

Catalyst **CHICAGO**
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INDEPENDENT REPORTING ON URBAN SCHOOLS

UNDER THE MICROSCOPE

CPS IS BANKING THAT A
NEW CURRICULUM AND
BETTER LABS WILL RAISE
SCIENCE ACHIEVEMENT.
BUT MONEY WOES MAY
SABOTAGE THE EFFORT.

Also: Schools
languish in
Altgeld Gardens

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A Publication of the Community Renewal Society
www.catalyst-chicago.org

A letter to the next president



Veronica Anderson

Public education took an understandable backseat to the war in Iraq and the struggling economy in this year's presidential campaign, as neither candidate gave the issue serious attention, though both articulated on paper visions for how to improve it.

Still, the man who takes the oath of office in January must return to this foundational issue. Children, no matter where they live, no matter what race or ethnic group they belong to, deserve a fair shot at a solid education, a particularly vital commodity in an increasingly complex and interconnected world and global economy. To ensure that children get that shot, the President

to meet the mandates, in large part, because of insufficient funds. Even before the economic downturn, urban districts did not have the resources they needed to serve children who arrive at school lagging behind. Now, many of those districts are forced to lay off staff.

Ken Rolling, director of Mississippi-based Parents for Public Education and co-author of a chapter in the

tion costs last year, according to an Illinois State Board of Education report.

No Child Left Behind needs some fine-tuning as well. Coalitions of educators and education policy advocates have suggested a variety of fixes, ranging from giving schools more credit for making progress to holding states and localities accountable for making the systemic changes that improve student achievement. As these proposals are debated, the next President must keep an eye on what's best for children and separate the wheat from the political chaff.

While No Child Left Behind and funding are the major educational issues, there are other important ones that need leadership as well. No national politician has led the effort to fix crumbling urban schools in the six years since Sen. Carol Moseley Braun lost her seat. Other parts of the education establishment, colleges of education, for instance, could benefit from national standards. And the dismal high school graduation rates could be reversed with federal intervention. Chicago, with the second worst high school dropout problem in the nation according to a recent study, could certainly benefit.

Mr. President, public schools can and will continue to get by whether or not they have strong leadership at the very top. But this country and its economy need an outspoken public education President. Can we count on you?

Children, no matter where they live, no matter what race or ethnic group they belong to, deserve a fair shot at a solid education, a particularly vital commodity in an increasingly complex and interconnected world and global economy.

must use all of the tools at his disposal—lobbying muscle, the powerful federal government purse, and of course, his bully pulpit.

Republicans and Democrats took a step in the right direction when they clearly set the expectation, through the No Child Left Behind Act, that public schools must serve all children who enroll. However, in the three years since the law was passed, districts, even those that have made progress, have struggled

book "Letters to the Next President: What We Can Do About the Real Crisis in Public Education," says a top priority for the next President must be finding a solution for states' chronic under-funding and inequitable funding of schools. "I'm not saying that money comes from the federal budget," he notes.

Illinois is one of the worst examples: It ranks dead last compared to other states in funding equity, contributing a paltry 36 percent of educa-

A handwritten signature in black ink that reads "Veronica Anderson". The signature is written in a cursive, flowing style.

SCIENCE EDUCATION

Protocol for progress

High school science scores are in the basement. Elementary scores are better, but schools often neglect science instruction. After focusing on reading and math improvement, CPS has a plan to help kids do better in science. **COVER STORY: PAGE 6**

CPS PUSHES SCIENCE CURRICULUM

Schools on probation are being prodded to adopt a new science curriculum—but given no funds to do so. **PAGE 6**

RUNDOWN LABS PART OF THE EQUATION

More than half of high school labs need extensive repairs or complete overhauls. **PAGE 7**

TEACHERS, READING SCORES ARE KEY

What low-income but high-achieving schools do to help students learn science. **PAGE 10**

HANDS-ON MAKES LESSONS ENGAGING

Columbia Explorers dumps science textbooks, gets kids to find out answers on their own. **PAGE 14**

CAN YOU MEET STATE STANDARDS?

Sample questions show what 4th-, 7th-, and 11th-graders face on standardized science tests. **PAGE 16**



JASON REBLANDO

First-grader Miguel Macias at Columbia Explorers Academy records observations about his brassica plant. On the cover, his classmates Perla Carpio (left) and Christopher Serrano retrieve their own sprouts. Last year, Columbia adopted the new CPS science program.

DEPARTMENTS

NEIGHBORHOODS

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- Isolated schools, community get repairs, no transformation
- Carver: 'A military school in name only'
- Home-grown mentors inspire students



JOHN BOOZ

Cadets at Carver Military Academy straighten out their uniforms as Sgt. Eli Smith begins dress inspection. See **Neighborhoods** on page 17

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ON THE WEB

Go to the *Catalyst* web site, www.catalyst-chicago.org, for news and resources on Chicago school reform, including:

- Spanish translations
- Citywide data from the 1980s
- Calendar of events

Notebook

Q&A with ...

Sandra Stone,

former Suder Elementary teacher

TIMELINE

Oct. 5: Naval academy

A noisy crowd of about 300, mostly students and anti-war demonstrators, forced district officials to cut short a presentation of plans to open a naval academy inside Senn High School in Edgewater next year. Following intense heckling, officials stopped a promotional video for military schools and adjourned early. Protestors decried the plan as military recruitment of poor, urban youth. CPS says it wants to provide parents and students with more choice. Senn officials say they fear the academy will take up too much space.

Oct. 6: Capital funding

Schools CEO Arne Duncan makes a plea for state legislators to approve \$500 million in school construction matching grants. If the program is not approved during the November veto session, Chicago stands to lose about \$110 million slated for repairs, renovations and new construction for overcrowding relief. Suburban and Downstate education leaders joined Duncan to make the plea. The School Board last month approved a \$369 million capital budget. CPS' capital budget for 2004-05 is \$660 million.

Oct. 14: After-school

Thirty-four schools will share a \$3.1 million 21st Century Community Centers federal grant and \$1.8 million in private funds to become community schools; 32 schools are already in the program and offer after-school academics and activities. A new report from Mathematica Policy Research found that elementary students in the 21st Century program, which is nationwide, improved their attendance, reported feeling safer after school and had high expectations for finishing college. There was little impact on test scores.

ELSEWHERE

Tennessee: Grading policy

About 75 percent of high schools would have to change their grading policy under a state plan to require a standardized system, according to the Oct. 17 *Memphis Commercial Appeal*. The proposed policy would primarily affect how schools give out grades of A and B. Students would have to receive scores of 94-100 on assignments to receive an A and scores of 85-93 to receive a B. Currently, only 25 percent of school districts set grading standards that high. Any score of 69 or below would count as an F.

Detroit: Achievement gap

Test scores are lower in Detroit Public Schools now than when the state took over the school system five years ago, according to the Oct. 16 *Detroit Free Press*. Students

now lag even further behind students in the rest of the state in every subject (math, science and reading) and at every grade level except for high school reading, according to the paper's analysis.

Minnesota: Teacher quality

Minnesota is poised to become the first state to work with the non-partisan Teaching Commission on a plan to improve teacher quality, according to the Oct. 14 *Duluth News-Tribune*. Among the proposals are higher pay for teachers in fields such as math and science; giving teachers more say in how schools are run; improving schools and colleges of education; and providing better professional development. Gov. Tim Pawlenty wants lawmakers to agree to link a boost in education spending to better teacher performance.

IN SHORT

"We need teachers, whether they are 'qualified' or not, who can teach in a creative way. My algebra teacher, he's inventive. Everyone shows up for his class on time."

Richard Guss, Harlan High sophomore, at an Oct. 13 panel discussion on teacher standards under the federal No Child Left Behind Act.

In June, the School Board closed Suder Elementary on the gentrifying Near West Side. Sandra Stone, who spent 19 years teaching preschool and kindergarten at Suder, says the decision was a big blow to faculty. Teachers had been working hard to improve academics and were hopeful that plans to transform the blighted community into a mixed-income mecca would help the school, which got public notice through author Alex Kotlowitz's 1991 bestseller "There Are No Children Here" and an NBC documentary on children experiencing trauma. Stone talked with Associate Editor Maureen Kelleher about the impact of closings.

Why did the staff think Suder was closed?

The board said it was to save money. We felt they should have combined schools. At [one school], the principal was retiring, they had quite a number of administrators already there and not very many children. We thought they could have combined with us since we had a clinic and they were going to have to go through principal hiring. And physically our school was in so much better condition, very bright and painted every year, with African and African American original art in the hallways. It was newly wired and tuckpointed. Now Suder is used by administrative staff, so it's still using electricity and heat [which costs money].

In the last three years Suder made substantial gains in reading.

Yes. I believe it was 17 percentage points based on the newest scores coming out. You only need to improve 10 percentage points to get off probation. We used an accelerated reading program with computers. Some faculty had written a grant that got us a state-of-the-art computer lab. And we had two to five computers in each classroom.

After the redevelopment of Henry Horner Homes, were displaced families still bringing their kids back to Suder?

Yes, there were parents that made sure their kids got back to us. But there's been a lot of scattering.

After Suder closed, many kids went to Herbert, which is farther away. Have you heard about how students are faring there?



CHRISTINE OLIVA

They have to cross Madison Street, and I understand there's no light [at the intersection many children use]. One friend said there is a crossing guard two or three times a week but not consistently. Another friend told me Herbert has a dismal technology environment compared to Suder. Just for her to locate a globe was an undertaking, and there are no maps like at Suder, which received wonderful classroom maps several years ago.

Thanks to Alex Kotlowitz's book and the documentary, Suder got noticed. How did that help build partnerships?

The Erikson Institute offered us an opportunity to go through counseling as a faculty. Not only were the children dealing with difficult situations growing up, but we had to deal with [issues] also in helping to educate, nurture and raise them. And more people began to understand what our work was like. Having that validation was wonderful.

How did Suder build good relations with the neighborhood?

We got a \$5 million grant to open a clinic in our school. We had a psychologist on staff, and our nurses could take care of the children's medication. Mothers could bring siblings in. That was a wonderful connection with the community.

Instead of closing Suder, what could the board have done to make it an attractive option for a mixed-income neighborhood?

Make it a community school. (See Timeline.) We had a connection with the James Jordan Boys & Girls Club and the Chicago Bulls, and other people wanted to contribute to Suder. We partnered with the Chicago Botanic Garden. We also taught French, starting with kindergartners. It could have been made into a nice community school.

Can a school to serve both middle-class and poor children?

It doesn't matter if they're poor, if they're rich or what ethnicity they are—they're just kids. If you treat them well and teach them well, they'll turn out to have good, productive lives. ■

ASK CATALYST

If a student enrolls in a magnet high school but later wants to return to his or her neighborhood school, can the neighborhood school refuse him?

