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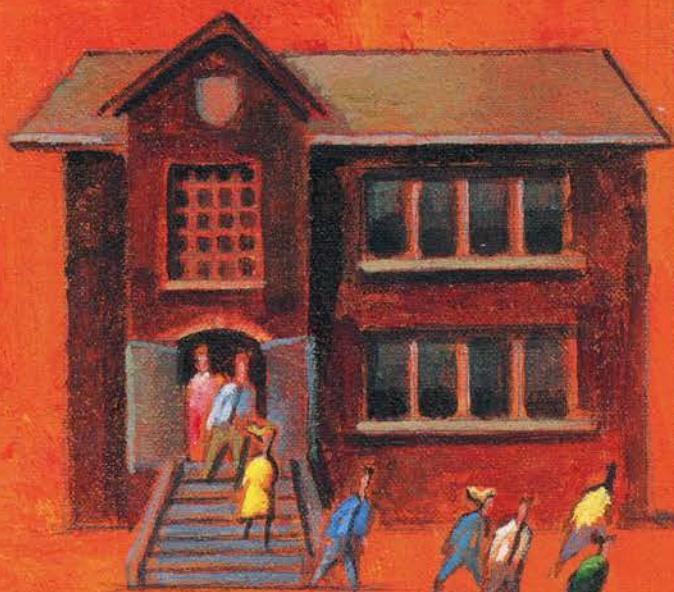
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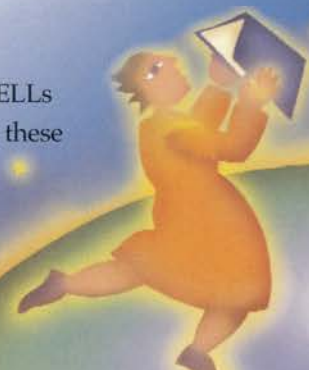
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AMERICAN Educator

Summer 2006

Cover illustrated by
Paul Zwolak

AMERICAN Educator

NOTEBOOK

Conventional Wisdom on Dropout Rate Is Questioned—Impact of Higher Standards Is Not

Everyone agrees that even one dropout is too many, but what they can't agree on is just how many there are. Conventional wisdom has held that nearly a third of all students—and about half of black and Hispanic students—drop out of high school. In contrast, economists Lawrence Mishel and Joydeep Roy of the Economic Policy Institute contend that 80 to 83 percent of all students, 69 to 75 percent of black students, and 61 to 74 percent of Hispanic students graduate with a regular diploma.

The large disparities in the estimates are largely due to the different data sets and methodologies the different researchers used. Without getting into the technicalities (like adjusting for students who have to repeat a grade), conventional wisdom has been based on studies that compare the number of ninth-graders in a given year to the number of diplomas awarded four years later. Mishel and Roy examined census numbers and data from NELS, the National Education Longitudinal Study that tracked a nationally representative sample of eighth-graders from 1988 to 2000. Both approaches have strengths and weaknesses—and are potentially reasonable ways of approaching the question. Most experts who have commented on the debate believe that it can't be fully resolved until better data are available.

But, there is one point on which the two estimates agree: Neither methodology has produced any evidence that tougher standards and exit exams have driven up the dropout rate. The conventional wisdom holds that the graduation

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Talk to Teachers Before Sending Disruptive Students Back to Class

Have you ever sent an unruly student to the principal's office only to see him return, smug and triumphant, in just a couple of minutes? Those of you who say no, appreciate how fortunate you are. Those of you who say yes—a thousand times yes—will be pleased to know of a solution proposed by a Maryland state legislator. Delegate Terry Gilleland, a 29-year-old former student member of his local school board, thinks that principals should be required, by law, to meet face-to-face with the teacher before sending the student back to the classroom. Maryland already has a law requiring the principal to confer with the teacher—but as teachers everywhere know, principals too often just send a note back with the student. A reasonable criticism of this law could be: Can't this be handled without another law? And we'd like to think the answer is yes. Unfortunately, the Maryland principals' association argued that scheduling a meeting with the teacher simply wasn't feasible, given the teacher's and principal's schedules! Of course, in the long run, the principal isn't saving any time by shirking the duty to discipline students and confer with teachers: When a trip to the principal's office means nothing more than a five-minute break from class, students' behavior deteriorates drastically. The bill didn't pass. The fact that it was even proposed is a reminder: Student discipline can't be solved if teachers don't get backed up.

rate has remained steady since the early 1990s; Mishel and Roy contend that the graduate rate has been slowly increasing since the 1960s.

Getting the numbers right matters: The best way to use resources could differ greatly depending on whether the national dropout rate is 20 or 30 percent, and whether the dropout rate among black students is 25 or 50 percent.

To read Mishel and Roy's report, "Rethinking High School Graduation Rates and Trends," go to **www.epi.org/** **content.cfm/book_grad_rates**. To read a report that supports the conventional wisdom, see Jay Greene and Marcus Winters's "Public High School Graduation and College-Readiness Rates: 1991–2002" at **www.manhattan-institute.org/html/ewp_08.htm#05**.

The Problem with the "65 Percent Solution"

For the past several months, First Class Education, a Washington, D.C., based organization, has been campaigning across the country to enact laws in every state mandating that school districts spend 65 percent of their budgets on "classroom instruction." Dubbed the "65 percent solution," this scheme is purportedly going to reduce school "waste," thereby improving student achievement. If you believe the hype, it's a veritable silver bullet: A plan to increase money for schools without requiring an increase in overall education spending.

Unfortunately, the 65 percent solu-

AFT Teachers: We're Launching a Web Site with Professional Resources Just for You

The AFT has heard its teachers loud and clear: You want answers to your questions about instruction, student discipline, working with parents, and more—and you want them in the heat of the moment, not just in a workshop scheduled four months later. That's why we are unveiling a new, member-to-member Web site. At the heart of the site will be content from the AFT's Educational Research and Dissemination (ER&D) program, a research-based professional development program that the American Educational Research Association calls exemplary. Ultimately, this site will be a place for the AFT to pool the considerable expertise of its teachers, allowing members to ask each other questions, share their experiences, and build supportive relationships with fellow members. It will also contain videos of presentations by researchers, access to discounted graduate-level courses, and live chats with experts.

The new site debuts on July 31st with back-to-school resources. To find it, just go to AFT's homepage: **www.aft.org**. Whether you're a new teacher looking for a primer on managing student behavior or a veteran curious about trying a new classroom arrangement, there will be something of interest as you get ready for the first day of school.

Teaching Reading Is a Science

According to the 2005 National Assessment of Educational Progress, reading is a struggle for more than one-third of the nation's fourth-graders. That's the bad news. The good news is that research indicates that the percentage of struggling readers could drop by two-thirds—and possibly by as much as 95 percent—by implementing a scientifically based approach to reading instruction. Unfortunately, that message is only slowly spreading across the country, and apparently has not made its way into most teacher preparation programs. In *What Education Schools Aren't Teaching and What Elementary Teachers Aren't Learning About Reading*, the National Council on Teacher Quality (NCTQ) finds that the key components of a scientifically based approach to reading—phonemic awareness, phonics, fluency, vocabulary, and comprehension—are rarely taught in a way that conveys their solid research foundation. Typically, the scientific approach to reading instruction is portrayed as no more effective than any other approach. According to NCTQ, "How someone will teach reading is repeatedly cast as a personal decision to be decided by the aspiring teacher. All methods are presented as being equally valid, and how one teaches reading is merely a decision of what works best for the individual teacher. These assertions contradict widespread, compelling evidence to the contrary." For example, one course set forth the goal that, "Students will explore a variety of philosophies related to early literacy learning and will be able to articulate and defend their own philosophy." Before the science of reading instruction was developed, teachers had no choice but to develop their own approach—but today, a solid body of research exists: How children learn to read is a matter of cognitive science, not personal philosophy.

For NCTQ's full report, and to find the 11 institutions that taught all the elements of the scientific approach, go to **www.nctq.org/nctq/images/ nctq_reading_ study_app.pdf**.
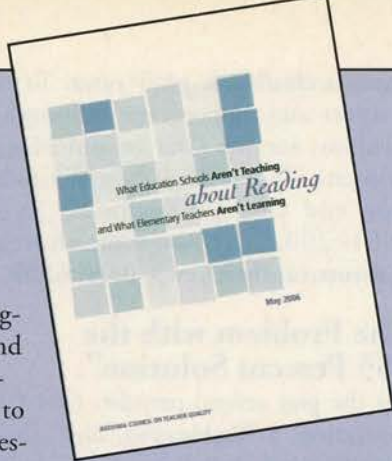
tion uses a narrow and misleading definition of classroom instruction; it's based on the definition of "Instruction Expenditures" developed by the National Center for Education Statistics (NCES). While NCES's definition includes the costs of teachers, teacher assistants, and most classroom supplies, it excludes staff and program costs for numerous essential services and supports, including libraries, guidance counselors, school nurses and healthcare, professional development, food and nutrition, transportation, custodial work, and building maintenance and security. As a result, the 65 percent mandate would only direct more money to classrooms if schools received the money they now receive, but no longer provided lunch or buses, swept or maintained the buildings, supported teacher professional development, etc. It's not a very serious solution, after all.

Recently, Standard & Poor's examined the 65 percent solution's potential to increase student achievement—and found that it had none. Simply put, some high-performing districts spend less than 65 percent and some low-performing districts spend less. But the researchers caution that, "these findings do not suggest that 'money doesn't matter,' or that school districts should not dedicate as much of their resources as possible to the classroom. This is a laudable goal, but the percentage allocated to instruction may need to vary from one district to another for legitimate reasons. For example, ... districts ... may find that their non-instruc-

tional spending is largely comprised of fixed costs that cannot be reduced. These districts may find that the only way to allocate 65 percent to instruction is to spend more overall, requiring them to seek additional funding from local taxpayers or additional state aid."

To read more from Standard & Poor's, visit **ww.schoolmatters.com/ pdf/65_paper_schoolmatters.pdf**. To learn more about the AFT's response, see **www.aft.org/topics/65percent/ index.htm**.

Freedom: It's More Uncommon, and Precious, Than Your Students May Know

"A long-simmering conflict in Sudan's western Darfur region exploded into widespread acts of ethnic cleansing, massacre, rape, and forced displacement in 2004. The U.S. classified the situation as genocide. Sudanese government forces and state-backed Arab militias killed at least 70,000 black Africans and created a massive refugee crisis affecting at least 1.5 million people."

So begins the section on Sudan in Freedom House's annual, comprehensive report, *Freedom in the World*. Teaching about international crises like the genocide in Darfur is a challenge. Front-page headlines may pique students' interest, but newspaper stories often don't provide the historical context and basic facts that students need to make sense of the situation. *Freedom in the World* is an excellent resource for teachers who want their students to understand crises, like that in Darfur, and their broader implications. The report includes essays by leading social scientists, evaluates the state of political rights and civil liberties in every country, and illustrates the ebb and flow of freedom in different regions and among differing cultures. The companion Map of Freedom (shown opposite) is also a great resource: By categorizing each country as Free, Partly Free, or Not Free, it provides students with an instant portrait of the state of freedom around the world. We've alerted readers to this resource in the past; the tremendous response from readers prompted us to highlight it again.

MAP OF FREEDOM 2006

Free
Partly Free
Not Free
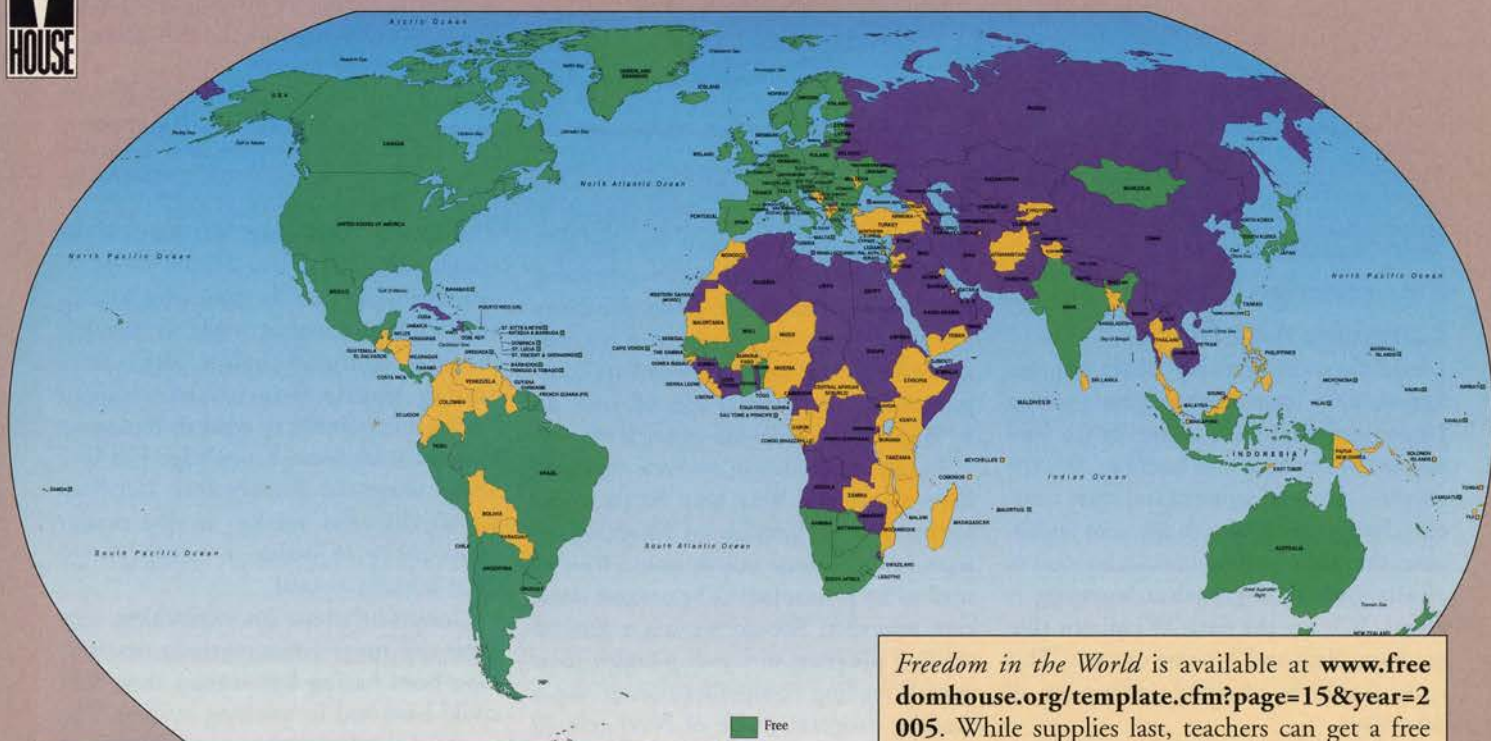
Freedom in the World is available at **www.free domhouse.org/template.cfm?page=15&year=2 005**. While supplies last, teachers can get a free poster of the Map of Freedom by calling Freedom House at (212) 514-8040.

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(Left and inset) Inside Darfur, humanitarian workers are struggling to bring clean water, food, and security to the refugees trapped in government-run camps. Since the government backs the genocide, conditions in the camps are horrific: In 2004, the World Health Organization estimated that roughly 10,000 displaced persons died each month in Darfur. The children shown here are just two of the tens of thousands of refugees in the Kalma camp, one of the oldest and largest.

In response to the crisis, the Amel Centre for the Treatment and Rehabilitation of Victims of Torture opened a branch in southern Darfur in October 2004. The Amel Centre provides medical and legal aid to those who have been detained without charges, tortured, and/or raped by government and militia forces. It also documents the widespread human rights violations in the region, and faces government intimidation and censorship to share its findings with the rest of the world. In recognition of its heroic efforts, the Amel Centre will be the recipient of AFT's Bayard Rustin Human Rights Award at the AFT convention this July.

LETTERS

The article by E.D. Hirsch was excellent; I hope the school of education professors will read it. I am on the Alabama State School Board and have wondered why we have not made more progress in reading, especially beyond the 4th grade. I think this is the answer.

—BETTY PETERS
School District 2 Representative
Alabama State Board of Education
Dothan, Ala.

Why Children Need a Knowledge-Rich Language Arts Block

I look forward to every issue, but the Spring 2006 issue was the most exciting I have seen because it addresses the very essence of teaching and learning. We absolutely need to understand that content, background knowledge, and vocabulary are what reading comprehension is about and, in fact, what learning is about. It is on the basis of content that we form ideas and become citizens. This issue should be required reading for all educators.

—LYN ENGELBERG
Nyack Public Schools
Nyack, N.Y.

Professional educators oscillate eternally around the issues of content and technique as if they were strange attractors. Congratulations to your authors for demonstrating that technique without content is sterile.

—STANLEY DAVID GEDZELMAN
Professor, Earth and Atmospheric Sciences
City College of New York
New York, N.Y.

The Spring 2006 issue on the role of content knowledge in reading comprehension was right on target. Many years ago, my colleagues and I did some

research on this very topic for the U.S. Navy. In our first study, we found that as background knowledge about the Navy increased from very little to a lot, the general reading ability needed to comprehend a Navy-related text fell from an 11th-grade level to a 6th-grade level.

In our second study, we were trying to figure out the best way to increase sailors' comprehension of Navy-related texts (such as those sailors would have to read to be promoted). The central question was this: Should we use a general reading program to try to increase their overall reading comprehension or use a reading program made of Navy-related texts? Based on our previous research, we believed that using Navy-related texts would simultaneously increase sailors' reading comprehension ability *and* Navy-related knowledge. Lucky for us, we were right. The general reading program lead to more improvement on a general reading test, but it did not have any effect on sailors' ability to comprehend Navy-related material. In contrast, the Navy-related program lead to improvements in Navy-related reading comprehension—and it had the added benefit of increasing the general reading ability of the sailors who started out reading at or below the 6th-grade level.

—THOMAS G. STICHT
International Consultant in Adult Education
El Cajon, Calif.

The Spring 2006 issue was particularly enlightening. Professor Hirsch made an overwhelming case in favor of a knowledge-rich curriculum core to develop reading comprehension, especially among pupils from disadvantaged homes. He pointed to what in retrospect may seem obvious: Knowledge fills in a lot of unstated connections between words that the listener or the reader must make in order to comprehend what is heard or read.

Congratulations on explaining why even the most conscientious teachers have been having less success than they could have had in teaching reading. The received wisdom—that content doesn't matter—is just plain wrong.

—JACKSON TOBY
Professor of Sociology Emeritus
Rutgers University
Piscataway, N.J.

I really enjoyed the articles on content-rich language arts. I especially liked the Hirsch article because it lined up nicely with the vocabulary acquisition studies your magazine reported on a couple of years ago. I am intrigued with the "core curriculum" concept. Our school is becoming a small K-8 school, and I am going to look into the core curriculum idea as a possible proposal.

—INGRID DWYER
Edward Smith Elementary School
Syracuse, N.Y.

Andrew Bornstein 1944-2006

As we go to press, *American Educator*'s art director has passed away—just two days after signing off on this, his last, issue. Andy has been the art director for *American Educator* since the beginnning, in 1977. He has also designed many, many AFT publications. We will miss his creativity and commitment to beautiful art and design, his wit, his willingness to go with the flow, no matter how choppy the waters, his optimism, and his unflagging desire to make every issue the best possible. We will miss his work, his conversation, and his company.

—Jen, Sandy, Lisa, and Ruth

Seeking Success with Students

New Teachers Can't Be Successful—and Won't Stay in Teaching—Without Help from Their School

The decade that began in 2000 will see massive teacher retirements and the need to hire 2.2 million teachers nationwide. The need for teachers will be even greater in math, science, special education, and in high-poverty schools. To attract talented new teachers to fill the shoes of those retiring, policymakers are proposing a raft of programs: signing bonuses, accelerated teacher preparation, housing assistance, scholarships, and more. Policymakers are also proposing financial incentives—like bonuses for teachers whose students' test scores rise more than expected and higher salaries for teachers who become mentors—in an effort to head off attrition of talented teachers, be they new or veteran.

Some of the recruitment plans make sense, some don't. Some of the proposals for financial incentives make sense, some don't. But what virtually all these proposals fail to address is the astonishing speed and rate at which newly recruited teachers flee their schools or their profession altogether: Fifty percent of new teachers leave teaching by the end of five years. Another 12 percent transfer each year; in high-poverty schools, the portion who leave or transfer years is even higher.

