

Design approach to solving problems preps kids for innovation - Denver Business Journal



When Graland Country Day School seventh graders [James Cobb](#) and [Alex Kechriotis](#) noticed residents of the senior living facility they visited monthly were struggling to zip up their coats, it gave them an idea



ndy Dodge, a 5th grade science teacher at Graland Country Day School and the co-director... [more](#)

Kathleen Lavine / Denver Business Journal

Two years and a lot of tinkering later, and the Schnap 2.0 was born.

The Schnap 2.0 is a device made with magnets and can be zipped into any coat or jacket. Once the wearer brings the two sides close together, they snap together, eliminating the need for a zipper.

“It was really about watching these people who were having such a hard time with something that seems so simple to us,” Kechriotis said. “They were embarrassed. It was sad. A lot of people don’t see it from their point of view.”

>Scroll to the bottom of the story for a graphic outlining the steps of design thinking.

The Schnap 2.0 is a product that comes from two places: innovation and empathy, the two core philosophies that form the roots of an educational method called Design Thinking.

Design Thinking is an approach to problem solving that asks students to draw inspiration through empathy, and then to test ideas through user feedback.

It’s also a growing trend among schools in Colorado, said [Tara Jahn](#), senior manager of Next Generation Learning at the Colorado Education Initiative, an independent nonprofit working with the Colorado Department of Education, educators, districts and stakeholders to accelerate innovation and educational improvement.

“Originally the process was used as a business strategy to better ‘know’ customers and ensure the products and services being created and delivered were solving an unmet need for a target market,” Jahn said. “Since then national leaders ... have transferred the tools, mindsets and processes into the social, international development and education sectors.”

[Andy Dodge](#), a fifth-grade science teacher at Graland and the co-director of the Gates Invention and Innovation Program, said the approach’s success will likely cause that trend to intensify.

“Kids are already natural inventors,” Dodge said. “It’s about fostering innovation with an emphasis on STEM (science, technology, engineering and math), which tends to be more consistent with the work we do” in the real world.

Jahn added students who learn using the design thinking method are also active learners who turn into leaders and can more effectively collaborate to find solutions to real-world problems.

“(They) are essential roles and skills as we prepare our next generation for the workforce and world,” Jahn said. “This shift also pushes us to re-imagine the role of the teacher and how well they are supported to design learning experiences for their students’ unique needs and communities.”

Students in the Gates Program are encouraged to look for real-world problems others experience as a starting point, and then to “tinker, create and innovate,” the program’s motto. The Gates Invention and Innovation Program gives participating students the opportunity to invent a new product and possibly earn a U.S. patent. In March, students display and demonstrate their inventions to compete for prize money and patent nods.

Students Cobb and Kechriotis, who won second in their division and a patent nod, were just a few of the

participants who presented their inventions.

First place went to Matthew Nekritz, inventor of The No-Bag, a lightweight harness for hikers to carry only items necessary for a short day.

Sophie Goldberg, who invented Breathalaunch, a portable telescoping pole that allows avalanche victims to breathe until they're rescued, and Alec Romo-Nichols, who invented the Urino, a urinal with contours that prevent "splash back," tied for third.

Dodge said the inventions are common for the Gates Innovation Program, which also encourages students to solve real-world problems.

"We want kids to focus more on others than on themselves," Dodge said.

Dodge added that Graland is also working to infuse the core philosophies in Design Thinking into the school's general curriculum.

"Science gets a bad reputation for being formulaic," he said. "With Design Thinking, it encourages outside-the-box thinking and collaboration. It's really prepping them for the future ... they'll have to work in teams."

It's a philosophy that worked well for former Graland student and Gates Innovation Program participant [Matt Crowley](#). Crowley, a Stanford University graduate and former Apple design team engineer, won first place at the 2002 Gates Expo for his invention "Light Fingers," work gloves with lights on them. Last year, Crowley founded Circadian Design, a hardware and software company for medical devices based in Silicon Valley.

"(Design Thinking) hooked me on making things," Crowley said. "It showed me that I could take something from my mind and make it into a real object. It taught me that failure was OK."

And it's the fact that Design Thinking allows for mistakes, cultivates creativity and creates those engaging learning experiences that makes it an important goal for CEI moving forward, Jahn said.

"CEI hopes to continue building professional learning opportunities for educators and school leaders to apply design thinking as an instructional strategy to help their students develop essential outcomes that will prepare them to be successful in our workforce and society," Jahn said.

CORRECTION

The description of the Colorado Education Initiative was updated.

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