CPS parent, name withheld on request

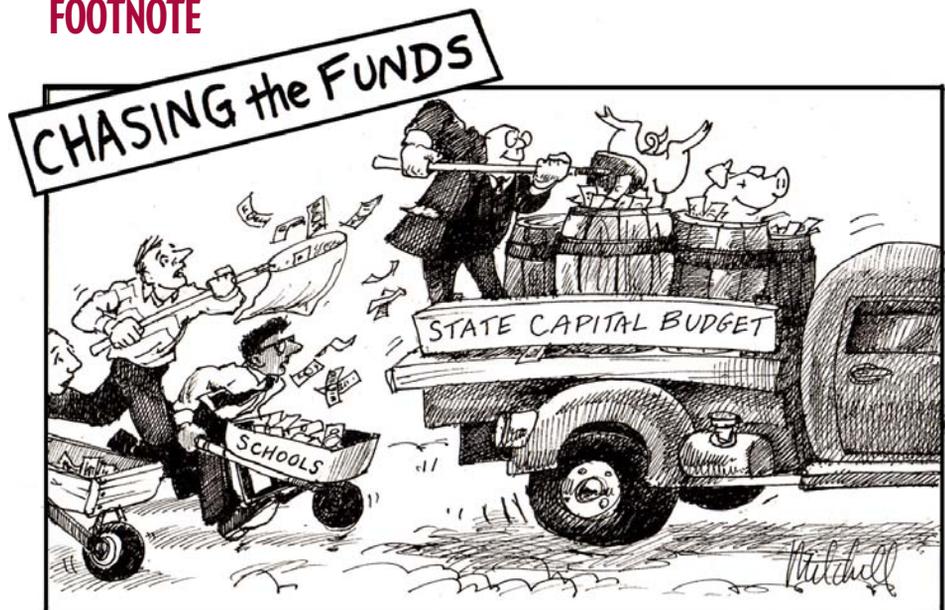
Yes. Once a student enrolls at a school, magnet or regular, that school becomes his home school, and no transfer is automatic. While CPS policy cites several reasons for accepting a transfer student—e.g. it promotes desegregation or reduces a threat to the student's well being—it offers none for rejecting one. Ed Klunk of the CPS Office for High School Programs says that even in situations where the student formally meets the transfer criteria, the decision rests with the school. He recommends that students and parents who are seeking a transfer meet with the neighborhood school to discuss the reasons, or try to arrange for counseling or tutoring at the magnet school. He notes that students who are denied transfers may appeal to the area instructional officer.

E-mail your question to askcat@catalyst-chicago.org or send it to *Ask Catalyst*, 332 S. Michigan Ave., Suite 500, Chicago, IL 60604.

MATH CLASS

Only **22 percent** of high school seniors nationwide who took the ACT in the **2003-04** school year met benchmarks for college readiness: an ACT science score of **24**, a math score of **22** and an English score of **18**, according to the recent ACT Inc. report "Crisis at the Core: Preparing All Students for College and Work." Those scores demonstrate readiness for college courses in biology, algebra and English composition, respectively. In Chicago, only **2** high schools posted school-wide scores at or above the benchmarks in **2002-03** (the latest year available at press time). Another **6** posted scores high enough to meet the English benchmark, but fell short of the mark in science and math. **7** schools did not have ACT scores available.

FOOTNOTE



KURT MITCHELL



Hands-on learning, teacher training and better lab facilities will help schools raise science achievement. But there's one catch: money to pay for all of it.



CPS pushes science curriculum

By Elizabeth Duffrin

After years of neglect while the district focused on reading and math improvement, science is getting attention from Chicago Public Schools.

That attention comes none too soon at high schools, where

scores are in the basement. At 36 high schools, the percentage of 11th-graders who met or exceeded state science standards is in the single digits, according to preliminary results for the 2004 Prairie State Achievement Exam. Citywide, only 27 percent of 11th-graders met or exceeded standards.

Elementary students are doing somewhat better. City-

wide, 41 percent of 4th-graders and 56 percent of 7th-graders met or exceeded ISAT science standards in 2004.

As in many urban districts, CPS students cope with a lack of resources that impact scores: under-trained science teachers, dilapidated school labs and below-average math and reading skills that hinder learning of other subjects,

observes Norman Lederman, chair of math and science education at the Illinois Institute of Technology, IIT. As a result, students are often not taught to think critically and analytically about science. "It's not that the teachers think the best to [learn] is to memorize, but when you're under-resourced, you fall into

Continued on page 8

Formula



3



4



5

PHOTOS BY JASON REBLANDO

1. Brianne Atkinson, a 4th-grader at Columbia Explorer's Academy, records observations about an "owl pellet" containing regurgitated rodent bones. 2. In a lesson on plate convergence and oceanic sediment, Peck Elementary 6th-graders Jose Santoyo (left) and Sophia Zervas measure the change in the dimensions of shaving cream under pressure from two pieces of cardboard. 3. Cristian Perez, a 4th-grader at Columbia Explorer's Academy, cleans a rodent skull. 4. Each physics student in this Payton College Prep has his or her own laptop to record and tally measurements. 5. At Senn High, most labs have just one computer and a smattering of old measuring tools.

Rundown labs part of the equation

By John Myers

The shabby state of science labs in many Chicago public high schools is evident at Senn High in Edgewater.

Ten of Senn's 11 labs show their age—about four decades—with out-of-order sinks, sealed-off gas lines,

water-damaged ceilings and dingy walls with peeling paint. Only one lab is in good condition, rehabbed in 2000 under an initiative that has since been retooled.

The rundown labs limit students from carrying out meaningful experiments, so Senn's teachers rely heavily on lectures and demonstrations. "For hands-on projects, [my

room] is cumbersome," says environmental science teacher Anna Perkins, whose room has one sink and an electric hot plate instead of Bunsen burners.

But Perkins notes an overriding need: more Internet-connected computers for students. One desktop computer is the only portal to vast, free online resources that would

enhance her lessons, such as real-time weather data and a searchable database of the entire human genome.

Like Senn, more than half of public high schools—many of them struggling academically—have dilapidated labs that need extensive repairs or gutting, according to a *Catalyst* review of CPS data. The

Continued on page 11

'Curricula are not teacher-proof,' says one expert

CMSI *Continued from page 6*

a didactic approach.”

The district is rolling out the Chicago Math and Science Initiative (CMSI) to improve classroom instruction, materials and laboratory facilities. But a lack of funding and questions about teacher training could undermine the ambitious effort.

Through CMSI, CPS is touting a standardized curriculum and ongoing professional development. One example: Last year, CPS began offering financial incentives to encourage more elementary and high school teachers to earn math or science endorsements from one of 14 district-approved university programs. So far, the district has budgeted \$1.6 million to subsidize tuition for teachers.

In addition, dilapidated labs at many high schools are getting major repairs. [See accompanying story on page 7.]

RESOURCES SHOULD GO TO TRAINING

“If you want science scores to go up, you’ve got to have better science teaching. Not stupid test prep, not more ancillary activities,” insists Michael Lach, director of science for CPS and a former physics teacher who was one of the first teachers in the district to earn certification from the National Board for Professional Teaching Standards. “It’s getting good tools in the hands of teachers and enough support and an environment where they can learn and grow.”

So far, CMSI is getting mostly positive reviews from principals and teachers. But money is a major sticking point. CPS says it cannot afford to help schools, even



JASON REBLANDO

Aracely Corona, a 7th-grader at Taylor Elementary, measures soil temperature at a nearby railroad switching yard while her classmates collect soil samples. Taylor’s “hands-on” science curriculum helped it soar above the city average on state science tests in 2003.

those on probation, pay for the recommended materials or for teacher training, which can run more than \$100,000 the first year (see chart on page 9).

Lederman argues that scarce resources are better spent on professional development than on expensive programs. With training, teachers can learn to transform existing programs into “inquiry-based” ones in which students devise scientific questions and design experiments to answer them.

A new, high-quality program won’t improve instruction if a school can’t pay for the training, he insists. “Curricula are not teacher-proof.”

CPS, to its credit, selected CMSI materials from programs developed with support from the prestigious National Science Foundation.

However, Lederman says that even NSF programs can fall short of the ideal. While they teach students scientific procedures, such as how to create a scientific experiment with a control group, they fail

to teach the reasons behind those procedures, such as why a control group is needed. “Just because a kid can do something doesn’t mean they understand what they’re doing,” he says.

Another expert cautions that the pick-and-choose method CPS used to create the K-8 program could weaken instruction. Because the selection committee couldn’t find a single program that met all the state’s science standards, they collected units from four different ones, says Lach.

“State standards have become very prescriptive in many states, including Illinois,” observes Janet Carlson Powell, associate director of the Biological Sciences Curriculum Study based in Colorado Springs, Colo. “And to meet those standards, districts cannot attend to the coherency that’s in a well-designed program.” Still, she adds, a collection of NSF programs is generally better than a traditional curriculum

AREA COACHES GUIDE TEACHERS

This year, CPS is requiring all 45 high schools on probation to take a number of steps to improve instruction in biology, the discipline with the largest number of science teachers. About 60 percent of freshmen take a biology course.

Teachers are required to meet for an hour weekly and set specific goals regarding achievement; instructional practice, such as doing one lab activity per week; and literacy, such as having kids revise lab reports. Collaboration will help improve instruction, Lach explains.

Science coaches from high school area offices will meet

with teachers “as often as possible,” Lach adds, to help them craft common exams, reflect on teaching, analyze test results or even to model a science lesson in a classroom.

Meanwhile, all high schools that decide to update materials in core science courses must select them from a list approved by CPS, which was compiled with the help of district teachers, area science coaches and university professors.

The list gives schools a choice among programs that emphasize hands-on learning and those that offer traditional textbook-based instruction but were still deemed to be high-quality. The hands-on programs are better, in Lach’s opinion, but harder to teach. “Not every school is ready for them.”

Selecting a common textbook, even a traditional one, makes it easier for teachers to share ideas and resources, says Lach. “It creates this culture at schools where people can go to each other for advice. You can share equipment, share activities, and analyze them together.”

It’s too early to tell how much impact CMSI will have on high school achievement, but schools are giving mixed reviews.

Teachers at Kelly High in Brighton Park find their coach helpful and willing to listen, says Gretchen Bates, science department chair. Common planning time and common exams were already par for the course, she adds. “We always share ideas, share labs.”

Kelly’s biology department has also selected a new textbook from the approved list, Bates says. “Looking at the list helped us make our selection. And we liked the book, anyway.”

However, Clemente High’s biology department has reser-

vations about common exams, according to one teacher. The West Town school is comprised of several learning communities, each of which has its own theme, such as foreign language or fine and performing arts. As a result, says teacher Tara Dunne, teachers prefer the option to emphasize different content.

At Kennedy High in Garfield Ridge, biology teacher Angelique Smith prefers to write her own exam, going into greater depth on topics she chooses to emphasize. For instance, she has students research and present reports on genetic disorders, and identify trees behind the school using a dichotomous key.

