COMPUTER SCIENCE EDUCATION & EQUITY

2017–18

In Washington State, the workforce gap in computer science is greater than the workforce gap in all other fields combined.

Meanwhile, the U.S. Bureau of Labor Statistics projects that computer occupations will represent 71% of all job growth in STEM fields and 57% of all available jobs for the next decade. Although computer science is an established discipline at the college level, integration of computer science concepts into K–12 curriculum has not kept pace with industry changes. Students need an introduction to CS concepts, starting in elementary and middle school, to prepare them for rigorous computer science study in high school and beyond.

CS Education & Equity

- *Gender and racial equity in computer science education*
- *National leadership in computer science education and computational thinking*

PROGRAM DESCRIPTION

This initiative aims to develop a District pathway for computer science with an emphasis on the inclusion of at-risk or underrepresented groups, including girls, minorities, low-income students, and special needs children. It integrates computer science and computational thinking lessons into core curriculum, and expands secondary computer science electives. Goals include:

- Increase computer science and computational thinking awareness, enthusiasm, and proficiency for students, particularly for girls, low-income students, underrepresented minorities, English language learners, and children with special needs.
- Develop curriculum and instructional materials that integrate computer science/computational thinking into other content areas (such as core curriculum in language arts, math, science, social studies, and visual arts). Limiting computer science to elective classes doesn't provide equitable access.
- Develop teachers' capacity to provide computer science instruction during the regular school day that capitalizes on students' early interest and experiences, provides students, especially underrepresented students, with experiences that engage them in computer science, and aligns with Washington/CSTA standards. Provide open-source access to curriculum and professional development materials resulting from this project to educators and schools.

MEASURABLE OUTCOMES

Key metrics for the Computer Science Initiative that will be used to measure outcomes include: percentage of district students completing coding lessons by grade 5; percentage of coding proficiency as measured by assessments at elementary and middle school; number of total students and number of underrepresented students (female and minority students) who enroll in computer science electives and AP Computer Science.

[1] Washington Student Achievement Council, State Board of Community and Technical Colleges, and Workforce Training and Education Board; *A Skilled and Educated Workforce*.

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