

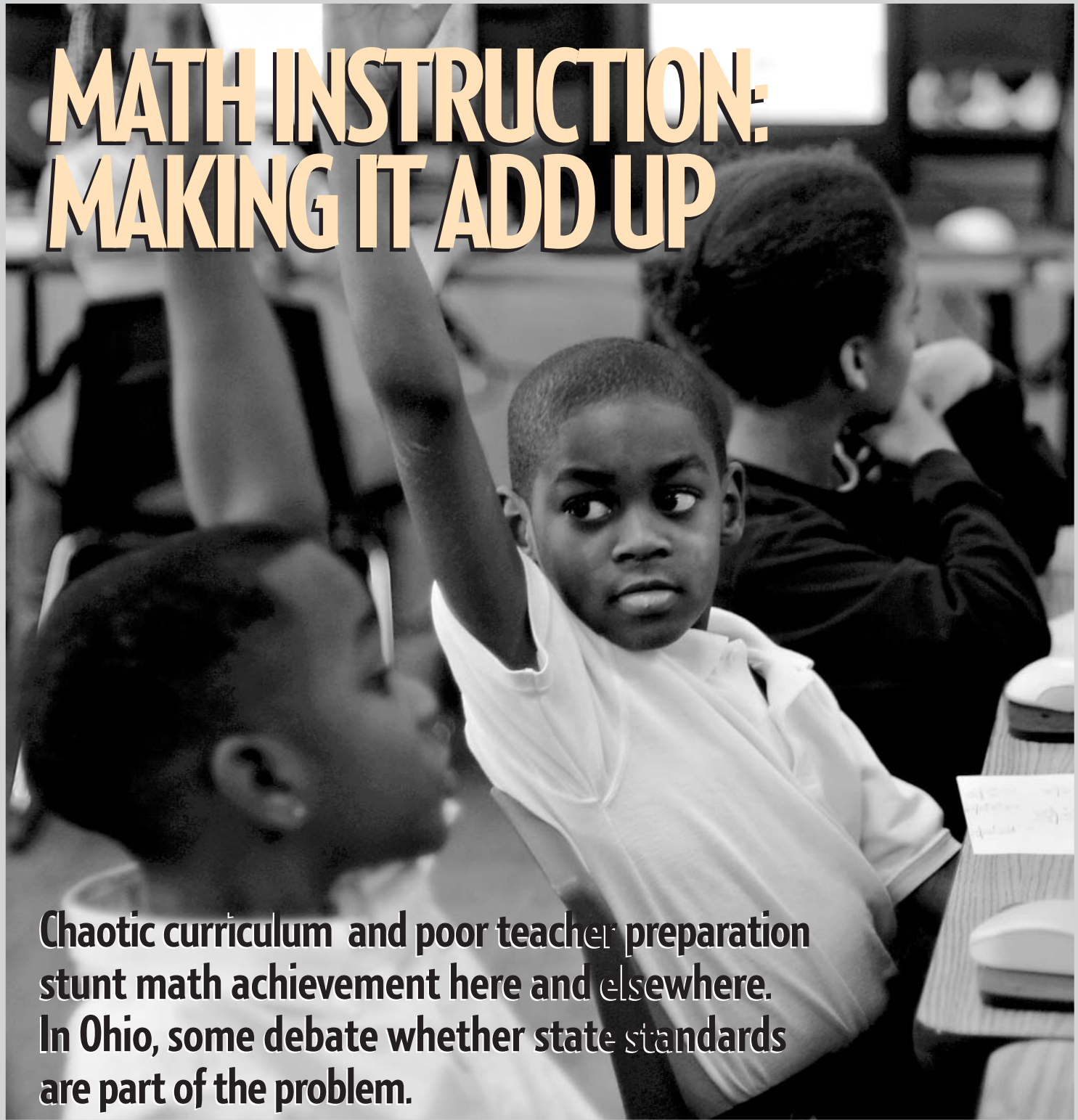
Catalyst CLEVELAND

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INDEPENDENT REPORTING ON URBAN SCHOOLS

MATH INSTRUCTION: MAKING IT ADD UP



Chaotic curriculum and poor teacher preparation stunt math achievement here and elsewhere. In Ohio, some debate whether state standards are part of the problem.

As district moves forward, there are signs that state funding will, too



Charlise L. Lyles

You go, Eugene Sanders! The chief of the Cleveland Municipal School District just announced a plan to radically and rapidly restructure schools.

Clearly intended to thwart the threat posed by charter schools, Sanders's plan is rooted in choice that will give parents and students a fresh menu of educational options, from boarding schools to single-sex academies. And he has called on the community—businesses, clergy, foundations and others—to support it as foot soldiers.

Sanders says he is proceeding with all “deliberate speed” despite the district’s bleak financial outlook. (The district is forecasting a deficit next year, and neither City Hall nor 6th and St. Clair expects voters will approve a tax hike any time soon.)

However, there are some small, promising signs from the south for state funding reform:

■ Newly elected **Gov. Ted Strickland**, a Democrat, has vowed that his administration “will bring all parties together to craft a new method of funding schools that is consistent with the demands of the Ohio Constitution. That’s what law-abiding governors and law-abiding states do.” Strickland said the new method must (1) be directly linked to quality education and real accountability, (2) find a proper balance between state and local responsibility and (3) make the property tax a fairer and more reliable source of revenue.

The challenge: Strickland is up against a long-time lack of political will. Though Democrats gained some

ground in the House and Senate in November’s election, the Republican majority that has refused to tackle school funding still reigns.

■ Waiting in the shadows of the widely known *DeRolph vs. Ohio* funding case is a little-known federal lawsuit that might break the funding logjam. ***Doe vs. Ohio***, a class action suit filed on behalf of 250,000 Ohio students with disabilities, alleges that the state has failed to provide adequate funding under the federal Individuals with Disabilities Education Act (IDEA) and, therefore, is in violation of the 14th Amendment, “equal protection under the law.” Amicus briefs filed by the Ohio Education Association, the Ohio Coalition for Equity & Adequacy of School Funding and other groups emphasize funding inequities for both non-disabled and disabled students, citing disparities in dollars due to the system’s heavy reliance on local property taxes.

The challenge: Since it was filed in 1995, the case has been mired in legal motions and still is not scheduled for trial in U.S. 6th District Court in Cincinnati. It’s time for the court to find for the plaintiffs, such a ruling will put more pressure on the Ohio Legislature to act.

■ Finally, the “**Getting It Right for Ohio Amendment**” offers some hope. In January, school funding reform advocates launched a campaign for a state-wide referendum in November

that would give every Ohio student a “fundamental right” to a “high quality public education.” The plan would gradually reduce the local share of taxes while increasing the state’s share of funding for schools. Money collected across the state would be redistributed more evenly among all 612 districts. The amendment would give the Ohio Board of Education authority to determine how much a “high quality” education would cost each year. But the Board’s price tag could be denied by the legislature, with a three-fifths majority.

The challenge: To win the public’s confidence that the amount necessary for a high quality education remains a reasonable and manageable sum in light of other budget demands. So far, a slight majority of respondents to one poll expressed reluctance to make education funding the top priority over all other budget items.

Meanwhile, as we wait for the legislature’s and judiciary’s historically slow train to get moving, CEO Sanders is speeding headlong into change. We can only hope that Cleveland’s weary troops can muster the energy to follow despite the lack of sorely needed resources.

MATH INSTRUCTION

Needed: Clearer curriculum, better teacher preparation

Curricula arranged illogically and poorly prepared teachers who often opt out of professional development opportunities are the primary challenges to improved math instruction in Cleveland schools and those elsewhere. This issue examines what's being done to shape up instruction, creative efforts on the part of principals and teachers, and what good math instruction looks like. **PAGE 6**

EXAM BAR LOW FOR TEACHERS

How Ohio compares to other states.
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DUNBAR PRINCIPAL GETS CREATIVE

A look at one school's efforts to bypass the obstacles.
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What it takes to connect students with concepts.
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Insights and experiences from civic leaders and others on valuable math lessons.
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TIM HARRISON

Shawanna Reddick teaches fractions to 6th-graders at Nathan Hale K-8 School. As math specialist, Reddick is responsible for attending professional development trainings.

DEPARTMENTS

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- Is New Orleans charter takeover an omen for Cleveland? **Page 22**

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COVER PHOTO: GREG RUFFING

Catalyst Cleveland On-line has a new look! Go to
www.catalyst-cleveland.org
and check it out.