Why are they leaving? Former Chicago teacher Leslie Baldacci gives voice to the gritty, discouraging realities that drove her and other new teachers from their schools. Susan Moore Johnson and her fellow researchers at the Project on the Next Generation of Teachers conclude that the poor conditions, lack of help in learning the ropes of teaching, and the unprofessional treatment that Baldacci faced are not uncom-mon—and are largely behind the high turnover rate among new teachers.

> There is no point turning somersaults to attract talented new teachers, if half of them just run out the door.

Johnson and her colleagues go further, arguing that we are amid a generational change. In particular, a huge portion of new teachers, like their peers in every other segment of the economy—and unlike their predecessors—do not anticipate remaining in their first workplace, or even their first career, for a lifetime; they see teaching as one job among several that they will eventually hold. Close to half of new teachers have already held one or more jobs—in entering teaching, they're seeking a new, more meaningful career. If teaching doesn't provide these new teachers with what they are looking for, they will move on.

So what do they want? Above all, to be successful teachers. And to do that, they need help—from administration, fellow teachers, and other school staff. According to their research, too often, they're struggling on their own.

Further, Johnson and her colleagues find that teachers who get the support they need—both administrative support and real assistance in learning the ropes of teaching—are very likely to stay. As an example, see the story of Fred, page 20. Teachers who don't get the support, like Mrs. Baldacci, are very likely to leave, either to a new school—or a new profession.

Providing that support ought to be at the top of every agenda aimed at assuring a high-quality teacher workforce in the future. There is no point turning somersaults to attract talented new teachers, if half of them just run out the door.

—EDITORS

Why New Teachers Leave ...

By Leslie Baldacci

My classroom was just one deck chair on the Titanic. The kids ran wild. They swore, fought, refused to work. At assemblies they booed the principal. The only punishment was suspension, and that wasn't so terrible. As one of my students, Cortez, put it, "At least it's better than having to come up here."

This was seventh and eighth grade in a poverty-level, urban school on the South Side of Chicago. Our classes were bursting at the seams with 35, 36, and 37 kids apiece. Tough kids, many of them raising themselves in tough circumstances. There was barely room to walk around the classrooms for all the desks. When the kids were in the room, there was no room left. The noise and heat levels were like a steel mill.

I understand the teacher shortage and why one-third of new teachers quit after three years and nearly half bail out after five years. I believe my experience was more typical than extraordinary.

What was not typical about my experience was my background. As a newspaperwoman for 25 years, I had reported on Chicago's education crises long before the city's "school reform" effort started in the late 1980s. By 1999, Chicago's schools had improved their finances, halted a disastrous cycle of teacher strikes, fixed crumbling buildings, and put up new ones. Student test scores were beginning to improve. Yet, Mayor Daley worried about sustaining the momentum. He asked, "How do you know that we set the foundation and it's not going to fall back?"

By Susan Moore Johnson and
The Project on the Next Generation of Teachers

Esther spent nine years as an engineer designing flight simulators for Navy pilots before she considered teaching. She loved her job for its intellectual challenge, the collegial nature of her workplace, and the variety of tasks and responsibilities it offered. But she resigned when her first child was born because she did not think the demands of the job were compatible with raising a family. Her substantial salary had allowed Esther and her husband to build savings that would support them for several years on a single wage. However, after six years, their savings were low, prompting Esther to decide to work part-time as a substitute teacher in her children's school where she already served as a volunteer.

Gradually, Esther began to think about becoming a teacher. People had always said that she was good at explaining things, and she had enjoyed her work as a substitute. Also, teaching would make it possible for her to be home with her children after school and during vacations. But the decision was not easy. A beginning teacher's salary would be at least $30,000 less than she could earn if she returned to work as an engineer.

Nonetheless, Esther began to investigate education programs that would lead to a teaching license. Then, in spring 1999, the Massachusetts Department of Education announced the Massachusetts Signing Bonus Program (MSBP), which offered outstanding candidates $20,000 to participate in an intensive summer training institute and then teach in the state's public schools for at least four years. Massachusetts legislators intended the program to recruit talented individuals who traditionally would not have considered teaching, particularly in high-need subject areas, such as math, science, or

... and Why
New Teachers
Stay

special education, and in schools serving low-income populations (Fowler, 2001, 2003).

Esther found the bonus and its selectivity appealing, but she was most attracted by the fast-track alternative preparation program that state officials created to move bonus recipients quickly into the classroom. A seven-week institute, which included student teaching in a summer school, would enable Esther to have her own classroom of students by September. Given the length and expense of traditional teacher education programs, she found this very attractive and applied. She recalled, "It got me in at least a full year, if not more, earlier than I would have [entered]."

Soon after Esther learned that she had received the bonus, she was encouraged to apply for a job working on the space shuttle, a job she would have pursued if a suitable job had been available for her husband nearby. But this did not work out, so Esther completed the summer institute for MSBP teachers, and accepted a position teaching ninth-grade math in an urban, vocational high school. Given the shortage of mathematics and science teachers, particularly in urban areas, Esther was just the sort of skilled, unconventional candidate Massachusetts reformers had hoped to recruit. With idealism and enthusiasm, she hoped to draw
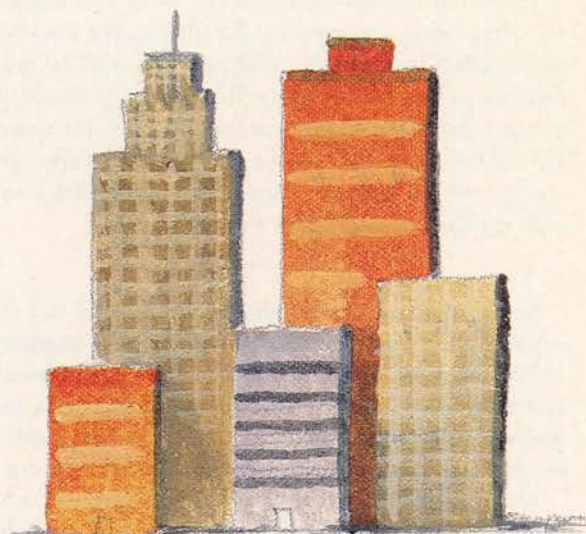
on her experience as an engineer to help her students enjoy learning math.

But after her first year, Esther left for a more affluent school in the suburbs. What happened? And what happens across the nation to the 50 percent of new teachers who quit teaching all together within five years?

As Esther and her counterparts began teaching in 1999, public educators and policymakers across the country were preparing in earnest for a predicted teacher shortage. At the start of the new century, about 30 percent—approximately one million—of the nation's public school teachers were over 50 years old (NCES, 2002) and expected to retire by 2010. At the same time, increasing birth and immigration
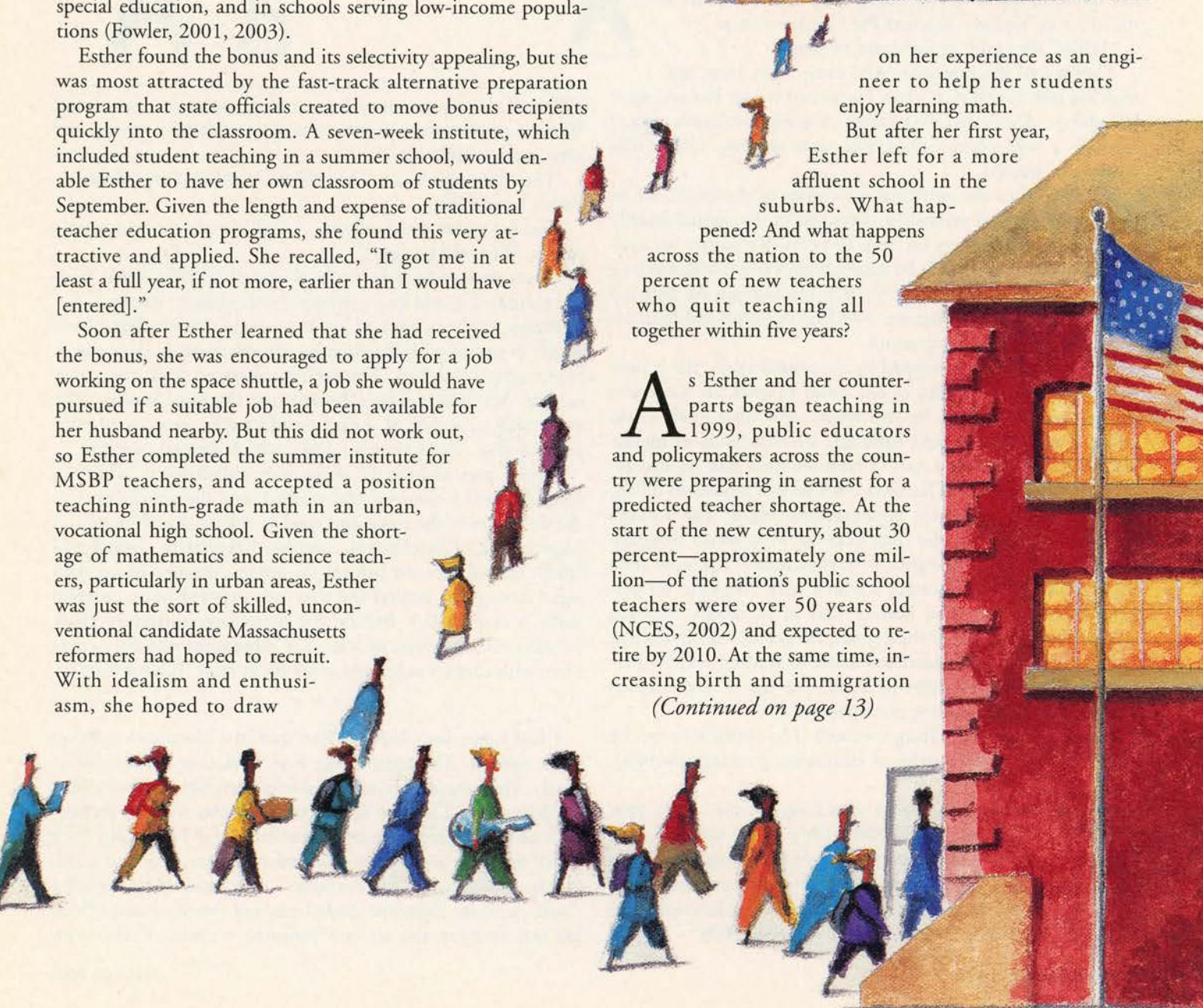
Why New Teachers Leave

I believed the answer lay in the front-line troops, teachers. So, after being accepted to the alternative certification program called Teachers For Chicago, I turned in my press credentials to become a teacher. The program would pay for my master's degree, minimize the requirements for entering graduate school, and put me in a classroom immediately as a teacher, with a mentor looking over my shoulder and working with me daily. I would earn $24,000 a year.

* * *

My school had two buildings—a beautiful old yellow brick school, built like a fortress in 1925, and another from the 1970s, a poured-concrete prefab shell three stories high. Built as a temporary solution to overcrowding, it had long ago outlived its intended lifespan. Over time, the windows had become a cloudy opaque, impossible to see in or out.

I walked in a side door, past a security guard who did not question me, and introduced myself to the ladies in the office as "the new Teachers For Chicago intern."

"Hello!" they said, friendly and smiling.

They paged the principal, who came right away and took me into his office to chat. He looked weary. His eyes were bloodshot. Above his desk, tufts of pink insulation poked through a hole where ceiling tiles were missing. Other tiles were water-stained.

When I asked the principal for copies of the books I'd be using when school started in eight weeks, he sighed heavily and folded his hands on his desk. It wasn't that simple, he said. He wasn't sure what grade I'd be teaching. He was still working on his organizational lineup for fall. He assured me that my Teachers For Chicago mentor would be in touch and help me with the details of getting set up.

In late July, when I stopped by the school again, the principal emerged from behind closed doors to level his bloodshot eyes at me and tell me he still wasn't sure what grade I was going to get, but it would definitely be fifth grade or higher. Two more teachers had quit, I later learned, and he had requested four additional Teachers For Chicago interns to fill the many empty spots on his organizational chart. The school's first experience with the nine-year-old internship program would place interns in eight of his classrooms. The poor man looked beleaguered. Running a school with 900 kids, 89 percent from poverty-level homes, had to be tough. Student achievement was low: At third grade, 86 percent of the student body was below grade level standards in reading and 79 percent was below grade level in math. On top of that, experienced teachers were bailing out right and left.

It was precisely the setting I wanted. The optimist in me, by virtue of a scant six weeks of education training, thought,

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Where was my backup? What were the consequences? Everyone I sent to the office bounced right back in. There was no detention.

"What if this turns out to be a turning point for the school? What if all these new people coming in with their energy and ideas make a difference?"

"I'm counting on you," he told me. I pledged my allegiance with a handshake.

"Put me where you need me," I told him. I sent up a simple prayer, "Thy will be done."

About two weeks before school started I finally heard from my mentor; I would be teaching seventh grade in Room 118.

Room 118 was painted seafoam green, which didn't look nearly as putrid with the dark woodwork as the pink in the library across the hall. The ceilings were so high the room echoed. My desk had four drawers; my chair was broken. The cupboards were full of junk I would never use, coated with years of dust. There were 40 desks, which seemed excessive.

All the maps and the AV screen were pulled down. What was behind them? I clomped and creaked over the wood floors to the far corner of the room and tried to roll up the AV screen. A huge chunk of blackboard, ancient, heavy slate, jagged and lethal, lunged forward behind the screen, threatening to slash right through it. Behind the slate was exposed brick, internal walls, vintage 1925. Behind the maps were unsightly chalk boards ruined by years of wear and subsequent efforts to cover them with contact paper and other sticky stuff. What a mess.

* * *

I had never seen kids act like that in a classroom with an adult present. Throughout the first week, they talked incessantly. They shouted to be heard over the talking. They didn't do their work. They got up out of their seats without permission and wandered around, touching and bothering each other on their way. They shouted out questions and comments, including, "This is stupid." Any little ripple set off a chain reaction. Someone passed gas and everyone leapt from his seat fanning the air and jumping around. They threw

things. They hit. I had broken up two fist fights already. They yelled out the window to their gang-banger friends and relatives, who gathered outside at dismissal time. They swore like sailors. I felt like the old woman who lived in the shoe; I had so many children I didn't know what to do. In addition to the 35 students in my homeroom, more than 100 other students, seventh- and eighth-graders, called me their English teacher.

And where was my backup? What were the consequences? Everyone I sent to the office bounced right back in. There was no detention. There had been no suspensions, even for fighting. I was beginning to think "alternative" schools for poorly behaved students were a myth made up by the board of education. Was my school an alternative school and no one told me about it?

All good questions, but ones I could not resolve. These were issues I needed to discuss with an experienced hand, but I had not seen much of my mentor. I felt like a prisoner in solitary confinement, thrown into a cell and forgotten. I was lucky to get to the bathroom in the course of a day.

* * *

A five-week reorganization brought new levels of angst. I had never heard of such a thing. My children had always had the same teacher from the first day of school to the last. There were no switcheroos unless someone had a baby or got sick. But apparently a principal has a right to shake things up through the fifth week of school. He can move teachers around and fine-tune the operation if things aren't going well. This, it seems, is an annual event at some schools.

That is how my colleague Astrid got switched from seventh-grade social studies to a sixth-grade, self-contained classroom and how Mr. Diaz joined the seventh- and eighth-grade team. Jennifer, an intern with a third-grade class, got switched to second grade.

Astrid was devastated at leaving her seventh-graders and starting over with a sixth-grade class. New faces, new books, new routines. And she had to teach every subject! Her seventh-graders gave her a farewell party. They took a collection and raised $13.00. Donna went to Sam's Club and bought a cake decorated with "Movin' On Up!" Astrid's new classroom was on the second floor.

When one intern explained to her third-graders that they were getting a new teacher, a student asked, "Why are you giving us up?" The enormity of the question caused the first-year teacher to lose her composure. She started to cry. Then the kids all started bawling. They spent the rest of the day watching a video. "We couldn't do anything else," she said. "We were wrecked."

Besides disrupting children's classroom situations, no one seemed to have given any thought to which children should or shouldn't be together. Most of the kids had been together since they were tiny. They had history together. Yet no teachers seemed to have been asked for insight on the group dynamic. At my children's public school, teachers met at the end of the school year to make their lists with an eye toward who worked well with whom and who needed to be separated.

Then again, at a school like mine with a 40 percent mobility rate, who knew who would be back? Year to year, five weeks into the year, changes came.

The seventh and eighth grades would no longer be departmentalized. No more changing classes. Each of us would teach all subjects to our homerooms. Starting that day.

* * *

My students were ignorant of geography. They didn't know the states; they had vague ideas of continents. I decided to craft a research project around travel so they'd get some geography along with language arts. The project was planning their dream trip. I went to a couple of travel agents and grabbed every glossy brochure I could get my hands on.

They had to decide where they wanted to go and how far it was from Chicago. They had to determine the cost, pack a suitcase, and write an itinerary of sightseeing and other activities specific to their destination. They had to find out the currency, the language, what different foods they might eat, and what were good souvenirs to buy. They had to convert currency and account for time zones.

Destinations included Mexico, Jamaica, Africa, Wyoming, Florida, California, and England. The dream trip project, with its cross-curricular integrations of math and social studies, came in handy when, two days before first-quarter report card pick-up, our principal informed Mr. Diaz and me that our worst fear had been realized: The seventh and eighth grades would no longer be departmentalized. No more changing classes. Each of us would teach all subjects to our homerooms. Starting that day.

Apparently, he had decided this some weeks before. He had informed the eighth-grade teachers the week before. "I should have told you, too. My fault. Apologies," he said curtly before turning on his heel and walking away.

We were in shock. Suddenly, we were on the hook for lesson plans in all subjects, coming up to speed on the curriculum, and teaching the lessons. But that was only a week-by-week crisis. The deeper crisis was whether or not we were up to the task of teaching our students in all subjects. Seventh-grade standardized test scores determine a child's high school options. What if my ineptitude kept someone from getting into an accelerated

program or a better high school? I'd become comfortable with language arts. This new responsibility was daunting.

When my graduate school advisor came to observe just a few days later, she was so upset that she called for the mentor and the principal. "This is a joke," she informed them. She reminded the mentor that her job was to spend an hour each day in each intern's room, co-teaching and modeling for us how to teach. The mentor replied that she was the "disciplinarian."

"You're the mentor," my advisor told her. "If you can't do that job, maybe someone else should. And maybe if this school can't give these interns the support they need, Teachers For Chicago doesn't belong in this school."

I prayed they wouldn't pull us out. There were so many things I had learned already but much I still needed to find out. Why weren't there any television sets or VCRs? Why were there so few books in the library? Why didn't the upper grades get time in the computer lab? Were chronic, truly dangerous kids ever sent to alternative schools?

The bottom line was, I couldn't leave the class. The upset of the reorganization made me realize how desperately they needed continuity. There had to be some value in coming back day after day, trying hard, doing my best, even if my best was woefully inadequate. Those were the only terms under which I could ask the same from them.

After my advisor left, the principal and mentor returned to my room.

"Where's your fire escape plan?" asked my mentor.

"Hanging right there, by the door," I said, pointing to the pink sheets. The children watched, rapt.

"Where's your schedule?"

"Nichelle, please put up the map at the back of the room. The schedule is behind it."

"Where's your grading scale?"

"Bulletin board, lower right corner."

"Where's your time distribution chart?"

"I don't know what that is."

"You should have it posted in the classroom," she said. "Have it on my desk at eight o'clock tomorrow morning."

They turned and left.

* * *

Near the end of the school year, the principal informed me that I would be teaching second grade the following year. I assured him I would do my best.

I walked back to my classroom with conflicting emotions. We had filled out wish lists and I had asked for seventh grade again, feeling I could do better now that I knew the pitfalls. My second choice was sixth grade, my third choice fourth. Being sent to second grade, clearly not what I desired, looked like a punishment. Had I been such a dismal failure with my seventh-graders, self-contained in the largest classroom in the school with all of our personalities and problems? Surely someone else would have been a better teacher for them than I was. Was it criminal to leave them with me all year? Would I be equally as dismal with second-graders? My eyes were watery with tears.

