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# Science4Us engages young scientists and gets results

## The Challenge

**Science4Us** strives to improve science curriculum and achievement for students in kindergarten through 2nd grade. The initiative also reinforces math and language skills—critical subjects in these early grades.

Leaders of the Ft. Lauderdale-based program knew their early elementary science curriculum was unique. What they didn't know was if the engaging online and hands-on activities for students and on-demand professional development for teachers was making a difference in the classroom.

## Strategic Solution

Science4Us turned to McREL for help in finding out if the program improved student achievement, increased teacher confidence to teach science, and motivated more students to engage in science. "McREL helped us narrow and focus our questions so we would get to what we most needed to know," says Catherine Christopher, a Science4Us curriculum development content specialist.

McREL's small-scale study evaluated a two-week instructional module called "States of Matter" in the physical science unit. The study included independent classroom observations, teacher and student surveys, think alouds, interviews, and assessments. "McREL is internationally known for educational research," says Christopher. "The organization has years of experience doing what would have taken us a year to figure out."

This expertise was also critical in helping Science4Us best leverage its tight resources. "We bring to the table an ability to say, 'Here's what we can do within your budget'—and still conduct rigorous research," says **Sheila Arens**, a senior director with **McREL's Center for Learning Innovation**.

What's more, little research existed on science interventions in the lower grade levels. "We were interested in breaking that barrier," says Arens.

## Results

In today's world, schools select curricula that are research-based—and a company's success hinges on its ability to demonstrate improved student achievement. For Science4Us, the research proved positive.

The results showed that Science4Us students outperformed students in traditional science instruction. The group of students who used Science4Us materials made statistically significant improvements on a content knowledge post-test when compared to peers who did not use Science4Us (researchers controlled for pre-test scores). This difference in understanding was detected in just a two-week time period.

Teachers said the "States of Matter" module was "highly engaging" for the students and the materials for teachers, including guides and professional development, were helpful—so much so that 43 percent of teachers adjusted their instructional practice.

## Next Steps

In September 2013, McREL submitted a research grant to the U.S. Department of Education's Institute of Education Sciences to expand its study of Science4Us through a randomized controlled trial.

"If approved, it will allow us to determine whether the program is effective on a larger scale, involving about 65 teachers and 1,600 students," says Arens. She says the work is especially timely as some states begin to look at testing science skills and knowledge at earlier grade levels.

For Christopher, Science4Us is part of a larger effort to engage students early on in the sciences. "Students at a young age have a lot of curiosity about science. They are more likely to learn and engage. That engagement could then lead to greater interest in STEM (science, technology, engineering and mathematics) courses in school and, ultimately, a career in science."

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