Notebook

IN REVIEW

Dec. 19: Legislature expands voucher funding

The Ohio Legislature doubles the number of schools where students are eligible for the state's publicly funded voucher program. Under the new rules, students attending a public school with a state ranking of "academic emergency" or "academic watch" for two years in a row—rather than the three years previously required—can now obtain a publicly funded voucher to attend private school. Vouchers cover tuition up to \$5,900 for high school and \$4,250 for students in kindergarten through 8th grade. Outgoing Republican Gov. Bob Taft later signs the bill into law.

Dec. 29: Charter improvement timeline set

Gov. Taft signs a bill that sets an improvement timeline for low-performing charter schools. Schools that don't improve scores on standardized state tests and are designated in academic emergency for three or four years, depending on grade levels served, will face closure beginning in 2008. Exempt from the timeline are schools for dropouts, such as the Life Skills Centers run by Akron industrialist David Brennan's White Hat Management, Inc., the state's largest charter school operator, as well as the dropout school the district plans to open.

Jan. 3: Tougher core for Ohio students

Gov. Taft signs into law the Ohio Core, a high school reform bill that increases math and science requirements. Today's 5th-graders, as the class of 2014 the first to be affected by the law, will need four years of math and three years of a lab-based science if they want to attend a four-year public university in Ohio. Only one-third of students in Ohio now meet the new requirements. Students can opt out of the Ohio Core, but it could limit their college choices to two-year programs.

QUOTABLE

"I couldn't understand how a freshman at Cleveland State University coming from a Cleveland public school could not comprehend the basic language of math. I felt so angry and hurt."

Cleveland Municipal School District parent Rasheedah Abdur-Razzaq addressing the School Board about her efforts to tutor district graduates now attending CSU.

ELSEWHERE

Coshocton: Student pay tested

In a three-year experiment funded by a local businessman and conducted by a researcher from Case Western Reserve University, children in the 2,000-student Coshocton City School District are being paid to get good scores on standardized state tests, *Education Week* reported. Participating grade levels at the district's four elementary schools are chosen by lottery. Individual students then receive

coupons worth \$15 for every proficient score and \$20 for accelerated or advanced scores. The coupons can be spent at local stores, but only by children. Final results from the study are due this summer. More than half of the district's students qualify for federally subsidized meals in this central-Ohio town that has seen four major manufacturers leave since the 1990s.

Q&A with...

Jan Ridgeway, head of branch and outreach services, Cleveland Public Library

One might think a formal partnership between the Cleveland Public Library and the Cleveland Municipal School District would have been forged long ago. But it's only this year that the two have struck a formal partnership to help improve the reading skills of Cleveland's children, whose scores remain far below proficiency in many grades. In January, *Catalyst* Circulation Manager Daniel Gray-Kontar talked with Ridgeway about the new partnership as the district seeks to boost its state ranking from "academic watch" to "continuous improvement."

How did the new partnership between the Cleveland Public Library and the Cleveland Municipal School District begin?

Well, to be honest, this whole reading piece started because of *Catalyst*. It was [after I read] your issue on reading as a potential "roadblock" to a "continuous improvement" [ranking] in the district. When we met with the academic officer at the district's administration office, I put your magazine on the table, and I said "this is why we need to work together."

So now that you've been able to seal the deal, what does the partnership look like?

We have always done a winter reading club in the Cleveland Public Library. There are summer clubs that are done by almost every public library in the country, but we are one of the few libraries in the country that does a winter reading club. So, the partnership makes the winter reading club a literacy initiative in the schools.

In the past, we would go into the schools to market the club, but we never had a commitment from the schools to say that they will be participating in it. So now, there is a commitment from the schools, saying that they will encourage and track student reading.

Teachers and media specialists in the schools will work with their students to get them reading as many books as possible from January to March. The whole goal is to get 50,000 kids in Cleveland reading over the next three months to improve literacy skills.

It seems this kind of partnership would have happened a long time ago.

You're right, it should have. But whether it was because we weren't reaching the right



people [at the district] or the people we were reaching had other items that were of a higher priority on their plate... I don't know. But I do know that [district CEO] Dr. Eugene Sanders came into his position having had several meetings with our director [Andrew Venable] and [Dr. Sanders] asked what can the library do for us, and what can we do for you. He saw it as a natural partnership.

I also think the current climate in Cleveland right now—with our children's [low] performance on [achievement] tests, with the district's literacy initiative, with the whole socio-economic situation [helped]. But definitely, the new CEO's openness to working with the library has a lot to do with it.

What about what kids are reading? For example, do you think popular graphic novels and "hip-hop literature" are appropriate for the club?

I think every generation has its own culture, and at some point, someone from outside that culture judges it as not appropriate, using the term "dumbing down." But I don't think it's appropriate for us to bring judgment. What's important is that they're reading. And if that's the only way they read, we don't want to discourage it, because the more they read, the more comfortable they become with reading. And then they begin to seek other forms and genres.

You talked about Cleveland's socio-economic climate. How does it impact the library's business, and its willingness to work more with the district?

We cannot ignore the socio-economic conditions in Cleveland. For example, when I managed the Beachwood library, the average household had 2 ½ computers. In Cleveland, maybe three households out of 10 have a computer, and that may be high in some areas of the city. Even if they have a computer, many don't have Internet access, because that requires a certain amount of credit worthiness. Then, if you have Internet access, you may not know how to work it. So, the public library has a critical role even in computer literacy.

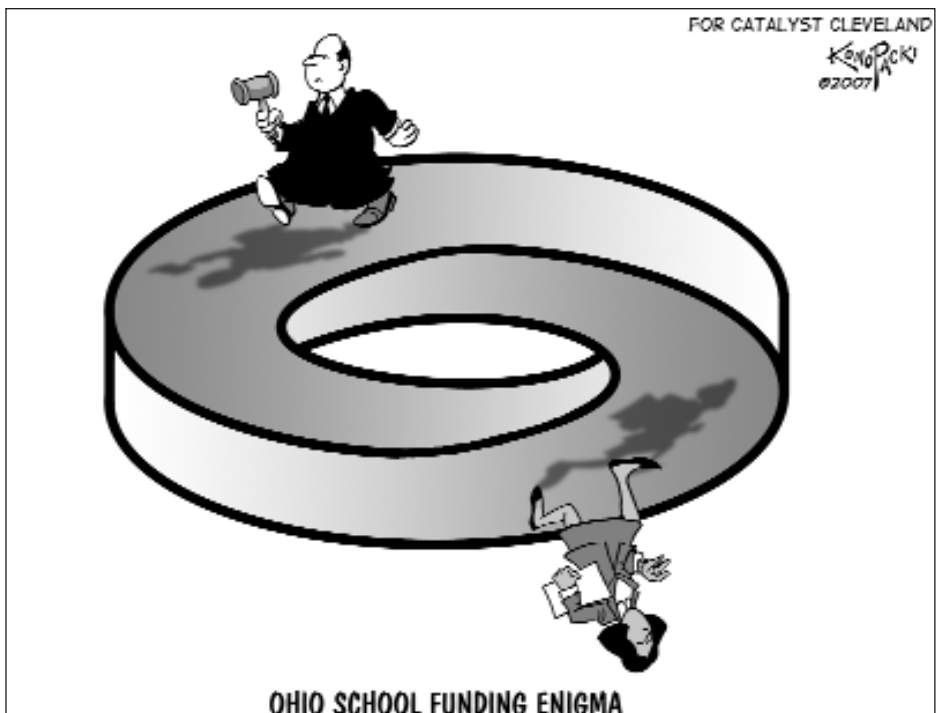
WHAT THE NUMBERS SAY

Are Ohioans prepared for college?

While Ohio students are ill-prepared for college, they are better prepared than students in many other states, reports in recent years show.

The strongest indicator of student success in college is advanced math courses taken in high school, according to a 2004 report by the National Center for Education Statistics. In Ohio, **33 percent** of 8th-grade public school students are proficient in math, while nationally only **28.5 percent** make the grade, the *Education Week* Quality Counts 2007 survey found. In December, The *Plain Dealer* reported that **four** of every **10** public college students in Ohio take at least one remedial class to make up for inadequate preparation in high school, costing taxpayers **\$29 million** annually. Nationally, **49.3 percent** of college students take **one or more** remedial classes, according to the NCES report.

BULLETIN BOARD



OHIO SCHOOL FUNDING ENIGMA

Needed: clear curriculum, better teacher prep

Chaotic lessons and teachers who lack strong content knowledge stunt math achievement here and elsewhere. In Ohio, some debate whether state standards are part of the problem.

by Stephanie Klupinski

What's another way to write the equation $4+4+4+4+4$?