PILOT SCHOOLS GOT FUNDS, BUT OTHERS WON’T

While science teaching at high schools has too often been below par, at elementary schools it has often been missing altogether.

“The big issue at the elementary level is science just doesn’t get taught,” Lach says. “It gets drowned out by reading and math.” Elementary teachers often lack science backgrounds, rely too much on textbooks instead of hands-on activities and end up skimping on science teaching.

Last year, CPS piloted CMSI’s K-8 science program in 21 schools that opted to be part of the program (see story on page 14). This spring, those schools outpaced the city on science test score gains, but most had higher-than-average scores to begin with.

At one pilot school, Peck, most K-6 teachers had never taught science before, according to Marie Clouston, the school’s science specialist. “Some felt they didn’t have the materials they needed. They didn’t feel comfortable with the content.”

But thanks to the new

materials and intensive training, all Peck’s teachers are now leading hands-on science experiments several times a week, Clouston reports. “And they’re enjoying it.”

This year, the 167 elementary schools on probation have been told they must use the CMSI program if they decide to purchase new science materials. More than 20 have already done so.

But CPS says it does not have money to provide the probation schools with the same extra resources given the 21 pilots, including free staff development; substitute teachers to cover classrooms of teachers undergoing training; \$1,000 per classroom for materials; and, at most schools, a science coordinator to assist teachers for two years.

Since last year, another 45 schools not on probation adopted the program at their own expense. Start-up costs can include \$800 to more than \$5,000 per teacher for materials (depending on the grade level); a \$25-an-hour stipend that teachers receive for training on school days, after school or weekends; salaries for substitutes; and the salary of a science coordinator if a school opts to hire one.

In part due to the high price tag for a full-fledged program, some schools chose only parts of it. Pershing Magnet in Douglas bought the program for grades K-4, while Randolph Magnet in West Englewood bought materials for three 7th-grade classrooms, according to the principals.

Some schools chose to limit teacher training. Rather than send all K-8 teachers, Drake Elementary Principal Delena Little will only send one. Randolph Magnet sent its 7th-grade science teacher for one week of summer training, but will probably not be able to afford the full 50 hours

HIGH-QUALITY, AT A PRICE

Starting up a full-fledged K-8 science program under the Chicago Math and Science Initiative can be costly. Here is a breakdown of first-year costs:

CLASSROOM MATERIALS PER TEACHER:

Full-day K	\$1,230
1st	\$2,200
2nd	\$2,020
3rd	\$1,800
4th	\$2,175
5th	\$2,070
6th	\$5,220
7th	\$5,440
8th	\$4,740

SCIENCE COACH \$58,211
(average teacher salary+benefits)

50 HOURS TRAINING \$1,250
@ \$25 an hour per teacher

FIRST YEAR TOTAL* \$115,351

*For a school with 15 teachers: two classrooms per grade level for K-5 and one science teacher per grade level for 6-8.

In the second and subsequent years, costs for replacement materials drop to about 15% of first-year costs. Teachers receive 25 hours of training the second year.

the district offers, says Principal Joan Forte.

Lach says that the Office of Math and Science is encouraging schools to buy what they can now and build their programs as funding permits. The higher-quality “hands-on” materials are a better investment for schools in the long run, he believes.

But Lederman says that without ongoing professional development for every teacher involved, the expensive science materials may go to waste. “When we’re asking for teacher change, over and over we find that without professional development, the initiative dies. People need that support.”

Interns Alejandra Cerna Rios and Sunny Xiang contributed to this article

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Teachers, reading scores are key

What sets low-income schools with high achievement in science apart from those that perform poorly? To answer that question, Senior Editor Elizabeth Duffrin examined 2003 7th-grade ISAT science test scores at schools with more than 90 percent low-income students, to identify the 10 highest-scoring and 10 lowest-scoring schools. Interviews with principals, teachers or other staff at all but one of the 20 schools showed that, in addition to good teachers, the following three factors stood out:

GOOD READING SCORES

Educators often say that reading is the basis for achievement in all other subjects, and that appears true for 7th-grade science. Among the top 10 schools, the median 7th-grade reading score on the 2003 Iowa Tests of Basic Skills was 60 percent at or above national norms. Among the bottom 10 schools, the median reading score was only 18 percent at or above national norms.

TEACHER COLLABORATION

Some schools “departmentalize” in 7th and 8th grades and allow teachers to specialize in one or two subjects. Advocates of the practice, including the CPS Office of Math and Science, say it helps teachers develop deeper knowledge of their subject matter at grade levels where content becomes more difficult. Others educators feel young adolescents get more personal attention when they spend most of the day with one teacher.

However, *Catalyst* found that grade structures and teacher credentials mattered less than having a strong teacher with science training and a faculty that collaborates. Top 10 schools were no more likely than those in the bottom 10 to have an officially designated science teacher. Only half of the top 10 schools had 7th-grade teachers with state science endorsements. But those without science-endorsed teachers in 7th-grade almost always had a teacher with some intensive training in the subject.

For example, Becky Yau at Haines Elementary in Armour Square, one of the top schools, attended the Teachers Academy for Mathematics and Science (TAMS), a professional development program that addresses both content knowledge and pedagogy. Burroughs Elementary in Brighton Park, another top 10 school, sent most of its faculty there for training.

Catalyst also found that top 10 schools without officially designated science teachers tended to be strong on faculty teamwork.

Columbia Explorers Academy in Brighton Park was among four top 10 schools that didn’t departmentalize in 2003. But one 7th-grade teacher, Raul Bermejo, had a science endorsement and a knack for teaching ‘hands-on’ science. He says he collaborated during prep time with the other 7th-grade teacher. “We followed the same curriculum; we worked at the same pace.” Bermejo is now coordinator of the school’s science program (see story page 14.).

At Bethune Elementary in East Garfield Park, one of the bottom 10 schools, teacher teamwork was lacking, according to Assistant Principal Vincent Payne. Upper grades were departmentalized for several subjects in 2003, and the science teacher had an endorsement, he says. But teachers seemed to feel less responsible for students who weren’t in their homeroom. Last winter Bethune went back to self-contained classrooms, Payne reports. “We thought the teachers would be more accountable to their own kids.”

At Bunche Elementary in West Englewood, another bottom 10 school, teachers work well together, according to teacher Scydonia Walls. The problem, she says, was that none of them felt comfortable teaching science. In 2002-03, some upper-grade teachers agreed to swap students for certain subjects, including math and social studies. “Nobody took on science,” she says. Although Bunche has a science lab, some teachers avoided it, she recalls. But this year, upper-grade teachers are working to plan labs together, she adds.

CHALLENGING, “HANDS-ON” CURRICULUM

At nine of the top 10 schools, teachers described a 7th-grade science curriculum rich in experiments, projects and writing assignments that pushed kids to think for themselves.

Teachers at Holden Elementary in Bridgeport concentrate on teaching kids the scientific process, says 7th-grade teacher Elizabeth Kelly. “When they do experiments, they do several trials to see if they get the same results. They graph and they analyze their results to find out whether it’s what they expected to happen. If it’s not, we want to figure out why.”

At Taylor Elementary in East Side, Al Gagnon’s 7th-graders spend the warmer months at nearby lakes and thickets, identifying trees, eradicating invasive species and collecting soil samples with the Calumet Environmental Education Program run through the Field Museum. But labs and detailed weekly lab reports are year-round, says Gagnon. “It’s a way to make sure they understand what they’re doing. I want them to think like scientists.”

After attending TAMS, Yau at Haines switched from textbook assignments that emphasized memorization to experiments that required kids to back up answers with evidence. Although her students found the new approach more engaging, some objected. “Some of my ‘A’ students said, ‘Can we go back to the old book? It’s easier to obtain an ‘A.’ I don’t have to think as much.”

For a list of top 10/bottom 10 schools, go to www.catalyst-chicago.org

Major renovations needed

LABS *Continued from page 7*

data indicate that Senn's labs need complete overhauls. (See chart on page 12.)

Without adequate labs, students do fewer hands-on experiments, which experts say diminishes the quality of science education and prevents students from being adequately prepared for college, other postsecondary training or jobs that involve 21st-century technology.

Senn's one state-of-the-art lab has seven workstations with electric and Internet outlets, a sink, gas hookup and well-stocked cupboards. The lab also has movable worktables, a projector connected to the Internet and a fume hood to ventilate noxious gases generated in chemistry experiments.

"Even just walking in, it is uplifting," says Assistant Principal Badel Khano. But the lab can accommodate only about 20 percent of the students, even though it is in use all day.

Michael Lach, director of science for CPS, admits that students pay an educational price. "We know we're not there yet, and it shortchanges some of our kids."

Khano, too, concedes that courses end up watered-down. "There are definitely fewer hands-on labs, especially in the second semester when [students] get enough reading and theory together and it's time to test it. That's the compromise we have to deal with—this is what you've got, make the best out of it."

PACE OF REHAB 'RIDICULOUS'

To renovate labs system-wide, the cash-strapped district recently launched an initiative to drum up nearly \$60

million in financial help.

Raising the money is only one challenge. Some high schools, including Senn, have one new lab but will likely have to wait years for more renovations.

CPS has spent more than \$50 million on lab renovations since 1998, when then-CEO Paul Vallas directed the district to repair one chemistry lab per high school. Forty-three schools, including Senn, benefited. But in 2000, officials in a new administration realized that approach was inefficient and switched gears to renovate all the labs in a school at once. As a result, six schools have had substantial renovations to all their labs (a typical high school has five to six) and rehab is underway or in the planning stages at another 14.

But there's a catch-22: CPS is now pouring more dollars into individual schools, but that means fewer schools get attention each year. Under the current plan, the 43 schools that already have one new lab are at the end of the line for additional improvements.

Sean Murphy, the district's director of operations, says CPS is working as quickly as possible and that labs are scheduled for repairs "based on need."

"The pace is ridiculous if we want to fix these labs quickly enough," Lach says.

BEST OF LABS NOT ENOUGH

This year, \$5.9 million is slated for lab upgrades at Michelle Clark, Hancock, Lincoln Park and Sullivan. CPS plans to spend a total of \$30 million over six years on rehab work and aims to raise \$60 million more from corporations and lawmakers through the fundraising campaign Laboratory Chicago 2020.



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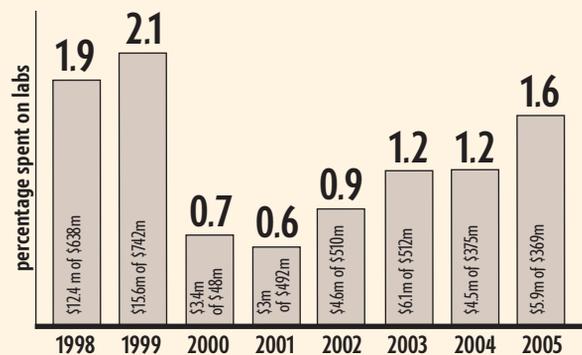
In 10 of the labs at Senn High, which date back to the 1960s, taped up outlets, disconnected gas lines and broken sinks are common.

