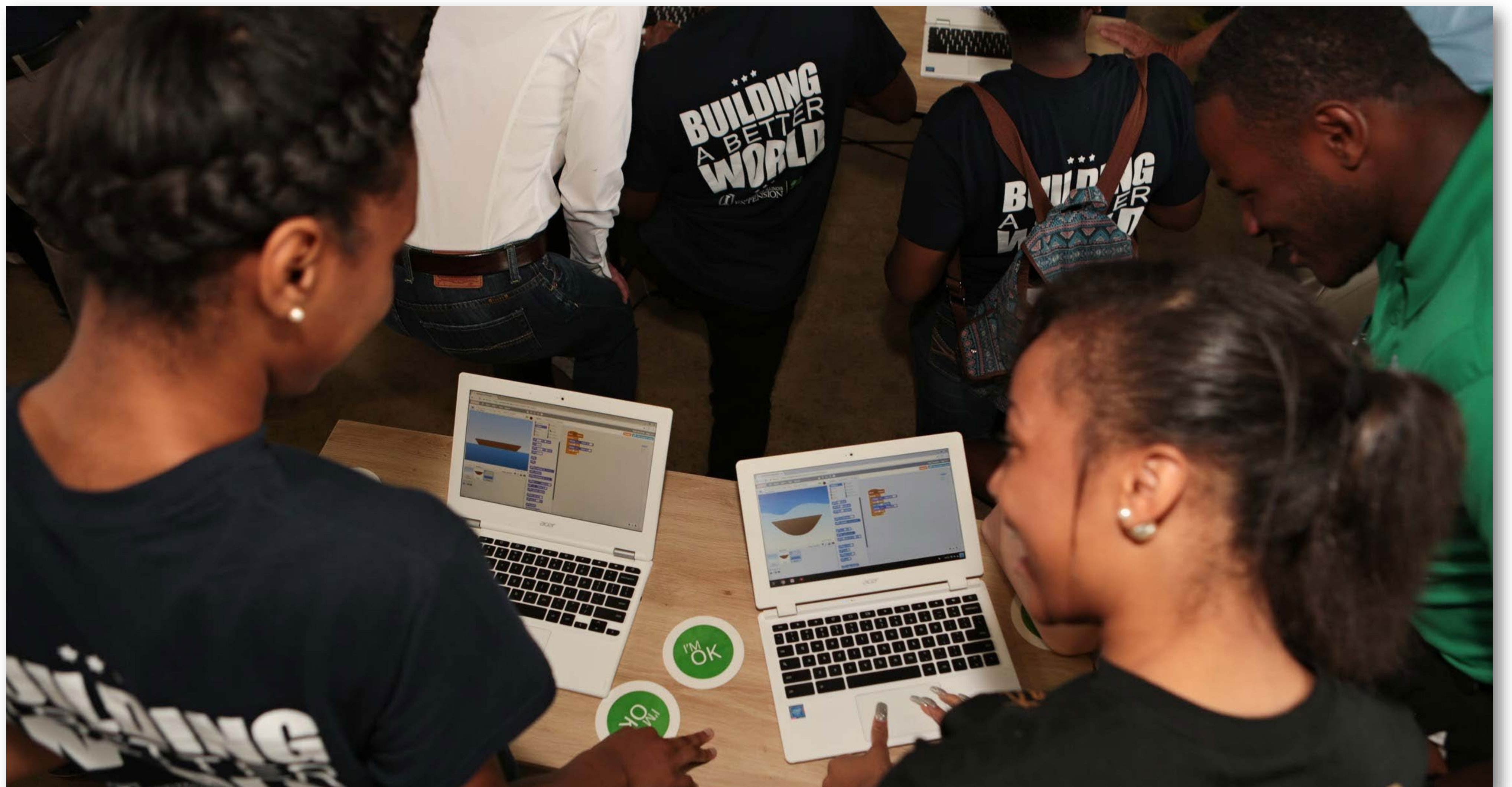
