Two big tests on way for CPS science

by Alex Poinsett

Long neglected by the Chicago Public Schools (CPS), the city's science education program faces two big tests over the next two years. On both, it appears heading for failure.

The first test will come next spring when the Illinois Goals Assessment Program (IGAP) measures for the first time the science knowledge of all third-, sixth-, eighth- and eleventh-graders in the state.

Predicting dismal performance, Harold Charles, a Farragut High School biology teacher for 29 years, says: "What the state mandates for seventh and eighth grade, we're not even accomplishing at ninth and tenth."

Eighth-grade graduates arrive at high school not knowing, for example, about the building blocks of matter or how their bodies function, says Mary Nalbandian, director of the CPS Bureau of Science.

The next test for CPS science education will come two years from now when higher admission standards are applied at the state's 10 four-year public universities. Six of the 10, including Chicago State and Northeastern, will begin requiring three years of laboratory science for admission. The remaining four will require two.

CPS requires only one year of science for graduation, and that's all that most students take. In the Class of '91, for example, 38 percent took less than two years while only 30 percent took three or more, according to the CPS Department of Research and Evaluation.

Last year, barely half of CPS's 98,000 high school students enrolled in science. Among those taking science, 90 percent were in laboratory courses. Biology accounted for the largest enrollment—40 percent—largely because of limited math requirements. Chemistry and physics accounted for 26 percent.

"The Board of Education has yet to bite the bullet and change the [graduation] requirement because that would mean more money for additional science teachers and lab facilities," says Nalbandian. But the Board of Education has earmarked $5.2
millions to rehabilitate existing labs in 30 schools.

Equipping a lab costs up to $100,000, including $35,000 for $50,000 for benches, cabinets and other furniture; $350 each for microscopes; $150 for mechanical balances (or about $400 for electronic ones). And funds have to be reserved for science books that start at $30, for expensive chemicals and for the inevitable broken glassware.

Like other school problems, the terrible condition of CPS science begins in the early grades. Before seventh grade, science teaching is hit-and-miss. Some schools offer as little as 20 minutes a week, says Nalbandian, instead of the 75 to 200 the Board of Education recommends.

With the time-consuming demands of teaching reading, writing, math, social studies and other subjects, it's no surprise that science gets little attention from primary- and middle-grade teachers, who generally have limited training in science, obsolete science textbooks and virtually no science equipment.

"They have real concerns and anxieties about teaching the subject," says Dren Geer, executive director of the Golden Apple Foundation, which conducts teacher workshops.

Agreeing that many teachers are "afraid" of the subject, Bernard Bradley, a Golden Apple Award-winning science teacher at Newberry Mathematics and Science Academy, says: "To teach good science, you don't have to have a degree in biology, physics or chemistry. Available [staff development] programs provide teachers all the background they need."

Bradley admits, however, that these programs scatter shoot. "I just finished teaching a staff development course, but the teachers are from 12 different schools," he notes. "That program is going to impact one classroom in each of those schools rather than the entire school curriculum."

Ideally, science should be taught at every grade level in every school, he says. "Every teacher should be enthusiastic about teaching science."

More teacher training alone won't rescue science education in the upper elementary grades and high schools. There science needs more and better-supplied laboratories and more science specialists.

Farragut High, for example, receives only $300 annually for biology lab supplies, or less than a third of what it needs, says Charles. Fewer scientists teach very few science classes.

"To teach good science you don't have to have a degree in biology, physics or chemistry."

—Bernard Bradley, Newberry Academy

For example, in an introductory experiment she queries students about the composition of wood. "What happens if you burn wood?" Nelson asks. It spews black smoke and disintegrates, students reply. "What happens if you heat it slowly?" she asks, sending them off to see for themselves. To their amazement, students discover that their experiment distills several different gases.
and liquids from wood.

More importantly, the students learn that wood chemically combines several substances in fixed ratios and definite proportions that can be measured accurately. "The whole idea," says Nelson, "is to teach them that there is this thing called the atomic model of matter, and everything around them is made up of these little discrete things."

Science is life

"Science should not be just a topic that students study and forget about when they leave class," argues Newberry teacher Bernard Bradley.

"It impacts every part of their lives, explains how their bodies work, explains why they can flip a switch and turn on an electric light."

Bradley has a broad view of science. "When we teach the scientific method in elementary school," he says, "we're teaching kids an organized way of thinking. In buying a new winter coat, a form of the scientific method helps them choose which one. If they don't know something about thermal insulators, they can spend a lot of money and not buy the warmest coat for the money."

Science is not just nuclear physics and astronomy, Bradley stresses. It's also cosmetologists knowing the effects of chemicals on hair, or chefs creating chemical compounds by mixing foods and heat energy, or penny-pinching housewives discovering that a 50 percent laundry bleach solution will do the same job as a 100 percent—one only take longer.

In short, Bradley is not concerned about whether students enter a science field when they become adults. "I want them to know that if they're going to make rational decisions as adults, they have to understand how the world works, how they impact the environment and it impacts them," he says.

While CPS science enthusiasts struggle to pull science education up by its bootstraps, a number of outside organizations are lending a hand.

One is Access 2000, a consortium of 10 Chicago organizations seeking to increase the number of minorities in scientific and technology professions. With African Americans and Hispanics already grossly underrepresented in these fields, the National Science Foundation last year awarded Access 2000 $3.7 million for such programs as tutoring centers in churches and enrichment activities at universities.

Eric Hamilton of Loyola University, Access 2000's organizer and director, says the consortium's 15 math and science programs have reached 2,673 students and about 1,300 teachers. But the annual total is not expected to exceed 3,000 students and 1,500 teachers, he says.