More than 80 percent of American 4th-graders answered the multiple choice question correctly when the Trends in International Mathematics and Science Study (TIMSS) exam was administered for the first time in 1995.

But fewer than half knew how much bigger 25×18 is than 24×18 .

Twelve years later, students are likely to stumble on such questions again this spring when the TIMSS—given every four years to 4th- and 8th-graders—is administered. Even though the question “is

old, it's still very timely” because the issue hasn't been adequately addressed, explains Cleveland math teacher Lisa Suarez-Caraballo.

The issue is that generally “students do better with procedures than with items that have to do with the understanding of the concept,” says Margaret Caxton, who directs the Ohio Resource Center, set up by the state legislature to provide teachers with web-based resources for math, science and reading. “We want them to know their multiplication tables, but we also want them to understand why they're doing it.”

If students in Cleveland and across the country are going to boost math achievement, three core areas must improve:

- **CURRICULUM**
Math concepts are often taught in an illogical order that lacks coherency and consistency;
- **STANDARDS**
State standards in Ohio and elsewhere tend to be too broad. They go a mile wide but an inch deep, while often failing to challenge students;
- **TEACHERS**
Math instructors, especially at the K-8 level, are poorly prepared.
The problems play out in math classes in both affluent and poor districts. “The nature of the standards and curriculum is not very coherently put together...and they are not very demanding or rigorous,” says William Schmidt, a Michigan State University professor and the

former coordinator of the Trends in International Math and Science Study.

Schmidt adds, “Many of our teachers, unfortunately all the way to middle school, just do not have a good and strong enough math background.”

This past September, the National Council of Teachers of Mathematics (NCTM) offered a remedy to help make math curricula everywhere more coherent. For each grade K-8, NCTM issued three “focal points,” the three topics it considers most essential to deepening mathematical learning at that level.

For example, one of the 4th-grade focal points is “*Number and Operations and Algebra*: Developing quick recall of multiplication facts and related division facts and fluency with whole number

Exam bar low for math teachers in most states, including Ohio

multiplication.” NCTM goes on to explain that students should develop fluency with efficient procedures, including the standard algorithm for multiplying whole numbers; understand why the procedures work (on the basis of place value and properties of operations); and use them to solve problems.

The “focal points” are a “huge step in the right direction” because current math instruction standards in most states try to do way too much, says Schmidt, who helped review the focal points. Now, Schmidt is designing general principles that states can use to guide construction of improved curricula.

STANDARDS: CONFUSING OR CLARIFYING?

Like many other districts, a source of Cleveland’s math problems is the state standards, the guidelines for what students should be learning. In math, Ohio has six broadly defined standards, including measurement; geometry, spatial and number sense, and operations.

But within each standard, there are numerous benchmarks and grade-level indicators that aim to provide a clear set of what students are expected to learn and teachers are expected to teach. To some, the result is a labyrinth of levels of guidance that may confuse more than clarify.

The complex system tries to accommodate the needs of teachers who say they want instruction “spelled out” in detail, says Linda Hallenbeck, a retired Hudson math teacher and the former president of the Ohio Council of Teachers of Mathematics. She acknowledges that some parts might “be too minute” but points out that the state has tried to make explicit what good math instruction looks like.

First-year teacher Jacob Johanssen works at the Metro School, a new science, math and technology high school in Columbus. Johanssen admits he was not an initial fan of the standards, citing confusing wording. But they have since grown on the young teacher. “The benefit is

“Because of the great shortage of [especially math and science] teachers, there’s a lot of pressure to make sure candidates can pass the test,” says Lynn Arthur Steen, professor of mathematics at St. Olaf College. Steen served on the panel of experts for the 1999 Education Trust report “Not Good Enough: A Content Analysis of Teacher Licensing Examinations.”

The high performance compared to the low exam bars may also be due to good teacher education programs that demand much more math content knowledge than national math exams require, Steen adds. The praxis is “really a safety net test.” States do not want—and can’t have, under the No Child Left Behind law—teachers who don’t know the subject matter, he emphasizes.

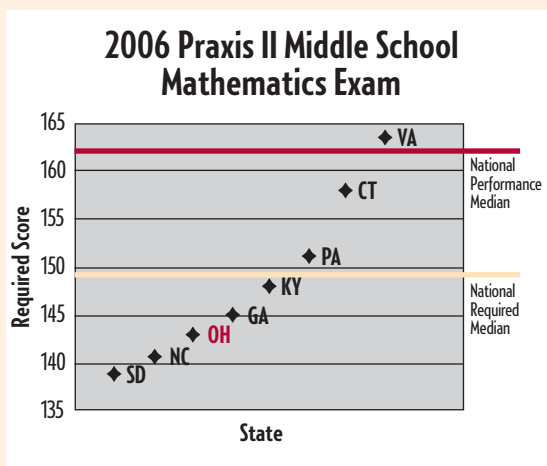
Still, he cautions states against setting the cut-off scores too low. “If you can pass tests only knowing arithmetic and nothing else, that gets to be a big

problem,” Steen says. But figuring out how states go about determining cut-off scores is “a pretty indirect process that’s mysterious to the public.”

Ohio’s cut-off scores are determined by the State Board of Education. Each of the 31-plus states that use the exams can weigh questions differently, “causing a different score with exactly the same questions and answers,” Ohio Department of Education spokesman J.C. Benton pointed out in an e-mail. That, he wrote, is the case in Ohio.

He also noted that the middle school math exam was in a brand new licensure area for the state.

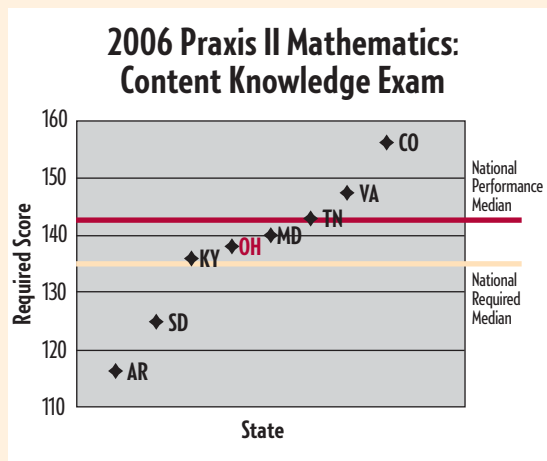
But ODE does recognize that the bar may need to be raised. According to Benton, “We’ve now given the test for a number of years, and would have some data that could be evaluated as we consider whether the cut score should be raised or not. We are planning on giving an update to our Board this coming year and see if they would like to raise the scores.”



Source: Educational Testing Service, 2006

MIDDLE SCHOOL: MOST STATES TOUGHER THAN OHIO

On the 2006 National Middle School Mathematics exam, Ohio set requirements 18 points below the median performance of 161 out of 200 points. Of the 34 states that mandated the tests for licensure, 21 had higher cut-off scores than Ohio. Only Virginia’s required minimum of 163 points exceeded the median performance.



Source: Educational Testing Service, 2006

HIGH SCHOOL: OHIO’S CUT-OFF SCORE HIGHER THAN MOST STATES

On the 2006 Mathematics Content Knowledge exam, Ohio required a score of 139, four points below the median performance of 143 out of 200 points. But of the 31 states that mandated the test for high school math teacher licensure, only five required scores higher than Ohio. Alaska and Virginia mandated scores that exceeded the median performance.

story continued on next page

With testing bar low, strong college math courses are crucial for better K-8 teachers

In 2002, the Ohio Department of Education revamped teacher licensure requirements.

Drawing on recommendations from the National Council of Teachers of Math, they look good on paper. An unpacking of the requirements, however, reveals there's room for improvement.

For one, universities can do more to ensure that the math courses students take are more challenging. Cleveland State University math education professor Joanne Goodell says that at CSU, the courses elementary teachers must take are "pretty basic" and tend to be large. "I would like to see that the sizes of

those classes are reduced." But she also points out that the department has strengthened its requirements for middle grade teachers.

Prospective elementary teachers in Ohio don't even have to pass a content test in math; only the basic test that all teacher candidates must take to enter a teacher education program is required.

And while the content tests required for middle and high school teachers are challenging, many states, including Ohio, set a low bar for passing. (See charts, page 7.)

Here are the coursework and exams that Ohio now requires for certification:

EARLY CHILDHOOD (PRE K-3)

COURSEWORK: Completion of eight semester hours of general math and three semester hours of math methods

TESTING: Pass two Praxis tests, one on the principles of learning and teaching, and another on pedagogy for early childhood teaching. **It doesn't get all that tough** for early elementary teachers who must take the general *Praxis Pre-Professional Skills* math test, but no other math content knowledge exam.