SCHOOLS GETTING MORE LAB MONEY

Under Schools CEO Arne Duncan, the proportion of capital improvement funds spent on high school lab renovations is rising, following a dramatic dip in 2000. CPS is now spending more money as it renovates all the labs in a school at once. But 2005 funding is still less than half the 1999 level, due to a shrinking capital improvement budget.

Jacqueline Leavy, director of the Neighborhood Capital Budget Group, explains that after Mayor Daley's 1995 takeover, CPS borrowed extensively for school repairs and construction—"a politically brilliant way for the mayor to show progress." But the borrowing in the 1990s has depressed more recent spending. Leavy suggests another: TIF districts. Chicago's expansion of TIF districts—which now cover almost 40 percent of the city—undercuts the school district's primary source of income, local property taxes, by funneling money to public works projects designed to spur economic development.

LAB SPENDING AS A SHARE OF CAPITAL BUDGET



Note: 2001 and 2004 budgets include \$3 million in lab renovation funds that were not designated for specific school projects.

Source: Neighborhood Capital Budget Group

Lach envisions corporate-sponsored labs in each high school, perhaps branded like U.S. Cellular Field.

Jacqueline Leavy, director of the Neighborhood Capital Budget Group, a watchdog group with its eye on public capital spending, supports

any infusion of money for school upgrades. But, Leavy notes, "It's kind of sad that a world-class city like Chicago has to be beggars for excellence in science education."

Lab 2020 debuted in June with a kickoff conference sponsored by the Wrigley

'No system' to lab ratings

To keep tabs on the physical condition of high school laboratories, CPS rates them on a scale of 1 to 7. A 1 means there are life-threatening conditions; a 7 means a lab needs basic maintenance only.

But no labs have earned ratings at the top or the bottom of the scale. Every school earned a 3, 4 or 5, scores that one critic dubs "almost meaningless." Among 34 high schools whose labs rated a 5—indicating that "50 percent repairs" are needed to features such as floors and lights—are Walter Payton College Prep, a state-of-the-art school built in 1999, and Calumet, a high school built more than 70 years before Payton. (Calumet Academy did not enroll a freshmen class this fall, and is expected to be converted to several small schools.)

Lower on the scale, labs at 28 schools scored a 4, which means they need infrastructure repairs like new water and gas lines. Labs at eight high schools received a 3 rating and need complete overhauls.

The rating system leaves experts like Andrea Lee of the Neighborhood Capital Budget Group scratching their heads. "Clearly, there's no system or objective process for doing these assessments," says Lee. "If CPS has an objective process then they should demonstrate how they're coming up with these conclusions."

Another question mark: Renovations are underway or slated to

'WORST' LABS IN CPS

Labs at these schools are budgeted for major renovations.

SCHOOL	LABS	RATING
Amundsen	3	3
Collins	3	3
DuSable	14	3
Hancock	4	3
Lincoln Pk	12	4
Lindblom	9	3
Michele Clark	4	4
Steinmetz	7	3
Sullivan	7	3
*Wells	6	3

*Lab upgrades prioritized, but still unfunded

Source: CPS Department of Operations

begin this year for all but one of the schools with the lowest-rated labs. Work at Wells, where one of its six labs was rehabbed in 1999, was put off while upgrades for two schools with higher rated labs, Michelle Clark and Lincoln Park, were green-lighted in this year's capital improvement budget.

"If these school assessments are suppose to direct the money, then why are schools like Lincoln Park jumping ahead of Wells?" asks Lee.

Officials say Lincoln Park renovations are a holdover from previous budgets and that Clark—recently expanded to include high school grades—needs high school-caliber labs.

John Myers

Company, Accenture and The Chicago Community Trust. The first milestone: blueprints for prototype labs, which are expected this year.

To prepare for full-blown fundraising, CPS teamed up with the Teachers Academy for Mathematics and Science and a handful of architects, scientists and business executives to design a prototype

that can be outfitted for different science courses. Lach says the prototype plans will help sell Lab 2020 to funders by "articulating a clear vision" for linking labs with quality instruction.

Among the design concepts under consideration are workstations at the edge of the room with movable worktables in the center, allowing

Payton labs among best in CPS

The science labs at Walter Payton College Prep, a Near North magnet school, are among the best in the district; on par, the staff says, with those at the state's premier science school, the Illinois Math and Science Academy in Aurora.

Each of the eight Payton labs has 28 laptop computers, a costly fume hood to accommodate chemistry experiments and workstations with hookups for gas, water, electricity and the Internet. The school also has a greenhouse and planetarium, extras that other schools will likely never see.

First-rate lab facilities like Payton's can engage students with more sophisticated hands-on experiments and provide them with access to a wide range of resources, experts say. Well-stocked labs can also help a school to attract the best science teachers.

"Working conditions are important," says Jonathon Shemwell, a National Board-certified teacher, who taught at Steinmetz and Lincoln Park but grew tired of "working with limited resources."

Broken equipment and shabby labs make science teaching tough, he notes. Good teachers can overcome limitations, he explains, but the challenges of working with meager resources are grating.

On the other hand, top-notch facilities offer teachers benefits beyond the ability to conduct sophisticated science lessons. At Payton, for instance, Internet access allows him to use data to improve instruction.

During a recent physics experi-



JASON REBLANDO

A planetarium is one of the extras at Payton.

ment, Shemwell's students completed a five-week inquiry into the effects of different variables on the motion of pendulums attached to 3-foot stands. Students plugged their information into laptop spreadsheets, then answered a Web-based quiz. The quiz results, instantly tallied by an online service, helped Shemwell quickly identify concepts that still eluded the class.

Teachers shop around for the best environment, Shemwell points out, making retention of good science teachers difficult. "But a teacher will get attached to the kids," he notes.

Senn Assistant Principal Badel Khano, who has worked in the district's human resources department, knows science teachers shop around. Senn, where labs are outdated and in need of repairs, will have a tougher time than Payton recruiting the additional biology teacher it needs to hire this year, he says.

Says Khano, "It's not only keeping good science teachers, it's finding them."

John Myers

teachers to create a multitude of student groupings for different activities; top-notch computers with Internet access and appropriate software; and fume hoods in labs used for chemistry classes.

CPS officials, however, point out that raising science achievement will take more than even the best of labs.

"Labs by themselves don't

really help," Lach notes, explaining that curriculum improvement is part of the Lab 2020 concept. "In addition to a capital plan and a fundraising plan, you need a technology plan (to keep computers up-to-date) and an instructional plan."

Lach is a member of a committee formed by the National Academy of Sci-

ences that is charged with creating guidelines for lab-based science education. Recommendations are due next spring. Lach's presence on the committee is intended to ensure that CPS efforts to improve curriculum are informed by leading national opinions and research.

One expert told the group that lab activities in many popular textbooks are seriously flawed. For instance, one textbook asks students to grind up plants in solvents and use filter papers to sort out pigments. "That activity showed kids nothing about plants making sugars," which was the focus of the related lesson, says Jo Ellen Roseman, director of Project 2061, started by the American Association for the Advancement of Science to raise the public's science literacy.

The leaders involved in Lab 2020 want to make sure that lab activities match the curriculum, as Roseman suggests. Doing so will help control costs because schools won't purchase unnecessary lab supplies.

The district's efforts to standardize science curriculum through CMSI, the Chicago Math and Science Initiative (see story on page 6) is helping to guide the discussion of what equipment labs should include.

SMALL SCHOOLS, ELEMENTARY SCHOOLS

The CPS plan to convert 20 high schools into 40-60 small schools could create more challenges. Already, Senn teachers and administrators oppose creation of a naval academy inside the school, saying it would cost Senn three labs.

"We're already teaching several of our science classes in regular classrooms," says Assistant Principal Khano.

South Shore High's conversion left one of four small schools, the School of Entrepreneurship, with only one room designed to function as a lab.

"It's really depressing. Our science labs are like art rooms. The one [real] lab looks the same as when I graduated from here," says School of Entrepreneurship Principal Bill Gerstein.

To ensure equity, the district is planning a costly overhaul for all the labs at South Shore.

"There's more that the district could do to help resolve these conflicts," says Gerstein, referring to the turf battles that initially arose among the four schools. "They really just let small schools fend for themselves."

Jeanne Nowaczewski, small schools director for CPS, acknowledges that sci-

ence labs, often clustered together in old high school buildings, pose a challenge for small school breakups. She notes that each building has "mitigating circumstances," such as floor plans and how science labs are clustered, which the district will consider when choosing conversion sites.

And most small school sites now have campus managers to mediate territorial tussles, Nowaczewski adds. South Shore is slated to get a manager next year.

Once high school labs are up to par, the district will turn its attention to elementary schools, where CPS has not spent any money on labs in years. Lach, however, says lab gear and other materials in the CMSI program can serve most elementary school needs.

To compensate for the lack

of facilities, some elementary schools have formed partnerships with nearby universities and hospitals, such as the 45-school Science and Math Excellence Network administered by Rush Hospital.

Through SAME, about a dozen schools have been outfitted with brand-new or renovated labs that feature microscopes, measuring scales and other resources. Thirty schools are part of an equipment-sharing program.

Reginald Adams, director of SAME, says the network got started after he visited Hefferan Elementary in North Lawndale during the early 1990s.

"I got in a room and [the teacher] showed me a sink," Adams says. "That's not a lab."

Call John Myers at (312) 673-3874 or e-mail myers@catalyst-chicago.org.

More science teachers, but less quality?

Chicago Public Schools has all but erased a long-time shortage of science teachers, largely because of policy changes by the state that have raised concerns about the quality of the science teaching pool.

As *Catalyst* goes to print, the district's human resources website shows only 18 vacant slots for science teachers, compared to 43 for math teachers and 260 for special education teachers.

"In the past couple of years, we've been asked by CPS to increase math and decrease science (recruitment)," says Dominic Belmonte, director of teacher preparation for Golden Apple Teacher Education (GATE), an alternative certification program.

In June 2003 the Illinois State Board of Education watered down its criteria for deeming middle school science teachers "highly qualified" under the federal No Child Left Behind Act. As a result, the percentage of highly-qualified middle school science teachers in CPS skyrocketed from 60 percent to 95 percent.

"Yes, most of our science teachers meet the qualifying level, but what does that mean when the qualifying level is so low?" says Michael Lach, director of science for CPS.

Before the change, middle school math and science teachers working in departmentalized schools needed a bachelor's degree, an endorsement in science or a passing grade on the state's science test to hit the state's mark. But at non-departmentalized schools—where each

teacher instructs a single class in all subjects—teachers only needed to pass the state's general tests. Now, all middle school teachers take the same general test.