"Virtually all of our students are from the public schools," Hamilton reports, "but our interaction with the schools is marginal. We don't get into what goes on in individual schools. Eventually, we will be working with LSCs, but not right now."

Another hopeful response to CPS's science education crisis involves 11 schools that feed into an Orr High School network funded by the
Continental Bank Foundation and operated by the Golden Apple Foundation.

Networkers are deciding how science should be taught in those schools, with what resources and how much time. The Orr network also plans to hire a science coordinator to work with its 11 schools, providing staff development and 24 rotating science kits for different grade levels and different units of study. An electricity kit, for example, might include batteries, wires, bulbs, etc.

The brightest hope for the future of CPS's science education is the Academy for Mathematics and Science Teachers that opened last year at the Illinois Institute of Technology. The academy aims to update the math/science skills of some 17,000 teachers on a school-by-school basis. Teachers attend the academy two days every other week for 16 weeks, while substitutes on the academy staff temporarily replace them in their classrooms.

Last school year about 125 teachers at eight schools went through the program, giving it high marks. New federal funding will enable the academy to serve up to 1,250 teachers this school year, says Clara Lance, director of program operations. Even with this impressive increase, however, the academy is still a decade away from completing the job.

Alex Poinsett is a Chicago writer.

Sample questions for '92 IGAP science tests . . . . How do you score?

Third grade

1. How could water be removed from soup?
   A. Add more vegetables.
   B. Boil the soup.
   C. Freeze the soup.
   D. Use a bigger pot.

2. In the circuit shown below, light bulb X will go out when which of the following light bulbs is removed from its socket?
   A. A
   B. B
   C. C
   D. D

Eighth grade

7. Most materials can be changed both physically and chemically. Which list shows only chemical changes?
   A. Boiling, cutting, burning, grinding.
   B. Rusting, rotting, melting, condensing.
   C. Rusting, gas exploding, rottig, burning a match.
   D. Grinding, condensing, melting, boiling.

Sixth grade

4. You have a graduated cylinder filled with water to the 5.6 ml line. An object added to the water raises the level to 8.7 ml. The volume of the object is:
   A. 0.31 ml.
   B. 3.1 ml.
   C. 5.6 ml.
   D. 14.3 ml.

9. Four scale models are two meters tall. Which is scaled up from true-life size?
   A. Statue of Liberty.
   B. Human heart.
   C. School bus.
   D. Adult giraffe.

Eleventh grade

10. A man will pass his X chromosome to:
    A. All his children.
    B. All his daughters.
    C. All his sons.
    D. Only half his sons.

11. What is the relationship between statements (1) and (2)?
    Statement (1): You see your image in a mirror.
    Statement (2): You see a variety of colors when you look through a narrow slit.
    A. An observation (1) is explained by a theory (2).
    B. A theory (1) explains an observation (2).
    C. Both are observations.
    D. The theory (1) is contradicted by the observation (2).

12. If Ann wanted to arrange the students in her class in rank order, which characteristics could she use?
    A. Sex.
    B. Weight.
    C. Eye color.
    D. Right handedness versus left handedness.

Source: Illinois State Board of Education
A sampler
These schools, teachers set science on fire

Healy principal pushes science, scores rise

At one time, science fairs at Healy Elementary School, 3010 S. Parnell, "were a joke," says Principal Beverly Tunney. "Kids would go to the butcher shop and get parts of cows and pigs and that was their science fair."

Not anymore. Today, students take on such challenges as chromatography (the study of color blending), explaining the solar system and growing household mold. Science test scores have risen, too, with seventh-graders scoring above the national norm for the past two years.

The change began four years ago when Tunney snared a $43,000 state grant to upgrade science in Healy's primary grades. Teachers in those grades were uncomfortable with the subject and drilled students on terms and facts, rather than teach concepts and how things work.

"It was a real weakness for me," recalls fourth-grade teacher Kathy Bandauskas. "I thought I had to do something fantastic, but now I think about simple science problems like how to get crickets to survive in severe heat."

With the state grant, Tunney lined up 15 teacher workshops in hands-on science and the equipment and supplies to make it possible, including petri dishes and aquariums (for growing plants and mold) and graduated cylinders (for learning how to use the metric system of measurement). The material for each experiment was packaged together, so teachers were spared the burden of gathering it. Experiments included determining the density of various objects, such as stone and lead, and controlling temperatures on chicken eggs in a mini-incubator.

Tunney also gave her staff a little push, scheduling her teacher evaluation visits during science lessons.

Two summers ago, Tunney used State Chapter I money to assemble science kits for kindergartners to take home to use with their parents. (She also hired a teacher aide to refill the kits each week.) Together, families would, for example, study the seasonal changes in leaves and examine the different pitches of a tuning fork. At the end of each experiment, youngsters recorded results on worksheets, which they gathered into "lab" books.

Despite all this help, not every Healy teacher became a science enthusiast. So Tunney hired a science teacher who, upon a classroom teacher's request, conducts a science lesson. The goal is to ensure that every Healy student gets a hands-on science experience every week.

Tunney also gave her students a push, requiring all of them to participate in the school's annual science fair, or risk getting an F for a marking period. "We want them to know how to pose a scientific question and what steps to take to find an answer," Tunney explains.

A big part of that task was trying to get kids to stop fearing science and have fun learning.

"I like the experiments with water and planting," says 9-year-old Natalie Christian. "It really doesn't feel like learning, but when the teacher writes what we've learned on the board, then I know I've learned something."

For more information, contact Beverly Tunney at (312) 534-9190.