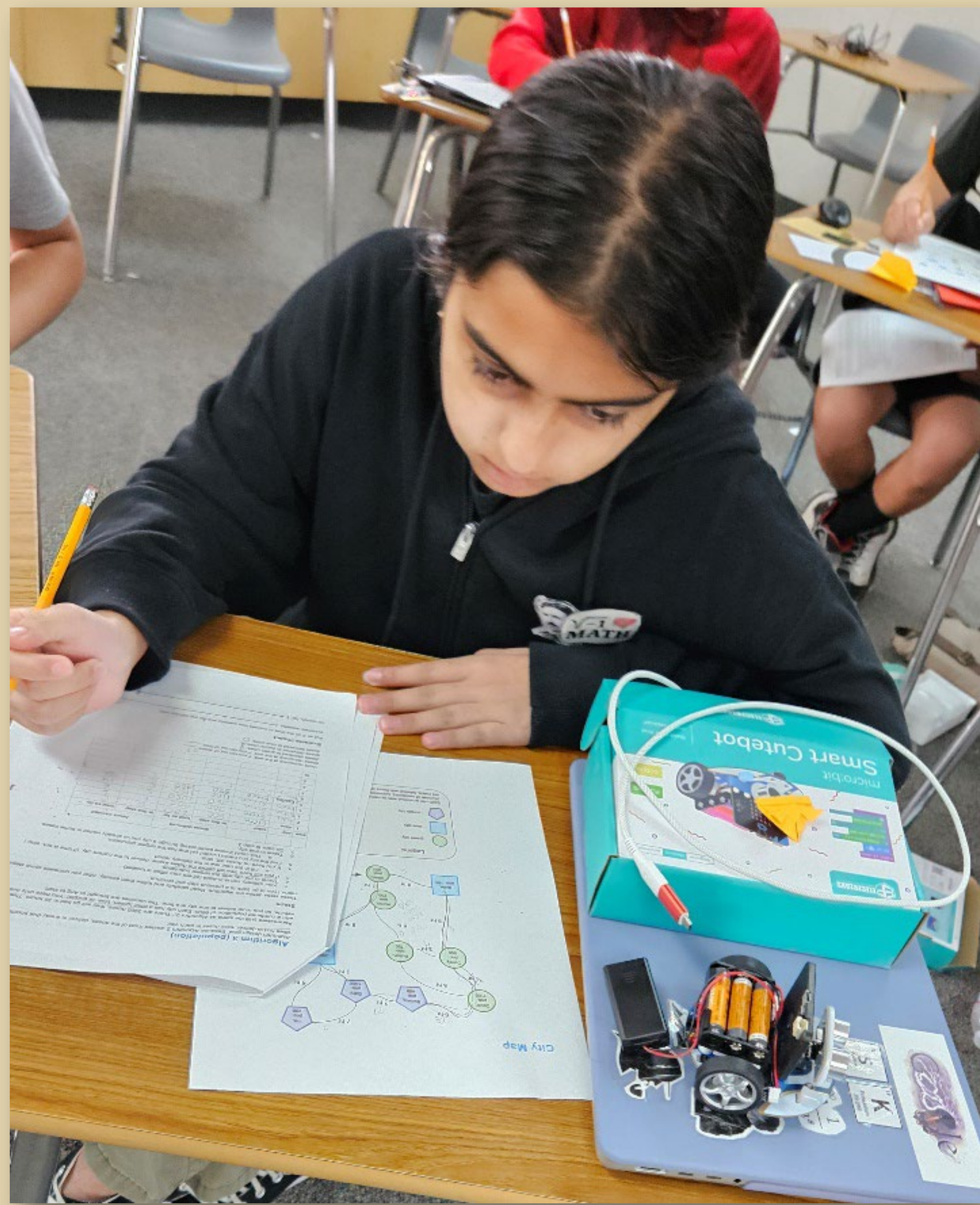


