



Monday, May 8, 2017

Testimony in favor of House Bill 170

Thank you Chair Brenner, Vice-Chair Slaby, Ranking Member Fedor and members of the committee.

My name is Aimee Kennedy and I am the Senior Vice President of STEM Education and Philanthropy for Battelle Memorial Institute. I am here to testify in support of House Bill 170.

You've heard today from other proponents about the importance of computer science to Ohio's competitiveness. I am glad to add my voice to those today and echo that strong computer science education would make our state stronger.

We see the importance of computer science at Battelle. As the world's largest independent, not for profit science, research, and discovery organization, we are keenly aware of the need for more people with skills in computer science. Cybersecurity is one our fastest growing business areas and we manage the Oak Ridge National Lab where the world's 3rd fastest supercomputer sits.

In 2016, we were proud to add computer science to our STEM education portfolio. As Ohio's designated Professional Learning Partner for the national organization Code.org, we were excited to train and certify teachers to teach computer science to students here in Ohio.

We know that computer science is about more than "computers." From English to robotics, practically every modern classroom includes computers.

Computer science provides the power to build. It's not about using an iPad, PC, or other device, it's about the language that runs technology.

Computer science is the ability to code, create algorithms, and analyze big data. It is a foundational skill for modern careers.

Moreover, computer science embodies one of the most important parts of great STEM education: The ability to create. The best kind of learning involves creating something. This semester, many of Ohio's STEM schools challenged students to brainstorm workable, real-world solutions to the opioid crisis that is plaguing our state.

Using skills learned in their computer science class, three students at the Metro Institute of Technology created a new pill dispenser that delivers limited medication on a set schedule. With this, they aimed to lowering patients risk of addiction.

Controlling the dispenser meant using their knowledge of computer science to build and program their prototype. Computer science also came in handy later when programming errors meant the device's motor melted its plastic housing. Then, just like engineers at Battelle, the team learned from their mistakes, rewrote the code, and created a better product.

This is the kind of real-world experience every student deserves. The chance to imagine, build, and learn from their mistakes.

Quality computer science education is particularly important for the students who are often left out. Computer science degrees provide access to in-demand jobs with excellent pay. Our state has 15,000 open computing jobs. The average salary for Ohio computing jobs is more than \$79,000 dollars.²

This is not to say that all students should forget their dreams and become computer scientists. Whatever their path, it is safe to say technology will play a major role. Computer science is critical for our children's future and that of our state. It's past time for every student to have the opportunity to learn this skill.

We've made progress, training dozens of teachers and bringing programs like eCybermission to our state. But Ohio is not there yet.

In Ohio, just 82 schools offer Advanced Placement computer science. That means fewer Ohio students enter college with credits toward a Computer Science degree. Only around 1,100 students here took the AP Computer Science exam and only 1,100 graduated from college in the field. In New York state, 3,700 high school students took the AP exam and 3,800 completed computer science degrees.

Ohio is behind, and not just in the number of students studying computer science.

Ohio does not have comprehensive (K-12) curriculum standards on computer science. Offering computer science is completely optional to schools. Classes students take don't count toward their diplomas.

Long-term progress on this problem will require investment. Recognizing the realities of this budget, it makes sense to prioritize policy changes that do not require direct funding. House Bill 170 offers several strong changes.

Requiring the state board to adopt K-12 computer science standards will advance the conversation on computer science in the state. We are also very supportive of changes to educator qualifications that broaden the pool of people who can teach this subject.

These are both positive reforms. I commend the bill's sponsors for raising this critical issue and urge you to consider this the start of a series of efforts to deliver quality computer science education to more Ohio students.

References

- 1) TOP500 Project supercomputer rankings <https://www.top500.org/lists/2016/11/highlights/>
- 2) Facts about Ohio from Code.org <https://code.org/advocacy/state-facts/OH.pdf>