Charlotte Smarz-Faol

CATALYST/SEPTEMBER 1991
Lego, Logo team up for car races

"When kindergarten kids come into the science lab, it doesn't matter what you do with them, whether you give them a magnifier or a battery or whatever," says Bernard Bradley, an award-winning science teacher at Newberry Mathematics and Science Academy, 700 W. Willow. "They're sky high. They enjoy learning. They have a natural curiosity and want to explore."

Devoted to keeping that natural love of learning alive, Bradley has his students do science, not merely learn facts. And the doing often involves creating and constructing something that has meaning for the children themselves, like cars to race in a classroom "soap box" derby.

In this project, physical science students begin by constructing cars of their own design out of cheap, reusable Lego blocks and racing them down a ramp to see which one goes farthest. They use masking tape to mark the distances their cars travel and then make design changes to improve performance.

In the process, the students have to create theories about their cars' behaviors. Do heavier cars go farther than light cars? Do cars with large wheels out-roll those with small wheels? In short, like real scientists and inventors, the students make theories, test them, change the theories and test them again.

Later, they go through similar cycles in the design and testing of gear trains, computer programs and feedback systems. Using a computer and the Lego programming language, they can program a Lego-block car to move forward and back or program a traffic light to switch from red to green to yellow, indefinitely.

"This is something kids get very excited about doing," enthuses Bradley. "There's an element of fun to this, but there is also an element of learning."

In Bradley's view, the Lego/Logo system is not a luxury that only certain schools should have. "This is something that every kid in elementary school should get to do," he insists. "It gives them a tremendous sense of self-confidence. When they build something like this, you can see the smiles on their faces. It also says to kids subconsciously, 'If I can do this as a kid, then maybe I can do this as an adult.'"

For more information, contact Bernard Bradley at (312) 534-8000.

Alex Painsett

Business' school adds science, math

"If you go to Jones, you can't go to college." Until recently, that warning from high school counselors steered some students away from Jones "Commercial" High School, which for 53 years has prepared 11th- and 12th-graders to graduate into downtown office jobs.

The school at 606 S. State had so many business procedures courses to teach that it offered neither math nor science.

That situation started changing two years ago when Jones' new principal, Cozette Epps-Buckney, teamed with the local school council and school staff to develop a five-year plan aimed at enrolling all students in math and science. They agreed that students needed more math and science even if they didn't go to college.

After-school classes

"We had been under the false notion that our students had enough science education when they came here [as juniors]," Buckney recalls. "I was especially concerned that students who didn't have the required science in their first two years wouldn't be able to go on to college if they wanted to."

For the 1990-91 school year, 60 of 300 incoming juniors needed additional math and science, so the school set up a summer program. Buckney tapped Richard White, who had been her colleague during her 11 years as Austin High School's assistant principal, to direct it.

Next Buckney persuaded physical education teacher Ann Campbell, who has a science teaching certificate, to split her time between P.E. and science until a full-time science teacher could be found.

To get around the school's lack of science labs, Jones applied for and received a $1,000 Amoco Foundation grant to purchase six desk-size mobile

(From left) Jamal Waheed, David Kinney and Brian Benenanto design and build cars at Newberry Academy.
School shines in solar-car tourney

The seventh- and eighth-graders at Fort Dearborn Elementary School, 9025 S. Throop, may be too young to drive cars, but that didn’t stop them from building them.

Last spring, 20 students stayed after school one day a week for six weeks to build solar-powered model cars as part of the national Junior Solar Sprint contest. Sponsored by Argonne National Laboratory, the U.S. Department of Energy and the Society of Automotive Engineers, the program is about more than fun.

“Students are learning about electricity when they wire circuits, mechanics when they learn the parts of the automobile and how those parts work together, and aerodynamics when they learn how to design cars to get the best speed,” explains Gary Morrison, Fort Dearborn science teacher.

Yet, in the view of seventh-grader Christina Diaz, “The hardest part of the program was finding all the parts.” Fort Dearborn bought six kits with motors and solar panels, which cost a total of $60. But students had to scavenge for material to build the chassis. As a result, Fort Dearborn cars sported wood from old crates and parts from broken clocks, pop bottles and remote-control cars.

Students also had to research car construction, reading car magazines and books on solar energy and taking toy cars apart and putting them back together.

Fifth in state

Once their cars were built, tested and fine-tuned, the Fort Dearborn students held their own spring sprint. Only 7 of the 20 entries were able to run on race day, and two of those failed to complete all of the 20-meter heats. The wheels fell off one, and the other ran off the track. But the top finisher, Jason Myles’ “Fort Dearborn Flash,” went on to place fifth in the 35-car Illinois sectional contest. Students from six other Chicago schools, including three magnet schools, competed.

Despite their frustrations, all of last year’s seventh-grade competitors plan to try again next spring. Younger students are anxious to join in, says Morrison, who plans to work with the event’s sponsors to develop a more structured curriculum for the program.

For more information, contact Marti Hahn of Argonne National Laboratory at (708) 972-6489. Tanya Banner

Hinton pupils do science, win awards

“Why didn’t we have a science lab? Why didn’t we have a computer or a microscope? Why were we so poorly prepared to compete with the other kids?”

These were some of the questions fired at Deborah Lewis 10 years ago when she became a science instructor at Hinton Elementary School, 644 W. 71st.

“Some of our children who went to schools like Whitney Young came back and complained,” she recalls. “Their high school classmates had at least been exposed to science. Our kids hadn’t, and they wanted to know why.”