* * *

While the whole group of interns was exhausted, as the old-est I may have been feeling it more than the others. And the fatigue was not just physical. It was mental as well. I was drained more every day by the limits of poverty, the unprofessional manner in which our school was run, the criticism, the nitpicking, the zero encouragement or respect. No one ever told you when you did a good job. It was like no other job situation I had ever experienced.

Toward the end of my second year of teaching, I did a mental count of the teacher interns who had come through the doors and who had left. By my tally, 16 interns came on board in my two years. All but five left in one circumstance or another. I had to find a more supportive school where I was viewed as competent and dedicated.

I made only one effort to find another job. I wrote to a principal who had come up to me after a speech I gave to the Annenberg Foundation a year before, a woman with a short blond Afro and fantastic jewelry who told me, "When you're done with your internship, call me. I like your attitude." Her school was known throughout the city as an exciting school that works for kids.

She called me soon after she received my letter to set up an interview. When I returned her call at 5:40 P.M., she answered the office phone herself. I was not surprised. By then, I understood the extraordinary dedication it took to be a strong school leader.

I set my sights on this school and this leader.

With bags under my eyes, wearing a ridiculous flowered dress and a jean jacket, I went for my interview at the new school. The day happened to be the day of the annual school carnival. I arrived as students were being dismissed. I couldn't believe how many children's names the principal knew. As the students left the building, they were walking, not running. Most were quiet, but if they were talking, it was in normal conversational tones, not screaming. At least 20 kids said to their principal as they left, "Thanks for the carnival."

The principal, vice principal, and I talked for nearly two hours. About teaching children. About testing. About assessment. About curriculum integration. About teams of teachers working collaboratively. The school, with corridors that looked like a museum of African art, had three bands, sports teams, afterschool dance and art programs, an entrepreneurship initiative and video club and book clubs, among other programs. We talked about a school paper and what they would like to see on a fifth-grade reading list.

I realized that I was poised on the brink of an excellent opportunity to see in action the kind of leadership that made this school stand out among 700 elementary schools in our city. I very much wanted to be part of an organization working hard, plowing forward. The faculty was dedicated, innovative, bright. Initiative was applauded. Everyone wore many hats. There were responsibilities to serve on committees, to formulate policies and philosophies. It was a unique team, constantly evolving, positive.

"I'm going to do something strange and forgo the secret conference with the vice principal and listen to my heart," the principal said. "I'm going to offer you the job right now."

I accepted the position on the spot, with sincere gratitude and humility. □

Why New Teachers Stay

(Continued from page 9)

rates and, in some states, class-size reductions further expanded the need for new teachers. Experts projected that public schools would have to hire 2.2 million teachers during the first decade of the new century (Hussar, 1999).

This enormous hiring challenge is exacerbated by the very high turnover rates of new teachers. Nationally, approximately 15 percent of new teachers leave teaching within the first year, 30 percent within three years, and 40 to 50 percent within five years (Ingersoll, 2002; Smith and Ingersoll, 2003). To make matters worse, each year, 15 percent of new teachers change schools (Smith and Ingersoll, 2003).

The cost of this turnover is staggering: The Alliance for Excellent Education (2005) estimates the cost of teachers leaving their schools to be $4.9 billion per year. Of course, the greatest cost is not so easily quantified; it's the price paid in student learning. Researchers have consistently found that first-year teachers are dramatically less effective than their more experienced colleagues (Hanushek et al., 2004).

How can the constant turnover be reduced so our classrooms can be stably staffed? We can only answer the question by understanding the motivations, priorities, and experiences of the next generation of teachers. To do just that, in 1999, we began a four-year study of 50 first- and second-year Massachusetts teachers, including Esther,* who had entered teaching via various paths: traditional teacher education programs, the Massachusetts Signing Bonus Program, and charter schools (which, at that time, could hire teachers without state licenses). As we selected participants, we ensured that our sample included variation by race, gender, ethnicity, and career stage.

In our interviews and follow-up surveys, we sought to understand why they had chosen to teach, how they prepared, what their career plans were, what they encountered in their jobs, and why they ultimately chose to stay in their schools, switch schools, or leave the profession altogether.** In a nutshell, what we found was this: This next generation of teachers approaches teaching somewhat tentatively; they will only stay in the classroom if they feel successful and they are most likely to feel successful if they've received support in their jobs—specific, ongoing help from colleagues, administrators, and mentors—and been able to work in conditions that enable good teaching.

In this article, we'll look at three aspects of our research

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The Generation Gap

Source: National Education Association, Status of the American Public School Teacher, 2000-2001, Table 6, "Years of Full-time Teaching Experience, 1961-2001."

A large proportion of the teachers hired in the 1960s and 1970s made teaching a lifelong career; subsequently, student enrollment declined in the 1980s. As a result, the profile of today's national teaching force is increasingly U-shaped, with one peak of educators about to retire, another peak beginning to teach, and a valley in between.

that bring us to this conclusion: First, we'll consider the labor context in which these new teachers find themselves—and which makes them, like others in their generation, so much more open to changing jobs. Second, we'll look at the types of problems that thwart new teachers' classroom success, and then return to Esther to discover why she didn't feel successful in her vocational high school. Finally, we'll see that whether or not new teachers stay is strongly shaped by the amount of help they receive. Recognizing that success is possible, a sidebar (p. 20) looks at the case of Fred to understand how a strong induction experience, combined with a strong professional, collegial environment, can help teachers succeed—and in doing so, also lead them to stay a while.

I. The Next Generation Is Open to Job-Switching

The next generation of teachers makes career decisions in a labor context strikingly different from 40 years ago, and the interests and options of today's prospective teachers are unlike those of any teachers who preceded them. Until the mid-1960s, teaching was the primary career option for large numbers of well-educated women and people of color, for whom other professions were formally or informally off limits. That is no longer true. Individuals who consider teaching today have many more career options than the retiring generation—many of them with much higher salaries and better working conditions than teaching. In addition, today's new teachers are encountering unprecedented demands: The public now expects schools to teach all students so that they meet high standards—rich and poor, immigrant and native-born, white and

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* Pseudonyms are used throughout this article to protect the teachers who participated in our research.

**Although the focus of this article is our longitudinal study of 50 teachers, we have conducted many related studies, including a four-state survey of 486 randomly selected first- and second-year teachers that was designed to generate broader, more generalizable findings.

minority, special needs and mainstream—and to take on new functions beyond the traditional scope of schools' responsibility. Teachers bear the burden of society's newer, higher expectations for schools (Hargreaves, 2003).

Let's briefly examine three significant ways in which the next generation of teachers differs from the retiring generation: the stage in their career in which they enter teaching, the routes they take to the classroom, and the number of years they expect to spend teaching (Peske, Liu, Johnson, Kauffman, and Kardos, 2001).

Entering Teaching at Different Career Stages

Many of today's new teachers are entering teaching midcareer (far more than ever before), most having worked for a substantial period of time in another field. In our carefully selected sample of 50 Massachusetts first- and second-year teachers, 52 percent entered teaching as a first career, at an average age of 24, whereas 48 percent entered at midcareer, at an average age of 36. Although the number of midcareer entrants in our sample may seem high, subsequent random samples of first- and second-year teachers in seven states revealed that our sample was fairly representative; we found a range of midcareer entrants from 28 percent in Michigan to 47 percent in California (Kardos, 2001, 2003; Kauffman, 2004; Liu, 2001, 2003).

Many of the first-career entrants are similar to the retiring generation in that they always wanted to teach and never seriously considered any other careers: "I feel like I always just knew," explained one. "It sounds corny, but I was born wanting to teach," echoed another. They believed that teaching would be socially valuable and personally rewarding work, yet recognized that the work was neither high-paying nor high-status.

The 24 midcareer entrants in our study came to teaching later, believing that it offered more meaningful work than did their previous employment. As a group, these midcareer entrants brought with them a familiarity with large and small organizations, for-profit and non-profit enterprises, entrepreneurial and bureaucratic settings. Some had worked for multiple supervisors, whereas others had been supervisors themselves. Some had experienced well-defined, useful, and ongoing on-the-job training; some had devised such training for other employees. Thus, midcareer entrants often enter their new school expecting a workplace that was better equipped, more flexible, and more committed to their success than the one they found. They were often dismayed when they found that their new workplaces were dreary or dilapidated, that they had scant access to telephones or the time to use them, that basic resources such as paper were in short supply, and that they had to use precious time to do routine, clerical tasks.

Taking Multiple Routes to the Classroom

Thirty-two of the 50 new teachers we studied entered teaching by traditional routes, pursuing undergraduate and graduate programs that included at least one academic year of coursework, supervised student teaching for six weeks to 10 months, and, ultimately, certification. In general, they appreciated that their programs offered valuable information about

> In contrast to their veteran colleagues who will retire from a lifelong career in the classroom, many new teachers in our sample approached teaching tentatively, conditionally, or as one of several careers they expected to have.

pedagogy and opportunities to practice their craft under the supervision of an experienced veteran during the school year.

Eighteen teachers in our study entered through an alternate route—five via charter schools and 13 via the Massachusetts Signing Bonus Program (MSBP). The teachers who went to work in charter schools completed no teacher preparation program. The MSBP participants completed a seven-week, summer preparation program operated by the state, including a short stint of student teaching in summer school. Nine of these 13 had entered the MSBP with no prior teacher preparation; three others had previously completed certification requirements in traditional master's programs before joining the program, and one had completed all but the student teaching requirement in an undergraduate teacher preparation program. In general, the nontraditional entrants counted more on the value of innate teaching ability and professional experience than on the content of education courses or a student teaching experience. The alternative route was particularly appealing for the midcareer entrants who otherwise would have had to forego a year's pay while completing a traditional program.

Committing for a While, Not a Lifetime

In contrast to their veteran colleagues who will retire from a lifelong career in the classroom, many new teachers in our sample approached teaching tentatively, conditionally, or as one of several careers they expected to have. Although some expected to remain in the field of education long-term, surprisingly few envisioned remaining exclusively in the class-

room long-term. Even the first-career entrants, who 30 years ago would probably have approached teaching as a long-term endeavor, were surprisingly tentative about a career limited to classroom teaching. In fact, only four of the 26 first-career entrants said that they planned to remain classroom teachers until they retire. Likewise, even though they had fewer working years left, only six of the 24 midcareer teachers intended to stay in the classroom full time for the rest of their careers.

Many of the teachers—11 first-careers and 13 midcareers—stated explicitly that they did not intend to stay for the rest of their careers. One respondent, a former software developer, explained, "I'm a career changer. I figured, Why not explore a new field?" Another, a recent college graduate, planned to enroll in medical school after teaching for two years. He said, "I knew I wanted to go to medical school. I knew I did not want to go right after college, and so I decided, What can I do that won't pay too badly and that will make me feel like I'm doing something interesting and important?" Though these teachers made only a short-term commitment, they were not at all casual about what they hoped to achieve in the classroom. They intended to pour themselves into the job, giving it all they had, but only for a few years.

II. What New Teachers Want— and Often Aren't Getting

Given the career options and lack of long-term commitment to teaching that characterize the next generation of teachers, schools and districts that hope to hold on to new teachers will have to pay close attention to what these teachers say they want: support. The new teachers in our study described in considerable detail the internal workings of their schools, explaining the ways in which those schools succeeded or failed in supporting learning (of both the teachers and the students). Their accounts make it clear that the support they seek isn't just a matter of wanting their jobs to be easier—it's a matter of making their jobs doable, and giving them a chance to experience the success with their students that is teaching's primary reward.

Threaded through the new teachers' stories were accounts of inattentive or abusive principals, inappropriate or unfair assignments, inadequate supplies, ad hoc approaches to discipline, insufficient time with other teachers, and insufficient opportunities to grow—each of which we briefly discuss below. New teachers who worked in schools lacking these basic supports were demoralized and often felt ineffective with their students. They typically were the ones who left teaching.

Problems with Principals

These new teachers' accounts reinforce the finding of repeated research studies that the principal is central in shaping how, and how well, a school works (Murphy, 2002). Teachers we studied spoke intently about how their principals related to them personally and professionally. They wanted administrators to be present, positive, and actively engaged in the instructional life of the school. Often, the principals failed to meet these teachers' expectations. Most were said to succeed in some things but fall short in others. A surprising number were, in these teachers' views, ineffectual, demoralizing, or even destructive.

Teachers frequently said that the principal was preoccupied and did not make time for them. Carolyn, who worked in a large, urban elementary school where 70 percent of the students qualified for free- or reduced-price lunch, found her principal "a little gruff," and said she was disappointed to see her keep such a distance from the staff: "She has bulletins that she sends out. It's really her main form of communication with us." As a result, Carolyn explained, "there is a sense of the administration being higher and separate from the teachers." Carolyn looked to her principal for direction, but said that she often took problems out of Carolyn's hands with a brusque "I'll take care of it," rather than recommending how she might respond. Like other new teachers, Carolyn wanted to learn from her principal: "So a lot of time, I'll have to keep probing her [by asking], 'In another scenario, how would I handle this…?' or 'What are the consequences [for the student] that the school has for this?'"

Problems with Teaching Assignments

In the typical professional setting, it is common to give inexperienced staff less responsibility combined with fairly intensive oversight by a veteran—but not in teaching. No teacher in our study had a reduced teaching assignment. Bernie's high school load in the history department was typical: "I have two honors classes and three of what they have labeled as 'open' classes [for low-achieving students]. Open classes also have special ed kids…. Five classes, five times a week: The kids have seven periods. I have one free period a day. Otherwise, I'm on hall duty, or bathroom duty, or what have you." Bernie, whose time as a corporate lawyer had been billed by the minute, was dismayed to find that his time as a teacher was used to "make sure that nobody smokes in the boys' room."

Not only was Bernie's assignment not reduced, but he, like many in our study, actually had a more difficult assignment than his more experienced colleagues. "I have the highest class size of any open [lower track] class. All the other open classes in the school, I found out this week, are all like 10 kids. Mine are 30 and 25." Moreover, Bernie had no classroom or desk to call his own and moved from room-to-room during the day as an itinerant instructor. Throughout the study, teachers described assignments that, although technically comparable to those of their colleagues (the same number of students, the same number of classes), were actually far more challenging. Their loads included a preponderance of low-level classes, grade-levels in which students would take the state exam, split grades, or assignments that required traveling from classroom-to-classroom or school-to-school.

Problems with Supplies and Equipment

There was wide variation in the equipment and supplies provided to the new teachers, with predictable differences between urban and suburban schools (although some teachers in urban schools said that they had all they needed). Like many who came from other careers, Esther was stunned at how ill-

Teachers transfer out of high-poverty, low-support schools because of conditions … not union transfer provisions

By F. Howard Nelson

High-poverty schools tend to employ staff with less experience than other schools. This could be a source of great inequity. What causes it?

A group of policymakers and researchers have argued that the cause is collectively bargained contracts that give senior teachers greater transfer rights. For example, the Hoover Institute's Terry Moe (2006) asserts that "hard evidence or no, there are compelling reasons for thinking that transfer rights should have profoundly negative effects on the schools.… [T]ransfer rights give senior teachers much more latitude in choosing where to teach…. In districts with transfer rules, then, disadvantaged schools should find themselves burdened with even more inexperienced teachers than they otherwise would."

Likewise, Paul Hill and others at the Center for Reinventing Public Education (2005) argue that, "Teacher preferences are usually honored according to seniority, frequently backed up by labor contracts. The most senior … teachers very often receive their preference to be assigned to schools with the fewest teaching challenges. The greenest teachers … are generally assigned to schools that are struggling."

But are these assumptions correct? My research data provide a clear answer: No.

Using data from the 1999-2000 Schools and Staffing Survey and the

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High Poverty, Urban Schools with Collective Bargaining Have Lower Transfer Rates and Hire Fewer First-Year Teachers

Percentage of teachers who transfer: Extensive collective bargaining 8.4; No collective bargaining 13.0

Percentage of first-year teachers hired: Extensive collective bargaining 5.7; No collective bargaining 10.1

■ Extensive collective bargaining   ■ No collective bargaining

companion 2000-2001 Teacher Follow-up Survey, I found that both nationally and in urban areas, teachers who work under a collectively bargained contract are *less likely* to transfer to another school than teachers who do not have a collectively bargained contract. This is especially true of teachers in high-poverty urban schools: Just 8.4 percent of those in states with extensive collective bargaining transferred to another school in 2000-2001, compared to 13 percent of those in states without collective bargaining.

Of course, how many teachers are transferring is not the only, or even the most important, issue. The real question is this: Who fills the vacancy when a teacher does transfer? Folks like Moe and Hill have asserted that teachers always prefer to work in more affluent schools and neighborhoods, and that their seniority-based transfer rights enable them to do so. This is devastating for high-poverty urban schools, they argue, because such schools are then stuck hiring (and soon thereafter losing) inexperienced teachers.

Once again, the data disagree.

I found that high-poverty schools in states with extensive collective bargaining are *less likely* to fill their vacancies with inexperienced teachers. Among high-poverty urban schools, in states with extensive collective bargaining just 5.7 percent of the teachers filling vacancies were inexperienced, compared to 10.1 percent in states without collective bargaining.

The message from these data is clear: Collective bargaining contracts do not induce experienced teachers to leave high poverty schools.

Why then do high-poverty schools employ a larger number of new teachers? My data do not provide an answer. But the research conducted by Susan Moore Johnson begins to paint a picture that does. Teachers in high-poverty schools, in both districts with and without collective bargaining, face more difficult conditions and less support than their counterparts in more affluent schools. These teachers are thus more likely to leave teaching all together. And, they are more likely than their counterparts to change schools—or switch, like Esther in the main article, to an entirely different school district, where they can find a school and conditions that enable them to find teaching success.

(References on page 45)

Teacher unions can support new teachers' desire for assistance and professional growth— while aiding teacher effectiveness

By Susan Moore Johnson
and Morgaen L. Donaldson

Given the mobility of workers in today's economy, as well as the aspirations and options of new teachers, recruitment and retention of these teachers may require the creation of new teacher roles. In a survey of recent college graduates, 70 percent felt that teaching did not offer adequate "opportunities for advancement," but their current jobs did (Farkas et al., 2000). Similarly, research by Henke, Chen, and Geis (2000) found that about one-third of all new teachers and 50 percent of new black teachers wanted to move into school leadership positions.

Further, in response to the influx of new teachers and the growing concern about their readiness and ultimate retention, issues of induction and mentoring are moving center-stage. Across the country, the quality of induction and mentoring programs varies widely (Feiman-Nemser, 2001). Yet recent research has shown that when new teachers take part in comprehensive induction programs that include time for collaboration and a mentor who teaches the same subject, they are less likely to leave the profession (Smith and Ingersoll, 2004).

Unions and districts can work together to create structures that help support and retain the talented teachers that our schools need. One long-running effort to do this is in Toledo,

This sidebar is adapted with permission from "The Effects of Collective Bargaining on Teacher Quality," a chapter in Collective Bargaining in Education: Negotiating Change in Today's Schools, *Jane Hannaway and Andrew J. Rotherham, Eds. Cambridge, Mass.: Harvard Education Press, 2006.*

Collective bargaining could play a central role in assuring teacher quality and retention— and put unions in the enviable position of providing their new members the support they desperately need.

where in 1981, the Toledo Federation of Teachers and the Toledo school district jointly created, and adopted through collective bargaining, a peer assistance and review program in which experienced teachers leave their classrooms for three years to mentor and evaluate all teachers new to the district. After one year of closely supervising new teachers' work and modeling expert practice, the peer reviewers recommend to a joint labor-management committee whether or not each new teacher should be reemployed. The program, which received the Innovations in American Government Award from Harvard University's John F. Kennedy School of Government in 2001, has been shown to yield higher retention *and* dismissal rates than comparable districts where administrators are the sole evaluators.

Also in the 1980s, the Rochester Teachers Association and the Rochester school district created the Career in Teaching (CIT) program, which differentiates teachers into four sub-groups:

interns, resident teachers, professional teachers, and lead teachers. Lead teachers are released from the classroom part-time to mentor interns (beginning teachers) and coach veteran colleagues who administrators identify as struggling. They also evaluate interns and struggling veterans. In fact, interns cannot move into the resident teacher category without the lead teacher's approval. Once they receive tenure, teachers attain "professional" status. They may then apply to become lead teachers, thereby qualifying for additional compensation and leadership roles like those described. The CIT receives favorable reviews from new and experienced teachers in Rochester's public schools.