The prior rule "discouraged schools from departmentalizing," says Xavier Botana, the CPS director of accountability for NCLB. The district wants to do the opposite because teacher specialization improves teacher quality, he adds.

This past June, the standards were eased even more, in part to accommodate veterans. Now, teaching experience, extra credit hours and professional development can replace a college degree or an endorsement.

Botana says the revamped requirements won't necessarily dilute teacher quality. But, he concedes, "If you equate having a degree in the content area with being higher quality, then the new requirements probably don't help the quality pool."

But while the board made it easier for middle school teachers to be rated highly qualified, it made it tougher for high school teachers by raising test requirements for various endorsements.

Lach says the district can boost the skills of existing science teachers by providing more resources, improving retention and promoting professional development.

"Our primary focus right now is to make sure the instruction we do have is better," he says.

Sunny Xiang, John Myers

Hands-on makes lessons engaging

Students at Columbia Explorers go from textbook learning to finding out the answers on their own

By Elizabeth Duffrin

A couple of years ago, hardly anyone at Columbia Explorers Academy enjoyed science, not even the teachers.

"I was having them memorize facts. There were no experiments," says 8th-grade teacher Andrew Cosme, who like most of his colleagues, followed a standard science textbook. "The kids were bored out of their minds."

Fourth-grade teacher Maria Janik agrees, adding, "If the teacher is bored, the students aren't interested either."

But all that has changed at the Brighton Park school since fall 2003. That's when Columbia Explorers and 20 other schools piloted a hands-on science program in one classroom per grade level as part of the Chicago Math and Science Initiative (CMSI), the district's math and science initiative. Already state science test scores have shown some growth, and teachers anticipate bigger gains in coming years now that the program has gone school-wide. "Kids get more out of it," says 6th-grade teacher Joanna Navarro. "It's fun for the teacher and the kids."

Chicago Public Schools is encouraging all elementary schools to adopt the program. Pilot schools, like Columbia Explorers, got a financial break that other schools won't. (See story on page 6.) CPS paid for teachers' training and contributed about \$10,000 to help pay for materials. Most pilot schools also got a science coordinator to assist teachers for two years.

Even with CPS' help, Columbia still had to come up with approximately \$80,000 to buy curricular materials, which were developed with support from the prestigious National Science Foundation by the University of California at Berkeley and the National Sciences Resource Center based in Washington, D.C.

Teachers say the steep price tag has been worth it because the high-quality

material and equipment—including plenty of lab gear and live specimens—help students become more engaged with lessons and gain a deeper understanding of science concepts. Principal Jose Barrera agrees, noting that hands-on activities are the key to engaging students with science.

ACTIVE LEARNING SETS CURRICULUM APART

On a Wednesday morning in late September, excited whispers break across Mary Pagan's 1st-grade classroom. From under a fluorescent lamp on a counter, Pagan removes clear plastic cups of soil with sprouts of green. One by one, the children come forward eagerly to claim them.

Twelve days ago, each child planted two brassica seeds. Examining her sprout, 6-year-old Vanessa Cameron discovers six tiny white buds. "Mine has flowers! It has flowers!" she exclaims, holding out the cup to a friend. After counting off the buds with the tip of her pencil, she adds them to her sketch on an observation sheet.

In addition to drawing their plants, the 1st-graders are expected to measure their height and record observations, just like real scientists. Science coordinator Raul Bermejo, who occasionally co-teaches a lesson with Pagan, prints three fill-in-the-blank sentences on the chalkboard for the students—who are just beginning to read and write—to copy and complete, such as "My plant is ___ in color."

Even with coaching from Bermejo and Pagan, only about half of the 32 children complete three sentences. By the end of last year, 1st-graders composed their own lab reports with little assistance, according to Bermejo.

In two weeks, Pagan will read them a story titled "What Do Plants Need?" from a non-fiction book of 'science stories' that is included with all lesson units in grades 1 through 5. Today, Bermejo prepares kids in advance by helping them recall the parts of plants and what they need to grow.



JASON REBLANDO

At Columbia Explorers Academy, 1st-grader Jesel Serrano (top) fertilizes her brassica plant. Fourth-grader Rene Figueroa carefully excavates a rodent bone from a sterilized "owl pellet" containing regurgitated rodent parts.

But it's the hands-on activities that drive the curriculum and set it apart. "If you tell the kids too much, they're not thinking for themselves," 4th-grade teacher Janik explains. "It's those experiences that they have for themselves that they're going to remember."



JASON REBLANDO

Maria Rodriguez (left) and Xochilt Cisneros toss a ball and record the number of catches and misses during a lab for their 7th-grade science class at Columbia Explorers Academy.

On an afternoon in late September, Janik's 4th-graders experience fuzzy grey "owl pellets" for themselves, working in pairs to record their size, shape and texture before carefully breaking the pellets in half.

"They look like bones," says Stephanie Cisneros, a slight, serious girl, to her equally intent partner Juan Mendez. She holds out the pellet's two halves; each child takes one, scrapes it gently with a toothpick and compares it to a chart of a rodent skeleton depicting 14 pictures of individual bones. Within minutes, Stephanie has discovered her first skull, much to the envy of Sebastian Bellatin and Vanessa Ramirez, another pair seated in the same desk cluster.

Soon Vanessa makes a discovery of her own. "Look at how tiny the phalanges are!" she exclaims to Sebastian, pointing to a tiny foot bone.

Tomorrow, students will glue the bones they find into completed skeletons on construction paper, and explain in writing how the rodent bones compare to a chart of the human skeleton, which is somewhat similar. They will also discuss how bones differ in shape depending on their location and function in the body. Two days later, they will read a story explaining how owls swallow their rodent prey whole, then regurgitate bones and fur after the other parts have been digested. (Pellets are sterilized for classroom use.)

"I don't get what is an owl pellet," Sebastian remarks at one point during Wednesday's lesson as Janik pauses by his desk. You will by the time the unit is over, she assures him.

UNDERSTANDING THE SCIENTIFIC PROCESS

At all grade levels, CMSI units teach students scientific inquiry skills, such as collecting data and recording observations, which is one of the state science goals. The CMSI program is also structured to expose students in kindergarten through 5th grade to each of the content areas required by the state: earth and space science; life science; and the physical sciences, which include both physics and chemistry. Starting in 6th grade, students concentrate mainly on one content area per year: earth science in 6th grade, life science in 7th grade and physical science in 8th grade.

By the middle-grades, scientific inquiry becomes more complex as students learn all the rules of scientific protocol, such as keeping all variables constant except the one being tested. Data analysis also requires a deeper understanding of charts and statistics, as an activity in Valerie Kirkolis's 7th-grade class illustrates.

In Columbia's courtyard, pairs of students record how often each of them can catch a rubber ball, first with two hands, then with one. They are testing the hypothesis that a two-handed catch is easier, thus more common.

Kirkolis circulates to coach students on proper scientific procedure, such as keeping the distance between thrower and catcher constant. "If you cross the line, it's going to change your data," she counsels one pair of boys. "You have to re-throw."

After tallying results the next day in a chart on the chalkboard, Kirkolis has them answer questions in their workbooks, such as "What was the range of student's ability to catch a ball with one hand?" and "Use the class data to explain whether the ability to catch a ball increases when using two hands."

Later that class period, groups of students will decide how to alter one variable in the experiment and design their own.

"It's not just going back and finding the answer in the science book, because it's not there," says Kirkolis. "They are forced to think."

HANDS-ON TRAINING FOR TEACHERS

Some teachers without a science background were intimidated by the program. Fifth-grade teacher Amy Shpritz acknowledges she was "scared at first," but says the training was helpful and the teacher's guide detailed and easy to follow.

Teachers new to the program get 50 hours of training in the summer and throughout the school year, working their way through virtually every student lab themselves. In their second year, teachers get 25 hours of training specific to their grade level, focusing on analyzing students' work and targeting instruction to areas where they need to improve, says CPS Director of Science Michael Lach. "We can look at lab reports. We can say, 'Johnny gets the concept of PH but not neutralization.'"

Compared to a traditional textbook series, the new science program is more "teacher-friendly," staff at Columbia Explorers say. Some units come with a CD of video clips showing a teacher leading every lesson. And nearly all the materials needed for each lab, from jump ropes to microscopes, are included in the kits.

"It's nice not to have to get stressed out trying to pull your own material [together]," says 6th-grade teacher Joanna Navarro. "It's all here for you."

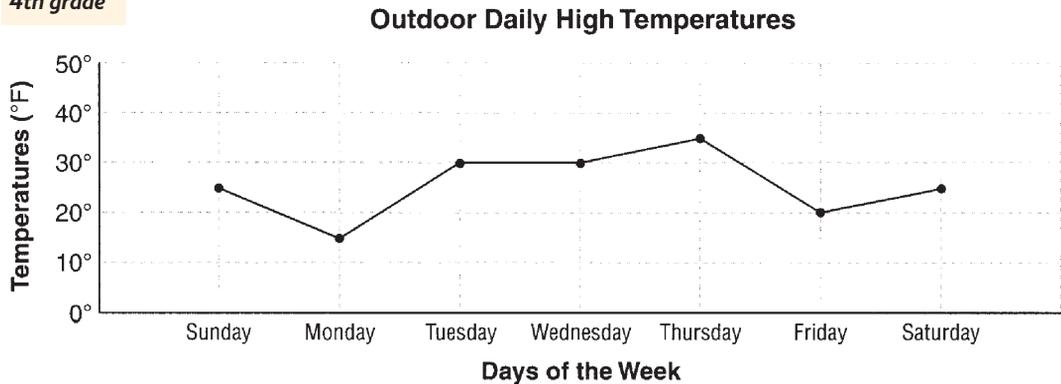
The teacher's editions of the textbooks provide plenty of in-depth background. "You don't want to feel like you're trying to teach kids something you don't know," says Janik.

Seventh-grader Karen Picazo says the program is a big plus for students. "You can do things your way. You can see if you were right or wrong and make another hypothesis. It's kind of playing and learning together." ■

Can you meet state standards?

Here are sample questions from the science portion of the Illinois Standards Achievement Test, given in 4th and 7th grade; and the Prairie State Achievement Examination, administered in 11th grade. Answers are below.

4th grade



1. The graph above shows the outdoor daily temperatures for one week. What were the temperatures like during this week?

- A. Mostly above freezing
- B. Mostly below freezing
- C. Mostly below 20°
- D. Mostly below 0°

2. Which is an example of a chemical change?

- A. The grinding of salt crystals to powder
- B. The evaporating of water from a puddle
- C. The melting of ice
- D. The burning of wood

7th grade

3. Milky Way galaxy is to the sun as

- A. An ocean is to a water molecule.
- B. An engine is to a car.
- C. The rails are to a train.
- D. The sun is to the earth.

