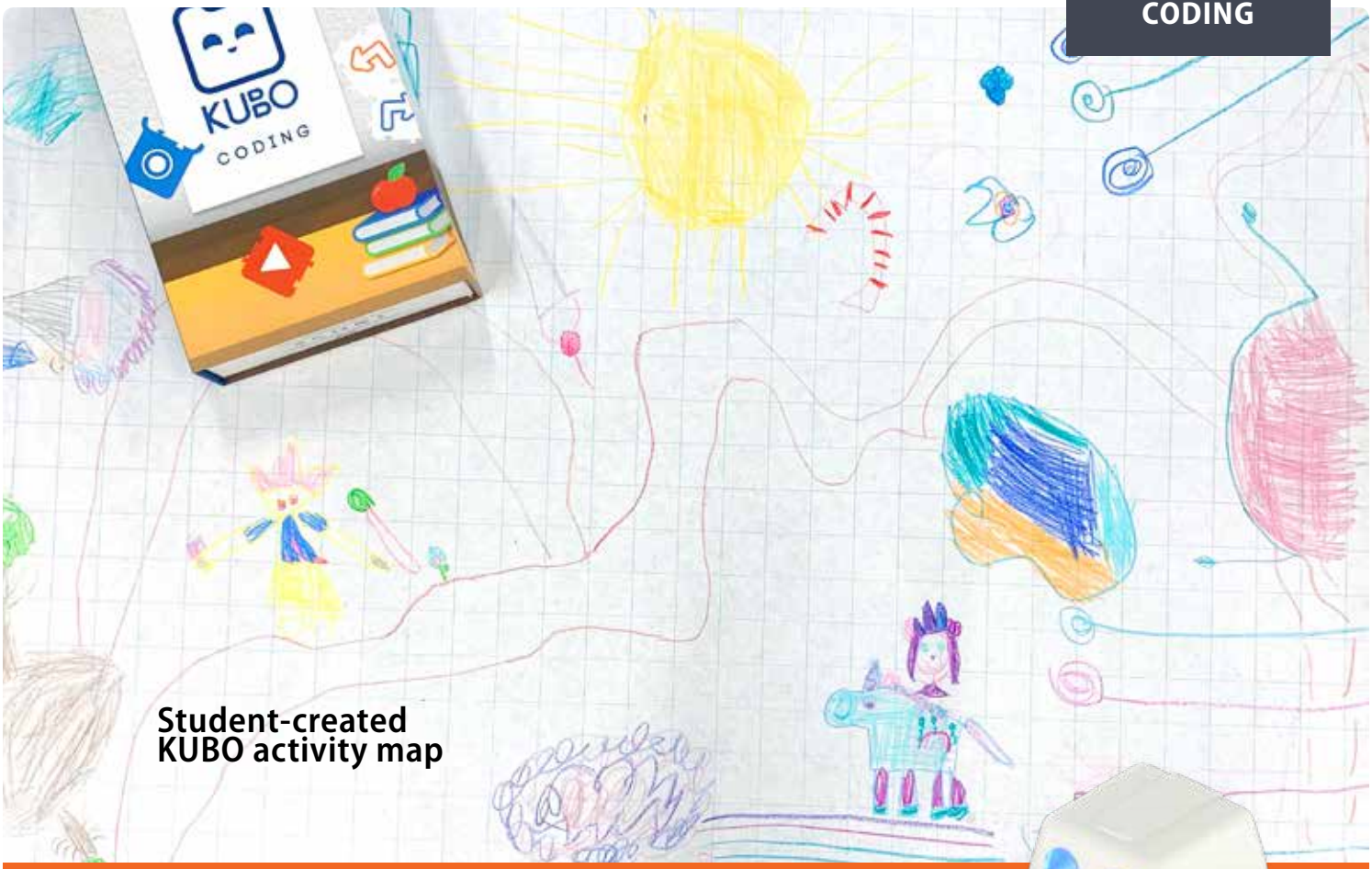
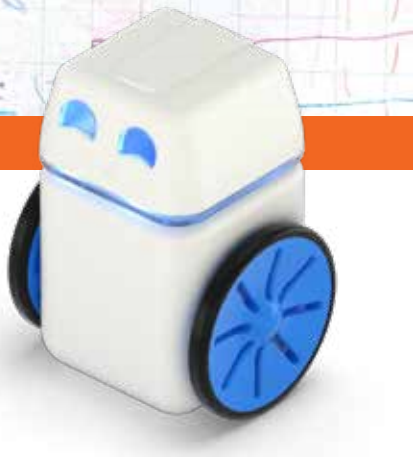