Lewis, who recently transferred to West Pullman Elementary School to be nearer her home, responded by teaching the scientific method: Making educated guesses about how experiments will turn out, conducting the experiments and determining what happened and why. Meanwhile, her newly arrived colleague, Deborah Hawes, Hinton’s special

Continued on page 15
Resource roundup

From fingerprinting to weather reporting

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CEPUP
Jerry Hayes, Illinois Coordinator
Academy for Math and Science Teachers
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(312) 808-9100

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Mary Nathanian, director
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Chicago Board of Education
1819 W. Pershing Rd.
Chicago, Ill. 60609
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Science and Technology for Children

New modules developed by the National Science Resource Center aim to make sci-
Reformers see gains, losses in Springfield

by Michael Klonsky

"Did we win or lose?" That's the question many reformers were asking as they looked back on their grueling battle to rewrite the Chicago School Reform Act.

The General Assembly corrected the law's constitutional defect by providing for a new way to elect members to local school councils (LSCs). But reform leaders, who also had pushed for stronger local control, counted other gains as meager, at best.

"We were not naive enough to think that our plans would not face opposition," says James Compton, president of the Chicago Urban League. "But we did not anticipate the depth of the challenges we ultimately faced."

"We were outnumbered and overpowered," says Laura Downey, chair of the Teachers' Task Force of the Citywide Coalition for School Reform, which fought persistently but unsuccessfully for the election, rather than appointment, of teachers to LSCs. Members traveled to Springfield seven times to push their cause. They also conducted a survey of teacher LSC members, union delegates and chairs of professional personnel advisory committees; 90 percent of 2,000 responses favored election, they said. But the Chicago Teachers Union weighed in with a write-in campaign on behalf of appointment and, in the end, prevailed.

"The unions are more powerful than we thought," agrees William Rankin, who as principal of Herbert Elementary School has been involved in a protracted struggle to direct the work of his custodial staff and shift some money from custodial staff to custodial supplies. Unions, especially the operating engineers' union, blocked legislation that would have given him that authority.

Students get vote

Here's a rundown on how the Legislature treated these and other proposals championed by reform leaders:

- **LSC VOTING PLAN.** Parents will continue to have six seats on LSCs; community members, two. Beginning with the October LSC election, parents and community members will have five votes to cast among these eight parent and community slots. The Board of Education will appoint the two teacher members following advisory elections at each school.

In a last-minute compromise, previously warring reform groups had agreed on five votes but had figured that teachers would continue to be elected, not appointed. (CATALYST, June 1991)

Adoption of a new voting plan keeps school reform alive, a victory. But reform leaders generally see the plan, with its appointment of teacher members, as a loss. Further, no provisions were made for publicizing the results of the advisory teacher elections, leading Downey and her group to worry about the potential for manipulation by principals or the board.

And some reform leaders regret having agreed to five votes instead of pushing for one vote for every elected member. "I think we made a mistake in compromising like we did," says Dan Solis, executive director of United Neighborhood Organization. "The five-vote plan is too complicated. It could create more legal problems."

- **STUDENT LSC MEMBERS.** They, too,
will be appointed by the School Board following advisory elections at each school. They will not be counted when determining whether a quorum exists but will be eligible to vote, except on personnel matters “including but not limited to principal evaluations and contracts and the allocation of teaching and staff resources.” Even with these limitations, reformers see the change as a victory.

- **PRINCIPAL AUTHORITY.** Principals will write semianual evaluations of operating engineers and lunchroom managers assigned to their buildings. This gives principals a stick to promote good, cooperative service because an unsatisfactory rating could bar promotions and bids on job openings. However, the measure falls far short of the supervisory control reform leaders wanted principals to have.

- **LSC POWERS.** Reformers lobbied for language that would give them authority to act in all areas not reserved by law for the Board of Education. What they got was a vaguely worded sentence giving central office “key powers in limited areas related to district-wide policy.” Can this be interpreted as giving LSCs key powers in areas of local policy? Ambiguity keeps this measure out of the victory column.

- **INTERNAL ACCOUNTS.** LSCs will be allowed to “monitor and receive reports on expenditure plans and other transactions involving the attendance center’s internal accounts.” Reformers had wanted veto power over school spending, but access to the books is a significant improvement.

- **ABSENT LSC MEMBERS.** LSCs may expel any member who misses three consecutive regular meetings or five regular meetings in a year—just what reformers wanted. Such members will be afforded an opportunity to explain their absences and may vote on their expulsion. There is no appeals process, however, leaving the door open to arbitrary or politically motivated expulsions.

- **OPEN ENROLLMENT.** The requirement that the board draft an open-enrollment plan was delayed two years, until 1993. Implementation would begin in 1994. This gives local control more time to bring about improvement, but not enough in the view of some reformers.

- **PRINCIPAL REMOVAL.** In the past, principals could be removed for “cause” by action of the School Board and concurrence by a state hearing officer. The law now defines cause to include “the principal’s repeated failure to implement the school improvement plan or to comply with the provisions of the Uniform Performance Contract, including additional criteria established by the Council...” LSCs can direct the superintendent to initiate dismissal proceedings. If the superintendent fails to seek board action on a requested dismissal within 45 days, he or she must explain in writing. Another victory for reformers.

**What principals got**

Principals made a few gains, too, winning a 90-day extension of their health insurance in the event their contracts are not renewed. Also, councils must put in writing their reasons for not renewing a principal’s contract. “Big deal,” sniffs Bruce Berndt, president of the Chicago Principals Association. Unlike LSC members facing ouster for poor attendance, principals don’t get a hearing with their LSCs, he notes. While no big deal to Berndt, the put-in-writing provision has reformers worried that some LSCs may step into a legal quagmire with improperly worded statements.