4. This is a diagram of a genetic cross. In guinea pigs, black hair color is dominant (B) and white hair color is recessive (b). What hair color are the guinea pigs' offspring?

	B	b
B	BB	Bb
b	Bb	bb

- A. All black
- B. All white
- C. Mostly black with some white
- D. Mostly white with some black

11th grade

5. In contrast to DNA, an RNA molecule contains uracil (U) instead of thymine (T). All other bases remain the same. During transcription, an RNA molecule is constructed from a coding strand of DNA using complementary coding. How would the RNA molecule coded from this portion of a DNA molecule TACCGG read?

- A. AUGGCC
- B. ATGGCC
- C. UUGGCC
- D. UAGGCC

6. Elements in the same vertical column of the Periodic Table have similar chemical properties and combining ratios. Which statement accounts for this chemical behavior of these elements?

- A. They have equal numbers of protons, neutrons and electrons.
- B. They have equal numbers of electrons in their outer energy levels.
- C. They have equal numbers of neutrons in their nuclei.
- D. They have equal numbers of protons in their nuclei.

For more sample tests, go to <http://www.isbe.net/assessment/science.htm>

Answers: 1. B; 2. D; 3. A; 4. C; 5. A; 6. B

Neighborhoods

ALTGELD GARDENS

Isolated schools, community get repairs, no transformation

A historic public housing development on the far Southeast Side is undergoing a rehab, but schools and students are still waiting for help

By Debra Williams

When it opened in the 1940s, Altgeld Gardens, a public housing development on the far Southeast Side, attracted young African-American industrial workers and post-World War II military employees who needed to save money until they could afford to buy their own homes.

Not so today. The 157-acre area now is home to 3,400 low-income families whose prospects of moving out and up the economic ladder are dim.

Between then and now, Altgeld became an isolated corner of the city, where there is no major commercial development and, according to residents, the city has made only minor capital improvements—new sidewalks, gutters and curbs.

Flanked on three sides by sanitary and hazardous waste landfills, manufacturing plants and shuttered steel mills, the area is now distinguished by poor air quality, with both adults and children suffering from above-average rates of respiratory ailments. This phenomenon figures into children's poor academic performance, say educators. All but one of the five public schools in or near Altgeld are on probation.

Two schools on the outskirts of the community, DuBois and Aldridge, enroll mostly kids who live nearby in stable private housing developments such as Concordia Place Apartments and Eden Green, a cooperative.

Within Altgeld, however, schools are facing increased mobility as a Chicago Housing Authority project to renovate buildings gets underway. The plan is to move families out while their apartments are gutted and rehabbed. Some may permanently relocate elsewhere using Section 8

vouchers; others will be moved temporarily to another unit in Altgeld or to another public housing development.

So far, families in three of Altgeld's 17 "blocks" have received letters from the housing authority saying they will have to move by January. Anticipating such notice, some residents have already left. Others have been evicted. According to 9th Ward Ald. Anthony Beale, about 500 of the 2,000 units are vacant.

The drop in the number of residents has meant a decline in school enrollment. Five years ago, 865 students attended Carver Primary; this year enrollment is 400. "I used to get \$750,000 in federal [poverty] money," says Principal Linda Randolph. "This year, I received \$230,000."

With fewer funds, Randolph has had to cut a counselor position, an assistant principal, classroom assistants and teachers.

Meanwhile, environmental hazards affect children's health, and some principals and teachers suspect it affects learning ability.

Efforts to improve the quality of education in Altgeld offer some hope. A mentoring program matches middle-school students with successful adults who used to live in the area. A failing high school has been converted into military academy. Test scores there remain extremely low, however.

With so many obstacles for Altgeld's kids and schools, one advocate suggests Chicago Public Schools give educators more time to catch up. "With all the life changes going on here, the rules for schools shouldn't be the same," says a community advocate who works with students. "This is a transitioning community. It took time to mess [schools] up; it will take time to fix them." ■

This is an occasional series examining schools from a community perspective. Previous neighborhood reports can be found online.

'A military school in name only'

Plans to convert Carver Military Academy into an elite school have yet to be realized

By Debra Williams

When Carver High School was converted into a military academy four years ago, Curtis Murphy, then the school's principal, predicted it would become as prestigious as the Chicago Military Academy in Bronzeville, the district's first.

"We'll be like Bronzeville, but a little different," Murphy said as he gave a visitor a tour of the school in the summer of 2000. "We will be an elite school."

That prediction, however, has yet to be fulfilled.

Unlike Bronzeville, a showpiece for Chicago Public Schools, Carver's conversion came with scant resources

and little support from central leadership. Since it opened in 2000, the school has had three principals, and it still seats a regular local school council, not the required board of governors whose membership would include military experts. Most of the pre-conversion faculty and staff remain and have not reapplied for their jobs like those at other converted schools. And test scores remain in the basement—Carver has been on academic probation since 1996.

While Carver and Chicago Military both look for students who are willing to commit to stricter rules and regulations, Carver does not require students to be on grade level to be admitted; Chicago Military does.

"The school is a military school in name only," says Darryl Gibson, one of the school's parent local school council members whose son is a senior at Carver; another son graduated in June.

However, the appointment this summer of a new principal with military credentials has raised hopes that Carver's sluggish conversion would finally gain traction.

School officials say the school's conversion is still underway, noting that instead of closing Carver, CPS opened up the military program to incoming freshmen while

students enrolled in the old academic program were allowed to remain through graduation.

Those students had been phased out by spring 2003, and by fall, Carver was a full-fledged military academy, at least in terms of enrollment.

Since graduating its first military students in June, the School Board has replaced the principal with a new one who has a military background, something Carver's last two administrators didn't have.

By next spring, they plan to appoint a board and determine whether staff will be required to

reapply for their jobs. However, some loose ends remain, such as whether to change student admissions criteria.

In fact, this year, school administrators are meeting regularly to develop standards for creating quality military schools citywide.

"We don't want Carver to be a stepchild," says Area 24 Instructional Officer Cynthia Barron, who is working closely with the academy to help it get off probation and complete its transition into a full-fledged academy. "We want equality. It is no longer the one who speaks the loudest gets the most."

CARVER AN OPTION, NOT A CHOICE

Bronzeville was opened in 1999 to give parents another educational option that emphasized discipline and a more rigid structure than other high schools.

Military academies were not created to send students to the service, but rather to prepare them for college using military methods to help them get there, says Donald Pittman, chief officer of high school programs. "These schools promote leadership," he explains. "Students who go through this type of structure tend to do well academically, live responsibly and go to college. A military structure pushes students and asks them to do their best. You don't have this at a regular high school."

Indeed, fewer than 10 percent of seniors who graduated in June from Chicago Military and Carver joined the military. However, far fewer Carver graduates go on to college and get scholarships to pay for it. (See chart on XX page.)

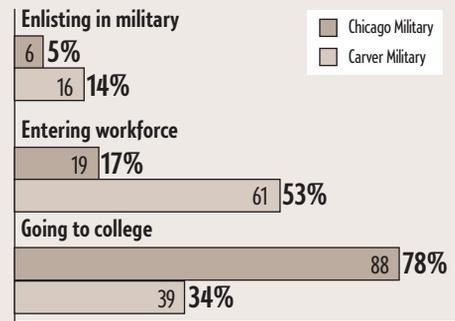
"We hoped that [Carver] would get a rebirth," Pittman says, explaining the district was looking to offer choice in a community where options are limited. "It was on the decline as a high school."

A TALE OF TWO CPS MILITARY SCHOOLS

Chicago Military Academy and Carver Military Academy may share an academic philosophy but the schools' results are vastly different. This spring, 41 percent of students at the former met or exceeded standards on the Prairie State Achievement Exam. By contrast, only 10 percent at Carver reached that mark. Chicago Military also does a better job helping its graduates get college scholarships—75 percent, compared to 33 percent at Carver—even though Carver enrolls more students from low-income families.

WHERE THEY'RE HEADED

In 2004, Carver Military Academy graduated 116 students; Chicago Military Academy graduated 113.



Source: CPS Office of High School Programs



JOHN BOOZ

Sgt. Eli Smith addresses freshmen cadets during dress inspection at Carver Military Academy, which converted from a neighborhood school in 2000.

However, unlike Chicago Military which started from scratch, building its program one grade at a time, Carver remained open and ran two separate academic programs for three years.

"The transition could have been smoother," says Vanessa Rogers, Carver's current LSC chair. "The board didn't do what they'd done with other schools, which is close them and reopen them. If they had, every student would have had the same focus and expectations."

"That first year, you could tell that this was something that was being tried and was not a finished project," says Gibson. "You had people who were not experienced in military concepts. Teachers didn't know what to expect and there was no money to support the effort. Bronzeville was supported with millions of dollars. Carver has not received the same kind of support."

Chicago Military got seven times more money for its launch, \$28 million compared to \$4 million, but it had to convert an unoccupied armory into a fully equipped school.

Still, CPS administrators defend their decision and the extended con-

version period, saying the district didn't want to force out students who were not interested in the military option. "You can't come in and shove this down people's throats," says Pittman. "We've been trying to make sure this is done right. There were students there who didn't choose the military academy so they had to transition out. Now, everyone who is there, wants to be there."

NEW LEADER HAS MILITARY BACKGROUND

In 2002, Murphy retired and Assistant Principal William Johnson took his place. Then this past summer, Johnson was reassigned to Fenger, whose principal was removed this year because of the school's poor academic performance.

"Johnson was going a good job, but you can't lead a particular initiative if you don't have the background," says Barron. "He didn't have the military background."

Carver's newest principal, installed in August, is John Thomas, who has been an officer in the Army Reserves for eight years and was the former principal of Moses Vines Preparatory

Continued on page 23

Bad air saps students, staff

A couple of years ago, Carver Primary School Principal Linda Randolph began to get a little winded climbing stairs and walking to and from the three primary buildings that she oversees. At first, she suspected it might be because she'd gained a little weight. When the problem persisted, she went to the doctor, who told her that she had developed a respiratory problem and suggested she use an inhaler.

It's a common problem in Altgeld and Randolph is not alone. Both she and the principal at Carver Middle School say many of their students suffer from chronic respiratory ailments such as asthma, which adds up to missed school days and more difficulty concentrating on academics. Yet the problem can't be quantified because few children have private doctors and complete medical records.

Residents and advocates blame Altgeld Garden's neighbors, a mix of industrial plants, abandoned factories, toxic waste dumps, landfills and a sanitary waste site.

"Just pick your poison," says Avis Jenkins from Hope Worldwide-Illinois, a non-profit organization that works with disadvantaged youth. "There are steel mills, a water reclamation plant [and] factories."

"This is a heavily contaminated area and a lot of contaminants are airborne," says Cheryl Johnson, a community activist. "Most of the smokestacks in this area blow right into this southeast corner."

