

Baker Studies Schools' Computer Science Requirements

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OKLAHOMA CITY – Rep. Rhonda Baker, R-Yukon, the chair of the House Common Education Committee, on Tuesday held an interim study examining computer science education in state public K-12 schools.

"We have a huge job market that requires computer science skills, and we don't yet have enough people to fill these high-paying, competitive jobs," Baker said. "We want to make sure Oklahoma students are fully equipped to fill those positions should they decide these are the jobs for them."

Baker was the House author of Senate Bill 252 last session, which requires all public high schools to offer a minimum of one computer science course beginning in the 2024-25 school year. The bill also requires all public elementary and middle schools to offer instruction in computer science beginning that same school year.

Only about 37% of Oklahoma schools currently offer any courses in this subject area, Baker said.

Baker also authored House Bill 2752, which directs the State Department of Education to establish a program by the end of this month to allow a teacher candidate or teacher to earn micro-credentials in science, technology, engineering and mathematics (STEM) endorsement areas, including computer science. It directed SDE and the Commission for Educational Quality and Accountability to convene a working group to determine how a micro-credential will be used.

Bakers said there's a shortage of STEM and computer science teachers, and she's hopeful the legislation will help address that.

Tuesday's study was a way to follow up on the legislation that is now state law as well as to establish next steps in meeting Oklahoma's education and workforce needs.

Presenters outlined those steps, which should include increasing the number of educators teaching these courses and potentially adding computer science as a graduation requirement in the future. Aligning curriculum and textbooks is an added necessity.

Computer science includes coding, programming, robotics, cybersecurity, drone operation, software development and more.

Katie Hendrickson, director of Government Affairs for Code.org, told the group that computer science is foundational to many other career fields as well. These include marketing, health care, film and others. She and other presenters insisted it is critical for students to have more access to this coursework.

Levi Patrick, executive director of the Tulsa Regional STEM Alliance, said making sure teachers are prepared to teach these courses is another must. This will require more college coursework.

Renée Launey-Rodolf, director of the Oklahoma Office of Educational Quality and Accountability, explained that because there is no state requirement that computer science teachers be certified to teach these courses and because of limited demand, there are no higher education teacher preparation programs in the state. Fewer than two dozen educators passed the state computer science certification exam in the last two years. She said the last time the Oklahoma Academic Standards for computer science were updated was 2009.

Christine Koerner, executive director of STEM Education at the Oklahoma State Department of Education, detailed what is included in standards and gave an overview of how many schools offered computer science coursework last school year – 193 – how many teachers taught a computer science course – 394 – and how many students took a course – about 26,000.

She said the department currently is working to develop a computer science micro-credential course to match Baker's legislation passed this year. The OSDE also is working to help teachers integrate computer science into other coursework.

Scott and Tammy Parks, superintendent and teacher at Howe Public Schools, explained how they started focusing on computer science because of the resources they saw being poured into this area in Arkansas, which is only 10 miles from their district.

Tammy Parks said she's excited to see Oklahoma catching up to its eastern neighbor. She teaches several computer science courses in their small school district, but they also utilize online coursework taught by remote educators and search for every free resource they can find. These efforts have led students to pursue and flourish in STEM and computer science careers, she said.

This is about offering real opportunities to students and doing what is best for them and not being limited by a small size or by what others are or are not doing, Scott Parks said.

Tammy Parks also has trained more than 100 teachers and gives them continued support throughout the year.

Baker commended the Parks for taking the initiative in this area and asked their opinion on what legislators need to do right now to address this growing need.

Tammy Parks said showing districts that this can be done through programs that already exist is a good first step. But the state also needs to devote more funding to this area and offer more high-quality teacher preparation.

Erin Bell, innovative strategies coordinator with the Oklahoma Public School Resource Center (OPSRC), explained free resources the organization offers teachers and led the group of lawmakers in an elementary school level computer science coding activity. She said it comes down to passionate teachers supported by administrators who also are supported, combined with freedom to try something new that equals student success. She said computer science coursework helps students succeed in college but also in careers that don't require college degrees.

Brent Bushey, executive director with OPSRC, said the challenges presented Tuesday will require a mindset shift. He said no one ever says we lost a football game because of lack of funding, and yet we're quick to blame that in other areas. He said the Parks and others are proof that much can be accomplished with what is currently available.

Baker ended the study by saying lawmakers have to find a way to strengthen policies around computer science education without placing undue requirements on schools. She thanked the presenters for showing educators and lawmakers how this can be accomplished.