

# *Computer Science Education Grant*

## **Statutory and/or Budget Language**

\$1,000,000 of the general fund—state appropriation for fiscal year 2024 and \$1,000,000 of the general fund—state appropriation for fiscal year 2025 are provided solely for the computer science and education grant program to support the following three purposes: Train and credential teachers in computer sciences; provide and upgrade technology needed to learn computer science; and, for computer science frontiers grants to introduce students to and engage them in computer science. The office of the superintendent of public instruction must use the computer science learning standards adopted pursuant to chapter 3, Laws of 2015 (computer science) in implementing the grant, to the extent possible. Additionally, grants provided for the purpose of introducing students to computer science are intended to support innovative ways to introduce and engage students from historically underrepresented groups, including girls, low-income students, and minority students, to computer science and to inspire them to enter computer science careers. The office of the superintendent of public instruction may award up to \$500,000 each year, without a matching requirement, to districts with greater than fifty percent of students eligible for free and reduced-price meals. All other awards must be equally matched by private sources for the program, including gifts, grants, or endowments.

## **Purpose**

The Computer Science (CS) Education grant supports the following three purposes: train and credential teachers in computer science; provide and upgrade technology needed to learn computer science; and to introduce students – particularly girls, low-income, and minority students – to and engage them in computer science.

## **Description of Services Provided**

Grant recipients have many options for utilizing funding to support CS education in their schools. Common uses include teacher training and professional development, technology purchases and upgrades, curriculum purchases and training, and district-level coordination through a training offered by the Educational Service District (ESD) CS leads to develop implementation plans for CS in their schools.

## **Criteria for Receiving Services and/or Grants**

Districts, schools, skill centers, state-tribal educational compact schools (STECs), and Educational Service Districts (ESDs) that demonstrate readiness as well as non-profit organizations or higher education institutions in partnership with a district, STEC, school, or ESD may apply for the grant.

Funds for the CS Education grant may be expended only to the extent that they are equally matched by private sources for the program, including gifts, grants, or endowments. OSPI may



award up to \$500,000 to districts/STECs with greater than 50% of their student population qualifying for free- and reduced-price meals without a private match.

Engagement of underserved student populations is emphasized. Underserved student populations include economically disadvantaged students, students from major racial and ethnic groups, students with disabilities, students with limited English proficiency (the federal term), girls, and students in alternative education.

### Beneficiaries in the 2023-24 School Year

Student and educator counts are innately approximate given the amount of outreach performed by the grant recipients in the "Other" category. The Association of Educational Service Districts (AESD) in particular supports schools and districts statewide, making exact counts difficult to calculate.

<b>Number of School Districts</b>	95 direct grant beneficiaries*; ~200+ total
<b>Number of Schools</b>	122 direct grant beneficiaries*; ~2000+ total
<b>Number of Students</b>	~110,000+ total
<b>Number of Educators</b>	~6454+ total
<b>Other</b>	AESD; AVID Center; ESDs 105, 112, 113, and 121; West Sound STEM Network

\* Includes counts from organizations in direct partnership with schools and districts (AVID Center and West Sound STEM Network)

### Are Federal or Other Funds Contingent on State Funding?

No

### State Funding History

Fiscal Year	Amount Funded	Actual Expenditures
2024	\$1,000,000	\$985,756
2023	\$1,000,000	\$948,944
2022	\$1,000,000	\$955,158
2021	\$1,000,000	\$995,568
2020	\$1,000,000	\$999,667

### Number of Beneficiaries Per Fiscal Year (e.g. School Districts, Schools, Students, Educators, Other)

The AESD receives funding through the grant each year. Specific ESDs sometimes receive additional funding that provide CS education support to multiple schools and districts. The total number of beneficiaries is therefore far more than what is listed below.

Fiscal Year	Number of Beneficiaries
2024	Districts: 95, Schools: 122
2023	Districts: 110, Schools: 80
2022	Districts: 37, Schools: 45
2021	Districts: 55, Schools: 220
2020	Districts: 50, Schools: 200

## Programmatic Changes Since Inception (If Any)

N/A

## Program Evaluation or Evaluation of Major Findings

The Computer Science Education grant is the primary means through which public CS education access start-up funding or enhanced support. The percentage of schools serving grades 9–12 as well as 6–8 as outlined in [OSPI's 2022-23 dataset](#) with CS enrollment has slowly but steadily increased over the years, in large part due to the CS Education grant. While an upward trend is commendable, the gradual pace with which more districts and schools are providing quality CS education is reflective of the high need for support relative to the amount of funding available. Small and rural schools in particular struggle the most in implementing CS.

CS education funding being distributed through grants presents some equity concerns as well. The schools that need the most support may not have staff available to write grant applications. In some cases, a lone, passionate CS teacher will write an application to bolster what little is presently available at their school, or a staff member in a given region will apply on behalf of multiple neighboring districts.

Overall, the CS Education grant program has been a great success. Many local education agencies would not have CS as an option for students without the program, though additional start-up and expansion is still limited due to funding limitation.

## Major Challenges Faced by the Program

**National Context:** Considering this grant program dedicating \$1,000,000 per year, and the AP CS grant allotting a relatively smaller \$62,000 per year, Washington has dedicated roughly \$10,000,000 total to CS education in grant funding since 2016. According to [data gathered by Code.org \(see Funding tab\)](#), 11 states do not have any funding dedicated to CS while 12 states among the remaining 38 have allocated more funding than Washington over the years.