A sample:

Which of the sales commissions shown below is the greatest?

- a. 1% of \$1,000
- b. 10% of \$200
- c. 12.5% of \$100
- d. 15% of \$100
- e. 25% of \$40

MIDDLE CHILDHOOD (4-9)

COURSEWORK: Complete certification needed in two subject areas. In math, candidates need three semester hours of math methods and 24 semester hours of math instruction in number theory; geometry and measurement; data analysis; statistics and probability; algebra; discrete math and calculus.

TESTING: Pass three Praxis tests, one on principles of learning and teaching and two in content areas. To be certified in middle grade math, candidates must pass the national *Praxis II Middle Childhood Mathematics Exam*. **The questions are a little tougher** than for elementary grade teachers. But Ohio requires a minimum score of only 143 out of 200, 18 points below the median score for the 34 states where the exam is mandatory for certification.

A sample:

If a student takes a test consisting of 20 true-false questions and randomly guesses at all of the answers, what is the probability that all 20 guesses will be correct?

- a. 0
- b. $(\frac{1}{2})^{20}$
- c. $\frac{1}{2^{20}}$
- d. $\frac{1}{2}$

ADOLESCENCE TO YOUNG ADULT (7-12)

COURSEWORK: Completion of 30 semester hours of math instruction for Integrated Math certificate in same areas as for middle childhood, but in more depth, according to a spokesperson for the Cleveland schools.

TESTING: Pass two Praxis tests, one on principles of learning and teaching and a content knowledge test in math that is different—and more difficult—than the content test for middle grade certification. **It gets a lot tougher** on the national *Praxis II Mathematics: Content Knowledge Exam* required for the Adolescence to Young Adult credential. Still, an Ohio license requires a minimum score of only 139 of 200, four points below the median score for the 31 states where the test is mandatory.

A sample:

What is the units digit of 33^{408} ?

- a. 1
- b. 3
- c. 7
- d. 9

—Stephanie Klupinski

Answers: b, b, a

NEEDED *continued from page 7*

knowing exactly what you need to cover," he explains, adding that it's probably better for the state to err on the side of too many details to ensure that everyone is on the same page.

Schmidt notes that Ohio's math standards are not the worst in the country, though he does point to a lack of rig-

or. In a 2005 national review of math standards by the conservative Thomas B. Fordham Foundation, only three states received a grade of A: California, Indiana, and Massachusetts. Ohio received a C.

But in 1998 and 2000 analyses by Fordham, Ohio scored A's. The state's decision to revise its standards in 2001

"turned out to be a dreadful mistake," assert the independent researchers who wrote the report.

"There are serious deficiencies in these standards, including coverage of arithmetic and algebra indicators," explain the authors. "Statistics and probability are grossly over-emphasized and some-

times require mathematics not yet covered in the other strands. ...None of the grade-level indicators require students to learn the standard algorithms of arithmetic."

"I don't completely agree with that," says Caxton of the ORC, pointing to areas of the standards that she sees as contradicting the Fordham

story continued on page 10

Dunbar principal gets creative

While professional development gets little traction, flexible teaching assignments put the best teachers in front of students

by Stephanie Klupinski

In a high-poverty district like Cleveland, the problems of chaotic math curricula and poorly prepared teachers are compounded by a high student mobility rate, poor reading skills and budget cuts that have eliminated math coaches for teachers, as well as other resources.

Administrators and teachers acknowledge the lack of coherency and subpar teacher quality, as well as the district's specific issues. Though formal professional development hasn't gained enough traction on a large scale, teachers and principals appear to be exploring a range of tactics and creative strategies to shore up math instruction. (See sidebar, page 10.)

For example, by offering flexibility in teaching assignments and departmentalizing, even in the primary grades, principals can help to ensure that the most qualified person for a particular subject is teaching it.

That's what Darlene Thaxton, in her 8th year as principal at Ohio City's Paul Laurence Dunbar K-8, does. If students get a good foundation, she says, they can build upon it. "I believe in putting almost all my resources in primary."

Third-grade teachers Mercia Sima and Julie White take advantage of the flexibility; they com-

bine their classes for math and let intervention specialist Melissa Smith teach the students.

Sima explains that Smith loves math and can motivate the students. During that day's lesson on telling time, students enthusiastically waved their hands in the air and literally jump out of their seats to answer questions.

As math area specialist for the school, Smith meets monthly with the district supervisor and attends professional development training. The position is somewhat of an attempt to compensate for the loss of the math developers who taught model lessons and provided professional development. Those positions were eliminated in 2003-04 due to budget cuts. Other professional development opportunities are there, but teachers don't often take advantage of them. Smith now brings back what she learns to the school but there is a less formal system for communicating the knowledge.

"The people who are interested come and then I try to track the others down," she explains.

Shawanna Reddick, math area specialist and 6th-grade teacher at Nathan Hale K-8 on the southeast side, says that at a district-sponsored professional development meeting she attended in December, she received a \$600 math kit that she plans to use. But only six other teachers showed up for the training.

Apparently, outside professional development is a challenge across districts. Linda Hallenbeck, a retired Hudson math teacher and the former president of the Ohio Council of Teachers of Mathematics, says although the organization has about 5,000 members, not many attend meetings and conferences.

In addition to district-sponsored professional development that trains teachers in how to use resources such as textbooks and graphing calculators, there are outside

programs like Promoting Rigorous Outcomes in Math/Science Education program (PROM/SE) and Partnering for Success, through which teachers can purchase up to eight hours of professional credit.

Another popular one is the Math/Science Partnership that develops content knowledge. Cleveland teachers take two years of classes at Cleveland State or John Carroll and can earn 4th- to 9th-grade certification in math or science. Smith, an MSP participant, will complete the program by the end of the summer.

According to Sally Masacia, the district's manager of mathematics assessment, 65 teachers have been newly licensed in math at the middle school level through the MSP in the past four years.

"Professional development is key" to improving math instruction, asserts Cleveland State University education Professor Joanne Goodell. "If we could improve the amount of time and money [given toward] professional development at all levels, but particularly at K-3, I think it would make a big difference to our students." ■

Beyond professional development

Deepening teachers' content knowledge and teaching skill is not the only route to improved math instruction. Sally Mascia, Cleveland Schools' manager of mathematics assessment, and others, point to additional efforts:

INSIDE THE CLASSROOM

- Distributing and encouraging the **use of a mathematics matrix**—developed last year by the district—that organizes Ohio's complicated system of state math standards, benchmarks and indicators. Among other benefits, the matrix aims to help teachers see the importance of what's taught at particular levels and how it connects to other grades.
- Administering **quarterly pre-assessments** and having each school, with help from the district, craft an **improvement plan** based on the results. "We're building in just about every kind of intervention possible to help the teacher make good choices" for students, says Mascia.
- Requiring 3rd – 8th-grade teachers to give **weekly math writing prompts** to students, aimed at helping them answer the short-answer and extended-response questions on the Ohio Achievement Tests.
- Preparing for a **textbook adoption** process for grades K-5. That's necessary, says Melissa Smith, a teacher and intervention specialist at Paul Laurence Dunbar K-8, because "The [current] books are pre-standards. They're not helpful at all."
- Considering a **mandatory daily "math block"** to give teachers more instructional time. Many teachers are frustrated at not having more time for math, says Mascia. A minimum 90-minute "literacy block" starts the day at all Cleveland K-8 schools. The National Council of Teachers of Math recently issued a position paper recommending at least one hour of math a day for students at each grade level.

OUTSIDE THE CLASSROOM

- Individual school **outreach to alert communities** to the importance of math learning. Last fall, Sunbeam K-8 school on the east side hosted a "family math night" to help parents understand the math their children were being taught.
- A stronger **non-profit emphasis** on math education. Young Audiences of Northeast Ohio is including math in its professional development plan for its artists who teach in area schools.

— Stephanie Klupinski

NEEDED *continued from page 8*

report. "We have done a great job in stating what kids should know."

TEACHERS STRUGGLE WITH CONCEPTS

But regardless of whether the state standards help or hinder math instruction, they are only half the problem. The other challenge is to improve the quality of teachers.

"The system we have has weaknesses in both curriculum and preparation of our teachers," contends Schmidt, who is familiar with Ohio's standards as principal investigator for Promoting Rigorous Outcomes in Math/Science Education (PROM/SE) program, which works with districts in Michigan and Ohio to develop teachers' content knowledge.