In 2002, the Minneapolis Public Schools and the Minneapolis Federation of Teachers created the Achievement of Tenure Process for New Teachers. The program aims to simultaneously provide new teachers with the assistance they need to teach successfully and assure that the tenure award is made only to effective teachers. Among the many supports provided to new teachers are release time to observe effective colleagues and various forms of professional development.

Today, prospective and current teachers entertain a range of career options outside teaching. If they are dissatisfied, they may leave the classroom without looking back. By focusing on what induces strong candidates into the classroom, what helps teachers become more effective on the job, and what sustains them over a career, collective bargaining could play a central role in assuring teacher quality and retention—and put unions in the enviable position of providing their new members the support they desperately need.

(References on page 45)

equipped her school was, particularly compared to the suburban school where she had done substitute teaching. She recalled a time when there was no paper available and "the secretary was taking out her secret stash." Likewise, Bernie said it was "just ridiculous" that he was allotted three reams of paper per quarter. With no classroom of his own, Bernie had to rely on photocopied handouts rather than blackboards in order to convey important information to students. Three reams of paper didn't last long: "I go through that probably in … a week and a half, two weeks." He said only somewhat wryly, "Some of the most useful tips I've gotten from veteran teachers have to do with font size and making sure I copy on both sides of paper…." Bernie, like many others, complained that the photocopiers in his school never worked. He observed, "In the business world, they would have a photocopy center where you could either do it yourself, or have somebody on staff [do it]."

Problems with Student Behavior

There is no more immediate and worrisome challenge for new teachers than establishing and maintaining order in their classroom. Some new teachers worked in schools that deliberately focused everyone's efforts on instruction and systematically discouraged disruption and distraction; they supported instruction respectfully with a calm and purposeful environment. Far more often, however, teachers talked about coping on their own, without the benefit of a schoolwide approach to discipline that was endorsed and upheld by teachers and administrators alike. Many teachers complained about school administrators who failed to follow through on discipline. Often, new teachers reported being reluctant to ask for help from school administrators, believing that their requests would evoke disapproval. For example, Bernie was not confident he could rely on administrators for support: "I'm not sure that they back people up. I've heard stories that have made me really nervous about teachers being called to the mat … for something as simple as removing a kid from the classroom because they're disruptive."

Problems with Scheduling Time to Collaborate

How their time was scheduled was very important to the new teachers, particularly whether their preparation periods—usually one per day—were coordinated with those of other teachers who taught the same subject or students. New teachers praised schools that deliberately arranged their schedules so that they could plan classes or review students' progress together.

Secondary schools that featured project-based learning, interdisciplinary classes, or team-based instruction often arranged time for teachers to collaborate. But in more traditional secondary schools, preparation periods often seemed haphazardly assigned, more likely the byproduct of a computerized scheduling program than the result of deliberate planning. Bernie was dismayed that teachers—particularly new ones—did not have the benefit of their peers' knowledge and advice. He thought that the teachers in his school would have worked more closely together if their assignments had made that possible.

Those who thought that their school's lack of support interfered with successful teaching often moved on—either to another school or another career.

At the elementary level, teachers were even less likely to have coordinated planning or grade-level meeting time. Keisha, who worked in a school where 83 percent of the students were below grade level in reading, wished that there were opportunities to observe other teachers in their classrooms, "but we don't have that type of release time. Our [paraprofessionals] are hung up doing whatever. We can't get subs." However, Victoria said that in her suburban school, time was reserved for weekly grade-level meetings to "just go over what's happening."

Problems with Professional Growth Opportunities

Focused though they were on developing classroom competence, the new teachers nonetheless continued to assess what a career in teaching could offer them over time. Many of these teachers hoped to eventually take on a new role that would allow them to continue, at least part-time, as classroom teachers. They did not want to exit the classroom entirely and become a principal or district administrator, but they also did not want to be confined to the classroom. They believed that a hybrid role might combat boredom and burnout while offering new challenges and rewards that would keep them engaged in teaching over the long term.

Some new teachers liked the professional advancement inherent in a career ladder. As novices, they saw that such positions could offer a formal conduit through which experts could pass on teaching expertise—and they looked forward to taking on roles as expert teachers in the future. Mary, who had done crisis work with adults for six years before becoming a

teacher, explained, "My sense is that there are a lot of people coming in and then leaving, with very little connection between the new people and the experienced people. Then you get experienced people ... who want to share their experience, but don't really know how.... There would be a value in passing along their experience and knowledge." Without such roles, Mary said, "I don't think people will stay."

Despite considerable interest in differentiated roles, with the exception of the well-established position of department head, few could point to examples of the kind of role they had in mind. One new teacher bemoaned this situation: "You're either a teacher or you're a coach or you're a principal, and I don't like that idea at all."

All new teachers believed that schools could either facilitate or impede good teaching. When the basics like supplies and a schoolwide discipline plan were combined with an administration that offered useful feedback and scheduled time for teachers to collaborate, new teachers were very likely to stay in their schools. Unfortunately, such schools were not the norm. Nonetheless, even when the new teachers were only reasonably hopeful that they could become effective with their students, they were still likely to stay. However, those who thought that their school's lack of support interfered with successful teaching often moved on—either to another school or another career. The table below provides the bare facts on the numbers of new teachers who stayed, switched schools, or left teaching after the first year of our study and after the fourth year. The new teachers are broken down by first-career vs. midcareer entrants to highlight one interesting trend: Midcareer entrants were more likely to switch schools right away. Since they had already changed jobs at least once when they entered teaching, they knew that work sites could vary tremendously. They did not regard the problems they encountered as inevitable, so they quickly looked for a place where they could give teaching another chance.

Esther did just that.

Who Stayed? Who Moved? Who Left? First-career vs. Midcareer Entrants after the First Year of Our Study and after the Fourth Year				
	After 1 year		After 4 years	
	First-Career Entrants	Midcareer Entrants	First-Career Entrants	Midcareer Entrants
Stayed in the school where they started	21	13	8	9
Moved to another school	1	7	8	8
Left public school teaching	4	4	10	7

Esther Struggles—and Moves On

Esther, a MSBP participant and former engineer, was dropped into teaching math at an urban vocational high school with virtually no explanation or advice. She summarized the guidance she had: "Here are your keys, here's your room, good luck." Entering a complex vocational school with only summer preservice training behind her, Esther was bewildered and overwhelmed. A sudden and solo entry not only stymies new teachers, it shortchanges students. Success in a new assignment requires much more than having a set of keys and knowing where the classroom is.

During the first two weeks, Esther thought about quitting every day. She could not figure out how to get her students to listen to her. In December of that first year, she reported, "They won't sit still; their rudeness; their total disrespect for each other, for the teacher, their language, everything. They can't speak to you; they only yell ... I have never seen anything like it."

Esther received little help in reaching students from the teachers and administrators in her school. She said her ineffectual principal—whom her colleagues openly mocked in the teachers' room—did not seem to like her, and other teachers kept their doors closed before and after school. Aside from another new teacher with whom she shared ideas and one veteran who offered informal advice when they saw each other during hall duty, she felt she was on her own in learning to reach her students.

Esther was assigned a mentor, but she was a special education teacher who knew little about the math that Esther was teaching: "I've spoken to this lady twice, maybe for five minutes.... She's very nice and stuff, but she kind of goes by and kind of gives me a worried look [and says], 'How's it going?' I say, 'OK.' And then, that's it." But Esther had hoped for curricular and instructional support from someone who knew how to teach math. One person she logically looked to for help was the math department head. However, the department head explained that she could not step in as Esther's mentor because she was responsible for evaluating her, and she could only observe her class for the purpose of formal review. Learning to teach was hard enough; learning to teach on her own, with students whose disengagement and behavior so surprised her, was overwhelming.

Feeling exhausted and defeated in the spring of her first year, she decided to look elsewhere for work. "It was too hard emotionally. There was nothing I could do.... I think I would have tried it another year because there were kids there that were very nice, but the administration was not ... supportive." Esther found a job teaching math at a more affluent high school near her home in the suburbs. As she left the vocational high school she was surprised and touched by the students' reactions. "It was funny. When I quit the last day of school last year ... when I told the kids I wasn't coming back, they said, 'Why are you leaving us? What did we do to you?' I am thinking, 'What did you do to me? What did you call me?'"

At her new high school, Esther found supportive colleagues and administrators. She recalled, "I had a director who ... said 'What can I do for you? Come to me with your questions.'" Moreover, Esther benefited from her department's deliberate introduction to the math curriculum: "At the beginning of the year, we sat down, and they told us what chapters to teach. You know, 'This is what we do. This is the order we do it.'"

She also achieved a much greater sense of success. She recalled that at the end of the year at her new school, "I had several students say 'You have to keep teaching. You did a good job.'" The positive feedback heartened her—reaching students was a key reason she had switched careers in the first place.

Esther regarded her decision to leave her urban vocational school with some regret, wishing she had found a way to succeed with her students there. But her decision is not unusual. Recent work by researchers studying teacher turnover in Texas and New York (Hanushek, Kain, and Rivkin, 2001; Lankford, Loeb, and Wyckoff, 2002) reveals that teachers consistently move to schools with "higher achieving, non-minority, non-low-income students" (Hanushek et al., 2001, p.12). In fact, large, urban schools that serve low-income students have nearly twice the annual teacher turnover as large, suburban schools that serve fewer low-income students (19 percent versus 11 percent) (Ingersoll, 2006).

Why? Working conditions are key. Recently, a survey of 3,336 teachers in California, Wisconsin, and New York was conducted to learn how working conditions differed in low-income versus affluent communities (Carroll, Fulton, Abercrombie, and Yoon, 2004). Researchers found that schools serving large numbers of low-income students and children of color were reported to have a much higher incidence of inadequate physical facilities than other schools; evidence of vermin (cockroaches, mice, and rats) in the school buildings; dirty, closed, or inoperative student bathrooms; inadequate textbooks and materials for students to use in class or to take home; inadequate computers and limited Internet access; inadequate science equipment and materials; and higher personal expenditures by teachers to compensate for insufficient classroom materials and supplies.

Another reason why teachers move to more affluent schools is that learning to teach is difficult, complex work. New teach-

Fred Plans to Stay "Forever"

Fred began his teaching career at a small, urban secondary school. He was deeply committed to his students' success and to the continuing development of his school. When we first met Fred, his school included grades seven, eight, and nine, and school leaders planned to add one grade every year through grade 12. Though it is a neighborhood public school, drawing its students from the low-income community that immediately surrounds it, it is also a professional development school, the result of a unique partnership between a local university and the city school district. The faculty includes both highly experienced teachers and newer teachers. Most of the newer teachers have traditional teacher preparation, master's degrees, and internship experience at the school.

To Fred, his school is about high expectations, collaboration, and ongoing teacher learning, all in the service of high student achievement. As he explained, "the expectations are so clear ... we're gearing these kids to college, that that's our ultimate goal: to get the kids ready for college." The expectations are high for student and teacher performance, but neither is left alone to achieve the mission.

Given that these students had varying levels of academic skills and prima-

rily came from low-income neighborhoods, every aspect of the school had to focus on academic success—even the approach to managing student behavior. Both the faculty and the administration, Fred said, "treat every problem, no matter how minute, as a significant disciplinary issue. And because of that, we don't have the typical problems that other schools do. I mean, problems that other schools would laugh at in terms of discipline are dealt with pretty harshly here. But I think that has created an atmosphere that is conducive to good discipline." In the school's three-year history, there had been no fights among students. "And that's pretty remarkable when you think that it's seventh-, eighth-, and ninth-graders." He credited the principal with setting the standard: "Things are dealt with immediately by the principal. She's got a good relationship with the kids. They know not to disappoint her."

But the principal wasn't just the disciplinarian. She founded the professional development school and was deeply involved in making it work. Fred said, "She's an innovator. She's an example.... She's constantly looking for new ideas and new ways of solving old problems, which is unique.... No problem is too large [for her] and ...

you don't have to guess where she stands on the issues." But at the same time, "She's very good at telling us what kind of job we do and how she appreciates it.... She's willing to put her confidence in the hands of the professionals that are teachers here." He explained, "That type of freedom and confidence creates a good feeling amongst the faculty."

According to Fred, the fact that the faculty included a mix of new and experienced teachers "promotes the best type of situation for faculty." He described the interaction among novice and veteran teachers this way: "So we have a nice blend of veteran teachers who have been in the system for a long time and know the art of teaching. Then we also have a nice core of ... young teachers like myself with less than five years of teaching experience. And that creates a really good atmosphere. So I think the young teachers learn from the veteran teachers. And I think the veteran teachers get sparked a little bit from the young teachers coming in, you know, a new, fresh attitude. So it's mutually enriching in that sense."

It is important to note that there is nothing inherently beneficial about simply having a mix of novices and veterans within the same school. What is

ers need support and guidance in order to achieve success. But we have found that support is often hardest to come by in low-income urban and rural schools, which very often have few institutional resources and low levels of student achievement. Our work shows that more affluent schools tend to provide more support to help new teachers succeed.

III. Support Breeds Success and Stability

When we examined teachers' reasons for staying in their school, transferring to another school, or leaving public school teaching entirely, we realized there were three distinct kinds of schools—and only one of them was doing a good job supporting, and holding on to, new teachers. The key was in the schools' professional culture. The first kind of school had a mix of veterans and novices, but teachers worked in isolation instead of learning from one another. The second kind had a teaching staff comprised almost entirely of novices who were bound by their enthusiasm, but lacking skill. The third kind had veterans and novices who were encouraged to work together, sharing expertise and fresh ideas. In our sample of 50 new Massachusetts teachers, 17 began their careers in schools that fostered such collaborations—and 82 percent of them stayed in those schools after the first year of our study. In contrast, just 57 percent of the 21 teachers who began their careers in schools where teachers worked in isolation stayed, as did just 67 percent of the 12 who began in schools filled with novices. Just what does a school where teachers collaborate look like? Fred's experience, described in the sidebar (p. 20), provides an excellent example.

New teachers yearn for professional colleagues who can help them acclimate to their school's unique culture, help them solve the complicated, daily dilemmas of

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exceptional at Fred's school is that teachers of varying experience levels interact regularly, both formally and informally. Fred described a typical situation: "If I have a question or if I had something happen in class that perplexed me that I didn't know how to deal with, then I go down to [Sue] or [Tom] and say, 'I'm having trouble, how do I deal with this?'"

Fred said the school's culture emphasizes "teachers as learners," and it is expected that teachers will learn when they work together. The teachers had 90 minutes four times each week for preparation and collaborative work. Learning to teach is an ongoing process; a teacher masters the art by practicing, over time. Thus, administrators and teacher leaders at Fred's school realized that it serves their school well to recognize that new teachers grow in skill and expertise day-to-day and year-to-year: "There's an expectation that you would mature as a teacher and develop new strategies in various arenas that you may not have had in your bag of tricks to begin with."

Fred also explained that his fellow teachers feel and act as if they are collectively responsible for the school, the students, and each other: "We're all in the same game here together." He explained that he believed it is his "responsibility, as it is everybody else's, to share in the burden" of achieving the

> The faculty and the administration, Fred said, "treat every problem, no matter how minute, as a significant disciplinary issue. And because of that, we don't have the typical problems that other schools do."

school's mission. In speaking of his duty to all of the students in the school he said, "I'm not primarily a social studies teacher here; I'm a teacher here primarily."

After just a few years of teaching in this supportive environment, Fred was ready to start venturing beyond the traditional role of a classroom teacher. He became the de facto head of the social studies department: "The principal has kind of put me in charge of making sure that the social studies curriculum

is being covered." He also supervised two student teachers, which he especially enjoyed: "It worked great. I love it. Their ideas keep me fresh. And I think I lend a little bit of experience to them. And it's mutually enriching, you know." Fred looked forward to being able to take on even more in the years ahead; his school had specialized roles for master teachers who serve as staff developers and work with intern teachers. Fred observed that such positions were "enriching" both for the individuals holding them and for the people they assisted.

Clearly, those in Fred's school believe that teachers hold knowledge and power, and that students are best served when teachers assist each other and share responsibility for their students' learning as well as their own. Mentoring is organized to benefit both the novice and the experienced teachers, and the administration ensures that structures are in place to further facilitate teacher interaction and reinforce interdependence. Fred said he hoped to remain in his school "forever." But he made it clear that, were it not for his school, he might have left teaching: "If I weren't at this school, I wouldn't be a teacher. I really don't think I would be." It was his appreciation for his school that reinforced his commitment: "I plan on making it a career. So, 20, 30 years."

—S.M.J.

Drop Everything and Read—But How?

*For Students Who Are Not Yet Fluent, Silent Reading
Is Not the Best Use of Classroom Time*

By Jan Hasbrouck

After more than 20 years as the neglected goal of reading instruction (Allington, 1983; NICHD, 2000), fluency has finally become *the* hot topic among reading researchers, professional development providers, and teachers. These days it is rare to pick up a reading journal, attend a professional conference, or sit in a faculty staff room at a school without hearing someone discussing reading fluency. Surely most every educator has heard the message that if students aren't sufficiently fluent in their reading, they won't have sufficient comprehension. Given this clear statement—supported by a strong consensus of high-quality research studies—teachers and administrators everywhere are searching for ideas to help their students become fluent readers.

As someone who has conducted research on fluency over the past two decades, I find the current buzz both promising and troubling. As I will explain, fluency is a vital reading skill, but the buzz around fluency is reaching deafening levels—and crucial details from the research are being overlooked. As a result, schools across the country are putting significant amounts of time and effort into two instructional strategies for improving fluency that the research does not support: silent reading and Round Robin Reading (RRR). Developing fluency among struggling readers takes more intensive, carefully guided practice than either of these strategies can deliver. Let's take a quick look at how these ineffective strategies became so popular and move on to an in-depth discussion of what reading fluency really is and how teachers can help their struggling students.

Marilyn Jager Adams (1990) stated in her noteworthy synthesis of reading research that "if we want children to read well, we must find a way to induce them to read lots" (p. 5).

Many educators took this statement to heart and made the leap to the idea that one great way to help students do a lot of reading would be to have them read in the classroom. Methods labeled "sustained silent reading" (SSR) or "drop everything and read" (DEAR) became commonplace in schools across the country. Some schools encouraged teachers to spend significant amounts of classroom time having the students—and often the teacher as well—read silently up to 30 minutes a day, plus an additional 15 minutes in writing personal reflections on what was read (Sierra-Perry, 1996). What some SSR and DEAR proponents may have missed is Adams's follow-up statement: "if we want to induce children to read lots, we must also teach them to read well" (1990, p. 5).

Of course, not all educators got swept up in the excitement around SSR and DEAR; some questioned if devoting this much time to unassisted, independent reading and writing could really be beneficial for all students. What about those students who struggle with basic reading skills and who may not use their silent reading time well—either wasting time by doing little to no reading or writing, or trying to read materials that cause frustration because they are too difficult? As it turns out, such concerns are justified. The National Reading Panel* (NRP) concluded there is insufficient support from empirical research to suggest that independent, silent reading can be used to help students improve their fluency (NICHD, 2000). (Note that the NRP did not say that it has no benefits, just that evidence does not suggest it improves fluency. So, if some students are fluent readers, they could read silently while the teacher works with the struggling readers.)

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*In 1997, the U.S. Congress asked the National Institute of Child Health and Human Development to convene a group of experts to assess the effectiveness of different approaches used to teach children to read. This group, called the National Reading Panel (NRP), spent more than two years reviewing research; their resulting report, completed in 2000, is widely considered the single best source for information on how—and how not—to teach reading.

Silent reading *seems* like a good idea since it gives students additional practice. Round Robin *seems* like a good idea since it focuses the class on oral reading.

Despite the popularity and longevity of RRR, upon reflection there are clearly several downsides to using this method. Perhaps the most obvious concern is how the requirement to read aloud to classmates can put students—especially those who struggle with reading—in a position of being humiliated and demoralized by displaying their weak skills in front of their peers. Their more skilled peers may feel uncomfortable as well, and are subjected to listening to poor examples of reading. Another concern about RRR is the very minimal practice provided by this method. If there are more than a small number of students in the group, each individual student is only reading for a very short period of time, which is clearly insufficient to make any difference in fluency. In addition, it is questionable as to whether or not the students who are not reading aloud are actually paying attention. RRR can be most accurately viewed as a way to "cover" written text, but it is difficult to justify its use given these considerable weaknesses.