Student-created KUBO activity map



KUBO CODING BRINGS FUTURE WORKFORCE SKILLS TO TODAY'S ELEMENTARY STUDENTS

Ten years ago, teaching coding to elementary students might have been considered radical. Today, though, it's necessary.

In 2018, the Organisation for Economic Co-operation and Development (OECD) published *The Future of Education and Skills: Education 2030*. The purpose of the piece, and the goal of the OECD Education 2030 project, is to help schools around the world identify the skills students will need by 2030 and develop appropriate curricula to effectively instill those skills.

Jennifer Bozeman, the media specialist at Wildlight Elementary in Yulee, Florida, knows a strong background in coding and robotics will give her students the skills they need for future success. "Everything kids are interested in today involves coding. They just aren't aware of it," she said. "When you discuss how video games, websites, apps, and so forth all use coding, they begin making real-world connections. I always introduce coding to my students by letting them know the

PROFILE »

SCHOOL: Wildlight Elementary, Yulee, FL

TEACHER: Jennifer Bozeman, Media Specialist

GOAL: Incorporate hands-on coding into a K-2 curriculum

SOLUTION: KUBO

jobs of the future don't even exist yet. With their jobs likely involving computer science, it's important to introduce coding at a young age and develop their skills as they get older."

Bozeman began using KUBO, a screen-free, plug-and-learn robot, in May of 2018 by letting her students simply explore the robot and the intuitive TagTiles® used for creating code. After students grew comfortable with moving KUBO around the map, she began implementing the free, STEAM-based lesson plans available at KUBO.education online. First up were lessons on routes and functions. "We will continue to progress through the lessons as they become more complex and then transition into block coding," said Bozeman.

The lessons are a great resource to have, she said. "Any teacher will tell you, when implementing a new program or curriculum, it is always easier to have premade lessons available. Teacher time is valuable. With premade lessons, teachers are not having to think of ways to implement coding into the classroom, especially if the teacher is not comfortable teaching computer science."

In addition to real-world connections, KUBO helps instill problem-solving and collaboration skills. "Using KUBO has allowed a sense of freedom in instruction," said Bozeman. "As we go through the lessons, there isn't only *one* answer, but a multitude of solutions. Students work cooperatively to create paths and functions and receive immediate feedback from KUBO whether their path or function works. If their code is incorrect, they have to debug it and problem-solve the correct solution. Students are thinking through the steps prior to laying down the TagTiles. They're mapping out their paths in their heads or discussing it as a group before deciding on a final solution."

Thanks to KUBO – and the creative mind of their teacher – Bozeman's students are well on their way to learning the necessary skills for future success. "When teaching the lessons, I tell the students to think of KUBO as a self-driving vehicle," she explained. "If they aren't using the right TagTiles, KUBO could potentially run into a wall, into another vehicle, and so forth. They have to fundamentally understand what movement each TagTile represents. . . . Students are practicing vital skills such as problem-solving, cooperation, spatial awareness, how simulations can help solve real-world problems, application of new knowledge and vocabulary, and how to develop and present algorithms."

"'TO NAVIGATE THROUGH SUCH UNCERTAINTY, STUDENTS WILL NEED TO DEVELOP CURIOSITY, IMAGINATION, RESILIENCE, AND SELF-REGULATION; THEY WILL NEED TO RESPECT AND APPRECIATE THE IDEAS, PERSPECTIVES, AND VALUES OF OTHERS; AND THEY WILL NEED TO COPE WITH FAILURE AND REJECTION, AND TO MOVE FORWARD IN THE FACE OF ADVERSITY'."

– The Future of Education and Skills: Education 2030

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