If there were strong teachers with weak standards, or a strong curriculum and weak standards, instruction might be better, he says.

Currently, Ohio doesn't require much math content knowledge from elementary and middle grade teacher candidates. (See glance box on page 8.)

"The minimum has not been enough to prepare teachers to be able to teach mathematics to students," says Elizabeth Taylor Boyd, a former math teacher coach in the Cleveland schools who now coordinates the area's PROM/SE program. "You have to understand the concept well enough that you can pull it apart and put it back together for kids."

Visits to classrooms across Cleveland schools show many teachers struggling to teach fractions to their students. Some teachers used pictures and diagrams; some used manipulatives; some

used charts comparing decimals to fractions. Very few of the teachers explained why fractions are important, aside from a way to figure out how much a store item marked half off cost.

Schmidt says fractions are often a stumbling block for students because they are not always presented coherently in the U.S. Students are often taught that fractions are part of something—like one-third of a pizza. But they don't always understand that fractions are related to the whole numbers they already know and can be put on the number line, explains Schmidt.

As a result, many students "actually believe this has nothing to do with anything they've done before," Schmidt explains. "When you disconnect these ideas in kids' heads, it's more difficult. It's like memorizing phone numbers."

"There definitely is a need for teachers to increase their content knowledge in mathematics in order to teach it," says Taylor Boyd.

As an example, she points to an October training, where about half of the teachers agreed that it is acceptable to use equals signs in the equation $20 + 30 = 50 + 7 = 57 + 8 = 65$.

It's not.

An equal sign does not mean here's the answer; rather, it indicates balance or equality.

Of course, some individual districts consider the amount of content knowledge teachers have. Former Beachwood superintendent Paul Williams says that he tried not to hire teachers who had not taken trigonometry.

Meanwhile, in Cleveland classrooms, an unlikely suspect may be adding to the

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Tips from effective teachers

Connecting concepts to the real world and getting kids to discuss fractions and infinity are key

by Stephanie Klupinski

To observe good math instruction, *Catalyst*, armed with advice and insight from national, state and local experts, headed to a variety of schools: Cleveland K-8s; an all-girls private school in Shaker Heights; and a brand new countywide public school in Columbus.

The experts pointed us to some teachers by name; we identified others via press coverage or other recognition.

We found that despite obvious differences in the schools, good math teaching looks pretty much the same everywhere. These teachers know math well. But perhaps more importantly, they know how to teach it, employing a range of approaches: “holistic” instruction that integrates various ways of understanding concepts, connecting math concepts to the real world, relating to their students on a personal level, and creating a social environment where students talk about math.

In total, more than 10 math classes were observed, grades 3 to 9. But we zeroed in on the middle grades, 6 to 9. Why? That’s when the curriculum begins to call on students to understand and apply mathematical concepts rooted in more abstract thinking. Many students think, “I know the formulas, but which do I use for this problem?” explains



TIM HARRISON

Shawanna Reddick’s enthusiasm helps her students get excited about fractions, a key component of the 6th-grade curriculum. Reddick, who teaches 6th-grade at Nathan Hale in Cleveland, uses her Montessori background to help teach.

Linda Hallenbeck, a retired Hudson City Schools math teacher and the former president of the Ohio Council of Teachers of Mathematics.

Last year, at least 75 percent of Ohio’s 3rd- and 4th-graders met the standard for proficiency in math. But in grades 5 through 8, fewer than 70 percent achieved it.

THE TEACHING LINE-UP:

Dr. Caroline Borrow,
Hathaway Brown, 8th grade

Ph.D. in math education from Kent State University; taught in a few public schools before coming to Hathaway Brown.

Lisa Floyd-Jefferson,
The Metro School, 9th grade

B.S. in mathematical sciences from The Ohio State University; worked as computer programmer before teaching; advocated recently before Ohio senate education committee for mandatory college-prep curriculum for all students.

Jacob Johannsen,
The Metro School, 9th grade

B.A. in math and Spanish, Ohio Northern University. B.A. in math and Spanish, Ohio Northern University.

Shawanna Reddick, Nathan Hale, CMSD, 6th grade

B.S. in education; master of science in education. Taught previously at Dike Montessori on the east side; former math specialist in district; National board certified in early adolescence.

Lisa Suarez-Caraballo,
Luis Muñoz Marín, CMSD, 6th-8th grade, bilingual

Studied engineering at The Ohio State University before returning to Cleveland for personal reasons; B.S. in mathematics and master’s of education, curriculum and instruction from Cleveland

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State University; National Board certified in early adolescence mathematics; recipient of a Milken Family Foundation National Educator Award.

USE A "HOLISTIC" APPROACH

Too often, "kids are trying to remember all these isolated pieces of information and they're not really experiencing math," says Elizabeth Taylor Boyd, the Cleveland coordinator for the Promoting Rigorous Outcomes in Math and Science Education (PROMISE) program that works to improve K-12 math and science teaching and learning. "They [see] how much more interesting math is when they look at it from a more holistic point of view."

The Metro School endorses an approach called the "Rule of Four" to teach math. It means students are expected to

understand math concepts algebraically, graphically, numerically and verbally.

"The trick is to get past just the [one] application so the kid knows how to use it" in other situations, explains Principal Marcy Raymond.

Failing to think in the different ways adds to the difficulty students face, particularly when lessons demand more conceptual thinking like algebra, says Floyd-Jefferson. "Students don't realize that for every concept they learn there's [a rule of four]."

Floyd-Jefferson also draws on her Montessori background to teach. "It helps you diagnose levels," she says of the approach that encourages students to move around and have an active voice in their own learning. "It helps you give them what they need."

Cleveland teacher Lisa



JAY LAPRETE

Metro School teachers Lisa Floyd-Jefferson and Jacob Johanssen embrace a multiple intelligences approach to math. The "Rule of Four," developed by the Harvard Calculus Consortium, is based on a belief that students should learn and understand math concepts algebraically, numerically, graphically and verbally. The Metro School is in Columbus.

HELPING STUDENTS THINK ABOUT MATH CONCEPTS

How would the world be different if we only had whole numbers?
Lisa Floyd-Jefferson asks her 9th-grade students at the Metro School. The question gets at Ohio's math standard for number sense and operation and leads to a discussion on when to use exact numbers and when to use estimates.

Suarez-Caraballo is a big proponent of helping students actually experience math. Enterprising Suarez-Caraballo has received thousands in grant and award money and uses it to create a math amusement park, full of technology that helps students grasp math concepts.

In class, students worked in groups with robots and computer programs to learn about degrees, diameter and circumference. There needs to be more in math with "kids playing with numbers using technology," Suarez-Caraballo explains.

But not all students understand math by using the technology. Some only need to read the text and practice problems. "Making [math] relevant doesn't work for everybody," Suarez-Caraballo explains. That's why she uses a combination of the book and manipulatives to teach.

Reddick previously taught at Dike Montessori; that experience also taught her to think more holistically about her teaching. She still uses Montessori approaches at Nathan Hale.

For example, students in her class struggling to identify the greatest common factor refer to a large poster on the wall listing each number one to 100. Each number has a multitude of different colored circles around it, depending on which factors, two through ten, go into it.

The color coding is very Montessori, Reddick notes. As math specialist for the school,

one of her responsibilities is attending professional development training.

CONNECT MATH TO THE WORLD

Floyd-Jefferson is always on the prowl for ways to connect her students to math. "I was just looking at Jamie's shoes and thinking, there's a slope problem," she says to her students, nodding to the young woman's high heels.

Floyd-Jefferson began the year with what could be an assignment for an English class: Students read and discussed "Fermat's Enigma," a literary, nonfiction book that explores math from ancient Greece to the 20th century. When students get tests back, they analyze and discuss scores, using statistical terms such as mean, median, variance and standard deviation.

Students even do math in Floyd-Jefferson's "advisory"—an enhanced sort of homeroom that helps student build study skills and work on community-oriented projects. They record how they spent time on weekends and graphed the results on pizza boxes, which were also decorated with pictures and artifacts representing the students' interests.

At Metro, integrating one subject into another is part of the school culture. Earlier this year, a school wide "garbology" project assigned students to sort trash into five piles—paper, plastic, Styrofoam, food, aluminum, glass—to learn about the economic and environmen-

tal impact of waste. Students used math skills to calculate the current average waste and predict what it will be by 2010.

Hathaway Brown's Dr. Caroline Borrow says she stresses the importance, even in the younger grades, of teachers connecting math to the "real world," she says. (See glancebox.)

