

# AMERICAN **Educator**

AMERICAN FEDERATION  
OF TEACHERS  
WINTER 2005/06

## “Education Work Is Union Work”

A Tribute to AFT President Sandra Feldman



*How Spelling  
Supports Reading*

*Child Soldiers*

*How Praise Can Motivate—or Stifle*



“Even the big, tough firefighters will come out and read to the little kids and walk away smiling.”

—Captain Winters

Read with a Fireman Program, Nathan Hale Elementary – Lansing, IL



Captain Winters knows kids want to do everything their heroes do. That's why he launched the Read with a Fireman Program with the help of a Target reading grant. Each week, members of the Lansing Fire Department visit schools and read to students. “We tell kids reading is important because it's something they'll use their whole lives. Just like firefighters train every day, they have to practice reading.”

[Target.com/education](http://Target.com/education)

Giving over \$2 million every week.  
Making a real difference in education every day.





2 **Letters**

3 **“Education Work Is Union Work”**

A Tribute to AFT President Sandra Feldman, 1939-2005

*Sandra Feldman was president of the AFT from 1997 to 2004, when she stepped down for health reasons. Before that, she was president of AFT’s New York City affiliate for many years. She was a teacher and teacher advocate, union leader, civil and human rights activist, advocate for children, especially those from the least-advantaged homes, and a rock-hard believer in public education—and in the idea that every public school should be one to which we would want to send our own children. Here, we honor her by highlighting in her own words her top priorities and accomplishments on behalf of public schools, the teachers who teach in them, and the children they serve.*



12 **How Spelling Supports Reading**  
And Why it Is More Regular and Predictable than You May Think  
By Louisa C. Moats

*Everyone knows that spelling doesn’t matter anymore, thanks to spell check, right? In fact, says the author, spelling is still vital—plus, it benefits early reading, reading comprehension, and vocabulary development. And, it’s not as difficult as people think: Despite English’s bad reputation as a language riddled with irregular words, the spelling of almost all words can be explained by just five principles.*



17 **Spelling Instruction: Key Content and Strategies for Kindergarten through Seventh Grade**

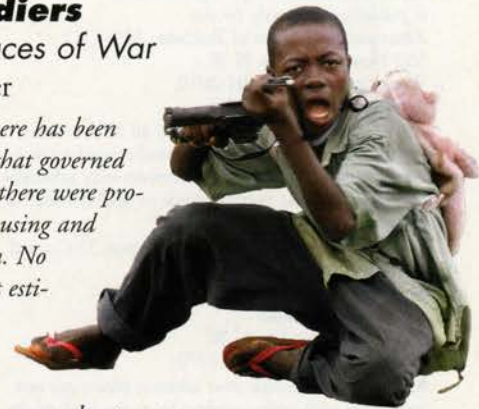
23 **Ask the Cognitive Scientist**  
How Praise Can Motivate—or Stifle  
By Daniel T. Willingham

*Praising students seems like a sure way to congratulate and encourage them. But research has found that praise can backfire—especially if it seems insincere. The most beneficial praise focuses on process (e.g., “You did a good job checking all of your calculations”), not ability (e.g., “You’re good at math”).*

27 **Examples of Constructive Praise and Encouraging Comments**

28 **Child Soldiers**  
The New Faces of War  
By P.W. Singer

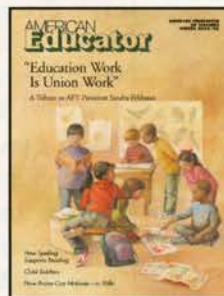
*For millennia, there has been war—and rules that governed it. In particular, there were prohibitions against using and targeting children. No more. Today’s best estimates indicate that well over 300,000 child soldiers are either currently at war or have recently been demobilized.*



34 **Why Now?**

38 **Children Map the World**

*Cartography—the art and science of mapmaking—is a fascinating way to combine disciplines such as art, social studies, geography, and earth science while helping children understand the use of symbols, issues of scale, and other important concepts. These maps, from the International Cartographic Association’s competition for 5- to 15-year-olds, offer plenty of ideas to get started.*



Cover illustrated by Sonja Lamut



**EDWARD J. McELROY**  
President  
**American Federation of Teachers**  
**Ruth Wattenberg**  
editor  
**Lisa Hansel**  
assistant editor  
**Sandra Hendricks**  
copy/production editor  
**Jennifer Chang**  
production/design assistant  
**Andrew Bornstein**  
designer/art director

**American Educator** (USPS 008-462)  
is published quarterly by the  
American Federation of Teachers, AFL-CIO  
555 New Jersey Ave. N.W.  
Washington, DC 20001-2079  
Telephone: 202-879-4420

**American Educator** is mailed to all AFT teacher,  
higher education, and other school-related profes-  
sional members. Non-AFT members may subscribe  
by mailing \$8 per year by check or money order to  
the address above.

Periodicals postage paid at Washington, D.C., and  
additional mailing offices.