One of the reformers’ greatest victories was in turning back an effort to enable the School Board to use $81 million in State Chapter I funds, earmarked for extra programs in low-income schools, to help fill the then $315-million hole in the 1991-92 school budget. The measure caught reformers by surprise. Surprising, too, was its Senate sponsor, Sen. Emil Jones (D-Chicago), who had campaigned for years to get the money freed up for extra programs.

Once alerted, reformers of all stripes sprang into action. At one point, Ken McNeil, formerly chair of the African American Education Reform Institute (AAERI) and now general counsel to Lt. Gov. Robert Kustra, was ejected from the Senate floor. He had been sent there by Gov. Jim Edgar to cool anticipated Republican support for the legislation, but he lacked proper credentials. Kustra had to take his place.

While the measure went down, reformers are still wary. “New attempts to take back the money could be made in the override session, and we had better be on guard,” says activist Corretta McFerren.

Looking for a silver lining to their defeats, reformers point to a loyal core of bipartisan support for reform. “There was a cadre of legislators who stood by us through thick and thin,” notes Joan Jeter Slay, public policy director of Designs for Change. She mentioned, for example, Democratic senators Miguel del Valle, Earlene Collins, Alice Palmer and Howard Brookins and Republican Sen. Doris Karpiel.

One legislator who did lose standing among reformers was Sen. Arthur L. Berman (D-Chicago), chief sponsor of the 1988 Reform Act. Berman sided with the teachers union in the appointment of teacher representatives to LSCs.

**Berman faulted**

In early spring, Berman had strongly indicated that the Legislature would go along with reformers if they reached consensus on a new voting scheme. But when that consensus was finally achieved, Berman didn’t back it. Unmistakably referring to Berman, McFerren complains about “some formerly favorable legislators who sold out to union pressure.”

Berman counters that the interests of reform “came out excellently” in Springfield: “Out of thousands of bills and [the wishes of] hundreds of interest groups, our bill passed with overwhelming support in both houses and kept reform in business.”

Reformers also see a new spirit of unity and count that as a plus. Following Reform Act hearings on June 18 and 19, representatives of most reform organizations endorsed a consensus agenda for the legislative session. Contends Teachers’ Task Force staffer Ann Porter: “They [legislators] awakened a sleeping giant. Next time, we will shout at each other before we get to Springfield.”

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Michael Klonsky is a Chicago writer.
Ousted principals charge bias, take legal action

by Linda Lenz

As many as 25 ousted principals have filed race, age or gender discrimination complaints against local school councils that voted not to retain them, estimates Bruce Berndt, president of the Chicago Principals Association.

The complaints are before the federal Equal Employment Opportunity Commission. Steven Greenberger, a DePaul University Law School professor specializing in employment discrimination, speculates that the EEOC won't act. Following a brief waiting period, however, the principals could file suit in federal court, charging violation of Title VII of the Civil Rights Act. Filing with the EEOC is usually just a formality, Greenberger explains.

Most of the cases are believed to have been filed by white principals who were replaced by blacks or Hispanics. (The EEOC would not confirm the filings.) Of the 32 white principals who were not retained last spring, 23, or 72 percent were replaced by minorities, according to the principals association. In 21 cases, councils at predominately black schools replaced whites with blacks; in 2 cases, councils at predominately Hispanic schools replaced whites with Hispanics.

'Role model' no defense

If the principals file lawsuits and win, they could win back their jobs—though not necessarily at the same schools—and back pay, says Greenberger. As agents of the Board of Education, councils could be held liable, he adds. However, a provision of the School Reform Act protects councils and members from financial liability in cases where they were acting in accord with official duties, notes Peggy Gordon, director of the Lawyers' School Reform Advisory Project. Principal selection is one of those duties, she adds.

A number of white principals have charged they were dismissed in favor of "black role models." That is illegal, even if the desire to bring a black role model to a black school was only one of the reasons a white principal was dismissed, says Greenberger. "The courts clearly have come down against that," he stresses.

Greenberger adds, however, that principals may have a hard time proving that their dismissals were racially motivated. Says Gordon: "In instances where councils can show they used job-related standards to evaluate and select principals, there is less likely to be a finding of discrimination."

The principals association itself filed race discrimination charges on behalf of nine white principals dismissed in 1990 and 1991 by councils at minority schools. These individuals were among some 80 principals whom the Board of Education had transferred in 1977 to break a pattern of black schools getting black principals and white schools getting white principals. The transfers were made under pressure from the federal government, which had accused Chicago of maintaining a segregated school system.

With this same-race pattern re-emerging, the principals association sought intervention this summer by the Office for Civil Rights (OCR) of the U.S. Department of Education. OCR declined to take the case, saying it did not have jurisdiction because the alleged discrimination did not result in discrimination against students.

In 1990, the first year of principal selection by LSCs, the numbers didn't point to racial bias. That year, about a third of the councils that rejected their incumbents chose a new principal whose race was different from that of the dominant group at the school, a CATALYST analysis shows. In 1991, however, only about 7 percent of the schools that rejected incumbents went outside their schools' dominant racial group for a principal.

"If the system was unbalanced racially in 1977 and 1980, it's more unbalanced now," says Berndt. "And it's going to get worse."

As a group, principals are becoming less white and less male. (See following chart.)

<table>
<thead>
<tr>
<th>Principals citywide</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
</tr>
<tr>
<td>1989</td>
</tr>
<tr>
<td>1990</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>1989</td>
</tr>
<tr>
<td>1990</td>
</tr>
</tbody>
</table>

Source: Board of Education.

The trend continued this year with the 54 schools that had selected a new principal by June 30. (See following chart.)