In Suarez-Caraballo's class, real world connections are everywhere, from the posters in the back that describe the various contributions of other countries to math, to the robots that help students understand that math can be cool.

CONNECT WITH STUDENTS

"With respect to math, or any subject, it's important to connect with their backgrounds," explains Howard University education professor Dr. Gerunda Hughes. Good teachers "find something that is of interest to [students] that connects with the lesson you are trying to teach. You might go into adolescent culture; you might go into race or gender culture."

The personal connection is especially important in math, as some students fail to see its relevance to their lives. Having a teacher who deeply believes in its importance can be a big help.

Cleveland State University education Professor Joanne Goodell says math remains

a cultural issue in America and "is still seen as a male domain." She cites the still low numbers of women earning Ph.D.s in math compared to males. But in elementary education, where female teachers outnumber males, Goodell

makes you good is the practice."

In a recent lesson, students practice fraction problems from their books. It wasn't the most exciting lesson, Reddick admits. But it's an important one—working with fractions is

to help students, but never gives them the answer.

"I want to set it up [the class] so you can think, and if you don't know it you can find the answers," Reddick explains later.

Suarez-Caraballo at Luis



TIM HARRISON

Lisa Suarez-Caraballo at Cleveland's Luis Munoz Marin K-8 uses grant and award money to obtain technology for her classroom. Here, students work with robots and computers to deepen their understanding of math concepts.

points out that that most "boys don't have male role models in elementary school until they get to middle school."

Over at Nathan Hale K-8 on Cleveland's southeast side, students stop by Reddick's room for advice on all sorts of matters, not just those pertaining to school.

In class, she strives to give her students confidence in math—especially, she says, her girls. To Reddick, confidence doesn't come from high scores. "I don't think the test makes you good or bad in math," she explains. "What

a key component of 6th-grade math.

At first glance, the lesson resembles a stereotypical math class: Students work quietly on their own and at the end of class, a few volunteer to write and explain their answers on the overhead projector.

But a closer look shows something much more. Students who struggle to solve the problems seem to know how to figure them out on their own, using the "Greatest Common Factor" poster and other resources in the room. Reddick moves around the room

Munoz Marín K-8 is also friendly but demanding, with high expectations for her class. Upon entering the room, students excitedly greet her, and one playfully sneaks up from behind in an attempt to startle her.

Knowing that many of the math skills her students gain in her class might evaporate in the chaos of high school, she strives to keep tabs on her former students once they get to high school.

Over at Hathaway Brown, Borrow also works to build the confidence of her students. "I connect with the girls here and

story continued on next page

CONNECTING MATH TO THE REAL WORLD

"Let's say I am teaching 6th-graders. The problem is $2\frac{1}{2}$ divided by $\frac{3}{4}$. Kids learn how to multiply by the reciprocal. That's a rule, but why does it work? Initially, I'd want the kids to know how many $\frac{3}{4}$ are in $2\frac{1}{2}$, maybe through a concrete example, like we are making bows from ribbons," explains Dr. Caroline Borrow at Hathaway Brown.

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show them I really care about their math learning.” Math learning, she explains, is seeing math as “not just these skills” but as the concepts behind them. In her geometry class, students write geometric theorems in their own words and share them with their classmates.

MAKE MATH CLASS SOCIAL

“The best classrooms are where kids are talking about mathematics,” says Hallenbeck. “It should be social.”

Solely having students practice problems over and over again—called “kill and drill” in education jargon—is unlikely to create the social environment conducive to math learning, experts say.

“There’s not much communication if all [students are] doing is dividing 147 by nine 50 times on a worksheet,” explains Taylor Boyd, the PROM/SE coordinator.

Getting students frustrated by doing the same thing over and over again may not be effective, but getting them frustrated about not understanding can be, observes Hallenbeck. “If we can get the kids to be perturbed, it’s more likely to get them to stop and think about the mathematics they’re learning.”

Classrooms certainly seem set up for conversations about math. Most classrooms now have tables or desks set up in clusters rather than rows; teachers are more willing to give students some time to work with others.

But simply letting students work together on math problems is not exactly what Hallenbeck means when she says math class should be social. “Talking about mathematical ideas—that’s what a good mathematics class is about.”

“A good teacher would have a balance of a teacher-centered and student-centered [approach],” explains Dr. Hughes. “There is a time for direct instruction but there is a time for cooperative group instruction, peer instruction, taking it out to the community, doing projects.”

“I love math talk,” says Reddick. She sets up a structure where her students can talk with one another about not just what they are doing, but about what they are learning.

Jacob Johanssen from the Metro School agrees. “I want them to be able to talk about math,” he explains. In his class, students take tests independently but also work in “families” that are held accountable for each person in the group. This, Johanssen explains, helps develop skills as collaborators and communicators. Some students have made up their own assignments to help other students in their family understand the material, says Johanssen.

Johanssen’s classroom is loud as students work together to match complex equations to their answers. Next door, Floyd-Jefferson’s class is quieter, but still social. She teaches a similar curriculum in a very different style. The students are preparing to present their math portfolios and explain what they have learned in class to an audience of area professionals, including researchers and statisticians.

Metro student Adam Lachapelle loves the social approach. At other schools, he says, “they’d tell you how to do it.” What he likes about Metro is that he gets to work with others. “The teachers let you struggle, but not too much. ...it just gives me a chance to soar.” ■

Math memories

Learning and teaching math leave life-long

impressions on civic leaders, students, even

Catalyst staff

Hands down, math is not as popular as English and other less abstract subjects. In fact, it can be rather foreboding. *Catalyst* Data Analyst Joy Brewington, the most mathematically inclined on staff, asked civic leaders, a student, parent and a *Catalyst* associate editor to share their experiences and insights on learning or teaching math. Brewington also included her own. Here are their math memories:

RONN RICHARD
CEO, THE CLEVELAND
FOUNDATION

“I had a very strange experience with regard to my early math education. I attended an elementary school that was basically for poor kids, heavily minority. I was the best in my class in math every year, and I thought I was a math genius. Then, when I started middle school, all of us kids from the ‘poor school’ got merged in with the kids that had attended the ‘rich’ public elementary schools. I suddenly found myself at the bottom of the class and had to struggle to catch up. As a result, I began to think of myself as being very bad at math. Thus, I avoided subjects that required math. Later in life, I developed a love of math and technology and taught myself a great deal. Now I am constantly telling my son that ‘math is the most important subject for you or anyone else, I will not allow you to do poorly in math so you better do your math homework first every night!’”



PHOTO COURTESY OF THE CLEVELAND FOUNDATION

CORY CALHOUN

8TH-GRADER, JOHN W. RAPER PREK-8

“My favorite math teacher, Mr. Davis (at Martin Luther King Middle School) was the only male math teacher I had. He made math fun and I was able to comprehend the problems quicker. One project we did taught us how to manage money in real life. We prepared our taxes, picked jobs we wanted for the future, and found out how many years of school we would need. We found out that if you graduate [high school], you get a better job that pays more money.”

JOY BREWINGTON

DATA ANALYST,
CATALYST CLEVELAND

“As often as I could I would apply what I learned in math class to real life. In the first grade I opened a candy store from my bedroom window. As soon as I learned about probabilities, I began hosting casino night at my house and invited the neighborhood. When my younger brother came to live with me in college, I passed the same love for math on to him. I showed him how relevant the subject is and because he shared the same entrepreneurial spirit as I, it took him no time to begin using what he learned in algebra to help him price his scooters for his online scooter business. For him, solving for x became simple and applicable. ...It made sense! Now, as an adult tutor, I have found that offering just a little math support can tremendously help out a student. I remember tutoring my mentee in her pre-algebra class. We met for dinner two nights a week and talked through her homework. After only a few weeks, her grades on pop quizzes and assignments rose from failing to ‘A’s and ‘B’s. At the end of the semester, her middle school moved her up to a higher level math class.”



PIET VAN LIER

MONIQUE SPARKS

MOTHER OF A 1ST- AND AN 8TH-GRADER AT IOWA MAPLE K-8

“I didn’t like [math] much but I got through it. I asked a lot of questions in class and got extra help from teachers if I needed it. But the teachers today have such a strict schedule to follow it doesn’t take into consideration that kids learn on different levels. ...[Teachers] need more innovative ways to teach math, more interactive. I would like to see them think out of the box.”

STEPHANIE KLUPINSKI

ASSOCIATE EDITOR,
CATALYST CLEVELAND

“In grade school, I was good—and fast—at math. In fifth grade, we played a game called “math football” based on a team’s ability to solve problems quickly. As quarterback, I led my team to the school Superbowl and was devastated when we lost.

