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If the complexity of using data-gathering tools such as programmable sensors to measure barometric pressure, soil conductivity, air quality, or humidity is lost on the average adult, middle school students of the future will be able to help.

Mimi Recker, a professor in the department of Instructional Technology and Learning Sciences at Utah State University, along with USU graduate student Dhanna Franco, is collaborating with a large team to help students learn just that.

This collaborative project, funded by the National Science Foundation (project link) is led by Dr. Tamara Sumner and William Penuel at the University of Colorado University, Boulder, and Mimi Recker. It brings together a partnership comprised of the two universities, the Denver Public Schools, the largest district in Colorado, and SparkFun Electronics, a Colorado company that manufactures and sells microcontroller boards and related components.

The partnership is developing curricula and activities incorporating consumer-grade programmable sensor technologies in middle school classrooms in the Denver public school system, with the goal of increasing engagement in science, computational thinking, and computing education.

“Ultimately we want to be able to engage middle school kids in science and computing,” Recker said. “If we can make it work in this large and diverse district, we have a good shot at making it work elsewhere in the country.”

To learn more, see this video produced by Sparkfun: https://sparkfuneducation.com/maker-education/gatorboards.html (video link).

This project recently received additional funding from the National Science Foundation (project link) and the James S. McDonnell Foundation to help expand its impact.