<table>
<thead>
<tr>
<th>Schools picking new principals '91</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
</tr>
<tr>
<td>Old principals</td>
</tr>
<tr>
<td>New principals</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Old principals</td>
</tr>
<tr>
<td>New principals</td>
</tr>
</tbody>
</table>

Source: CATALYST telephone survey

As in 1990, assistant principals were councils' favorites this year. Of the newly chosen principals, 24 had been assistant principals, while none had been central or district office employees, another 11 had been teachers and 7 had been principals in other Chicago public schools. One new principal came from a suburban school.

Linda Lenz is editor of CATALYST. Charlotte Smorte-Faad contributed to this article.
School closings down, but not out

When the Board of Education rejected Supt. Ted Kimbrough’s plans to close schools, it did not rule out school closings.

“I would support it coming back on the table but not for this year,” says Saundra Bishop, who provided the key vote in the board’s 8-to-7 decision not to close any schools. As a member of the audit and finance committee, Bishop voted to close a number of schools. The next day, when the list came before the full board, she flip-flopped and voted “no.” By then, the list had been whittled to 10 (from 16); Bishop says the projected $3.6 million in savings wasn’t worth the disruption.

“I started off supporting the superintendent’s proposal,” she says. “The question was: How do you pick the schools? It was important to me that we send children [from closed schools] to equal or better schools. I fought publicly to have the criteria deal with performance.”

School closings and poor performance were first linked in the Chicago School Reform Act, which says that district councils can recommend the closing of schools that do not make “adequate progress” toward complying with their school improvement plans.

Kimbrough’s administration collected data on student, teacher and local school council performance, but it used buildings’ empty space and repair needs to target schools.

Systemwide, 77 schools have enrollments that are less than 50 percent of capacity, according to a 1990 School Board report. The system’s repair needs amount to hundreds of millions of dollars.

Predictably, community and school reform organizations rallied against the proposed closings, with Ron Sistrunk, executive director of the Citywide Coalition for School Reform calling the issue “our Waterloo.” Surprisingly, the Civic Federation, a tax watchdog group, joined in.

The Chicago Panel on Public School Policy and Finance argued that creating larger schools—one effect of school closings—would damage education. “There is much recent educational research on achievement and size of school enrollment, and virtually all of it concludes: Smaller is better,” Fred Hess, the panel’s executive director, told the board.

If Kimbrough’s plan had been adopted, 26 of the 28 receiving schools would have had enrollments larger than the average for the metropolitan area, according to panel calculations.

Hess urged the board to explore ways that schools with unused space could rent the excess to community and other organizations. He also advocated creating a number of “schools” within one school building.

Average school size 1989-90

<table>
<thead>
<tr>
<th></th>
<th>Elementary</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicago area</td>
<td>422</td>
<td>1,409</td>
</tr>
<tr>
<td>Chicago</td>
<td>610</td>
<td>1,602</td>
</tr>
<tr>
<td>Optimal*</td>
<td>273</td>
<td>1,012</td>
</tr>
</tbody>
</table>

* Study by Illinois State Board of Education

Source: Chicago Panel on Public School Policy and Finance

Election day set, campaign begins

The 1991 local school council elections will be held on one day instead of two. The change was recommended by the Board of Education’s election task force, which hopes the move will increase voter turnout at high schools.

In 1989, elementary school elections were held one day, high school elections the next. Voter turnout dropped the second day.

Under the revised School Reform Act, elections will be held for only the six parent slots and the two community slots on each LSC. The Board of Education will appoint the two teacher members and, at high schools, the student member following advisory elections at the schools. (See article on page 9.)

Here’s the tentative schedule. Nominations will be accepted at schools Sept. 1-25. Schools will hold public candidate forums from Sept. 30 through Oct. 4. And elections will be held from 6 a.m. to 7 p.m. Oct. 9.

Existing LSCs will be responsible for conducting the elections under guidelines established by the School Board. At issue in early August was whether election judges would be paid. The board’s budget does not provide for pay, but some task force members contend that the board won’t be able to enlist enough good judges if they don’t pay them.

Meanwhile, Leadership for Quality Education has lined up nine corporations to join it in organizing candidate recruitment and get-out-the-vote drives in each of the school system’s 10 elementary subdistricts. Corporation staff will bring together...
community, business and other groups in their assigned subdistricts to design the campaigns. The corporations and their subdistricts are: United Airlines, 1; LGE, 2; Helene Curtis, 3; CNA Insurance, 4; AT&T, 5; First National Bank of Chicago, 6; Harris Trust and Savings, 7; Amoco, 8; Sears Roebuck, 9; and Illinois Bel, 10.

In addition, six foundations pooled some $300,000 for campaign grants to community organizations.

Three board incumbents win renomination

Three of four Board of Education members who sought reappointment have been recommended by the School Board Nominating Committee. They are Pamela Lenane, Anna Mustafa and Ashish Sen. Albert Logan, the fourth member, did not win the commission's nod.

The commission forwarded to Mayor Daley three names for each of the four openings on the 15-member board. Terms are for four years. The slates are:

- John Callahan, data processor, RJ Data Processing Inc.; Pamela Lenane, attorney, private practice; Alden Orput, owner, Orput-Steele Development Company, a builder of schools. All are white.

- The Rev. William Conley, minister, New Alpha Progressive Baptist Church; Thomas Mitchell, Northern Trust Bank; the Rev. William Townsend, minister, Saint Mary African Methodist Episcopal Church. All are African American.

- Jose Rodriguez, Aspira of Illinois; Anna Mustafa, Chicago Park District; Rosa Villarreal, manager, Access Living. Rodriguez and Villarreal are Hispanic; Mustafa is Arab American.

