

Math curriculum undergoing big changes

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Merrill Superintendent John M. Searles says students and teachers need to change how they approach, instruct and learn mathematics.

Merrill Community Schools, like many districts in Saginaw County, showed a sharp decrease from fourth grade to high school in students meeting the standard score on the mathematics portion of the 2007 Michigan Educational Assessment Program.

While 94.5 percent of fourth-grade students at Merrill Elementary School

earned a satisfactory score, more than 44 percent of Merrill High School students failed to meet the standard.

Students' struggles in math prompted Searles to begin a program to help Merrill students from fourth through 12th grade understand math, particularly algebra. The plan, he said, is similar to how students are taught between kindergarten and third grade.

"The big difference will be the way we teach," Searles said. "It's not about memorizing numbers — it's about learning about relationships between

numbers. That's the true way to learn math."

While Searles still has plenty of details to work on with his math curriculum, he said he wants to implement summer algebra classes and student semester-end evaluations throughout every grade level, starting with next year's sixth and ninth grades.

Searles will take his ideas, which he said could affect the 2008-09 budget, to the Board of Education for approval this summer.

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"Parents think it's a great idea," he said. "Kids will get the math as they need it rather than everybody having to be on the same page at the same time."

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Falling behind

Searles hopes his initiative will even out the downhill slope of lower math scores in Saginaw County.

Nine of the county's 15 school districts that took the state test had fewer than 15 percent of their fourth-grade students but more than 30 percent of their high school students score below the Michigan standard in math last year.

The biggest challenge for teachers, according to Tamara Barrientos, is to promote an overall understanding of numbers instead of using memorization techniques such as flash cards.

"A lot of school districts are now trying to teach more understanding so there's comprehension rather than regurgitation," said Barrientos, mathematics coordinator for Saginaw Valley State University's Mathematics and Science Center.

Barrientos said the state's push for teaching algebra at lower grade levels poses challenges for teachers and students as well.

"Teachers now have to strengthen their content skills and find ways to teach

Downward slope

Here are the percentages of pupils who did not meet the Michigan standard for the 2007 Michigan Educational Assessment Program's mathematics test:

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SCHOOL	FOURTH	FIFTH	SIXTH	SEVENTH	EIGHTH	H.S.
Birch Run Area Schools	8.5	31.0	36.0	24.0	21.9	40.7
Bridgeport-Spaulding Community Schools	17.9	40	36.1	37.9	34.5	71.8
Buena Vista School District	48.4	71.7	63.3	54.7	68.9	87.3
Carrollton Public Schools	10.9	19.6	27.3	50.8	53.1	53.8
Chesaning Union Schools	4.4	17.9	21.4	19.3	15.7	42.9
Frankenmuth School District	6.8	3.8	8	12.7	9.3	18.2
Freeland Community School District	3.1	9.4	12.9	11.2	18.5	44.4
Hemlock Public School District	9.3	21.9	28.2	30.9	18.7	30.8
Merrill Community Schools	5.5	16.9	40.3	23.1	23.6	44.1
Saginaw School District	26.6	43.5	49.8	51.6	52.1	74.3
Saginaw Township Community Schools	11.7	17.8	24.9	30.1	28.3	48.1
St. Charles Community Schools	12.5	33.8	15.1	27.6	16.7	56.7
Swan Valley School District	5.4	12.5	18.4	28.6	26.6	37.3

SOURCE: Michigan Department of Education

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students that content," she said. "We have parents who didn't see that content until high school who are not able to help their students at the middle school level like they

would like to. They're overwhelmed with the kinds of math their kids are doing."

The Frankenmuth School District, at 81.8 percent last year, was the lone district in

the county with more than 70 percent of its high school students meeting or exceeding the Michigan standard for mathematics. All other grade levels exceeded an 87 percent success rate.

Superintendent Mary Anne Ackerman said students in the district are taught through the "Everyday Learning Mathematics" curriculum, which the University of Chicago published.

"The teaching is much more concrete," she said. "The key component is that it moves step by step — the program will review skills taught in previous lessons over and over again."

Schools also are trying online courses to help struggling students.

Merrill High School students started using Compass Learning Odyssey Algebra, a browser-based curriculum that diagnoses students' strengths and weaknesses in algebra, on April 7.

Students struggling in an algebra course use the program to get up to speed, Searles said.

"We're expanding the program so every student here has an opportunity to use it," he said.

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