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Science education will soon be required in Oakland's public elementaries

By Katy Murphy
Oakland Tribune
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OAKLAND — Last week, the Oakland school district became one of the first in California to require elementary schools to teach science for at least 60 to 90 minutes a week. It might sound like a modest proposal, but it could be a boon for a subject that's often treated as optional in the lower grades — even in the high-tech Bay Area — because of a narrow focus on the 3Rs.

"Making time and space for science is sometimes a revolutionary act," Oakland Superintendent Tony Smith said during "Dinner with a Scientist" at the Oakland Zoo, an invitation-only event where enthusiastic students were exposed to careers in the field.

The 10- and 11-year-olds who compared fingerprints with a forensic scientist and learned about the endangered Western Pond Turtle on Wednesday night were probably unaware of the policy set to take effect in their schools by 2011. But if the subject they love is taken more seriously by school officials, and if it's embraced by teachers, they will learn more about it, and so will their peers.

"Children are natural-born scientists," said Connie Branson, a Lincoln Elementary School teacher who helps coordinate science instruction. "As long as you keep a hands-on inquiry method going, it's never a matter of motivating the students to learn it. They just naturally love it."

In 2007, the Oakland school district invested in a \$1.2 million hands-on science curriculum from the Lawrence Hall of Science and hired

Caleb Cheung, a middle school science teacher, to promote science instruction. Cheung and his SMART Team (which raises live organisms for classroom experiments in a "Critter Room") won state grants and support from foundations. They delivered grade level-specific earth, life or physical science kits to schools

each trimester, and trained teachers to use them.

But in a 2009 survey, Cheung found the average Oakland elementary school teacher still spent less than 30 minutes a week on the subject, and some skipped the subject altogether. The biggest obstacle teachers cited? A lack of time.

The results mirrored a 2007 study of Bay Area schools conducted by the Lawrence Hall of Science, UC Berkeley and WestEd, in which 16 percent of elementary school teachers reported they didn't teach science at all. Schools are evaluated, largely, by their students' test scores in reading, writing and math; as a result, they are spending more time on those subjects, especially if the scores are low.

It doesn't have to be a zero-sum game. When science education is infused with reading, writing and math, those precious minutes may be "double-counted." But often, Cheung said, "It becomes an either/or, and these subjects end up competing with each other."

Lorraine Mann, a lead science teacher at West Oakland's Prescott Elementary School, said the new policy will lead to the kind of curricular cross-pollination she uses in her kindergarten classroom. The children might be reluctant to write about the characters in a book she's read, she said, but when she pulled out a tub of worms and asked them to draw and describe what they saw, some of them produced a whole page.

"They will spend a long time on their science journal entries," Mann said. "It feeds their natural interest in exploring the world. That's what kids are built to do."

Mann said the change will be scary for some teachers, especially those who have been expected to adhere closely to scripted reading curriculums since they entered the profession. She said the teacher training included in the science proposal, which includes a summer institute, will be important for it to work.

For all of the challenges ahead, there's a buzz, especially among science-lovers, about what is happening. The district's science fair at the Chabot Space & Science Center drew 900 students last month; on Friday, 650 students from ROOTS International and Coliseum College Prep, secondary schools on East Oakland's Havenscourt campus, entered their projects in a science fair.

"If everything in Oakland Unified functioned like the science project functions, the district would be at the top," Mann said. "Their whole reason for being is to make it easy for teachers to teach science."

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