- Joanne S. Hodge, attorney, City of Chicago Law Department; Ashish Sen, professor, University of Illinois at Chicago; Fadi Zanayed, attorney, private practice. Hodge is white; Sen is Asian; Zanayed is Arab American.

Nominees live in these CPS subdistricts: Subdistrict 2 (6), Subdistrict 3 (1), Subdistrict 4 (1), Subdistrict 6 (1), Subdistrict 7 (2), Subdistrict 9 (1).

Forty-seven people applied for the four seats, or about 12 per vacancy. That's the same proportion as last year, when 178 people applied for 15 seats on the newly reconstituted board.

The nominating commission, which was guaranteed funding by recent revisions of the School Reform Act, is made up of 23 parent and community representatives from subdistrict councils and five mayoral appointees.

Business groups back tax hike

For the first time, two prominent business groups backed an increase in the property tax for Chicago's public schools.

"Chicagoleans have not supported their public schools with the same effort as have other citizens across the area," said a coalition that included Chicago United and the Civic Committee of the Commercial Club.

The proposal to increase the board's tax rate by 50 cents was part of the coalition's plan for balancing the School Board's 1991-92 budget, which in mid-August was, in effect, $148.4 million short on revenue. The tax increase, rejected by the Legislature, would have generated more than $60 million.

The 13-member coalition, including Designs for Change, the Latino Institute and Centers for New Horizons, also recommended that:

- The Chicago School Finance Authority drop its requirement that the board restore $35 million to the balance from which it pays bills coming due. The authority okayed the "loan" last year to help the Interim School Board balance the 1990-91 budget.

- The board reorganize and reduce the size of central and district administration, eliminating, for example, "the pool of tradespersons who now inadequately maintain the system's buildings." Projected savings: $32 million to $40 million. (The board cut 360 central positions, saving $15.3 million, and made another $5.5 million in central-office trims. It is seeking job cuts from blue-collar unions.)

- Unions agree to $60 million in compensation cuts. (At the outset of negotiations, the board proposed freezing salaries, saving $90 million, and reducing job and other contractual obligations by $48.4 million.)

- The board stop giving magnet schools and other "favored sites" extra money not required by law or contracts, saving $10 million.

- Schools themselves cut $30 million from current or proposed new programs.

- The board begin a long-range planning process to consider school closings and other revenue and expense issues.

The group also strongly opposed a delay in the transfer of State Chapter 1 funds to schools. The 1991-92 increment is about $53 million.

Private sector pitches in

Businesses and foundations contributed at least $21.3 million to Chicago school improvement in 1990, according to a survey by Leadership for Quality Education.

The total includes $3.3 million in in-kind support, including paid time off for employees to work with local school councils. Of the $18 million in cash, 57 percent went to school reform programs and 43 percent to general education support.

Twenty percent of the respondents said they had increased their contributions to public education by 50 percent or more since the passage of the Chicago School Reform Act in 1988.

Questionnaires were sent to 161 companies and 21 private foundations; 61 companies and foundations responded.

Linda Lenz, Charlotte Smarte-Faai, Tanya Bonner
TELEVISION

Teacher renewal. Irving Elementary School, 749 S. Oakley, is the scene of a one-hour documentary on what it takes to get veteran teachers to relearn their craft. Entitled "Teach Me," the show will be broadcast on WTTW-TV (Channel 11) at 8 p.m. Sept. 19 and noon Sept. 22.

RESOURCES

Black males. "School Programs for African American Male Students," a resource guide, is available from the ERIC Clearinghouse on Urban Education. The guide includes an overview of the economic and social problems of African-American male students and descriptions of 17 elementary and secondary school programs.

To obtain a copy, send $5 and your name and address to: School Programs for African American Male Students (Trends and Issues No. 15), ERIC Clearinghouse on Urban Education, Box 40, Teachers College, Columbia University, New York, N.Y. 10027.

New newsletters. Three school reform groups have launched newsletters: "Teaching Matters," published quarterly by the Teachers' Task Force of the Citywide Coalition for School Reform, contains articles on teaching and school reform by Chicago Public School teachers. It is mailed to task force members. For more information, call (312) 341-3610.

"Citywide's View," a quarterly newsletter of the Citywide Coalition for School Reform, is scheduled to debut Oct. 1. Aimed at local school councils and organizations supporting councils, it will focus on reform news, events and resources. To subscribe, call (312) 592-6105.

"Reform Report," published monthly by the Chicago Panel on Public School Policy and Finance, offers articles on successful local and national school improvement efforts. To subscribe, call (312) 939-2202.

High-tech. "Teachers and Technology: Staff Development for Tomorrow's Schools," a 184-page guide for designing inservice teacher training in math and science, is available from the National School Boards Association. It emphasizes the use of television, computers, video-tape and teleconferences.

The cost for non-members is $35. To obtain a copy, write the National School Boards Association, 1680 Duke St., Alexandria, Va. 22314.

Teaching techniques. The second annual edition of "Best Practice," a newsletter on effective teaching, focuses on the language arts. Produced by the Chicago Project on Learning and Teaching at National-Louis University, the newsletter includes articles on whole-language kindergartens, literature circles for fifth-graders and teacher workshops.

To obtain up to 10 free copies, write the Chicago Project on Learning and Teaching, National-Louis University, 2840 Sheridan Rd., Evanston, Ill. 60201.

Test scores. Making sense of changes in scores on tests of the Illinois Goals Assessment Program is the topic of the lead article in the April 1991 issue of "Metrosstats." The newsletter is published by Metrosat, an affiliate of the Chicago Panel on Public School Policy and Finance. To obtain a copy, call the panel at (312) 939-2202.