Since the importance of fluency has become widely recognized, teachers have been doing their best to improve students' fluency. But, as we have just seen, sometimes the information they have to work with is incomplete and, therefore, leads them down the wrong path. Silent reading *seems* like a good idea since it gives students additional practice. Round Robin *seems* like a good idea since it focuses the class on oral reading. But increasing fluency requires more practice, more support, and more guided oral reading than either of these strategies can deliver.

Let's cut through the buzz around fluency and review what reading fluency is, why it is essential to ensure that our students have sufficient fluency, how fluency should be assessed, and how to best provide fluency practice and support for our students. We'll start by defining fluency.

Instead of independent silent reading, the NRP (NICHD, 2000) concluded that teachers should provide opportunities for students to read aloud with some guidance and feedback. One way some teachers have provided this kind of oral reading practice in their classrooms is with a method that has long been used in classrooms: Round Robin Reading. RRR involves having individual students in a group take turns reading aloud from text. While RRR can be used to read narrative passages, it is also frequently employed by content area teachers who have students take turns reading aloud all or part of a chapter in a social studies or science textbook.

A common rationale for using RRR in a classroom—along with providing the oral guided reading recommended by the NRP—is that in some classes there are students who would not be able or motivated to read a literature passage or a chapter from their textbook by themselves. RRR is seen as a way for a teacher to ensure that every student is in fact reading, and if there are some difficult words or concepts, the teacher is available to provide support.

I. Understanding and Assessing Fluency

While the National Reading Panel's definition of fluency as the ability to read text with accuracy, appropriate rate, and good expression (NICHD, 2000) is widely accepted among fluency researchers, these experts continue to debate the more subtle aspects of fluency (Stecker, Roser, and Martinez, 1998; Wolf and Katzir-Cohen, 2001). However it is defined, this much is certain: Fluency is necessary, but not sufficient[†], for understanding the meaning of text. When children read too slowly or haltingly, the text devolves into a broken string of words and/or phrases; it's a struggle just to remember what's been read, much less extract its meaning. So it's im-

[†]Comprehension depends on reading skills (like decoding and fluency), but it also depends on vocabulary and background knowledge. To learn more about comprehension, see "Building Knowledge: The Case for Bringing Content into the Language Arts Block and for a Knowledge-Rich Curriculum Core for All Children" by E.D. Hirsch, Jr. in the Spring 2006 issue of *American Educator*, **www.aft.org/pubs-reports/american_ educator/issues/spring06/index.htm**.

portant that teachers determine if their students' fluency is at a level appropriate for their grade. If not, how should it be developed? If a student is appropriately fluent for her grade level, how does a teacher help maintain that student's fluency? And, how does a teacher make these determinations? This process begins with assessments of the component pieces of fluency: prosody, accuracy, and rate.

The exact role of expression and phrasing—or prosody—in fluency and comprehension has not yet been determined, but it certainly is one element that signifies whether or not a student is truly a fluent reader. To measure the quality of a student's reading prosody, some educators rely on the four-level scale first developed for the 1992 National Assessment of Educational Progress (NAEP) in reading (Daane, Campbell, Grigg, Goodman, and Oranje, 2005). This scale focuses on the level of skill a student demonstrates in phrasing and expression while reading aloud (see below). After listening to an individual student read aloud, the educator rates the student's reading according to the level that best describes the student's overall performance.

National Assessment of Educational Progress Fluency Scale		
Fluent	Level 4	Reads primarily in larger, meaningful phrase groups. Although some regressions, repetitions, and deviations from text may be present, these do not appear to detract from the overall structure of the story. Preservation of the author's syntax is consistent. Some or most of the story is read with expressive interpretation.
	Level 3	Reads primarily in three- or four-word phrase groups. Some small groupings may be present. However, the majority of phrasing seems appropriate and preserves the syntax of the author. Little or no expressive interpretation is present.
Non-Fluent	Level 2	Reads primarily in two-word phrases with some three- or four-word groupings. Some word-by-word reading may be present. Word groupings may seem awkward and unrelated to larger context of sentence or passage.
	Level 1	Reads primarily word-by-word. Occasional two-word or three-word phrases may occur—but these are infrequent and/or they do not preserve meaningful syntax.

A checklist developed by Hudson, Lane and Pullen (2005, p. 707) provides a more detailed assessment of a student's prosody:

1. Student placed vocal emphasis on appropriate words.

2. Student's voice tone rose and fell at appropriate points in the text.

3. Student's inflection reflected the punctuation in the text (e.g., voice tone rose near the end of a question).

4. In narrative text with dialogue, student used appropriate vocal tone to represent characters' mental states, such as excitement, sadness, fear, or confidence.

5. Student used punctuation to pause appropriately at phrase boundaries.

6. Student used prepositional phrases to pause appropriately at phrase boundaries.

7. Student used subject–verb divisions to pause appropriately at phrase boundaries.

8. Student used conjunctions to pause appropriately at phrase boundaries.

Although most researchers consider prosody important, the subjectivity of judging students' prosody makes it a difficult component of fluency to study. Many researchers have focused on the more easily quantifiable components of fluency (rate and accuracy) and, therefore, some basic questions about prosody—like what should be expected in second grade versus sixth grade—have not been answered. Nevertheless, students' prosody is an extra piece of information for making instructional decisions. When students' speed and accuracy are at appropriate levels, reading with proper phrasing, expression, and intonation should be the next goal.

To measure students' oral reading speed and accuracy, researchers have developed a simple and very brief procedure that uses regular classroom texts to determine the number of words that students can read correctly in one minute. To obtain a words-correct-per-minute (WCPM) score, students are assessed individually as they read aloud for one minute from an unpracticed passage of text.

To calculate the WCPM score, the examiner subtracts the total number of errors from the total number of words read in one minute. An error includes any word that is omitted, mispronounced, or substituted for another word. Words transposed in a phrase count as two errors (e.g., reading "laughed and played" instead of "played and laughed"). Each time a word is read incorrectly it is counted as an error. Words read correctly that are repeated more than once, errors self-corrected by the student, words inserted by the student that do not appear in the text, and words mispronounced due to dialect or speech impairments are not counted as errors. They do, however, impact the final score since they slow the student down and, therefore, reduce the number of words that are read correctly in one minute (Shinn, 1989).

If the passage is randomly selected from a text or trade book, an average score should be taken from readings of two or three different passages to account for any text-based differences. If standardized passages are used (in which the text has been carefully controlled for difficulty), a score from a single passage may be sufficient (Hintze and Christ, 2004). Standardized passages can be found in the *Dynamic Indicators of Basic Early Literacy Skills—DIBELS* (Good and Kaminski, 2002), the *Reading Fluency Benchmark* (Read Naturally, 2002), or Edformation's *AIMSWeb* materials.

To determine if the student's score is on target, the examiner compares it to the oral reading fluency norms presented

on page 29. My colleague Gerald Tindal and I (2006) developed these national norms for grades one to eight by analyzing data that were collected using the procedures just described with over 200,000 students from 23 states. It's critical to understand, as explained in the next section and in the sidebar (p. 28), that a WCPM score can be an alarm bell, a canary in a coal mine. If the WCPM is very low, the student is not sufficiently fluent and an intervention is merited. However, a low WCPM score may be the result of weak fluency skills or *other reading weaknesses*, for example, in decoding, vocabulary, sight words, etc.—so administering some diagnostic assessments may be necessary to determine exactly what type of intervention a student needs.

The Canary in the Coal Mine

With all the assessments schools are required to administer as a result of No Child Left Behind, Reading First, and numerous statewide and district initiatives, some educators are concerned about over-testing students. They ask: "How can we justify spending so much precious instructional time testing our students over and over again?" This concern is certainly legitimate. The purpose of having our students in school is to teach them, not to test them. However, as professional educators, it is imperative that we make decisions about the instruction we provide our students based on the best information available. The WCPM procedure just described is an extremely time-efficient and reliable way to track students' fluency—*and their overall reading ability*. While it may be surprising that a one-minute assessment can be so informative, WCPM has been shown, in both theoretical and empirical research, to serve as an accurate and powerful indicator of overall reading competence—especially through its strong correlation with comprehension. Its validity and reliability have been well established in a body of research extending over the past 25 years (Fuchs et al., 2001; Shinn, 1998). The relationship between WCPM and comprehension has been found to be stronger in the elementary and junior high grades than in older students (Fuchs et al., 2001), likely due to the fact that as a reader matures, competent reading involves more complex skills, vocabulary, and knowledge (and thus any single measure becomes less predictive of general reading competence as a student develops).

Teachers can and should use WCPM as their canary in the coal mine—their first indicator that all may not be well with their students' reading ability.[§] In first through fifth grade, WCPM should be used to *screen* all students, help to *diagnose* a possible cause of struggling students' problems, and to *monitor* the progress of struggling students who are receiving additional support. To learn how, see "Screening, Diagnosis, and Progress Monitoring: The Details" on page 28.

With this understanding of what fluency is and how to assess it, let's turn to the questions that teachers are always most interested in: What should fluency instruction look like? And, what can I do to help students whose fluency is far behind their peers?

A low score may be the result of weak fluency skills or *other reading weaknesses*, for example, in decoding, vocabulary, sight words, etc.

II. Developing Fluent Readers

Research over the past two decades has identified repeated reading as the key strategy for improving students' fluency skills (NICHD, 2000). Repeated reading has two essential elements: 1) Giving students the opportunity to read and then re-read the same text, and 2) having students practice their reading orally with an opportunity to receive corrections and guidance (if necessary). Research has also determined that having students read aloud along with a model of well-paced, expressive reading and receiving specific feedback through systematic progress monitoring also helps improve students' fluency skills. So, what are the best methods to use in the

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[§] There are also screening assessments that should be administered as early as kindergarten, to determine if students are on track for reading achievement. To learn more, see "Preventing Early Reading Failure" in the Fall 2004 issue of *American Educator*, **www.aft.org/pubs-reports/american_educator/issues/fall04/reading.htm**.

classroom to help students become fluent? The answer depends on whether the student is just beginning to read, has learned to read and is making adequate progress, or is struggling. Let's start with beginning readers, those students in kindergarten and grade one.

Teaching Beginning Readers to Become Fluent

Because accuracy is a fundamental component of fluency, teachers who work with beginning readers must focus significant amounts of instructional time on basic word recognition and word analysis skills (Pikulski and Chard, 2005). To do this effectively, teachers should provide instruction that systematically presents daily opportunities for students to learn to read words accurately (Snow, Burns, and Griffith, 1998)—the important first step in becoming a skillful, proficient, and motivated reader. Pushing students to "read faster" too soon could cause some students to begin guessing or otherwise undermine their focus on reading carefully.

There is no guidance from empirical research about precisely when teachers should formally begin encouraging beginning readers to increase their speed, but teachers usually wait until about the middle of first grade. Fluency researchers Stahl and Kuhn (2002) recommend that students be given opportunities to re-read sentences and encouraged to make their reading "sound like talking" as soon as they are making good progress with basic decoding, demonstrating an understanding of the act of reading, and showing some degree of confidence—whether that happens in kindergarten or in first grade. Teachers and parents should also frequently model fluent reading, demonstrating (and sometimes explicitly pointing out) how accurate reading can be done at a reasonable rate and with good phrasing, intonation, and expression. In the classroom, the teacher can read aloud from large-format books so the students can follow along.

Maintaining Reading Fluency for On-Level Readers

What about students in grades two and higher who are making adequate progress with their reading? Three techniques can be used very frequently with a variety of texts to help maintain and develop students' reading fluency: Choral reading, cloze reading, and partner reading. All of these procedures can be used with readers at any grade level, with small or large groups, and with fiction or content-heavy nonfiction materials. Two additional techniques can also be considered for use: Readers' Theater and poetry readings. Let's review each.

For choral reading, the teacher and students read aloud together, following the teacher's pace—so students get the benefit of a model while they practice reading aloud. The teacher can stop at any time to ask questions, comment on the text, discuss a vocabulary term, or remind the class that she expects everyone to be reading. If choral reading is used with heterogeneously grouped students, it is possible that the lowest performing students may have difficulty keeping up with even a moderate pace. However, they can follow along, participating when they can, and still hear the text being read accurately and with good pacing and phrasing. Choral reading works best if the teacher directs all students—regardless of age or ability

level—to use a marker or finger to follow along in the text as they read.

Cloze reading is similar to choral reading, except that the teacher does most of the oral reading while the students read along silently. Once or twice every few sentences, the teacher omits an important vocabulary or content word, not a simple sight word, and the students' job is to read it aloud as a class. Notice that with cloze reading, as opposed to choral reading, students spend less time practicing oral reading. Therefore, cloze reading is best thought of as an alternative to Round Robin Reading. Cloze reading allows teachers to cover text and keep students engaged while avoiding the pitfalls of subjecting the class to examples of poor reading and embarrassing struggling students. As with choral reading, it is likely that the lowest performing readers will be unable to keep up or to correctly read every omitted word, but they will not be singled out—and will be provided with examples of skillful reading.

Another method for improving fluency is to have students read aloud to a partner. This procedure works best when students are taught some techniques for giving feedback and managing their time, and when the partners have been selected by the teacher. One technique for assigning partners is for teachers to first rank the students from the strongest reader in the class to the weakest (making judgments subjectively or from assessment data) and then consider whether there are students whose reading ability is so low that partner reading may be inappropriate. (These students could meet with the teacher for more direct instruction or closely supported partner reading while the other students do independent partner reading.) The teacher then divides the remaining students in half, forming pairs such that the strongest reader is paired with a mid-level reader, and so on, ensuring that each pair has a slightly stronger reader, but that the difference in the students' ability is not so large as to cause embarrassment or confusion.

At times, the stronger reader may be directed to read first, providing a model of fluent reading. Then the less fluent reader reads the same text aloud. The stronger student can help with word recognition and give feedback and encouragement to the less fluent partner. Another effective technique pairs students who read at the same level and asks them to re-read a story on which they have already received instruction from the teacher (Osborn and Lehr, 2004).

Readers' Theater and poetry readings—both of which engage students in a reading performance—have become popular over the last few years. Much has been written about Readers' Theater in particular, and about the apparent value of having students participate in dramatic readings (Rasinski, 2006). These kinds of activities provide students with an opportunity to read text that is enjoyable—and provides a clear incentive for students to read, and re-read, their assigned parts or poem. However, while these techniques are motivating, teachers should not assume that either one could possibly provide as much practice for the whole class as choral or partner reading, much less anything close to the amount of instruction and practice necessary for struggling students to improve their fluency.

Screening, Diagnosing, and Progress Monitoring: The Details

Screening, diagnosing, and progress monitoring are essential to making sure that all students become fluent readers—and the words-correct-per-minute (WCPM) procedure (see p. 25) can work for all three.* The only aspect of the procedure that has to change is the difficulty level of the text. For *screening*, passages are selected from text at the student's *grade level*. For *diagnosing*, passages are selected at the student's *instructional level* (which may be lower than her grade level). In this context, instructional level text is challenging but manageable, with the reader making errors on no more than one in 10 words (i.e., the reader is successful with 90 percent of the text) (Partnership for Reading, 2001). For *progress monitoring*, passages are selected at a student's individually determined *goal level*. For example, if an 8th-grade student's instructional level is at the 5th-grade level, the teacher may conduct the progress monitoring assessments using passages at the 6th-grade level.

Screening

Because empirical research clearly indicates the urgent need to provide high quality, intensive instructional interventions to students at risk of reading difficulty as soon as possible (Snow, Burns, and Griffin, 1998), schools should administer screening measures to every student through the 5th grade. First-graders should be screened in the winter and the spring; second- through fifth-graders should be screened in the fall, winter, and spring.

To determine if students are at the expected levels in their reading fluency, my colleague Gerald Tindal and I (2006) suggest comparing students' WCPM scores to the 50th percentile score on the norms table (p. 29), given the students' grade placement and the approximate time of year in which the assessment was conducted. A score falling more than 10 words below the 50th percentile should raise a concern; the student may need additional assistance, and further assessments may be needed to diagnose the source of the below-average performance. Depending on the age of the student and any concerns about reading performance noted by the teacher or parents, such additional testing might include assessments of oral language development, phonemic awareness, phonics and decoding, and/or comprehension.

Diagnosing

If a student scores poorly on a fluency screening, or if the teacher has some other cause for concern such as poor

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Example of a Diagnosis

Andrew, an eighth-grader, recently moved to a different town where he entered a new school in March.* It soon became evident to his teachers that Andrew was having difficulty with his academic work. At a weekly meeting during which teachers discuss any concerns about their students, several teachers brought samples of Andrew's work to share. The teachers agreed that the school's reading specialist should determine if reading problems were contributing to Andrew's struggle with his assignments in several classes. The reading specialist conducted an IRI (informal reading inventory) and planned to follow up with additional assessments if Andrew's performance on the IRI indicated possible deficits in phonemic awareness, phonics and decoding, vocabulary, and/or comprehension. The specialist built a fluency assessment into the initial IRI by using a stopwatch to determine how many words Andrew could read in the first 60 seconds of each IRI passage.

The reading specialist began the IRI using a sixth-grade passage, two years below Andrew's grade. The passage was at a frustration level for him: He had difficulty with decoding, phrasing, and expression, and was only able to correctly answer four of the eight comprehension questions. Because the passage was at Andrew's frustration level, the WCPM score was not calculated. The specialist then repeated the assessment using a fifth-grade passage;

Andrew was able to read it with 94 percent accuracy and correctly answer six of the eight comprehension questions. The specialist calculated Andrew's WCPM score for this passage and compared his score, 131 WCPM, to the norms for fifth-graders in the spring (Hasbrouck and Tindal, 2006). The 50th percentile in the spring of fifth grade is 139 WCPM. Because Andrew's score fell less than 10 words below it, his fluency is within the expected range for fifth-grade readers in the spring.

The reading specialist's conclusion was that Andrew appears to be reading approximately three years below grade level, but that his fluency skill level appears to be appropriate for his overall reading level. Before designing Andrew's reading program, the specialist plans to administer a diagnostic assessment focused on phonics and decoding, and a more comprehensive assessment of vocabulary and comprehension. She suspects there may be some underlying weaknesses in Andrew's decoding skills contributing to his delay in overall reading development. His intervention will likely include fluency instruction and practice to keep him on track, and may also include decoding and comprehension instruction, depending on the results of the other diagnostic assessments.

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* Andrew is a pseudonym.

performance in class or on another assessment, the teacher should take a more careful look at the student's strengths and needs. The student could be deficient in a variety of reading skills or in related areas like vocabulary and background knowledge, so administering some informal diagnostic assessments would be helpful for designing effective instruction, providing evidence of the need for a reading specialist, or referring the student for further evaluation. Typically, if a student's fluency level is low, but word reading accuracy in grade-level texts is adequate, a teacher can place the student in an intervention focused just on improving fluency. But if diagnostic assessments indicate other areas of weakness, a more comprehensive intervention may need to be developed. (See example, below left.)

Monitoring Student Progress
If a student's diagnostic assessment reveals concerns about one or more areas of reading, additional, targeted instruction should begin right away. WCPM procedures can be used to monitor the student's progress. Many educators have found WCPM to be a better tool for monitoring students' progress than traditional standardized measures that typically are time-consuming, expensive, only administered infrequently, and of limited instructional utility (Good, Simmons, and Kame'enui, 2001; Tindal and Marston, 1990). For students reading six to 12 months below grade level, progress monitoring should be done frequently, perhaps once or twice monthly for as long as students require supplemental instruction. Progress monitoring should be done as often as once per week for students who are reading more than one year below level and receiving intensive

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Hasbrouck and Tindal's Oral Reading Fluency Norms for Grades 1-8

PERCENTILE	FALL WCPM	WINTER WCPM	SPRING WCPM	AWI	PERCENTILE	FALL WCPM	WINTER WCPM	SPRING WCPM	AWI
GRADE 1					**GRADE 5**				
90	—	81	111	1.9	90	166	182	194	0.9
75	—	47	82	2.2	75	139	156	168	0.9
50	—	23	53	1.9	50	110	127	139	0.9
25	—	12	28	1.0	25	85	99	109	0.8
10	—	6	15	0.6	10	61	74	83	0.7
GRADE 2					**GRADE 6**				
90	106	125	142	1.1	90	177	195	204	0.8
75	79	100	117	1.2	75	153	167	177	0.8
50	51	72	89	1.2	50	127	140	150	0.7
25	25	42	61	1.1	25	98	111	122	0.8
10	11	18	31	0.6	10	68	82	93	0.8
GRADE 3					**GRADE 7**				
90	128	146	162	1.1	90	180	192	202	0.7
75	99	120	137	1.2	75	156	165	177	0.7
50	71	92	107	1.1	50	128	136	150	0.7
25	44	62	78	1.1	25	102	109	123	0.7
10	21	36	48	0.8	10	79	88	98	0.6
GRADE 4					**GRADE 8**				
90	145	166	180	1.1	90	185	199	199	0.4
75	119	139	152	1.0	75	161	173	177	0.5
50	94	112	123	0.9	50	133	146	151	0.6
25	68	87	98	0.9	25	106	115	127	0.6
10	45	61	72	0.8	10	77	84	97	0.6

WCPM: Words Correct Per Minute   AWI: Average Weekly Improvement

Hasbrouck and Tindal, 2006

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intervention services, including special education. This regular monitoring assures that if the intervention is not working well, it can be modified.