iCode Curriculum

Computer science education and ethnic-racial identity exploration using social justice youth development (*Identity-Code*)



Background

The computer science workforce is 79% male and 83% white or Asian. Black, Latina and Native American women represent just 4% of all technology workers.

Opportunities for youth to participate in computer science education is limited, particularly for youth in lower-income households, who are Black or Latinx, or who live in rural areas.

We developed iCode to integrate practices designed to engage racially and ethnically diverse adolescent youth in computer science education, during the out-of-school time context, emphasizing culturally responsive practices and social justice.

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Culturally Relevant Pedagogy

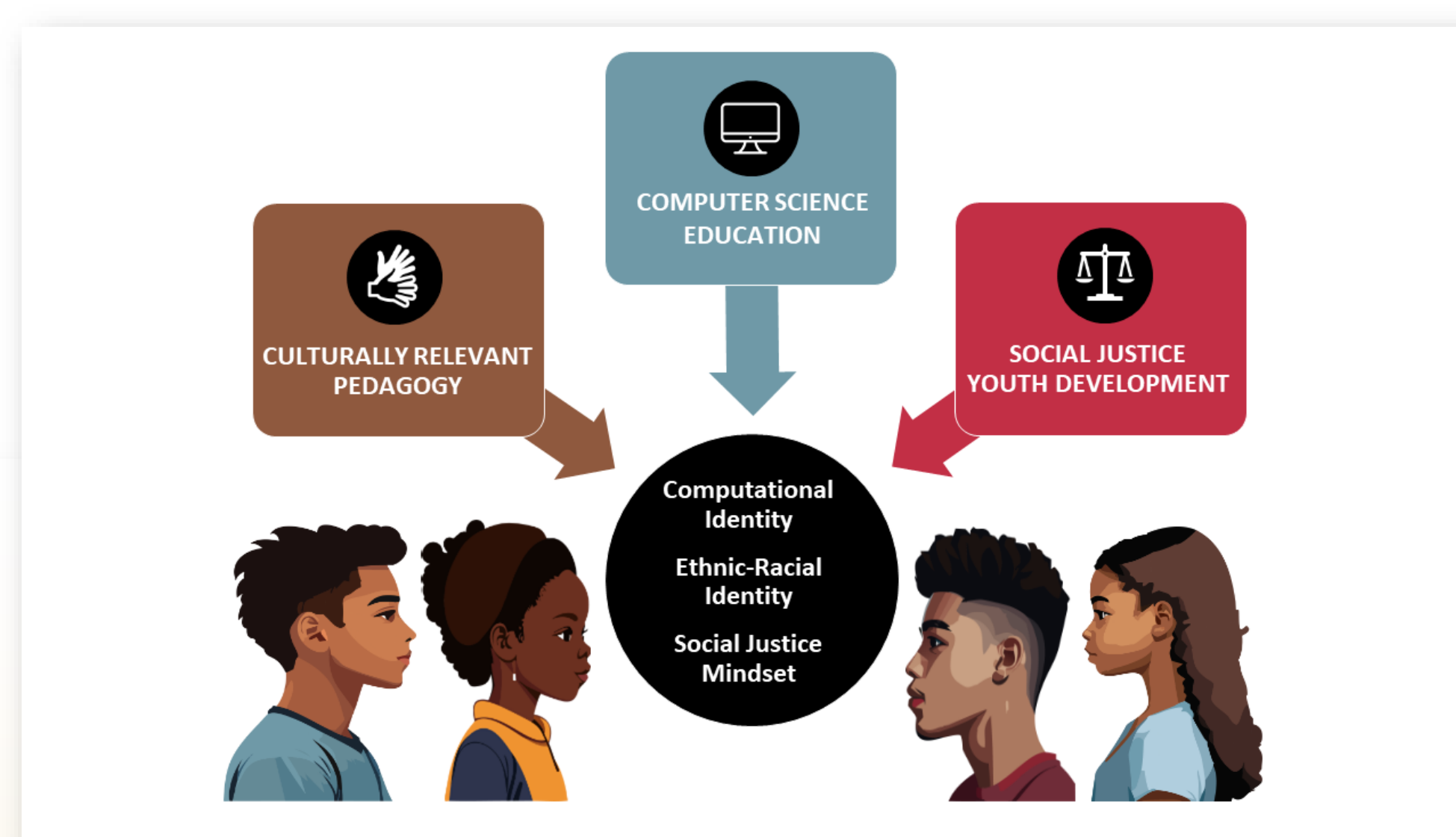
- Recognizes, honors, and celebrates cultural identities and helps young people feel valued and respected.
- Helps young people to become aware of and learn about their cultural and racial identities.

Social Justice Youth Development

- Encourages young people to explore their diverse identities and get involved in community activism, addressing issues like racism, sexism, and economic inequality.
- Encourages adolescents to see things from diverse viewpoints, challenge unfairness, and take action to address inequities.

Computer Science Education

- See computer science education as a form of artistic identity expression to help youth explore and share their ethnic-racial identity and cultural backgrounds.
- Uses a combination of unplugged group activities, block coding, HTML/CSS/JavaScript, Unity, TunePad, and microcontroller projects to empower youth to tell their stories and address social injustices.



Integration of cultural relevant pedagogy, computer science education, and social justice youth development to strengthen young people's computational identity, ethnic-racial identity, and social justice mindset. Figure by Janet Kratzel.

Worker, S., Moncloa, F., & Mitchell-Hawkins, V. (2024). Integrating computer science education and ethnic-racial identity exploration within a social justice youth development framework. *Journal of Youth Development*, 19(3).

iCode Curriculum



**Ethnic-Racial
Identity Exploration
through Computer
Science Education**

Curriculum

- 14 lessons (30 hours)
- Designed to enhance young people's:
 - computational thinking and identity
 - ethnic-racial identity
 - social justice mindset
- By integrating culturally relevant experiences and experiential learning, lessons improve motivation and aspirations for ongoing computer science education.
- The lessons also encourage exploration, discourse, and reflection to foster a positive ethnic-racial identity.
- iCode incorporates computational thinking concepts through unplugged activities, block-based coding (Scratch), and BBC micro:bit microcontroller design.
- iCode is designed for delivery in day camps or afterschool programs taught by professionals, volunteer educators, or CS industry mentors.

