

New Developments in K-8 Science Instruction



My third-grade teacher brought the ocean into our classroom. Well, not literally. But when she returned from her trips to the beach, she brought back crab shells, sea mollusks, and bunches of seaweed to teach us about marine creatures, ecosystems, and photosynthesis. Having samples of nature in our class was far more exciting than reading about them. She did this with other lessons, bringing real examples of nature into the classroom and taking us on class trips to experience it firsthand. Yet, by the time I reached middle school, science class had once again become lectures and memorization of science terms. It seems that my third-grade teacher's style of engaging us in science instruction was at the time considered nontraditional.

One of the pervading questions in K-8 schools is what is the best way to teach science? Today, more schools are looking at ways to engage their students in just the same way that my third-grade teacher held our rapt attention, using more hands-on strategies and inquiry-based lessons.

In this issue, Richard A. Duschl, professor of science education at Rutgers University, and Andrew W. Shouse and Heidi A. Schweingruber, both senior program officers with the National Research Council (NRC), argue for major science education reforms because "unifying themes and principles of science are getting lost in favor of concept coverage." The three authors reference their work on this year's NRC report, "Taking Science to School: Learning and Teaching Science in Grades K-8," which suggests that major curriculum, instruction, and assessment reforms must be made in order to improve K-8 science instruction.

Betty Young, a University of Rhode Island professor, shares the results of successful university-school partnerships in teaching science. While she acknowledges the challenges involved, she offers suggestions on how supportive principals can help guide these reforms. And Elizabeth R. Hubbell and Matt Kuhn give us some terrific insights into how technology can provide powerful tools to help students through the inquiry process.

I recently read in a Public Agenda study that nearly four in 10 students say they would be unhappy if they ended up in a career with a science (or math) focus. I am almost certain that if they had teachers like my third-grade teacher throughout their school career—the same one who unlocked the mystery of the ocean for my class—their responses would be vastly different.

We hope that you enjoy the issue and we welcome your feedback. Send us an e-mail at publications@naesp.org.

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