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# Coding to Learn

**Park City School District's K-5 coding program translates to better problem-solving & learning across all subjects.**



**Above** » McPolin Elementary 3rd graders work with Scratch Jr.  
**Below** » Trailside Elementary coding coach Mike Burton and a student use Scratch Jr. for an “animate your name” project.



**Engaged minds** » If you want to know if Park City School District's K-5 coding program is successful, just ask a student.

“Coding is my favorite subject,” says Aidan Baird, a fifth-grade student at Jeremy Ranch Elementary. “Learning to code is going to help me reach my goals. I want to go to MIT and work for Google,” he said.

PCSD's elementary coding curriculum is derived from online platforms, coding applications, and robotics. It teaches students visual block-based programming languages such as Scratch and Scratch Jr.

“Students are learning skills beyond coding,” says Trailside Elementary Coding Specialist Mike Burton. “They are learning persistence and problem-solving, and then using those skills in their other classes.”

By integrating coding into the K-12 curriculum, the district hopes to play an active role in addressing the growing demand within Utah for technology and computer science talent, says Superintendent Jill Gildea.

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The U.S. Bureau of Labor Statistics predicts that by 2020 there will be 1 million open programming jobs in the United States.

The district's vision is in alignment with Utah Computer Science Task Force's K-12 Framework and has students coding from kindergarten through high school. "This prepares them for success after high school as well as playing a role in driving more talent, including more women and minorities, into the local and national economy," says Superintendent Gildea.

The program was jump-started through a business partnership that provided a trainer to start the program. The program was additionally supported with a three-year commitment from the Efrusy Family Foundation to cover teacher costs (year 1), professional development (PD), and robotics to compliment the coding instruction. Additional donors help support PD and robotic elements.

The program was piloted in first grade in 2015 in three of the district's elementary schools. Today, the coding program is fully integrated districtwide in kindergarten through fifth grade. The program serves more than 1,600 children, is the only one of its kind in Utah. The cost of the program to the district is now \$402,000 which covers the costs of technology/coding



A fifth-grade coding class at Jeremy Ranch Elementary works on Scratch passion projects. These students are among the pilot cohort and have been in the program since first grade.

coaches at each of the four elementary schools. The Park City Education Foundation will provide \$156,000 in grant funding this year.

"The Efrusy Family Foundation was a key partner to this program," said Abby McNulty, executive director of the Park City Education Foundation. They love coding as a classroom tool, a fun and engaging way for student to learn to collaborate, create, think logically and sequentially."

**"Learning to code is going to help me reach my goals. I want to go to MIT and work for Google."**

— AIDAN BAIRD  
5TH GRADER

McNulty says they want students to have this access and to bring it into the early elementary years is ideal, in their mind, for capturing girls

and minorities. These two groups are proven to select out of computer science in the upper grades. The goal of introducing it early is make sure all students know this is something for them.

"Our students have evolved from learning to code, to now coding to learn," notes Jeremy Ranch Elementary School's Coding Specialist Crystal Giles. "Students are learning to decompose problems, look for patterns, think logically and sequentially and to create algorithms. They do this by communicating and collaborating with peers and thinking critically and finding creative solutions to problems and projects they are working on," said Giles.

The coding specialists are creating a group of thinkers and problem solvers for the future. "The program teaches students resilience," says Kim Quapp, tech coach at Parley's Park Elementary. "Since students are taught during coding time that problems will come up and that they will have to "debug it," they are able to identify problems, take a deep breath and solve them." Plus, they are learning to ask for help from their peers when they have a setback. "These are skills that, for adults, are sometimes difficult, and we're seeing our kindergarteners do it," Quapp says.

**Special thanks to Melinda Colton for sharing this story.**



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