I loved math until high school calculus, when being able to multiply and divide quickly wasn’t so helpful. In college, I majored in English and avoided math courses. But I began to like math again—and feel better about my skills—during a statistics class in graduate school. I guess I need to see a purpose to doing math, whether it’s winning football games or analyzing and evaluating public policy. But I do like a good math challenge every now and then, like the problem from the math exam for grade 7-12 prospective teachers on page 8.”



PIET VAN LIER

TRACEY MARTIN

CHIEF OF EDUCATION,
OFFICE OF THE MAYOR
(FORMER PRINCIPAL AT
CHARLES LAKE)

“One time a 5th-grade teacher came to me because her kids didn’t understand the difference between a mile, a foot and a yard. I told her to take them for a mile walk, this will help them understand a foot, a yard and a mile, and ratios at the half mile point. It’s simple opportunities like that [students] have to visualize and they have to experience it to learn it for themselves. Teachers have to learn, what is their thought process, where are they going to get confused? Math can be so abstract, it’s very important to make a concept concrete so that children can truly understand what the concept is all about and how it connects with other concepts. When they see it, understand it, and connect it, they are able to move on to the next level. You need hands-on activities so they can manipulate the numbers and visualize the problem.

“Professional Development is key to making teachers understand how to set up a math concept.” ■



PHOTO COURTESY OF THE CITY OF CLEVELAND

FollowUp

Making progress on 'progress'

Growth models like an Ohio pilot measure improvement and are part of proposed updates to No Child Left Behind. Critics worry that such changes could undercut pressure on schools to achieve.

by Alexander Russo

When Darlene Thaxton, principal of Dunbar School, found out that her school had just missed making “adequate yearly progress” for 2005-2006 under the No Child Left Behind law, she was disappointed—but not surprised.

The near west side school had done well enough to make AYP in the previous two years, but had added upper elementary grades last year to become a K-8.

After notching 79 and 82 percent scores in reading for 2004 and 2005, Dunbar’s 3rd-grade proficiency rates dropped to 67 percent last year—just below the 71 percent AYP target.

“We were close in a lot of grades,” says Thaxton. “But like they say, close doesn’t count.”

Dunbar was far from alone. Last spring, 35 other schools in the district failed to meet the required benchmarks for the first time.

Not long after, however, a surprising thing happened at Dunbar.

Battelle For Kids, a statewide non-profit education group with strong business affiliations, recognized Dunbar as one of 16 schools in the state that made “high academic progress in multiple grade levels and subjects over the past three years.”

Battelle’s pilot evaluation program compares student progress to that of similar students, while NCLB requires schools to meet specific test score goals every year. The federal law’s ultimate aim is to make sure 100 percent of students are proficient in math and reading by 2014.

Advocates of “growth” or “value-added” models like Battelle’s want to make them part of NCLB, which Congress is scheduled to reauthorize this year.

Recognizing schools’ success in boosting student achievement is critical, in part because such recognition can provide hope to schools like Dunbar where students often come in below grade level, say these advocates.

Critics worry such alternative measurements could water down NCLB, undercutting its effectiveness.

How Dunbar failed the AYP accountability measure and excelled using the Battelle model illustrates the differences between various rating systems—and foreshadows how schools in Ohio and nationwide could be rated in the future.

PILOT TESTS NEW METHOD

Started five years ago with 42 Ohio districts, including Cleveland, the Battelle rating system measures students’ progress over three years and credits schools for matching or beating the improvements of other similar students. Success in meeting AYP goals is not considered.

The Battelle approach is similar to the state’s new method of measuring achievement by student growth,

which it will begin using statewide starting in 2007. (See November 2005 *Catalyst* for details)

The motivation behind developing these new models is that they credit schools for significantly boosting student achievement even if the kids are not excelling. The schools recognized by Battelle this fall included a mix of suburban, rural, and urban schools and, according to Battelle executive director Jim Mahoney, this shows that “it’s not which kids you get to teach, it’s what you do with them.”

In 3rd-grade reading, for example, Dunbar students scored seven percentage points higher in 2006 than other 3rd-graders across the state who had earned similar scores in the past. (The complete data from the Battelle study are not public.)

Not all growth models are the same, however.

STATE PROPOSES DIFFERENT MODEL

Even if Congress delays NCLB reauthorization scheduled for this year, as many Washington insiders expect, changes could go through statewide if Ohio’s proposed growth model plan is approved by the U.S. Department of Education this winter.

Both the Battelle model and the state’s new plan measure student progress rather than using static standards to rate schools. But the state proposal doesn’t compare schools or students to each other. It focuses solely on whether students are on a trajectory toward making proficiency by the time they leave

that type of school (5th for a K-5 school, 8th for a K-8 school). It measures growth by subgroup, just like AYP. And it only uses the state tests, not assessments like the Stanford 9 used by Battelle.

Under the new state proposal, schools would have four ways to make AYP:

- outright, by meeting AYP benchmarks;
- through the safe harbor provision (a 10 percent reduction in the number of nonproficient students in each subgroup);
- through a two-year average of a school's scores;
- through growth for subgroups as well as school wide.

The U.S. Department of Education has approved five states for participation in its growth-model pilot; Ohio is one of nine states whose proposals are still under consideration. Officials here hope to know by April whether Ohio's proposal will be approved.

How this pilot program will influence changes to NCLB is unclear.

NCLB SUBJECT TO CHANGE

No one knows exactly when NCLB is going to be reauthorized or how substantial changes are going to be. The official timeline calls for Congress to revisit the law five years after its enactment, meaning sometime in 2007. But the change in control of Congress from Republicans to Democrats, combined with a backlog of other laws needing attention and the 2008 Presidential elections, suggest that it may not be updated until 2009, a full two years from now.

Proposed changes to NCLB include growth models. If adopted, these changes mean more schools like Dunbar that don't make minimum test score requirements under the AYP system could soon be recognized for their progress

Meanwhile, officials in Ohio don't know exactly how their new measurement would change school ratings. The number of Cleveland schools affected could be minimal, based on Battelle's growth model and the experiences of other states.

But the new list could be revealing.

"I suspect that we will find schools in Ohio that serve students who come in far behind and that do a very good job of helping those students catch up," says Mitchell Chester, senior associate superintendent for the state.

Not everyone is enamored of growth models, fearing that they could weaken pressure on schools to improve student achievement.

"The concerns that have been voiced about growth models revolve around state accountability systems that rate schools as being adequate if they achieve any amount of growth," says Kevin Carey, research and policy manager for the Education Sector, a nonpartisan education group in Washington, DC. "A good growth system gives schools credit for making significant progress while not losing sight of absolute standards."

The state's growth model is not just an easy way for schools to make AYP, according to state officials. Making the grade is "a tough bar to meet even with the growth model," says Chester.

Despite concerns, the growth approach is increasingly popular and is being used in several districts to measure the impact of teachers on student learning and to reward those who have above average impact on achievement.

"Absent a growth measure, a lot of schools are being unfairly characterized as poor performing even if they are making incredible progress with their students," says Battelle's Mahoney, who argues that growth

measures are not only more accurate pictures of school performance but also essential ingredients for school improvement.

"Growth models fuel hope," says Mahoney. "Without hope, people just quit, there's no reason to keep going."

In the meantime, the challenge continues at Dunbar this year, with the arrival of even more new students from closed schools like nearby Thomas Jefferson. "Here we go again," says Thaxton, about the influx of new students, which she estimates at 25 percent. "We've had two years of constant upheaval, haven't had time to settle."

From Dunbar's perspective, rewarding progress seems like the right way to go. "I think it would be better that way," says Principal Thaxton. "It would give us a chance." ■

NEEDED *continued from page 10*

teacher quality problem—technology. While many Cleveland classrooms may lack some modern technology, such as computer programs, found in wealthier districts, schools are not without their gadgets.

A popular one is *Flashmaster*, a handheld electronic device students use to practice multiplication tables. Some classes spent over 15 minutes a day using *Flashmasters*. In one 5th-grade class, students use them in a competition where speed is valued over accuracy: the winning student had answered the greatest number of questions, but missed a few along the way.

"Technology could be useful, but in many instances, it's just one more incoherent thing added to an incoherent system," notes Schmidt. "A lot of what people do with these things is just trivial stuff that doesn't contribute." ■

Viewpoint

GUEST COLUMN / JAN RESSEGER

Is New Orleans charter takeover an omen for Cleveland?