In terms of percentage of high schools with CS enrollment per state, Washington is ranked 39 out of 50 (see [Code.org's 2023 State of CS report, page 52](#)); the national average is 57.5% while Washington remains around 50%, despite [RCW 28A.230.300](#) effectively stating that all high schools in Washington must offer a computer science elective.

This is not necessarily due to a lack of effort on the remaining half of high schools. Local education agencies face many different challenges in implementing CS, such as:

- student interest and stereotypes of “who should study CS”
- teacher qualification, capacity, and retention
- community outreach and industry connection
- administrative approval
- counselor awareness of CS pathways
- technological insufficiencies and
- general understanding of what CS is and why students should learn it.

**Obstacles in Training Teachers:** Teachers of computer science often teach CS as one of multiple subjects. Not all schools have the capacity to hire a full-time CS teacher, and there is a shortage of such teachers statewide. To increase availability of CS coursework at schools, existing math, science, or other content teachers typically undergo professional development to learn CS fundamentals, in many cases as their first foray into CS curriculum. Gaining familiarity with CS, gaining the confidence to teach it (a non-trivial hurdle for many folks), and fitting CS into an often already packed schedule are common challenges for using the grant funds for teacher training.

**Meeting Student Need for Technology Access:** Some grant recipients reported having great success with the hardware and software purchases made, but also found the amount attained insufficient to support their student body. Curriculum access (which are often yearly subscriptions), software purchases (which sometimes require licensing fees), and hardware upgrades (which proportionally scale budgeting significantly to meet the needs of all students) are common uses of the grant that are often only partially addressed with the available funding.

## Future Opportunities

**Biennial Funding Model:** The CS Education grant has been offered under three different grant types: Planning (year 1), Implementation (years 2-4, roughly), and Sustainability (year 5, for relatively smaller requests). These grant types provide a rough guideline for applicants to follow in using the grant to implement CS coursework at their schools. The grant has been offered on an annual basis, allocating funding for one school year per recipient. Yearly awarding is sufficient for Planning and Sustainability grants, but Implementation grants, which comprise most of the applications, would greatly benefit from having a guaranteed additional year of funding by moving to a biennial model. For costs such as curriculum/software subscriptions, novel approaches to designing CS pathways, and other projects that naturally involve some sort of trial year, ensuring some amount of funding will be allocated in the subsequent year would allow more flexibility for districts to home in on student, educator, and hardware needs.

**Communication with Local Education Agencies:** Given the many different applicant types as well as grant types, communication about what the CS Education grant may be used for, who is

eligible, how to apply, and other logistical information has been a challenge to communicate statewide. OSPI will consider how to not only reach a wider audience to raise awareness of the grant next year, but also present information about the grant that is accessible, concise, and easier for potential applicants to process.

## Other Relevant Information

OSPI publishes a dataset annually on CS education data. By nature of how information is reported by schools and districts, the statewide data published each year is from the previous school year, e.g. the 2024 dataset has information up through the 2022–23 school year. There is very little data available for grades K–5, but grades 6–12 were included in this year’s report along with re-collected data over the last five years to observe accurate trends over time.

The following data points illustrate the state of CS education in Washington as of the 2022–23 school year:

### Schools

- 44.2% of schools serving students in grade 6 or higher had students enrolled in at least one CS course. This percentage has increased slowly but steadily by about 2% each year over the last five years.
- 35% of small high schools (n<500) had students enrolled in at least one CS course based on, compared to 75% of medium and 95% of large high schools (n>1200). This demonstrates a need for supporting small schools in implementing CS coursework.
  - This data point comes from Code.org’s 2023 State of CS report which included school size as a dimension and only included high schools (grades 9–12).

### Students

- 9.9% of the approximately 600,000 total student population in grades 6–12 were enrolled in at least one CS course.
- 68.4% of students participating in CS coursework identified as male, which is consistent with overall trends in the gender gap in technology that continues to lack non-male representation.
- 46.2% of students participating in CS coursework identified as white, 24.9% as Hispanic/Latino, 13.7% as Asian, and the remaining ethnicities otherwise below 9%. This is comparable to overall student demographics, though Asian students are relatively more represented in CS coursework than other groups.
- 46.4% of students participating in CS coursework were low-income and 11.4% were students with disabilities. Both percentages are about 3% lower than their respective percentages for the overall student population.

### Teachers

- 88.3% of CS educators identified as white and 64.3% identified as male. OSPI's Report card shows that 85.5% of all teachers in 2022–23 identified as white and 74.2% identified as female. Since the Report Card includes all teachers, not just those teaching grades 6–12, the percentages are not truly comparable. However, the gender percentages are still telling of a significantly male-represented teacher population in CS.
- 79.1% of CS educators were in in-field status teaching CS, showing a need for professional development among CS educators.
- 94.8% of CS educators held a limited or full Career and Technical Education (CTE) certificate (about 50/50 split between the two), illustrating the general trend of CS being taught through CTE.

## Schools/Districts Receiving Assistance

[Click here to see a list of all OSPI grant recipients in the 2024 Fiscal Year.](#)

## Program Contact Information

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