**Postmaster:** Send address changes to  
**American Educator**  
555 New Jersey Ave. N.W.  
Washington, DC 20001-2079

**Members:** To change your address, please cut out  
your label with code numbers from the back of the  
magazine and mail it with your new address to the  
address above. In addition, please notify your local  
treasurer.

**American Educator** cannot assume responsibility for  
unsolicited manuscripts. Please allow a minimum of  
four weeks for copyright permission requests. Letters  
to the editor may be sent by regular mail to the  
address above or via e-mail to [amered@aft.org](mailto:amered@aft.org).

Signed articles and advertisements do not necessarily  
represent the viewpoints or policies of the American  
Federation of Teachers.

**General advertising office**  
555 New Jersey Ave. N.W.  
Washington, DC 20001-2079  
Telephone: 202-879-4420

**Advertising Sales Representative**  
**Karen Dorne**  
Karen Dorne Media Sales  
319 Harrison Avenue  
Westfield, NJ 07090  
908-233-6075/908-233-6081/fax  
[kdmedia@webtv.net](mailto:kdmedia@webtv.net)

**American Educator** is produced with the assistance  
of members of Local 2, Office and Professional  
Employees International Union, AFL-CIO, and  
members of AFT Staff Union. Composition and  
printing are done in 100 percent union shops.  
© American Federation of Teachers, 2005.  
mjklmk



## Helping Children Learn Mathematics

I enjoyed the article "Knowing Mathematics for Teaching" that appeared in the Fall 2005 issue of *American Educator*. In their conclusion, the authors confront a claim that testing teachers is "deprofessionalizing" and "deskilling." I believe that their response should be stronger. All of the licensed professions (e.g. medicine, law, accounting, etc.) require prospective practitioners to pass an examination in addition to completing studies at an accredited school. Just the opposite of "deprofessionalizing," testing prospective teachers on their knowledge of content actually gives an opportunity to professionalize the teachers. If teachers wish to be held in the same esteem and receive similar compensation as other professionals, they need to embrace the opportunity to put their reputations on the line in the same way other professionals do.

—DOUGLAS DAVIDSON  
*Black Hawk College  
Moline, Illinois*

After retiring from teaching in June, I finally had time to read Liping Ma's

Many readers wrote to us requesting the answers to the questions from California's 1874 teacher certification exam that appeared in the Fall 2005 issue. Those answers (complete with explanations) are now on *American Educator's* Web site thanks to Richard Askey, a professor of mathematics with the University of Wisconsin-Madison. You can find them at [www.aft.org/pubs-reports/american\\_educator/issues/fall2005/askey.pdf](http://www.aft.org/pubs-reports/american_educator/issues/fall2005/askey.pdf).

*Knowing and Teaching Elementary Mathematics* (1999). I learned that the questions she used to determine the knowledge of American and Chinese elementary mathematics teachers were developed by Deborah Ball, the lead author of "Knowing Mathematics for Teaching" in your last issue.

Ma reports in her book some very unambiguous findings about American and Chinese teachers' mathematical knowledge and understanding. In general, American teachers know substantially less than Chinese teachers, and cannot explain conceptually what they do know. Another major, but subtle, finding of her work was that some Chinese teachers have a "profound understanding of fundamental mathematics," which she describes at great length. It turns out that only 10 percent of the Chinese teachers she interviewed have this profound knowledge. It appears that her lengthy description of it was to illustrate that it does indeed exist, and that a careful study of elementary mathematics can develop such understanding. It is not, however, what accounts for the superior knowledge of their teachers and the consequent superior performance of their students on international mathematics assessments.

What their teachers have that ours do not is a thorough knowledge and understanding of all the topics they will teach (and those covered in other grades) and a knowledge of effective methods to teach them. Acquiring this, according to Ma, is largely a matter of Chinese teachers studying their textbooks "intensively." The texts are so well designed (by experienced teachers) and are such a rich

(Continued on page 44)



# “Education Work Is Union Work”

## *A Tribute to AFT President Sandra Feldman 1939-2005*

*Sandra Feldman was president of AFT from 1997 to 2004 and, before that, president of the United Federation of Teachers, AFT’s New York City affiliate. She will be remembered in many places for her many roles: civil rights activist, New York City trade union leader, child advocate, national and international labor leader, educational leader, defender of teacher rights, civic education proponent, international human rights advocate, and more. Here, American Educator, pays tribute to her many efforts to make the union an effective, creative advocate for strengthened public education and a place that members could turn to for ideas, training, and practical support to improve their own districts, schools, and teaching. As she said, “Education work is union work.”*

*Following a brief biography, we share a selection of excerpts from Sandra Feldman’s many speeches and columns that highlight her commitment to improving schools, in her words, “for the sake of the kids we serve ... for our union’s sake, and for the sake of public education.”*

—Editor

Sandra Feldman, whose career began as a second-grade elementary school teacher in New York City and ended as president of the 1.3 million-member American Federation of Teachers, died on September 18, 2005, after a long battle with breast cancer. Feldman served as a member of the Executive Council and the Executive Committee of the AFL-CIO. As president of the AFT, Feldman was in the forefront of efforts to defend the rights of teachers and paraprofessionals, as well as nurses and healthcare professionals, public employees, and higher education faculty and staff, all of whom AFT represents. Throughout her life, she was a tireless advocate for children, public education, civil and human rights, and trade unionism in America and around the world.