When monitoring the progress of these struggling readers, the standard procedures are expanded by graphing the student's WCPM scores. A progress-monitoring graph, for perhaps a grading period or a trimester, is created for each student. Teachers can use the average weekly improvement (AWI) data in the norms table to select an ambitious, yet reasonable, instructional goal; for example, a fourth-grader's goal could be to improve by 15 WCPM over 10 weeks of intensive instruction. An aim line is placed on the graph to represent the progress a student must make to achieve a preset fluency goal. Each time the student is assessed, that score is added to the graph. If three or more consecutive scores fall below the aim line, the teacher must consider adjusting the instructional program (Hasbrouck et al., 1999).

Teachers should also consider having the students record their own WCPM scores on their graphs—it increases their motivation and investment in their reading progress (Shinn, 1998).

These procedures for screening, diagnosing, and progress monitoring have been available for many years, but have not been widely used in schools (Hasbrouck, et al., 1999). This situation will likely change as educators become more aware of the importance of preventing reading difficulties and providing intensive intervention as soon as a concern is noted. Using fluency norms to set appropriate goals for student improvement and to measure progress toward those goals can be a powerful and efficient tool to help educators make well-informed and timely decisions about the instructional needs of their students, particularly the lowest performing, struggling readers.

—J.H.

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* The increased use of this terminology has created some confusion due to a lack of widely accepted, clear definitions. Screenings are sometimes referred to as benchmark assessments, and their repeated use in the winter and spring is sometimes referred to as progress monitoring. In this article, the term screening is used for universal assessments done two to three times per year and progress monitoring is reserved for frequent formative assessments for students receiving an intervention.

Improving Struggling Readers' Fluency: Suggestions for Intervention

The research literature provides some clear directions on what to do with struggling readers: Interventions must combine the modeling, repeated reading, and feedback that research has demonstrated effective (Shaywitz, 2003). Several commercial programs have been developed, including Read Naturally (Ihnot, 1991), the Six Minute Solution (Adams and Brown, 2003), Quick Reads (Heibert, 2002), and the Great Leaps Reading program (Campbell, 1996). Each of these programs includes at least some of the instructional components that have been shown to improve students' reading fluency and has its own approach to student engagement.

Unfortunately, research that directly compares the effectiveness of these various programs has yet to be done. In my own review of the available research, I've concluded that the strategy developed by Read Naturally makes the best use of the research base on fluency and has the strongest evidence of effectiveness as a fluency intervention. And, in using the Read Naturally strategy with students in many different grade levels, I've found that it engages them in the repeated reading they so desperately need. (However, I encourage readers to keep in mind that over the next several years, research may provide evidence of effectiveness on these other programs that equals or surpasses that of the Read Naturally strategy.)

The Read Naturally (RN) strategy was developed by Candyce Ihnot, a Title I reading teacher from Minneapolis. Candyce developed and tested it in 1989 as part of her master's thesis in special education. After finding that her approach was effective with struggling students in her school, Candyce and her husband, Tom Ihnot, developed a set of instructional materials that are commercially available from their company, Read Naturally, Inc.

To implement the RN strategy, students' fluency levels (WCPM) are assessed to place students at an appropriate instructional level. The teacher then helps each student set a reasonable, achievable fluency goal (approximately 80-90 WCPM for primary students or older students reading at a primary level; from 90-120 WCPM for upper elementary students).

Instruction begins with an unpracticed, "cold reading" of a student-selected passage from the targeted level. Passages may
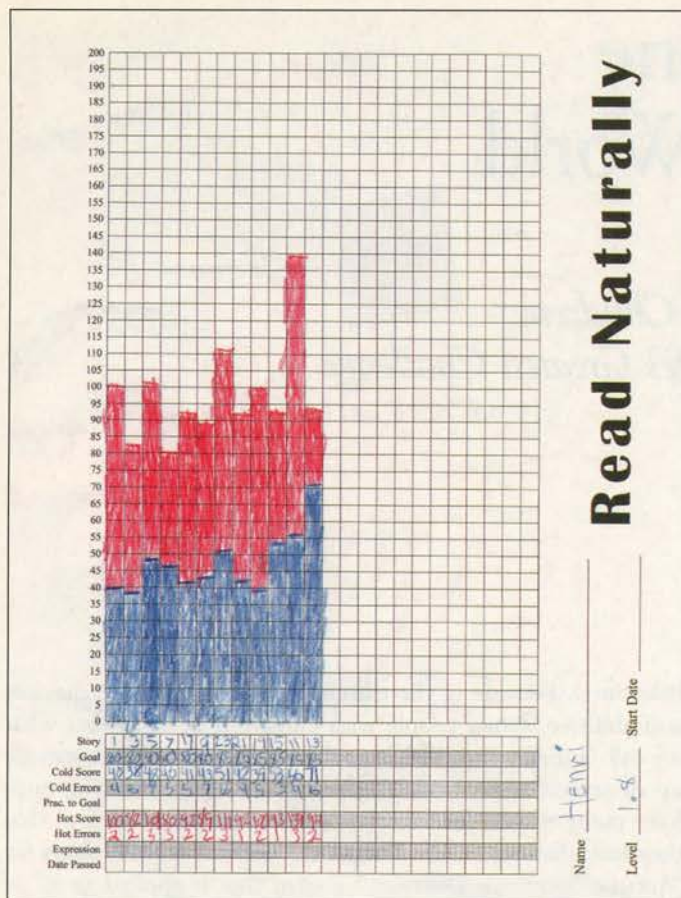
The Read Naturally strategy was developed by Candyce Ihnot, a Title I reading teacher from Minneapolis. (Left) Sample RN passages. (Right) A bar graph made by Henri, a second-grader. Henri is working on passages at level 1.8, or at the level of a first-grader in the spring. The graph clearly shows Henri that he is improving, and the bottom of his chart indicates that his goal WCPM score has been increased from 80 to 85.

range in length from approximately 100 words at the mid-first-grade level to 350 words at the sixth-grade level. As they read, students use a timer and keep track of the words they skip or stumble over (by lightly underlining the problem word). They then calculate their WCPM and graph this first, unpracticed WCPM score on a bar graph (see example, opposite).

In step two, students practice reading this same passage three to four times along with a model to learn how to accurately pronounce all the words in the text. This step is not timed, and the students read the entire passage. The modeled reading can come from a recording or a person trained to read the passage at a rate that is comfortable for the student. The key here is that a student does not just listen to the model, but actually reads aloud (softly) with the narrator's voice, giving full attention to the text. Encouraging students to point to the text being read and informing them that they will be responsible for answering a set of comprehension questions after completing all the steps in the strategy helps students stay focused.

Once students feel comfortable with the text, they begin step three in which they read the text independently, again aloud, but softly. Students set a timer for one minute and read the text several times until they are comfortably reaching their predetermined goal level—and are ready to be checked by the teacher. (Having some kind of silent signal for the teacher such as a flag or colored card at the students' desk can help manage this step.) Students keep practicing the passage until the teacher can meet with them because this maximizes their engaged practice time—a key to improved skills in low-performing students (Brophy, 1988).

In the final step, the student reads for the teacher, who then calculates the WCPM score. The student "passes" if four criteria are met: 1) the WCPM score meets or exceeds the predetermined goal; 2) three or fewer errors are made; 3) the

Read Naturally

Story
Goal
Cold Score
Cold Errors
Prac. to Goal
Hot Score
Hot Errors
Expression
Date Passed

Name _____ Henri
Level ___ 1.8
Start Date _____

student reads the passage with correct phrasing and attention to punctuation; and, 4) the student can correctly answer a few comprehension questions. When students do not pass, they continue practicing this same text. When they do pass, they graph their new score onto the same bar with their initial, unpracticed score, using a different colored pencil or marker. This graph gives tangible evidence to the students that they are improving—and keeps motivation high by showing them that their own effort makes the difference. (For an external check on progress, the teacher should also periodically assess students' performance on an unpracticed passage by following the progress monitoring procedure described on page 29.)

Students repeat these steps until they complete 10-12 passages of equivalent difficulty. At that point the student and teacher collaboratively examine the data on the student's graph to decide what step to take next. If the student is making steady progress in the current level, but is not yet approaching his goal level on the first, unpracticed reading, he should stay in that same level for another 10-12 passages. If the student's first unpracticed readings are occasionally meeting or approaching the goal, the teacher and student may decide to move the student up to the next level of difficulty with the same goal, or stay in the current level of difficulty and raise the "pass" goal a bit higher. Of course, if at any time the student is having difficulty reading at the goal level after the practice readings, the decision can be made to move the student down to an easier level or make a downward adjustment in the WCPM goal.

In addition to requiring the students to answer a set of comprehension questions at the end of each passage, some teachers have added other comprehension activities to this process, such as having the students write a five-minute re-tell response after each passage.

Using the RN strategy for 20-30 minutes per day, for three or more days per week, can have a significant impact on improving students' reading fluency. In two studies reported on by Hasbrouck, Ihnot, and Rogers (1999), second- and third-grade Title I students, as well as sixth-grade special education students, showed significant improvement in their fluency. The second- and third-graders received, on average, 32 weeks of RN instruction. From fall to spring, the second-graders' average WCPM increased from 17.9 to 71.6, meaning that they moved from well below the 25th percentile to well above it (see norms table, p. 29); they showed an average gain of 1.68 WCPM per week, much greater than the 1.2 WCPM per week gain that second-graders typically make. Third-grade students had similar results. From fall to spring, their average WCPM increased from 42 to 93, meaning that they moved from just below the 25th percentile to well above it; they gained 1.60 WCPM per week, as compared to the typical growth of 1.1 WCPM per week. The study of sixth-grade special education students also found significant improvements. These students were reading at levels ranging from grade 1.5 to 4.0. They received RN instruction in a special education class for 20 to 32 weeks and improved their fluency by an average of 1.4 WCPM per week, which is double the 0.7 words per week that sixth-graders typically gain.

* * *

I would like to add two caveats regarding reading fluency. First, as this skill has recently garnered greater attention, and awareness of the link between fluency and comprehension has grown, there appears to be a tendency for some to believe that raising a student's fluency score is *the* main goal of reading instruction. As important as fluency is, and as valuable as the information obtained from fluency-based assessments can be for instructional decision-making, I want to caution teachers and administrators to keep fluency and fluency-based assessment scores in perspective. The ability to read text accurately, at a reasonable rate, and with appropriate expression and phrasing is certainly a key factor in being able to understand what has been read and to enjoy the process of reading. Nonetheless, fluency is only one of the key components of reading. I urge teachers to use the 50th percentile as a reasonable level of proficiency for students, and keep in mind that it is appropriate and expected for students to adjust their rate when reading texts of varying difficulty and for varied purposes. Pushing every student to reach the 90th or even the 75th percentile in fluency is not feasible or necessary and, for students at or above the expected level in fluency, the instructional time could be better spent by enhancing other critical aspects of reading, such as increasing their vocabulary and

Alone
in the World

For Autistic Children,
Relating to Others Is Life's Greatest Challenge

By Laura Schreibman

Peter is a beautiful 5-year-old boy with blond hair, blue eyes, and freckles. He looks like many other very cute kids. He is well coordinated, active, and agile. However, while Peter looks perfectly normal, it soon becomes apparent as you watch him that Peter does not *behave* like a typical child. He does not interact with the other children in his class, and in fact he avoids contact with them. He is not attached to his parents or anyone else, preferring to be alone. Rather than playing appropriately with toys, he puts them in his mouth or flaps them in front of his eyes. He does not communicate but instead parrots TV commercial jingles or bits of conversation he hears from others. He throws frequent and intense tantrums, often lasting over an hour and precipitated by nothing more severe than the discovery of a drawer left open, the disruption of a precise line of toy cars he has arranged by color, or the removal of one of the McDonald's mustard packets that he insists on carrying with him at all times. Sometimes during these tantrums Peter bangs his head against the floor or the wall or bites his hand. He has calluses on his hands from repeated biting. When not otherwise engaged, he will jump repeatedly while flapping his arms and whistling. The teachers in his school try a variety of techniques in an effort to help him. Understandably, his parents are immensely frustrated. They cannot reach their son emotionally despite endless attempts. Their lives are complicated further by the fact that they avoid taking him places because of his disruptive, bizarre, and embarrassing behavior. Their son has autism.

Autism is a severe form of psychopathology evident before the age of 3. It is a disorder characterized by a unique constellation of severe and pervasive behavioral deficits (e.g., lack of communication) and excesses (e.g., ritualistic and repetitive behaviors). Because of the extremely broad range of behaviors and abilities among people with autism, it is likely that what we call "autistic disorder" is really a diagnostic category made up of several as-yet-undetermined subgroups. The subgroups have many similar features, but future research may find that they have distinct causes. Therefore, "autism" is really short for "Autistic Spectrum Disorder," a term that is applied to all of the various subgroups. In turn, Autism Spectrum Disorder falls under an umbrella category of "pervasive developmental disorders." Although this article is limited to discussing autism, readers should be aware that there are three other pervasive developmental disorders that share some features with— but are distinct from—autism: Rett's Disorder, Child Disintegrative Disorder, and Asperger's Disorder.[†] To learn more about these disorders, visit the Autism Society of America's Web site at **www.autism-society.org**.

Although we are much further along in our understanding of autism than we were even a few years ago, there is still a great deal we do not know. This poses a tremendous challenge to all those interested in, or responsible for, the care of autistic individuals. Primary among the things we do not yet know is what causes autism. What we have are many possible causes, and almost all of these have vocal proponents. Genetics, neurobiological factors, hormonal factors, viral infections, metabolic factors, birth complications, environmental toxins, and other causes have been put forward. At present, the *possible* causes with the most empirical support are genetics, neurobiological factors, and some viral infections. For example, we do know that identical twins are dramatically more likely to both have autism than are fraternal twins—but since both identical twins

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[†] There is ongoing debate among researchers regarding the validity of a diagnostic distinction between Asperger's Disorder and high-functioning autism, both of which are distinguished from "regular" autism by the development of appropriate language and the lack of cognitive impairment. For parents and educators, the distinction is not very important: The two diagnoses are similar enough that they necessitate the same kinds of interventions.

ILLUSTRATED BY SONJA LAMUT

> The central characteristic of these children was an inability to develop normal social relationships or relationships with the environment.

Kanner, was what he called "extreme autistic aloneness," demonstrated by an inability to develop normal social relationships or relationships with the environment. Other main features of children with autism were: 1) a delay or failure to acquire speech; 2) the noncommunicative nature of speech if it did develop; 3) stereotyped and repetitive play activities; 4) a compulsive demand for the maintenance of "sameness" in the environment; 5) good memory for rote material; and, 6) lack of imagination. Given the fact that more than 50 years have passed, it is a testament to Kanner's skill as a perceptive observer that the major symptoms required for a diagnosis of autism remain basically unchanged.

Let us first look closely at the main behavioral characteristics associated with autism, keeping in mind that the severity of these symptoms varies widely among individuals. Not every affected child or adult exhibits all of these characteristics, and some of the characteristics are also noted in individuals who are not autistic. It is the unique constellation of symptoms that characterizes the disorder.

Deficits in Social Behavior and Attachment

Perhaps the hallmark feature of autism is the profound and pervasive deficit in social behavior and attachment. Children with autism often do not bond with their parents, do not play with other children, may ignore or avoid the social initiations of others, and prefer to be alone. It is not uncommon to hear a mother report that as an infant, her child did not hold up his arms in anticipation of being picked up, did not look at her when held, or was "stiff" or "rigid" to hold. The parent may describe the slightly older child as not wanting to be held, cuddled, or kissed, sometimes actively resisting or avoiding expressions of affection or other social overtures. Typically, the child is not upset when the parent leaves or particularly happy when the parent returns after an absence; he seems, in fact, not to notice. Children with autism usually do not come to the parent for comfort if frightened or injured, nor are they likely to be consoled by the parent's efforts to comfort them. Not surprisingly, they also typically fail to show empathy or to understand the feelings of others.

Consider Donnie, a 3-year-old child who was with his mother in a room full of toys. When his mother called to him, trying to get him to come to her or look at her, he persisted in ignoring her while repetitively lining up a toy Ping-Pong net along the edge of a table. He never acknowledged her presence until she finally touched his arm to get his attention. At this time he very purposefully walked away from her and pressed his face against the opposite wall in an apparent effort to shut her out completely. His almost total detachment and avoidance were striking to witness, but not unusual for a child with autism.

Children with autism may not engage in social eye contact. Sometimes they actively avoid such eye contact, or they seem to look "through" another person. Significantly, they fail to develop, or are delayed in developing, "joint attention"—that is, using their eye gaze to direct the attention of others (a skill that typical children develop by the time they are 15 to 18 months old). Joint attention is an important prerequisite for the devel-

don't always have autism, the cause can't be purely genetic. What does not have any empirical support is the once widely held belief that parental psychopathology—specifically, a "refrigerator mother" who fails to provide the emotional warmth that her child needs—causes autism. Likewise, at this time, there is no scientific evidence supporting the theory that the measles, mumps, and rubella vaccine cause autism.[1] So, although we do not yet know what does cause autism, the research is progressing as certain causes are ruled out and efforts become more focused on the most likely causes.

Judging by the many depictions of the disorder in movies, television, and print media, autism seems to hold a special fascination for the lay public. In many ways the attention autism gets is beneficial; general awareness makes early diagnosis and treatment more likely. But it also comes at a cost because misconceptions abound. This article aims to clear up those misconceptions by exploring the characteristics of autism and then briefly describing the main features of effective treatments.

I. Characteristics of Autism

In 1943, child psychiatrist Leo Kanner of Johns Hopkins University provided the first detailed account of what he called "autistic disturbances of affective contact." He described a group of 11 children who seemed quite similar to each other, but qualitatively different from children who were more adequately described by other clinical diagnoses.[2] In this initial report, Kanner provided a richly detailed description of each child and in so doing gave us the first fascinating glimpse of what we now call autistic disorder or autism.

The central characteristic of these children, as described by

opment of more complex forms of communication and social interaction, and its absence is a significant feature of autism.

Autistic children are as unresponsive to their peers as to their parents. Other children are typically ignored or actively avoided. If the autistic child expresses interest in peer play, it is usually only to watch the activity without social interaction or reciprocation. And, if the child does initiate play with a peer, it often consists of a socially inappropriate overture such as scattering toys or saying something odd or irrelevant (for example, interrupting a game of catch by throwing the ball away while yelling, "I'll risk a thousand, Alex!").

Children with autism often fail to engage in imaginative, pretend, or sociodramatic play. Play that appears imaginative is often rigidly "scripted"; the child will repeat the same script over and over, with little or no variation. For example, a child who is given a toy car set complete with little people, a house, and other accessories, might do the following: Drive the car to the house, put two people in the car, drive to another house, and take the people out. This precise sequence of actions would be repeated in an identical manner again and again, with no changes or elaboration. Or perhaps the child likes to draw, but only draws the same picture every time.

