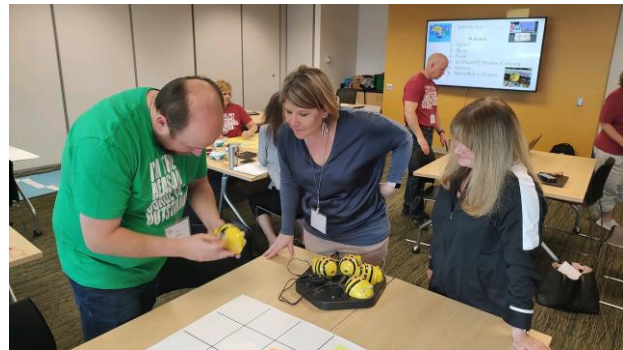![IASB Iowa Association of School Boards logo]

Osage Schools: Integrated Computer Science– Ensuring ALL Kids Are Future Ready

Why Focus on Computer Science?

"This is not going away."

That one simple realization was all it took for Osage Schools' Board of Directors to charge the district with finding a way to weave computer science throughout its entire curriculum. Computer science is not just using MS Word. Computer science is not just typing. The board saw how computer science linked their entire community, from precision farming to healthcare. In this way, students are working and thinking in the same way as the community that supports them.
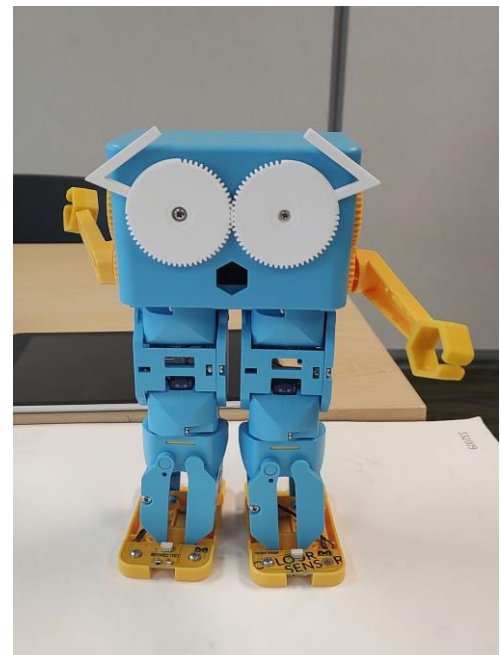

Summit attendees engage in hands-on learning using computer science projects from Osage Schools.

What goals was the Osage Schools' board striving to achieve for its students?

- Preparation for the future.
- STEM careers.
- Diversity.
- Fundamentals for success – soft skills.
- Growth mindset – fail forward.
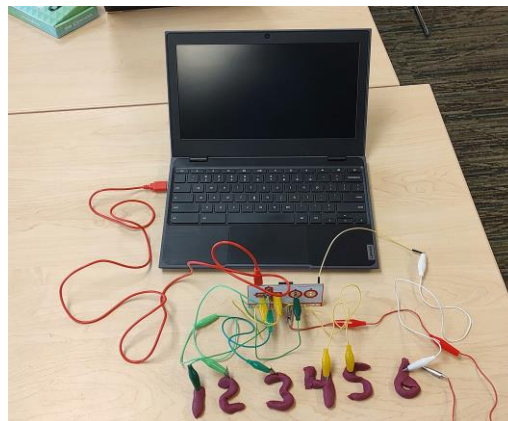
Onboarding Students & Staff

Teachers were encouraged to start with what they were already teaching and then look to how computer science could further engage students and enhance their learning, infusing the mindset throughout the entire curriculum. It's a conversation that starts at the elementary level. The integration of computer science begins in kindergarten. By third grade, students are using computer science to decompose problems into smaller manageable subproblems to facilitate the program development process. By middle

school, students are writing their own computer code, with exploratory computer science courses offered at each grade level. In high school, students have a variety of courses to choose from, including Intro & AP Computer Science, Web Design, Game Design 1 & 2, and Cybersecurity.

Throughout the process, staff have unearthed innumerable resources to use in their classrooms at little to no cost. Some of those resources include:

- Code.org
- Seesaw.me (premade computer science lessons)
- NewBoCo
- Pathfinders Institute
- STEM Scale-up
- Amazon Future Engineers

Exciting Outcomes

The district made discoveries along the way. Students started helping teachers find ways to use computer science in all subject areas. As one student stated, "My favorite thing about code is you can always make it what you want." Teachers discovered that coding provided a needed challenge for high flying students and opened a whole new world where resource students could excel.

The presentation by Osage Schools, like many at the summit, focused on how the success of the program was made possible by joining forces with community members who were willing to get on board to support student success. A sharing of resources, both software and hardware, has occurred between the district and its business partners. A focus on computer science has made the district eligible for local grants, and the community hosts a STEAM Festival to focus on student achievement in computer science.

Key Takeaways from the Board

First and foremost, do not think of computer science as 'one more thing.' This is the thing that ties it all together.

Find one person who is willing to start the process. Osage Schools Technology Instructional Coach Kelley Molitor has been instrumental in finding grants that almost entirely fund the district's computer science programs.

Encourage staff to make it systemic, take risks, and see the 'why.' Recognize that the integration of computer science is a journey, not a sprint.

Summit attendees engage in hands-on learning using computer science projects from Osage Schools.

Find community support. As Superintendent Barb Schwamman points out, "There's a synergy going on at Osage right now with business partnerships."

The board has also been encouraged by the professional development opportunities for teachers in computer science that allows teachers to travel across the country and learn from their peers. In fact, there are computer science professional development funds available through the state!

The best advice from the Osage Schools board: "Just do it!"

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