Johnson, who along with her mother, Hazel Johnson, runs People for Community Recovery, a grassroots community-based environmental group, says soil in the area has been contaminated since the 1800s, when railroad car magnate George Pullman used it as a dumping ground.

Randolph says the polluted air scares off teacher prospects. "I hate interviewing in the summer because of the horrible smell. I always hope for rain. I had one prospective teacher say, 'You are all out here to die.' Well, I didn't expect to hear from her again."

(Despite concerns about students absent from school, last year attendance rates for Carver Primary and Middle schools were about the same as the district average for elementary schools, 93 percent. Carver Military posted a rate that was two points higher than the high school average of 87 percent.)

Asthma and other respiratory illnesses have an adverse impact on learning, says Marian Brynes of the Southeast Environmental Task Force, who taught in public schools for 22 years. Kids are lethargic and may find it hard to concentrate, she notes.

"We see a fair number of children with asthma, bronchitis and emphysema," says Pamela Cole, a physician and medical director at the TCA health care center that serves Altgeld residents. "The quality of the air is not good because of the nearby paint factory and the dumps."

Last year, the clinic treated 276 children—infants to 18-year-olds—for asthma. This year, it has treated 133 since January.

Says Johnson, "The city doesn't care about the soil contamination out here. The city is not doing anything about it, because it would be a liability."

Debra Williams

Home-grown mentors inspire students

Accomplished former Altgeld Gardens residents return home to show students they can make it, too

By Debra Williams

When Judge Michael Stuttley, an alumnus of Carver Middle School, returned to his alma mater three years ago to deliver the commencement address, Principal Ida Stewart tossed him a challenge.

Don't be like others who say they'll come back to help, then don't. Come back, get involved with students and show them that they can be successful, she urged.

Not only did he accept, he promised more. "I told her I'd bring back other former students and residents of [Altgeld Gardens], too," says Stuttley, a juvenile court judge in south suburban Markham.

And he did. Stuttley returned to the school as a mentor, and each year, for the last three years, has brought with him close to 90 mentors, enough for every 8th-grade student in the school, including those in special education.

Christened Alumni Contributing to Success, or ACTS, the program aims to help students stay in school and steer clear of gang activity, drugs and alcohol. Stuttley says the answer is to point students in the right direction, help boost their confidence and give them hope that they can have a positive future.

"Many of our kids have no self-esteem," he says. "They say to themselves, 'We are from the projects and we can't be anything.' But some of these kids are just as smart as we are. They need someone to say to them, 'You are somebody.'"

"At a dinner dance [last year], mentors stood up and told students what they did and what block they lived in," says Stewart. "And the kids would say, 'Hey, that's my block. This person lived in my block and he's successful.'"

Mentors talk to students weekly by phone or e-mail—Stuttley sets up an e-mail account at school for each student. Mentors also get together with students every month for social activities like Chicago Bulls basketball games, plays or roller skating. Last year, students also

WHERE CARVER MIDDLE GRADS LANDED

More than half of the 8th-graders living in Altgeld who graduated last spring enrolled in Carver Military this fall. Only one got into Chicago Military Academy, which has a stronger program.

CARVER MILITARY ACADEMY	46
Fenger*	20
Other neighborhood HS	16
Brooks College Prep	2
Chicago Military	1
Alternative safe school	1

* Neighborhood high school for kids living in Altgeld Gardens

Source: The Consortium on Chicago School Research

met with mentors every other Saturday at school for board games and movies and then received tutoring.

Students also participate in 20 hours of service learning in the community and agree to read a specific number of books throughout the year.

The program, which runs for nine months each year, has raised \$35,000 through grants from ComEd and CPS' specialized services office. It also receives in-kind donations like tickets for basketball games and plays.

This year, the program was scheduled to begin in October and, for the first time, will also include 7th-graders. However Stuttley has not yet secured funding.

GARDEN ALUMS COME BACK

While a sprinkling of mentors are from outside the neighborhood—like teachers, assistant principals, and other school staff—"Garden" alums predominate.

"I wanted mentors who were raised in Altgeld or went to Carver. If you are a judge or a doctor and you say I'm from Block 5, children feel like they have a connection," says Stuttley, who lived on Block 9 with a single mother and 12 siblings.

(Altgeld is comprised of 17 "blocks.")

Mentors range in age from 23 to 68 years of age and are executives, lawyers, doctors, police, firefighters and educators.

"These are people who have jobs, families and responsibilities and they take the time out to do this," says Stewart.

Many are also teachers and administrators for Chicago Public Schools. Sheryl Cheatom, who directs CPS' Education-to-Careers Office, not only became a mentor but helped Stuttley put the program together.

"We've been friends since we were 6 years old," says Cheatom, who helped train mentors. "So when Michael said he wanted to do this, he wouldn't let me rest until I helped him put something together. We wanted people who could show the children that they could take a different path and be successful."

'WE COULD BE BEST FRIENDS'

Students love the program.

"My mentor was a [minister] and he made me feel confident that I can be whatever I want to be," says Jerrade Dixon, a freshman who currently attends Carver Military Academy and is interested in law.

Carver Academy freshman Charles Chapman says his mentor was Stuttley, who coached him on what to expect in high school and what he needed to do to get to college—like studying, joining the student council and getting involved in extracurricular activities. "It was good advice."

Ashley Allen, now a freshman at Carver Academy, sees herself as the reflection of her mentor.

"Her block is behind my block. We like a lot of the same things and she was so easy to talk to. She made my life easier," Allen says. "She has a son my age, but if we were the same age, we would probably be best friends."

School staff love the program, too. "We have a lot less misconduct with kids who are in the program," reports mentor and acting Assistant Principal Brandi Barrett. "They are much more respectful." ■

GUEST COLUMN / ALAN GOTTLIEB

Denver broaches economic integration

Some months ago, in my role as The Piton Foundation's education program officer, I read "All Together Now—Creating Middle-class Schools Through Public School Choice," by Richard Kahlenberg. The book's thesis—that economically integrated schools have significantly greater success educating low-income children than do high-poverty schools—made immediate intuitive sense.

In the spring of 2002, Piton commissioned a detailed study of Denver Public Schools test score data to see whether Kahlenberg's thesis held true in Denver. To conduct the study, we hired a statistician who worked at the time for the school district.

Dianne Lefly's insider status afforded the study one huge advantage: it allowed her to examine the test-score records of 13,245 individual students in 89 elementary schools over a three-year period. The sheer volume of data gave the study great statistical validity.

The goal of the study was to determine whether low-income children, as defined by eligibility for a free lunch, performed better in schools where they were in the minority compared to schools where they comprised the majority of the student body.

The findings were crystal clear: Low-income elementary school children in Denver performed significantly better on standardized tests when they attended schools where fewer than 50 percent of the students were poor.

Equally significant, the Piton analysis showed that academic performance of more affluent students did not suffer as long as the percentage of low-income students in a school remained at less than 50 percent.

Armed with the study, Piton felt

compelled to pursue strategies that would boost the economic integration of Denver Public Schools. But based on Denver's 20-plus year experience with court-ordered busing for racial integration, we decided the wisest course would be to base our strategies on voluntary integration.

We also concluded that the kinds of programs we would pursue could only succeed if both low-income families and more affluent families saw them as in their own self-interests.

The fact that between 15,000 and 20,000 school-age children who live in Denver do not attend a public school there gave us some cause for optimism. Since the overwhelming majority of these children were not poor, drawing them back into the system would bring down the district's percentage of low-income students, currently 70 percent.

Initial reaction to the study and our conclusions was mixed. People on the political right and left attacked Piton's findings. On the right because they assumed, incorrectly, we were advocating a return to busing; on the left because they felt the concept was somehow racist—"You're saying poor kids can't learn unless some rich white kid is sitting next to them."

During the toughest days, I drew inspiration from three decades of success in Raleigh, N.C., with first racial and later economic integration

through choice. In 2002, I led two delegations of district officials, school board members and parents to Raleigh. There, they witnessed first-hand how a well-implemented economic integration plan had helped create one of the most successful urban-suburban school systems in the nation.

These trips helped to build the political base for further efforts in Denver. We employed a three-pronged strategy: trying to influence the system to support economic integration; organizing parents to push for more programs; and working with schools in gentrifying neighborhoods to implement programs to attract middle-class families.

Influencing the system Last fall, Denver voters passed a \$20 million tax levy increase to promote innovative programs within the district. Spurred in part by the school officials who visited Raleigh, \$2.5 million per year of this annual budget boost is being funneled for a new initiative called School Revitalization.

Although people in Denver don't talk about it in these terms, School Revitalization is, in fact, a large-scale effort to draw middle-class families back into the district and thereby increase economic integration.

Here's how it is supposed to work: Low-achieving schools that are under-enrolled, and that have a significant percentage of their neighborhood children "choicing out" to other schools are eligible for revitalization dollars. Under the initiative, an independent facilitator leads a community committee through a process that culminates adopting a research-based reform model.

In theory, new Montessori, dual-language and International Baccalaureate-type programs should

Continued on page 22

Alan Gottlieb oversees education programs for The Piton Foundation, which is based in Denver.

The Chicago Public Education Fund

- \$120,000 to The Chicago Academy for Urban School Leadership to support post-residency professional development for 56 first-year teachers.
- \$55,000 to Teach For America Chicago for general program support.

The Chicago Community Trust

- \$200,000 to Strategic Learning Initiatives for the Pilsen Education Network, a professional development program, and the Little Village Network.
- \$100,000 to The History Makers to support salaries for an educational outreach and curriculum specialist.
- \$100,000 to Designs for Change for principal selection and evaluation training.
- \$100,000 to CPS for the summer fellows program, which places college seniors in public school classrooms.
- \$50,000 to the Posse Foundation for its pre-collegiate training program.
- \$49,260 to The Great Books Foundation for a reading program in three CPS high schools and for high school reading engagement workshops.
- \$25,000 to CPS Children First Fund for general operating support.
- \$25,000 to the Comer Science and Education Foundation to participate in a University of Illinois at Chicago reading partnership program.

CNA Insurance Companies

- \$20,000 to After School Matters for general program support.

Field Foundation

- \$25,000 to the Chicago Campaign to Expand Community Schools for general program support.
- \$15,000 to Archeworks for the Mobile Interactive Learning Environment, a classroom program on disabilities at Octavio Paz Charter.
- \$10,000 to the Chicago Foundation for Edu-

cation for the Schoolwide Technology Initiative, which trains public school teachers how to integrate technology into the curriculum.

Illinois Humanities Council

- \$10,000 to About Face Theatre for a project to train Chicago youth in oral history methodology so they may record stories in the lesbian and gay community and write a play.
- \$10,000 to Free Street Programs for Facing Extremism, a series of workshops for Chicago youth to explore religious fundamentalism and democracy that will culminate in a play.
- \$10,000 to Young Chicago Authors for Poetry of Witness, a year-long program for Chicago youth in creative writing and world literature.