Even high-functioning individuals with autism remain uninterested in establishing friendships, prefer being alone, fail to consider the interests of others, and may be unresponsive or totally oblivious to subtle social cues. For example, one 22-year-old autistic man who had just earned a master's degree in engineering would talk almost exclusively and at great length about bridges and elevators. The obvious boredom of his audience and repeated efforts to change the direction of the discussion went completely unheeded, and the pedantic monologue continued until he was pointedly asked to stop talking about bridges and elevators. At no time during this "conversation" did the young man ask anything about his conversational partner's interests or activities.

Deficits in Communication

Leo Kanner considered the delay or failure in the acquisition of language to be primary to the disorder, and this opinion is still held today. Approximately half of children with autism fail to develop functional speech—but only a very small percentage is completely non-verbal. Many autistic children (even some of those with functional speech) develop noncommunicative speech patterns that are qualitatively different from those of ordinary children or those with other specific language disorders.[3] In addition, nonverbal communication may be absent; autistic children often do not shake their head to indicate "no" or nod to indicate "yes." They seldom wave "bye-bye," blow a kiss, or use other conventional social gestures. Similarly, they typically do not point to things in their environment to share an experience such as seeing a fire truck or airplane.
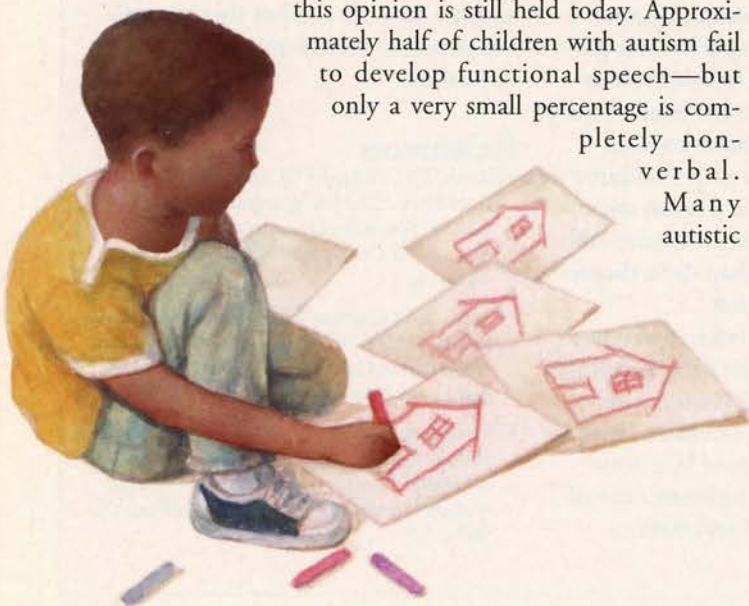
Some autistic children develop early speech using a few words or perhaps simple phrases, only to lose this speech at around 18 to 30 months of age. Thus the children may use words or phrases like "mama," "cookie," "go car," or idiosyncratic phrases such as words from an amusement park ride, but suddenly (usually in a matter of days or weeks) lose the acquired speech and fail to progress linguistically. Often parents report that their child said a word or phrase very clearly on one occasion, never to do so again.

Autistic children who do speak typically exhibit distinctively pathological speech patterns. Many display echolalia, the repetition of words or phases spoken by others. Echolalia can be immediate or delayed. In immediate echolalia, the child parrots what has just been heard. For example, in response to the question, "Where is your jacket, Susan?" the child responds, "Where is your jacket, Susan?" Immediate echolalia is often preceded by a question, request, or statement that the child finds incomprehensible.[4] For example, a child asked to touch his head may do so. Yet, if asked to "indicate your cranium" he would likely echo "indicate your cranium" since he does not understand the command.

In delayed echolalia, the individual repeats speech that has been uttered a few minutes, hours, days, or even years in the past. Because the speech is remote in time, it is most often contextually inappropriate and may sound quite bizarre. Sometimes the original speech is identifiable, as when the child repeats a phrase from a TV commercial, an instruction heard from his teacher at school, or a parental reprimand. Most often this speech is noncommunicative: The children do not comprehend what they are saying, nor do they use this speech functionally in their environment. The conditions leading to delayed echolalia are not well understood. Anecdotal reports suggest that it is more likely to occur under conditions of high arousal. For example, I knew an autistic child, Bobby, who was very frightened of dogs. When confronted by a dog one day, the terrified child blanched, backed away, and loudly declared: "It's not going to hurt you, Bobby" and "Pet the nice doggy, Bobby." It is quite likely that these are reassuring phrases he had heard in similar circumstances when he had been frightened or aroused. There are other times, however, when the reasons for the specific delayed echolalic response are unclear. Thus on another occasion when Bobby was confronted by a dog he exclaimed, "It's not a glass paperweight!" and "I said get to bed *right now!*"

Probably related to echolalia is the often observed pattern of pronominal reversal in which the individual refers to himself as you or by his name rather than I or me. Children who

use their echolalia to communicate may produce statements such as, "Do you want to go outside?" or "Do you want a cookie?" to indicate that these are their wishes. These are direct echoes of statements they have heard on occasions when they have been given what they wanted.

Idiosyncratic speech and neologisms (i.e., made-up words) are also frequently noted in these individuals. Idiosyncratic speech occurs when a person consistently uses an unusual word or phrase to express a label or concept. One child consistently referred to a particular mechanical toy as a "Cow says." When activated in a particular way, this toy produced a prerecorded voice that said, "The cow says moo." Another child referred to any reel-to-reel tape recorder as a "self-destruct in five seconds" (obviously related to the television program *Mission: Impossible*). Neologisms occur when an individual consistently uses a novel, made-up word or phrase to express a label or concept.

Is Autism on the Rise?

One of the hottest current issues in the field of autism is the reported increase in the incidence and prevalence of the disorder. Over the past several years, a truly dramatic increase in the number of children diagnosed with autism has been reported worldwide. Clinicians, the educational community, speech and language specialists, and developmental-disabilities service agencies as well as epidemiological studies have reported this increase.[1] In the 1960s and 1970s, epidemiological studies reported an incidence of autism of four to five cases per 10,000 births. This increased in the 1980s to 2.5 to 16 cases per 10,000, and in the 1990s to five to 31 cases per 10,000. In 2004, one routinely read incidence reports claiming 50 to 67 cases per 10,000. The California State Department of Developmental Services (one of the few state agencies to report such extensive data) found that between 1988 and 1998 there was a 610 percent increase in autism cases. In April 2002, a congressional hearing declared autism a national health emergency. It is estimated that today autism affects as many as 1,500,000 individuals in the U.S. and is rising at an annual rate of 10 to 17 percent. These statistics are indeed staggering.

The fact that the number of children being diagnosed with autism is on the rise is undisputed. However, is there indeed such a large increase in the incidence of autism? Could the increased incidence be the result of increased reporting, perhaps due to greater awareness, better diagnostic tools, and broader diagnostic criteria?

One likely contributor to the increased incidence of autism is the fact that, unlike in the past, money and services are now available for treating autistic children. To understand how diagnoses "follow" resources, let's take a look at what has happened in California. When I first started studying autism as an undergraduate at the University of California at Los Angeles in the late 1960s, the educational system in California provided special classrooms for children with mental retardation and for children with various physical disabilities, but not for children with autism. Understandably, this led parents to actively "shop" for specific diagnoses that would enable their children to receive the best services. And it is likely that professionals were lenient about using the mental retardation diagnosis, knowing that this diagnosis would increase the likelihood the child would receive special services.

The situation changed greatly when, in 1975, special education programs were mandated for children with autism. Largely as a result of parent advocacy and lobbying at various government agencies, as well as lawsuits filed by parents, more and more money was earmarked for autism services. Over time, an autism diagnosis came to be preferred because it was less stigmatizing and yielded more intensive and appropriate services than did a diagnosis of mental retardation.

This shift in the preferred diagnosis shows up clearly in the data: A study in California found that the increase in incidence reported for children with autism was accompanied by a concomitant *decrease* in reported cases of children with mental retardation. Specifically, the incidence of autism increased by 9.1 per 10,000, whereas the incidence of mental retardation of unknown cause declined by 9.3 per 10,000.[2]

A recent review of many epidemiological studies conducted in several countries indicates that what happened in California may not be uncommon. The review concluded that the increase in autism is likely due to changes in the concepts, definitions, and awareness of both the lay and professional public—not to an actual increase in the occurrence of autism.[3] But the results of that review were not definitive. It may also be that some of the reported increase is due to some actual growth in autism. For example, some researchers believe that the increased incidence is, at least in part, due to increased environmental toxins. It may be that more recent environmental pollutants serve to interact with genetic or other organic propensities, with the result that more individuals develop autism. As in all areas of this mysterious disorder, there is much research yet to be done.

–L.S.

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Autistic children may insist on collecting and carrying particular objects (such as small rocks, sticks, a piece of cloth, or a particular toy) at all times, and strongly resist any attempt to remove them.

One child used the neologism "pling" to refer to any pencil.

Communicative language is often limited to the here-and-now, with distinct difficulty shown in communicating past, future, or hypothetical events. It may also be restricted to the very literal; analogies, metaphors, and humor are essentially incomprehensible. Literalness can interfere with even the simplest of interactions. I remember one autistic child, Danny, who was receiving treatment in our program. An undergraduate student named Rick worked with Danny for several months. For some reason Danny kept referring to Rick as "Poster" despite numerous corrections from Rick. Finally one day Rick became frustrated and told the child very intently, "Danny, my name is NOT POSTER!" The result (as one might have guessed) was that Danny referred to him as "Not Poster" ever after.

The speech of even high-functioning and linguistically skilled individuals with autism is often devoid of emotion, abstraction, or imagination. Attempts to elicit statements of feelings are typically met with noncommittal answers, such as "It was good," "It was bad," and the perennial favorite, "I don't know." Sometimes even the most direct query will elicit a highly concrete and odd response. For example, one adult with autism was asked how he felt when his mother died. He responded, "She was 68." It is startling to hear conversation that is based almost completely on the concrete, lacking color or emotion, yet such is the case with many of these individuals.

Restricted, Repetitive, and Stereotyped Patterns of Behavior
The behavior of many children with autism is compulsive, ritualistic, repetitious, obsessive, and stereotyped. It may involve gross- and fine-motor movements or highly sophisticated verbal rituals. At the gross-motor level, one often sees rhythmic body rocking, rocking from foot to foot, head bobbing or weaving, arm and/or hand flapping, jumping, spinning, pacing, or posturing. At the fine-motor level, one might observe finger wiggling, gazing at the cupped hand at the side of the face, grimacing, eye crossing, saliva swishing, or hair twirling. Often objects are incorporated in these movements, as when the child repeatedly taps something, twirls saucepan lids or pieces of string, flips the pages of a book, waves objects in front of her face, or spins the wheels of a toy car. Repetitive vocalizations of nonsense sound patterns, particular words or phrases, or snippets of songs are also common. These behaviors are typically referred to either as "self-stimulation," to connote that the function of the behavior is to provide sensory stimulation, or as "stereotype," to reflect the repetitive and stereotyped nature of the activity.

Self-stimulation presents several problems. First, many of these children spend a great deal of their time in such self-stimulatory activity. While the amount of time may vary, some children spend most of their waking hours so engaged, often to the exclusion of almost everything else. There is substantial research that suggests self-stimulation interferes with responsiveness to the environment and with learning. Accordingly, a good deal of research has focused on the nature of self-stimulation and how it may be eliminated. Unfortunately, it remains one of the most difficult and poorly understood behaviors observed in autistic individuals.

Other compulsive and ritualistic behaviors are seen as well. We observe children who compulsively line up objects, follow patterns in floor tiles or wallpaper, or build the identical block form repeatedly. Rather than playing with toy cars in the usual way, a child with autism may arrange them in perfect rows, categorized by color, and all facing the same direction. Any disruption of this arrangement by adding, subtracting, or rearranging the cars is met with distress (often a tantrum). Autistic children may insist on collecting and carrying particular objects (such as small rocks, sticks, a piece of cloth, or a particular toy) at all times, and strongly resist any attempt to remove them. Children I have known have insisted on carrying items such as fast-food condiment packets, Tinker Toy dowels (one in each hand at all times), leaves, pages from a phone book, and bottle caps. I remember one little boy who was not attached to a teddy bear or blanket but rather took a hand-held vac-

uum cleaner to bed with him every night, and a girl who insisted on carrying a stop sign with her everywhere she went.
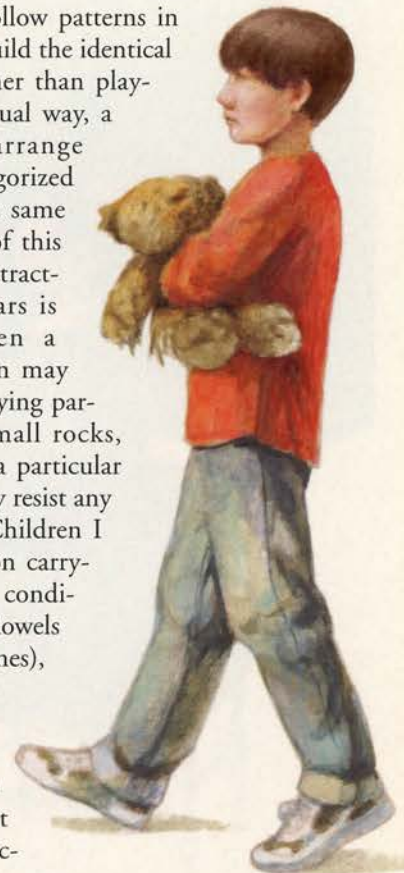
Children with autism may strongly resist changes in the physical environment, daily routine, or familiar routes of travel. Changes in furniture arrangements, for example, are often noted immediately, with the child attempting to return the furniture to its original position. If this is impossible, the child may be quite upset until the disruption is corrected. Sometimes even the most minute detail is detected, as when the child notices that a particular figurine has been moved a few inches on a table or a package of cookies has been placed in the wrong position on a pantry shelf. Alterations to expected schedules are not well tolerated, and maintaining routines becomes imperative for parents. One mother reported receiving several traffic citations for failing to stop at a stop sign in her neighborhood. The stop sign had only recently been placed at that location, but since her autistic son was used to maintaining speed there, any stop on her part was followed by a screaming tantrum.

Many autistic children have compulsive food rituals: They will only eat one or two specific foods, or may only eat foods of a particular color or only if the food is placed in a specific section of a plate. Ritualistic preoccupations are also observed when the children memorize information that may be trivial or of little functional value, such as train or bus schedules, TV schedule grids, maps, consecutive numbers in a telephone book, or dates.

Linguistically advanced individuals with autism may exhibit compulsive behaviors when they engage in conversations. Repetitive questions are common, as is the insistence that the listener respond in a particular manner or provide a specific answer. When a person with autism engages in conversation involving a favored topic, it is extremely difficult to divert the direction of the conversation (as with the engineer who was preoccupied with elevators and bridges). I remember one autistic child who was completely obsessed with Volvo automobiles. He carried around a Volvo brochure describing the models, looked for Volvos on the street, and would work very hard for the reward of visiting a Volvo dealership and being allowed to walk down the aisles of cars.

Abnormalities in Response to the Physical Environment

Children with autism are often described as showing deficient or unusual responsiveness to their sensory environment. A child may be very unresponsive to loud noises, the calling of her name, or other auditory stimuli. Similarly, the child may be unresponsive to visual stimuli; she may not respond to people entering a room, nor track the progress of people or things across her visual field. This is not true sensory impairment, however. The child who does not respond to the calling of her name or a loud noise may respond to the crinkle of a candy wrapper or may repeat commercial jingles. The child who does not respond to people coming and going in his environment will be transfixed by watching pieces of lint fall through a beam of light.

Unusual sensory interests are also frequently observed. Autistic children may seek to run their hands across certain textures, mouth or lick objects, sniff people or objects, or put their ear against stereo speakers. One little girl I knew would go up to unfamiliar adult men, raise up their pants cuff, and feel their socks, much to the embarrassment of her parents. These children may gaze intently at spinning objects such as flushing toilets, tops, washing machines, and fans.

Autistic children may also be over- or under-responsive to touch, pain, or temperature. An attenuated response to pain is often reported, as when the child falls and skins his knee or bumps his head and fails to cry (or, of course, to seek comfort from a parent). Often the child's response to such an injury is to get up and continue with what he was doing, to the amazement of those watching. In contrast to this under-responsiveness, some children display a hypersensitivity to physical contact with other people and become quite agitated when touched.

Abnormalities of Affect

The emotions expressed by individuals with autism are frequently odd. Their emotional responses may be excessive and exaggerated or relatively stable and minimal ("flat"). Some autistic children shift rapidly between hysterical laughter and inconsolable sobbing with no apparent provocation. The affect may be quite mismatched to the situation, as when the child laughs when someone else is hurt or cries when given a birthday present. The children displaying flat affect may seem to be "cruising in neutral" despite the varying conditions in the en-

of rote memory, mathematical calculations, mechanical skills, or musical ability.

Not surprisingly, the true savant skills seen in a small percentage of autistic individuals have attracted a great deal of attention. Consider the movie *Rain Man*, which depicts a man with autism who is adept at performing complicated mathematical calculations in his head, card counting in Las Vegas, and other impressive counting feats. This depiction is not an exaggeration; indeed, the actor Dustin Hoffman based his characterization on a compilation of three known autistic savants. Other such individuals have shown their ability to rapidly complete complicated jigsaw puzzles (picture side down), memorize schedules from *TV Guide*, or assemble a complex mechanical apparatus.

These special skill areas tend to be narrow and isolated, and completely nonpredictive of the child's overall level of functioning. For example, one 7-year-old musical savant could hear a melody once and subsequently play the melody on any of six musical instruments. He could also instantly play complex harmonies to the melody. However, this same child was not toilet-trained, could not respond to a simple question like, "What's your name?" and could not respond to an instruction such as, "Close the door." Despite his immense musical talent, he was functionally mentally retarded and required constant supervision.

II. Treating Autism

Without knowing what causes autism, we have little hope of finding a cure. But decades of research have resulted in some beneficial treatments. Most professionals in the field would agree that today the treatment of choice is based on the behavioral model of learning. In fact, behavioral treatment is the *only* treatment that has been empirically demonstrated to be effective for children with autism.[7] Fortunately, it is also fairly straightforward to implement. Teachers, paraprofessionals, parents—even siblings as young as 6 years old—have been successfully trained to use behavioral treatment with autistic youth.

In its original form, behavioral treatment is often referred to as "behavior modification" or "behavior therapy," although now there are many variations that go by different names. All forms of behavioral treatment are derived from the experimental analysis of behavior, which is the science devoted to understanding the laws by which the environment affects behavior. Identification of these laws allows for behavior to be predicted and controlled—and thus changed. The study and application of these laws to socially significant problems is referred to as applied behavior analysis, and we owe much to this field of science for the development of effective interventions for the autistic population.

The original forms of behavioral treatment were based closely on the principles of learning that had been established after many years of work in animal laboratories. Animals such as rats and pigeons were trained to perform easily quantifiable behaviors such as pecking a lighted key or pressing a bar. The animals were rewarded with bits of food, and the schedules of food delivery (schedules of reinforcement) were carefully

vironment. This flat affect is typically accompanied by little variation in facial expression.

Irrational fears are also frequently noted, and often these are related to the children's demand for sameness. I have known children who have been intensely frightened by balloons, felt, tortillas, ferns, yellow ducks, sesame seed hamburger buns (regular buns were fine), Bill Cosby, the Channel 7 *Eyewitness News*, and the theme song from the television show *Family Ties*.

Abnormalities in Intellectual Functioning

Despite impressive feats like memorizing bus schedules, the majority of autistic children are cognitively impaired to some extent, most to a serious degree. In fact, estimates from various studies agree that approximately 75 percent of autistic children are mentally retarded.[5] One of the main distinctions between children with autism and children whose primary diagnosis is mental retardation is the fairly distinctive profile exhibited by autistic children on subtests of intellectual ability. While children with mental retardation tend to score at low levels across all areas, children with autism typically show a distinctive pattern: They tend to score poorly on assessments of symbolic thought (such as language) and abstract reasoning, and to score higher on assessments of visual-spatial ability and rote memory. In addition, many of these children display isolated, and usually quite narrow, areas of exceptional skill. In a minority of cases these skills may be at the savant level,[6] but it is usually the case that the skill is at a normal or near-normal level for the child's age; it appears exceptional because of the child's low level of ability in other areas. These special abilities most commonly lie in the areas

Educating Autistic Children

By Aubyn Stahmer and Laura Schreibman

Of the 165,000 students (ages 6 to 21) with autism receiving special educational services, 89 percent attend regular public schools. And, of those in public schools, nearly one-third spend at least 80 percent of their time in a regular classroom and about one-half spend at least 40 percent of their time in a regular classroom.[1] But is inclusion really best for these children? The short answer is, it depends.