Today 59 percent of all New Orleans public schools are charters, a conversion jump-started after Hurricane Katrina by a \$21 million charter school grant from the U. S. Department of Education. It's unlikely Cleveland will be struck by a hurricane. Still, what has happened in New Orleans public schools in the past year portends trouble for Cleveland and other urban districts struggling to improve, if the federal No Child Left Behind law remains on its current course.

Jan Resseger is Minister for Public Education and Witness for the United Church of Christ, headquartered in downtown Cleveland. Resseger is an advocate for reforming Ohio's system of funding public schools. She is also a member of the Catalyst Cleveland Editorial Advisory Board.

The school year did not begin smoothly in New Orleans. The hurricane and flooding caused some of the massive dysfunction that has befallen schools. But the rest can be blamed on the reform philosophy embedded in NCLB: that changing the management and governance of urban public schools will close achievement gaps. It mandates that when a public school has been designated "failing" for five years, the entire school must be reconstituted, made into a charter or taken over by the state. The reinvented New Orleans schools employ all three strategies.

No doubt, before the hurricane, New Orleans' public schools needed improving.

Achievement was tragically low, and a New York bankruptcy firm had been hired to clean up the finances. When the winds blew in and the levees broke, the Louisiana Legislature seized the opportunity to take over the public schools and begin a conversion to charter schools.

However, a change in management cannot begin to address many deeply rooted challenges facing New Orleans public school students. In 2005, the Annie Casey Foundation rated Louisiana 49 out of the 50

states in overall child well being. Students in Orleans Parish Schools are among the nation's most highly segregated—93 percent African-American and 3.8 percent white in 2001-02. In the same year, 77.3 percent were identified as poor.

Despite the need for significant targeted spending to fund schools to better serve children in overwhelming poverty, the expenditure per pupil in Orleans Parish Schools was \$5,587 in 2001-02, well below the national average of \$7,376, and also below that year's average expenditure per pupil in Louisiana of \$5,804.

Lance Hill, a New Orleans civil rights activist, explains: "With a very large percentage of children in private schools and a two-thirds supermajority required to pass a property tax levy, it has been very difficult for the school district to raise property taxes in the past 25 years. Over time, disinvestment in programs has made the failure of the school district a self-fulfilling prophecy."


When school opened last fall, operations in the Louisiana State Recovery District quickly unraveled, largely because of the state's decisions about staffing. Act 35, by which the state took control, dismissed the district's 7,500 employ-



JAN RESSEGER

ees and eliminated collective bargaining for teachers in the Recovery District and charter schools, some of which have hired former Orleans Parish teachers for salaries several thousand dollars below their pay before the storm.


In August, the *Times-Picayune* reported: "Hiring was delayed because the state initially hoped to charter all of the schools under its control, leaving the hiring up to those charters. ...But it failed to receive enough strong charter applications." The state did not begin initial screening of applicants for its schools until July 17, when it advertised for over 500 applicants." Although the state promised carefully screened teachers, in October, it reported a shortage of 59 qualified teachers, "with many of the vacancies in essential subjects such as English and math." And although the state even used a temp agency to hire substitutes, some high schools are holding classes with more than a 100 students. Serious discipline problems, fights, and turf conflicts among students in schools that suddenly have district wide, rather than neighborhood admissions, have left many parents fearful of sending adolescents to school.



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Fragmentation of services has left young children without transportation even though their schools are far from their neighborhoods, because charter schools were not required to provide transportation. After a lawsuit secured spaces for 2,000 special education students in the spring of 2006, charter and Recovery District schools have been required to accept a percentage of students with special needs, but there is no evidence that schools have been able to hire teachers certified in special education or to design appropriate programs for deaf, blind, or autistic children.

Rev. Torin Sanders, a member of the Orleans Parish School Board, believes that the explosion of charter schools will exacerbate inequity rather than expand opportunity for New Orleans' poorest children: "After

the hurricane, legislators said Act 35 created the charters to demonstrate innovative ideas for at-risk students, but the highest-performing schools went charter first. The law was used to make these privileged schools unencumbered and autonomous."

State Recovery School District Superintendent Robin Jarvis brags, "Remember, we are changing the entire culture of a school system." And Senator Lamar Alexander (R-Tennessee) proclaims: "New Orleans will be the leading big city in America creating new charter schools."

However, I and many others are forced to ask whether the sum total of individual choices in an educational marketplace really serves the public good. It's important to celebrate the enthusiasm of those who have been able to create innovative

programs in the best charter schools. At the same time, we must acknowledge that New Orleans schools have been weakened by reconstituting the teaching staff, fragmenting the district into independent charters, and turning over the rest to inexperienced state managers. By condemning and dismantling urban schools without acknowledging the role of segregation, abandonment by the middle class, and disinvestment in program resources, we walk out on our civic obligation to care about the children and teachers in big cities. As we leave them to be discredited and branded as failures by NCLB, will Cleveland and America's other big-city school districts face the same fate as New Orleans? ■

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MBNA EDUCATION GRANT TO BE SHUT DOWN

The MBNA Excellence in Education grant program, which awarded approximately \$1.5 million to Cleveland teachers last year, is on its last legs, after MBNA was bought out last summer by Bank of America.

The grant program gave awards to academic programs and materials for K-12 education in all disciplines. In math, teachers used grants to enhance instruction through the purchase of math curricula such as "Everyday Math," software and graphing calculators.

Spokeswoman Alexandra Liftman says that Bank of America gives grants to nonprofits that support education more broadly, such as Junior Achievement and the Boys and Girls Club.

Cleveland teachers and administrators learned of the change last May. "We communicated [with teachers and administrators] as early as possible to provide a smooth transition and to allow teachers to apply for grants in the 06-07 year," explains Liftman.

CLEVELAND CHARTER IS GRANT FINALIST

Citizens' Academy, a K-5 charter school located near University Circle, has been named as a finalist for an expansion grant of up to \$3.5 million. Its selection means the charter will go through a six-month planning process geared to replicating its model in Cleveland, as well as adding higher grades.

The school currently enrolls about 400 students,

mostly from Cleveland's Glenville, Hough, Fairfax and Kinsman neighborhoods. About 97 percent of them are African-American, and 80 percent qualify as low-income. Of the nine charters selected as finalists this year by the Colorado-based Charter School Growth Fund, Citizens' Academy is the only Ohio school. The \$100 million fund, with a stated goal of creating 100,000 new charter school seats by 2015, is supported by the Walton Family Foundation, the Don & Doris Fisher Foundation and the Lynde & Harry Bradley Foundation.

In the 2005-2006 school year, Citizens' Academy received a state ranking of "continuous improvement" and met federally mandated "adequate yearly progress" standardized test score goals.

TEST-TAKING WORKSHOP DRAWS OVER 1,000

A test-taking workshop held at Lincoln West High School in December drew a large turnout of more than 1,100 parents, students and community leaders. The day-long, free event called "Step up to Victory" included sessions on test-taking techniques, test-anxiety reduction strategies and online practice lessons—all focused on the Ohio Achievement and Ohio Graduation tests. Staff encouraged parents to help students study for the exams and led "family literacy" discussions to deepen parents' understanding of the need to prepare young children for school. Topics included building vocabulary before kindergarten, which is seen as an indicator of how quickly children will learn to read. Free

calculators, protractors and rulers were given away. Another "parent round-up" is scheduled for February.

BOARD MEMBER, STATE UNION CHIEF MOURNED

SHIRLEY HAWK, the only member to serve on both Cleveland's elected and appointed School Board, died Nov. 18 of an apparent heart attack. Hawk, 76, was serving on the Ohio Board of Education from 1988 to 1993, when she was elected to the district's Board. She was dismissed in 1998 when former **MAYOR MICHAEL R. WHITE** named the district's first appointed Board. Seven years later in 2005, then-**MAYOR JANE CAMPBELL** named Hawk to the appointed Board. An indefatigable, upbeat advocate for students, Hawk organized and hosted the annual Grads-Net Foundation of Cleveland luncheon, which raises funds to recruit alumni volunteers. Hawk was a 1948 graduate of Central High.

TOM MOONEY, president of the Ohio Federation of Teachers, died Dec. 3, also of a heart attack. Mooney, 52, was also a vice president of the American Federation of Teachers. A Cincinnati school teacher, Mooney served as president of the Cincinnati Federation of Teachers from 1979 until 2000, when he was elected to lead the state union. Mooney was known for his support of education reforms and teacher professionalism. He guided innovations such as a peer review program for teachers and an attempt to set up a career-ladder program for teachers.

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