Japanese Chamber of Commerce & Industry of Chicago

- \$5,000 to We The People Media for the Urban Youth International Journalism Project for training youth in Chicago public housing developments in print media.
- \$5,000 to Barrel of Monkeys for writing and theater workshops in CPS schools.
- \$5,000 to Chicago Commons for Common Ground for Youth, an academic, mentoring and life-skills program for youth on the city's West and South sides.
- \$5,000 to Burr Elementary for Project BUNKA, an after-school program that teaches Japanese arts.
- \$5,000 to Leap Learning Systems to increase access to the Leap Lending Library for CPS schools, and to train parents and teachers on using literacy.

The Lloyd A. Fry Foundation

- \$65,000 to The Campaign to Expand Community Schools in Chicago for salary support for resource coordinators.
- \$65,000 to the University of Chicago Center for Urban School Improvement for the New Teachers Network, a professional development program for first- and second-year ele-

mentary school teachers.

- \$60,000 to the Academy for Urban School Leadership for teaching residents' salaries.
- \$50,000 to High Jump for general operating support.
- \$30,000 to Chicago Communities in Schools for general operating support.
- \$30,000 to Family Matters for a community tutoring program for students at Gale Elementary and other schools in the North of Howard area.
- \$25,000 to Literacy Chicago for tutoring programs.
- \$25,000 to Teach for America Chicago for general operating support.

John D. and Catherine T. MacArthur Foundation

- \$120,000 to the University of Illinois at Chicago College of Education to develop a technology program for Mid-South area CPS schools.

National Science Foundation

- \$1 million over three years to the University of Illinois at Chicago to study how urban elementary school students learn science from integrated approaches.

Polk Bros. Foundation

- \$80,000 to Chicago Arts Partnerships in Education for arts integration curricula. (First payment of a two-year grant.)
- \$75,000 to the Erikson Institute to create a professional development model for early childhood teachers. (First payment of a two-year grant.)
- \$70,000 to Teach for America Chicago for general support.
- \$65,000 to Chicago Communities in Schools to support the salaries of coordinators who help CPS schools access programs and services for students.

Additional grants can be found online at www.catalyst-chicago.org

DENVER *Continued from page 21*

appeal to families currently choosing not to attend Denver Public Schools.

Organizing parents Parents in gentrifying neighborhoods now realize that they have negotiating leverage with the district. They are prospective customers the district wants and needs. Piton helped form one such group, which has emerged as a significant political player in northwest Denver, and is helping drive economic

integration efforts in that part of town.

Working with schools As a precursor to revitalization, Piton has invested in promising schools that, under their own initiative, have begun working to attract new families. Two elementary schools have adopted dual-language programs, which require a near-even mix of native English and native Spanish-speaking students. By the end of 5th grade, students are supposed to be fluent.

Piton is funding the training of the

teachers in this model, and has hired an evaluator to track the progress of student achievement in the two schools.

Our long-term strategy is to build the case, school by school. We believe that evaluating student achievement trends in schools we help economically integrate will create a body of evidence that Denver Public Schools will be unable to ignore. It is our hope that, Denver, like Raleigh, will adopt economic integration as one of its school district's core values. ■

MILITARY *Continued from page 19*

Academy, one of four small schools at the former Orr High School.

Barron says one of the most dramatic changes since Thomas' arrival was the implementation of the military academy senior cadet leadership structure, which previously had existed only on paper. Under a military academy system, juniors and seniors earn rank and are placed into leadership roles that they begin working on as early as freshman year. Upperclassmen are responsible for disciplining students and overseeing building upkeep, for instance. In turn, underclassmen learn the ropes from their older peers.

"We have 200 leadership positions," says Thomas. When Carver military enrolled its first class four years ago, there were no students to fill these roles, he says. "Now when freshmen come in, they will see the structure."

BOARD OF GOVERNORS NEXT

With the new leadership and structure in place, Pittman says selecting a board of governors is next. He expects the board to be seated by summer 2005. Members of the current local school council, which the board plans to disband, must apply for a seat on the board.

However, one parent advocate says such a move is illegal, and asserts that the School Board has a history of creating policies that break the law but suit their needs.

"We don't think this is legal," says Julie Woestehoff, director of Parents United for Responsible Education (PURE). Exceptions to the state law that requires electing local school councils—small schools or alternative schools like military academies, for instance—do not apply to schools that have a current LSC, she says.

Also, faculty, most of whom were on board prior to Carver's conversion, may be required to reapply for their jobs next spring, says Pittman. So far, there has been no discussion about what staff qualifications would be required, or if under the existing teachers union contract, it would be even possible to make faculty reapply.

A Chicago Teachers Union official says the issue raises concerns. "This is a threat to our membership," says CTU spokesperson Rosemaria Genova. "Teachers would have to be reassured that they had to reapply only as a matter of procedure and were guaranteed their jobs."

At Chicago Military, Principal Richard Gray says its teacher qualifications are much like any other high school; it wants good, qualified teachers. However, the school asks that teachers be willing to support the military program. "If we are focused on students wearing a uniform, we ask teachers to look for uniform violations," says Gray. "We are enforcing timeliness, so we want teachers to record accurate attendance. We have a merit and demerit system. We ask teachers to use it."

STRATEGIES TO BOOST SCORES

Thomas, in the meantime, will have to work on boosting students' scores. His plan is to focus in improving instruction and providing students with additional services such as after-school tutoring. He also hopes students will take more responsibility themselves.

"Test scores have flatlined," he says. "I tell students I can bring you the best teachers, the best resources, books, but until you are motivated to learn, it won't happen."

At the district level, area instructional officers, principals and central office staff are meeting monthly to develop academic and operational standards for military academies. Besides Carver and Chicago Military, there are nine other high schools with military programs open now, and one full-fledged Navel Academy in the works at Senn High School.

"We'll look at the acceptance procedure, what should be required of students and whether all the military schools receive the same resources and are supported in the same way," says Barron.

As for Carver, Barron says, "Transition is tough. Building a culture is tough. And all of this takes time."

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"CITY VOICES" Consulting Editor Lorraine Forte hosts this public affairs program at 6:30 a.m. the second Sunday of the month on WNUA-FM, 95.5.

LETTERS TO THE EDITOR

Include the writer's full name, title and contact information for verification. Letters should be limited to 200 words and may be edited for space and clarity. Send them to the attention of the Editor.

MOVING IN / ON ELIZABETH EVANS, former director of government and community affairs at the Illinois Facilities Fund, a nonprofit real estate corporation, has been named executive director of the Illinois Network of Charter Schools. ... The Steans Family Foundation has hired two new education program officers: **CHRIS BROWN**, previously director of schools and communities for Cross City Campaign; and **MARIAME KABA**, formerly of Friends of Battered Women and Their Children. Kaba, who will also handle grant making for youth development, replaces **SUSAN YANUN**, who has joined the Logan Square Neighborhood Association as a program director. ... **DEBBY POPE**, former director of communications for the Chicago Teachers Union, has joined Gage Park High School as a social studies teacher. Former CTU President **DEBORAH LYNCH** also works there.

AT CLARK STREET AUDREY COOPER-STANTON, area 17 instructional officer, is now heading the Office of Literacy. Replacing her as AIO is **DELENA LITTLE**, the former principal of Drake Elementary. ... Area 5 instructional officer **FLAVIA HERNANDEZ** was named deputy chief instruction officer in the Office of Instruction and School Management. **DEBORAH ESPARZA**, former principal of Stockton Elementary, was tapped as the new area 5 AIO. ... CPS has two new high school area science coaches: **PAMELA SHERLEY** in area 24 and **VICTOR SIMON** in area 22. Area science coaches provide support and guidance to high school science teachers under the district's math and science initiative.

PRINCIPAL CONTRACTS The following interim principals have been awarded contracts: **ZOILA GARCIA**, Whittier; **MICHELLE SMITH**, Marconi; and **CAROL Y. PERRY**, Attucks. ... **IDA STEWART**, contract principal at Carver Middle, had her contract renewed for four years. ... **SHIRLEY**

TALLEY SMITH, Bouchet; **WILLIAM JOHNSON**, Fenger; and **JANICE JONES**, Yale, are new interim principals. Smith, Johnson and Jones are replacing **ROBERT EARL LEWIS**, **PHYLLIS HODGES** and **STEPHEN JONES**, respectively. **PAULETTE J. BOSTON**, is the new contract principal at Brown, replacing **CONNIE THOMAS**, who retired. ... **JOHNELLA MCKINNOR**, the assistant principal at Stockton, is now the acting principal.

AWARD CHARLES HALL, a special education teacher at Beidler Elementary, was one of 100 teachers nationwide honored with a Milken National Educator Award. Hall, a graduate of Beidler, received \$25,000 for being what the Milken Family Foundation considers one of the nation's best educators. Recipients of the award are recommended by a state committee but do not know that they have been nominated. Hall worked in radio and television production before he was hired at Beidler as a substitute teacher.

STUDENTS GET POLITICAL MIKVA CHALLENGE, a nonprofit group that works to get youth actively involved in democracy, has trained more than 500 CPS high school students from 30 schools to work as Election Day judges. Students from the group have also registered some 5,000 student voters for the upcoming elections.

PRINCIPAL ARRESTED JOHN LEWIS, principal of Libby Elementary, was arrested Oct. 9 when 61 illegal handguns were found in his home. Lewis has been temporarily removed from Libby, and his future status may depend upon the outcome of a police investigation, according to a CPS spokesman.

ON STRIKE Cook County College Teachers Union (CCCTU) went on strike Oct. 19, primarily

to protest the stagnant salaries and increasing costs of health care benefits, according to union President Perry Buckley. The walkout includes some 750 faculty and staff of the City Colleges of Chicago, a system comprised of seven campuses and 60,000 students. The CCCTU's last contract expired July 15, and union officials declared an impasse after negotiations and mediation sessions with a team representing the City Colleges administration failed to produce a new agreement. Some classes were held, however, since part-time faculty did not strike.

FTBS LET GO In June, the School Board handed honorable discharges to 320 full-time basis substitutes (FTBs) who failed to complete state certification requirements despite repeated warnings. Two years ago, the board issued first warnings to 416 FTBs. Of those, 66 received or are about to receive certification, and 30 resigned, retired or were dismissed or displaced by school closings before June 30.

BOARD TIGHTENS RESIDENCY POLICY The Board of Education decision to tighten enforcement of its residency policy will force principals and other schools officials to verify that new employees live in Chicago. Employees caught living outside the city will be fired if they don't move within two months. The Chicago Teachers Union sought to have the residency rule eased during contract negotiations last year, but Mayor Richard M. Daley has long opposed the idea. CTU President Marilyn Stewart said tougher enforcement will make teacher shortages worse at a time when half of all new teachers leave the profession within five years. Stewart noted that other major cities—including Boston, Philadelphia, New York City, Cleveland and Detroit—have lifted their residency requirements.

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