The heterogeneity and developmental nature of autism make it unlikely that one specific instructional program or setting will be best for all children, or will work for any one child throughout his or her educational career. For example, some students with autism may be able to keep up with their peers academically, but may have difficulty with complex social skills and language. A child with these characteristics may be best served through inclusion in a typical classroom, but with specific supports such as a schedule (made with pictures) to make the day predictable and assist with transitions, a social skills program that helps the student understand social cues and facilitates social interaction, and tutoring in abstract reasoning and coherent writing. A child who has overall difficulty with academic skills yet excels in music may take a music class with his typical peers, but spend the rest of the day in a special education classroom. In this case, an essential support might be a functional communication card, which allows a child without func-

tional speech to request a break when a task becomes too difficult. Children with more severe cognitive impairment are often best served in a special education environment with peers at a similar developmental level. But even in a special education setting, children with autism may require supports to improve social interaction, attention to group activities, and generalization of skills to new environments.

While it's true that each autistic child has a unique constellation of strengths and weaknesses, there are some commonalities. Regardless of their developmental level, practically all children with autism require systematic instruction in social interaction and language, and assistance with generalizing newly learned skills to multiple environments. With autistic students, "systematic instruction" means instruction based on the behavioral model of learning (such as the discrete trial training and pivotal response training described in the main article). With adequate professional development, special education teachers can learn to effectively deliver such instruction to small groups of students with autism, provided they function at similar levels.

In addition, these students are likely to have some challenging behavioral issues. In some cases, the behaviors are neither severe nor frequent and can be handled in a regular classroom. In other cases, the child's behavior may be too distracting or too dangerous for a regular classroom to be appropriate.

Either way, all teachers with autistic students should receive training in an approach called positive behavior support.* Instead of focusing on eliminating problem behaviors, the teacher shows the child how to replace difficult behaviors with appropriate skills.[2] For example, if a child usually has a tantrum when a task becomes too difficult, he can be taught to ask for help, either by raising his hand or using a picture card to request assistance. Another way to reduce behavior problems is to make positive changes such as placing a child near the front of the classroom, putting a daily schedule on the board, providing a set of steps for the child to ask a friend to play during recess, or giving a child a job during transitions.

In summary, due to the heterogeneity of the disorder and the changing needs of children with autism as they develop, it is unlikely that one specific treatment or instructional strategy will emerge as the treatment of choice for all children. Different children will require different types of treatments and different levels of support at different times in their lives. When a student with autism is able to learn from the regular curriculum and behave appropriately, inclusion in a regular classroom will probably be the best placement for him. Nonetheless, failure is not a good experience for any child, and it is imperative that the decisions for each child be made on the basis of sound considerations of individual needs and abilities.

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*To learn more about positive behavior support, see "Heading Off Disruptive Behavior" in the Winter 2003-04 issue of *American Educator*, **www.aft.org/pubs-reports/ american_educator/winter03-04/early_ intervention.html**. The article is about intervening with children who have behavior problems—not about autistic children. However, positive behavior support is described in detail and the general strategy is appropriate for helping autistic children improve their behavior.

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> The development and refinement of DTT provided the first real treatment regimen for teaching simple, and later more complex, skills to autistic children.

manipulated to elicit desired response patterns. Some early research with autistic children did involve teaching them to press a lever for bits of food or candy. It makes us cringe today—but it did demonstrate the potential for developing effective behavioral treatments.

Discrete Trial Training

Although they focus on more elaborate behavioral repertoires and functional curricula (for example, linguistic, social, and academic target behaviors), more recent adaptations of behavioral techniques continue to adhere to a rather strict learning format in which autistic children learn to discriminate between and respond appropriately to various stimuli (e.g., questions, requests, or commands). Typically, the children are taught through a series of discrete teaching "trials" that include three components. First, an in-

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†The highly structured, repetitive-practice nature of DTT goes well beyond the three major components I described. There are important rules regarding the specifics of stimulus presentation, timing, successive approximations of correct responses, and both the nature and schedule of consequences. Adherence to these rules is very important for delivering the treatment effectively.

struction or question is presented. In the early phases of training, this may be accompanied by a prompt to guide the child's response. The second component is the child's response, incorrect or correct, or perhaps lack of response. Third, depending on the child's behavior, a consequence is presented. These consequences take a variety of forms, and their nature is determined by the desired effect. If the teacher wishes to encourage the response because it is correct, a positive reinforcer such as food, praise, or access to a favored toy is presented. To discourage an incorrect response, the teacher may present a "punisher" (for example, saying "no" or frowning) or not present any consequence (that is, ignore it).

Let's look at an example of teaching a child, Carolyn, to say her name. The question "What is your name?" is presented. She either answers correctly with "Carolyn" (or an approximation thereof), provides an incorrect response (such as "geegeegee"), or remains silent. The trainer then provides the appropriate consequence: a piece of cookie and praise for the correct response, "Carolyn"; a "no" for "geegeegee"; or no consequence for silence. These three-part trials are presented in a series of successive blocks, and the child's progress is calculated by determining the percentage of correct responses within a block of 10 or 20 trials. If inadequate progress is found, various things may be altered, including the specifics of the instruction, the addition of prompts, the nature of the consequence, and so on. In addition, the target behavior may be broken down into smaller components to make the task easier.

This type of highly controlled treatment is referred to as "discrete trial training" (DTT). It revolutionized the treatment of children with autism. In fact, one can argue that the development and refinement of DTT provided the first real treatment regimen for teaching simple, and later more complex, skills to autistic children. Its contribution to the treatment of autism, particularly in the early 1960s and 1970s, cannot be overstated.† After this treatment had been used for many years, however, some troubling trends emerged as limitations to the generalization of treatment effects became apparent. People noted that the positive effects of the treatment did not always hold up over time as well as one would hope, and the positive responses did not always appear in different settings or around different people. Further, the training itself was often not very efficient in that treatment effects seemed to be specific to the behaviors taught rather than spreading to other behaviors.

Problems with generalizing across settings and people are illustrated with the cases of Kenny and Freddy. Kenny had had many months of intensive DTT in his home; his

mother proudly showed me a notebook containing descriptions of specific responses Kenny had learned. I noted that he had learned to say his address and decided to see how he would respond to me. After ensuring that he was paying attention, I asked, "Where do you live?" Kenny stared at me and said nothing. After my sixth or seventh unsuccessful attempt to elicit his address, his mother tapped me on the shoulder and said, "You have to say, 'What is your address?'" Apparently, this latter phrase was used in Kenny's DTT training, and I was presenting a different question. Obviously, this is a severe problem. If Kenny became lost, a police officer might not ask the question in the specific way Kenny had been taught.

Freddy's problem became clear at a holiday party for families participating in our research program. There was a bowl of punch on the table and Freddy wanted some. We knew Freddy's parents had taught him to appropriately request what he wanted, and thus we were surprised to see him grab a cup, wave it repeatedly over the punch bowl, and vocalize gibberish. He kept doing so until his mother, who had been out of sight, appeared and said, "Freddy, you say it right!" Freddy saw her and said, "Punch, please." It appeared that the presence of his mother was necessary for Freddy to use his speech appropriately; the behavior did not sufficiently generalize to other people in his environment.

While traditional discrete trial training continues to have a strong following, the limitations to its effectiveness have led others to move away from the highly structured nature of DTT to other forms of behavioral treatment that hold promise for addressing these limitations. One strategy is to retain the structured DTT format, but to systematically address each of the areas found to be problematic.[8] To enhance stimulus generalization, for example, the child is taught a behavior through the use of multiple stimuli including different task materials, settings, and people. For the child who would only say his address if presented with a specific form of question, this type of problem could be prevented if, during the training, the child were taught to say his address in response to a variety of questions, such as "What is your address?" "Where do you live?" "Where is your house?" and the like.

Today, the best DTT treatment programs incorporate these generalization-enhancing strategies and, as a result, the treatment overall is more effective and less highly structured. However, even though these improved treatment programs are less formally structured, the fact remains that they may still be rather difficult for nonprofessionals (such as parents or peers) to learn and implement, and a good deal of training is required for these nonprofessionals (as well as the professionals) to become effective treatment providers for autistic children.

Naturalistic Treatment Strategies

Another more recent approach to treatment uses naturalistic strategies that allow the child with autism to learn behaviors in their usual context under more typical conditions. The idea behind the development of these naturalistic strategies stems from the view that the reported lack of generalization and maintenance of treatment may be directly related to the speci-

No single treatment can claim to be substantially effective for *all* children with autism. So, the question should be *which* behavioral treatment is best for *which* child, under *which* conditions, and at *which* point in time?

ficity and artificiality that characterize the traditional DTT approach.

A brief description of one naturalistic strategy, Pivotal Response Training (PRT), will illustrate how naturalistic strategies work and how they differ from DTT. One difference is the nature of the training stimuli used. Let's say we want to teach the child the concept of color. We could teach "yellow" by using highly structured teaching involving yellow cards, yellow blocks, and so on. Indeed, this is probably how it would be done using DTT techniques. However, the color concept can also be taught in a format that involves the natural contexts in which colors are found. Thus, one may walk through a park and teach that a car is yellow, a bench is yellow, a leaf may be yellow, and so on. Because the yellow stimuli are observed in naturally occurring circumstances, generalization of the concept is more likely to occur without specific training for generalization.

Another difference between DTT and PRT is the nature of the consequences used in training. Autistic children are notoriously difficult to motivate. DTT overcomes this problem by identifying consequences that are motivating to the children, including positive reinforcers such as food, drinks, and access to favored toys. However, since the "real world" typically does not provide such consequences, it is not surprising that behavioral gains are not generalized or maintained well with this sort of training. No one is walking around giving us pieces of candy or sips of a soft drink for being social or talking as we go about our daily lives. Rather, our social skills and speech are maintained by the natural consequences directly associated with our behavior. If I want a book at the

library and say to the librarian "I want this book," it is not because I expect, or want, him to say "Good talking" and give me a piece of candy. I want the book, and it is the delivery of the book that maintains my speech in this context.

Similarly, PRT employs consequences that are directly related to the child's behavior so that these natural consequences will maintain the behavior and assist in its generalization. For instance, if I am teaching the child using a toy car she has chosen, I know that the car is a direct reinforcer for her speech. If she says she wants to "roll" the car, then the consequence (reinforcer) for saying "roll" is being allowed to roll the car. Rolling the car when she says "roll" is a much more natural consequence than a piece of candy and saying "Good talking." This direct reinforcement is how typical children learn to use language in their environment.

Another approach used in PRT to increase motivation to learn is to give the child a *choice* about the nature of the teaching interaction. It is common in DTT procedures for the therapist to decide what skill will be addressed, what training stimuli will be used, and what the available consequences will be. In naturalistic strategies such as PRT, the child is allowed to make these choices. If we present a variety of toys, edibles, and similar things to the child and ask her to choose one, we can be fairly confident that the child is interested in (that is, is motivated for) the chosen item. This means that the child is likely to be willing, perhaps even eager, to work for that item and that the item is a powerful reinforcer.

Another difference between DTT and naturalistic strategies such as PRT is the nature of the response required for a reward. Typically in DTT, a specified response is designated as correct, and only that response, or responses at least as good as a previous response, are reinforced. This can lead to frustration on the part of the child because, unless the training is conducted very carefully, the child will make many errors. Under such conditions it is not unlikely that the child will give up and stop responding, or perhaps have a tantrum. PRT avoids this problem by providing reinforcement not just for correct responses or even near-correct responses, but for any reasonable attempt to respond. This means that the child obtains access to the reinforcer for trying, not just for correct responding. If trying is reinforced, we will get more trying, and with more trying there are more opportunities for teaching.

It is important to emphasize how the teaching environment is structured in naturalistic strategies. The setting is carefully arranged to encourage and promote language, play, and other activities that may be naturally rewarding to the child. Yet, the learning challenges allow for instruction. For example, highly desirable toys are placed out of reach so the child has to use language to request them, brightly colored toys are made available if teaching colors is a goal, and lids are placed tightly on containers of preferred toys so the child learns to request help. It is also important to point out that while naturalistic strategies do not involve the "drill" type of repetitive trials that one finds in DTT, many trials may be presented in a short period of time, but in a more naturalistic manner. For example, turn-taking between the child and therapist may consist of short turns with lots of give and take, or the child may have to request a cookie several times because only part of the cookie is given each time.

One last difference between naturalistic strategies and DTT is that naturalistic strategies appear to be more enjoyable for the children. Researchers have found that autistic children who were being taught through naturalistic strategies were rated as having more positive affect than children being taught through DTT.[9] Further, when the number of escape and avoidance behaviors such as crying and attempts to leave the teaching situation were recorded, there were significantly fewer such behaviors during the naturalistic teaching.

As I wrap up this description of behavioral treatments, readers may be tempted to conclude that naturalistic strategies are always the best. Let me caution against any firm conclusions: No single treatment can claim to be substantially effective for *all* children with autism. In fact, no single form of treatment can claim to be very effective (defined as truly substantial clinical improvement) for more than 50 to 70 percent of children with autism. The fact that there is such variability in treatment outcomes tells us that other factors aside from the choice of treatment are important in determining treatment effectiveness. All of the behavioral interventions described here are effective. So, the question should be *which* behavioral treatment is best for *which* child, under *which* conditions, and at *which* point in time?

While my fellow researchers and I can't name one best treatment, we can say that the best time to begin treatment is early. Autism is a progressive disorder in that early deficits in social responsiveness and communication have a seriously negative effect on the development of subsequent important behaviors. A child who is not socially engaged and does not learn to communicate effectively is at a definite disadvantage in learning more complex and subtle social and communicative skills. Moreover, ritualistic behaviors that autistic children spend a lot of time performing not only interfere with learning appropriate behavior, but also serve to stigmatize the child and thus affect how the child's social world responds to her. If we can begin treatment when the child is just 2-3 years old, we may be able to avoid many of the behavioral and communication problems that we typically see as the child gets older. □

Alone in the World

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Why New Teachers Stay

classroom teaching, and guide their ongoing learning. When the 50 teachers in our study chose teaching, they envisioned the stimulating classroom they hoped to create and the buzz of their students engaged in learning. In the ideal, they also hoped for colleagues and administrators who would be committed to student learning and would help them, as new teachers, achieve success with their students.

Regardless of the quality or duration of new teacher's preservice preparation, novice teachers must continue to learn long after they enter the classroom. They continue to improve their skills and adjust their strategies for delivering engaging lessons. They learn about the philosophy of their school and what administrators, colleagues, and parents expect of them. They learn about the students, their families, and the community. They learn to keep order in their classroom, better manage their time, and differentiate instruction in response to students' needs. They become better at involving parents more effectively, fostering student responsibility, and assessing student progress. They learn to create curriculum, integrate technology into their teaching, and better prepare students for standardized tests. Leaving new teachers on their own to address these complex and dynamic challenges is both unreasonable and unnecessary, particularly since they are surrounded by colleagues doing similar work.

By building a career ladder for classroom teachers, schools can deliver what the new teachers in our study want—both a supportive work environment while they are new and opportunities to grow once they have more experience. With career ladders that formalize roles such as mentors, master teachers, curriculum developers, or professional development planners, schools can be organized so that novices have a well-integrated support system with plenty of colleagues to turn to, and veterans have options that will challenge them without removing them from the classroom completely. Ideally, school districts and teacher unions will collaborate to create these career ladders and help schools become supportive workplaces that foster new teachers' success. Our study demonstrated that such schools—schools like Fred's—have dramatically less attrition among new teachers. That's good for the schools' bottom line and great for students' academic achievement. □

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From page 16

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Building Fluency

becoming better at monitoring their comprehension.

The second caveat is that we still have much to learn about fluency. Ongoing debates in the research community include questions regarding the value of reading lists of words versus sentences and paragraphs; repeated reading of the same passage versus reading several different passages that have lots of the same vocabulary; the nature of the text in which students would benefit most for fluency practice (i.e., narrative or expository, randomly selected or highly controlled passages); the exact role of silent reading in a comprehensive reading instructional program; the role of prosody in the impact of fluency on text comprehension, etc. For example, we know that the ability to instantaneously recognize high-frequency sight words is an essential element of fluent reading. Researchers continue to explore whether or not having students practice reading word lists or passages is the more efficient way to develop this automaticity. Until research provides a definitive answer, having students orally read passages seems more beneficial because of the added opportunity to work on prosody and comprehension. Likewise, we know that repeated reading of a single passage is highly effective, but it is not clear whether or not a set of passages on a single topic that has been carefully written with a large number of repeated words could be equally or even more effective. If reading a set of passages turns out to be as effective as re-reading a single passage, the set could conceivably be used to enhance students' fluency, vocabulary, and domain knowledge simultaneously.

We will leave researchers to continue their valuable efforts to address these important but yet-to-be-answered questions. However, this article should help practitioners feel confident that there is sufficient guidance from research to support the use of fluency-based assessments in their professional data-collection procedures, and to select instructional practices for both those students who are on-track and those who are struggling to develop the essential skill of reading fluency.

> The ability to read text accurately, at a reasonable rate, and with appropriate expression and phrasing is a key factor in being able to understand what has been read and to enjoy the process of reading.

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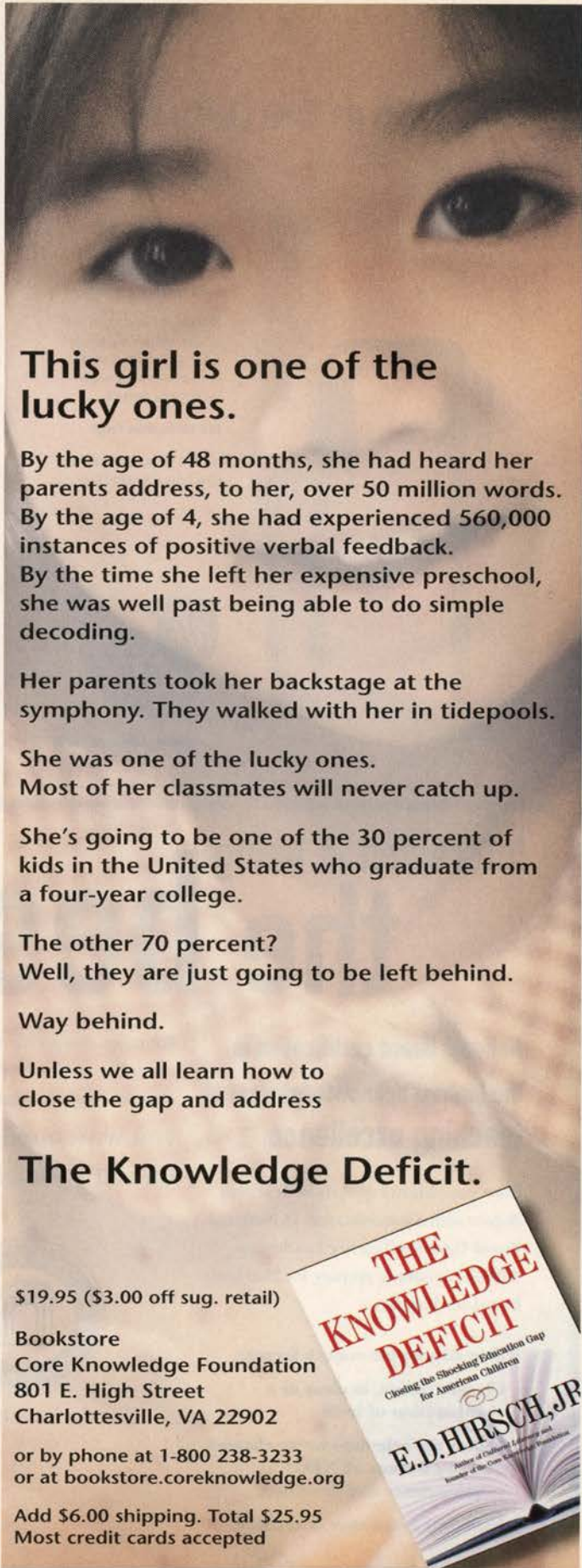
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