

Push is on for inquiry-based science State needs educated work force to keep good jobs, official says.

By SUE LOWE Tribune Staff Writer - Article published Nov 8, 2009

Tryston Weaver dropped a Popsicle stick into a paper cylinder and looked expectantly at Michael Dye sitting across from him in a Mishawaka third-grade classroom.

Michael guessed the sound he heard was a poker chip, a washer and a plastic spoon before he got to Popsicle stick.

But when Armmani Hall dropped the washer in the cylinder, Michael got it on the first guess.

When teacher Dave Weber asked how he was able to guess correctly the first time, Michael said, "It was real loud, like a metal sound."

The students were studying sound. As Tryston predicted, he and Armmani were better at guessing which objects Michael dropped. After all, they had heard those noises when they dropped them for him to guess.

The students would proceed from identifying sounds to using things such as bottles with different levels of water to learn about pitch and volume.

The third-graders at Beiger Elementary School were studying under an inquiry-based or project-based science curriculum. That means they do experiments themselves.

Different way of teaching

"In the old days, you read it and they write it down fast and furious," said Weber, the teacher. "Now we see a lot of interaction (between students).""They're a little more like a scientist," said Dan Towner, executive director of curriculum and instruction for School City of Mishawaka. "They observe and take notes, with teachers guiding them through the process."

A lot of educators believe students remember things better if they're actually doing something rather than being talked to.

Professors with several area colleges and business people have formed the Northern Indiana Science Math and Engineering Collaborative in an effort to improve the teaching of science.

And they think inquiry-based science curricula work.

"It's fun. It's engaging," said Karen Morris, outreach coordinator for chemistry and bio-chemistry at the University of Notre Dame. Results mixed

Local administrators like the curriculum, but it apparently doesn't always produce higher standardized test scores.

Jesse Warren, curriculum facilitator for South Bend schools, said the district has been using inquiry-based science for kindergarten through sixth grade for 10 years.

He thinks the children benefit "in terms of science."

But, he said, the curriculum hasn't helped students' scores on standardized tests. Science is actually doing something "as opposed to multiple choice state tests," Warren said.

He hopes the curriculum will be used again in South Bend schools, but he said teachers are feeling pressure to have some sort of textbook work to supplement the inquiry-based curriculum.

Mishawaka schools have used the inquiry-based science curriculum for elementary students for six years.

Towner said fourth- and sixth-grade scores on the ISTEP test have "steadily" improved.

The sixth-grade scores didn't improve last year, so teachers and administrators are looking at how well the things covered in the various experiments fit the state educational standards. Teresa Carroll, director of communications for Penn-Harris-Madison schools, said that the district uses a hands-on science curriculum, but it's not really what

educators call an inquiry-based curriculum.

Science success needed for jobs

Members of the local group looking for ways to improve science education and members of the Indiana Science Technology Engineering and Mathematics Resource Network are talking a lot about how science is taught right now because districts throughout the state will review their science curriculums during the 2010-11 school year.

Educators and business people gathered at the Century Center in South Bend in late October to talk about the teaching of science and math in Indiana in the future.

During a press conference, Tony Bennett, state superintendent of public instruction, called inquiry- or project-based education "a huge component" in better science education in the state. Bennett said only 62 percent of the students in the state passed the math and science parts of the ISTEP tests.

He said if the state is going to keep and attract high-paying jobs, that has to change.

Bennett called for a rigorous science curriculum that is relevant to what children will study after they graduate from high school.

Bennett was accompanied by Michael Hawkins, vice president of corporate research for Warsaw-based Zimmer Inc.

Hawkins said 2,800 employees of orthopedic device-making companies in Warsaw use science and math every day. And it pays. He said the average wage for employees of those companies is \$81,000 a year. The average pay for the rest of Kosciusko County is \$41,000 a year.