Smoke detectives. That's the name of a free kit aimed at teaching children in kindergarten through sixth grade about fire safety. Included is a video and lesson plans and activity sheets for use in math, language arts, social studies and science. To obtain a kit, send your name and school name, address and phone number on school stationery to The Smoke Detectives (A-4), State Farm Insurance, One State Farm Plaza, Bloomington, Ill. 61710-0001.

WORKSHOPS/CONFERENCES

An LSC party. The Citywide Coalition for School Reform is throwing a party to boost morale of local school council members and encourage a large turnout in the upcoming LSC elections. LSC Fest will be held from 11 a.m. to 4 p.m. Sept. 21 in south Lincoln Park near North Avenue and Stockton Drive.

Information and applications for LSC candidates will be provided. Also scheduled are an educational resource fair and demonstrations of hands-on lessons in math, English and science. There will be a performing arts fair and sports for children. For more information, call (312) 592-6105.

Teachers, aides. The Community Renewal Society is arranging free two-day workshops in the teaching of reading, language arts, spelling, math and social studies for teachers and teacher aides at individual schools. Principals will have the final okay on workshop instructors. Follow-up help will be provided.

The effort is an outgrowth of Principal Fellowship, a principals' network sponsored by CRS. For more information, call Nelson Ndove (312) 427-4830, ext. 258.
education teacher, involved EMH students in similar projects. "For kids who have reading problems, experience is even more important," Hawes explains.

"The principal was very impressed that EMH students were doing something of this quality," Hawes recalls. "Later, the principal asked me to coordinate science at Hinton. I complained that I was like the rest of the teachers—not a physical science person. My background had been in behavioral science."

Nevertheless, Hawes accepted the challenge. The first thing she discovered was that students found science boring. "You don't do anything," they complained. So she let them do science rather than read about it, starting off with things they could see, touch or feel.

Disabled children excel

For example, primary-grade students grow one batch of lima beans in the light, another batch in the dark. They use the same temperature and the same amount of soil and water for each patch. After four weeks, students see that the plants grown in the light are taller than those grown in the dark and conclude that it was the light that made the difference.

Hawes does not introduce physical science until the third grade and demonstrates rather than allows children to experiment with dangerous chemicals. A Board of Education science specialist brings a mobile lab to Hinton once a week to work with children at two grade levels.

Prior to Hawes' arrival, only one Hinton student had ever advanced to the city level in annual Science Fair competitions. Working with students singled out by Lewis because of their science aptitude, Hawes entered them in Science Fair competition. Last year, 22 students, including some with learning disabilities, made it to the city level.

"Now people are able to associate something other than arts achievements with special education students," the teacher says, proudly.

Alex Poinsett

National Geographic Kids Network

Classes around the country conduct experiments simultaneously and exchange data. Scientists compile data and students analyze results. Experiments on acid rain, solar energy, waste management, other topics. Uses an Apple IIGS computer. For grades four through sixth.

National Geographic Kids Network
National Geographic Society
Educational Services
Dept. 5413
Washington, D.C. 20036
(800) 366-2729
FAX (202) 921-1575

TIMS: Teaching Integrated Math and Science

Staff development program for teachers of kindergarten through eighth grade. Teachers perform experiments their pupils will do. Teaches such math and science concepts as volume, area, mass, velocity.

Martin Gartzman
University of Illinois at Chicago (m/c 249)
Box 4348
Chicago, IL 60680
(312) 413-2971

Written by Tanya Bonner from material supplied by Bernard Bradley, a teacher at Newberry Mathematics and Science Academy

The CATALYST/Opinions section will return next issue. We welcome guest editorials and letters. They may be edited for clarity and space. Include your address and phone number.

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The number of Curie High School students setting their sights on college more than doubled last year following the opening of a college/career counseling center at the school at 4959 S. Archer.

Two years ago, only 256 of the school’s some 1,400 juniors and seniors took college entrance exams; last school year, the number soared to 587. Two years ago, recruiters from only 30 to 40 colleges visited the school; last year, 100 colleges were represented.

“We have students going to colleges that no one from here has ever gone to before,” says Jim Sims, the center’s director. “We have three or four students going to Concordia University out in River Forest and we have three or four students going to Purdue.”

Before the center opened, the school’s six counselors were responsible for dispensing college information. “There were six different levels of information being given out,” says Sims. “If one counselor didn’t have the information on colleges, those kids were getting nothing.”

Now, computers help Curie students explore their interests and options and even write letters to the colleges of their choice. A videocassette recorder and large-screen monitor allow them to take a look at some 70 colleges that have sent in promotional videotapes. And they can browse through catalogs, brochures and application forms. Twenty student aides help Sims run the center.

“It’s great,” says Duval Gordon, a senior this year. “I don’t have to depend on another person to get me the right information.”

“Senior year, kids tend to slack off,” says Robert Young, 17. “This helps us keep focused on college. I was unsure where I wanted to go. Now I’m going to Purdue.”

In addition, the center also has streamlined appointments with college recruiters. Early in the school year, all juniors attend a center orientation and fill out forms indicating the colleges they are interested in. The information is fed into a computer, which generates a list for college recruiters and even hall passes for the students.

“The only thing I have to do is put in what class period the students need to come here,” says Sims. “It really saves a lot of time. Before I had a hard time trying to coordinate who wants to see whom.” A Curie math teacher wrote the program.

Curie launched its center with $20,000 in State Chapters I funds and the proceeds of a candy sale. Maintaining it costs $3,000 to $4,000 per year. For more information, contact Sims at (312) 535-2100.

Charlotte Smarte-Faal