Her career in the labor movement, which spanned more than four decades, grew out of her early activity in the civil rights movement. With noted civil rights leader Bayard Rustin as her mentor, Feldman became an activist in the Freedom Rides and the 1963 March on Washington. When she became a teacher, union activism came naturally. Albert Shanker, then president of New York City’s United Federation of Teachers, quickly recruited her as a UFT field representative. Soon, Feldman became Shanker’s protégé, and eventually she succeeded



Shanker as president of the UFT in 1986 and of the AFT in 1997, bringing her own style and expertise to the union. In meetings with Ronald Reagan, George H.W. Bush, Bill Clinton, George W. Bush, senators, representatives, governors, mayors, commentators, writers, researchers, and educators of every kind, Feldman called for a greater investment in public education, more emphasis on high standards, and increased, but fair, accountability. Feldman placed a particular priority on the needs of poor children and especially their need for early childhood education, which she often expressed as “getting it right from the start.”

Internationally, Feldman advocated for civic education and democracy. She was a vice president of Education International and a board member of the International Rescue Committee and Freedom House; she condemned terrorism and repression of human and worker rights abroad, from China to Colombia, from the Soviet Union to Sudan, to South Africa. She visited many countries emerging from Communist rule or dictatorship to help teachers form labor unions and improve classroom conditions.

Feldman’s strong commitment to public education came from her own experience growing up in a poor family in Coney Island, Brooklyn. She would often say it was the public schools and the public libraries that “created my future.”

Because she understood that only professional teachers can deliver the high-quality education that all children deserve, Feldman fought for professional compensation and working conditions for teachers throughout her career. As she explained at AFT’s QuEST professional issues conference in 1999, “Teachers need salaries they can live on and that give them the respect they deserve. They need ongoing professional development, mentoring by experienced colleagues, and an atmosphere that encourages risk-taking while answering the many questions about how to best reach their students. They need time—time with colleagues, time to plan, time to learn. They need more voice and more control over what happens in their schools. Our job is to get them what they need.” Feldman did that job well—with determination, passion, and courage.

Many thanks to AFT’s Bert Shanas and John See for allowing *American Educator* to draw from their biography of Sandra Feldman. Photographs by Russ Curtis and Michael Campbell.



# In Her Own Words



## Why Public Education?

I grew up in a very poor community, in Coney Island, on the edge of another community called Seagate. Seagate was—still is—a middle-class enclave cut off from the rest of us, literally, by a gate and security guards. You needed special identification to get through.

In those days of strict tracking, I was the only kid in my class from outside the gate. None of my friends from my own street were in my class. I did make friends with some of my classmates, though, and that enabled me to see how they lived. In big houses, with their own rooms, with big kitchens and separate dining rooms where tables were set for dinner in fine ways I had never seen.

The difference between haves and have-nots, starting then, made a big impression on me. And the fact that, despite the great differences in our home lives, I got the same education as those “richer” kids did, made a big impression on me.... And here I am, privileged to be able to play a continuing role fighting for the things I believe in so strongly. And the right to a quality public education is one that I believe in with every fiber of my being.

\* \* \*

As a local leader for 12 years, in a city which is as diverse as they come, I spent every opening day of the school year in a school in different neighborhoods of the city.

Often I was there because there were problems—overcrowding, leaks, asbestos, staff shortages.... But in every instance, every single instance, I was always struck by the line of parents registering their children. Newly moved into the neighborhood, newly arrived in the city or new to the country—often these parents spoke little or no English.

The children, always neatly dressed and looking shy, are of every different shade and hue in my little town. You'd see girls in veils and hoods and headdresses standing in a kindergarten line holding hands with a partner who might be blond or red-headed or darker or lighter. You'd hear several different languages being spoken, and strangely-accented English.

But one thing for sure: This was their school. No application

No matter how hard their parents struggle, the effects of poverty often leave poor children two to four years behind before they ever enter kindergarten. Many never see a doctor when they are sick because their

families don't have health insurance or money to pay the doctor bills. Their physical development may be slowed because they don't get enough of the right kinds of foods. And many don't get adequate intellectual stimulation,

to fill out, no interview required, no selection criteria, no fee. Children have an unqualified, unfettered right to go to that school, and that school, whatever its faults and problems and strengths, would ultimately make it possible for them to participate fully as citizens in America.

[In contrast] where would a voucher take them? Where would the overwhelming majority of the children in Chicago or Boston or Philadelphia or New Orleans or New York City go if not to the public school in their community?

\* \* \*

We have to make the good fight [against private school vouchers] in the political arena, in the community. But this is not a fight that will be won with politics alone. And so we will work even harder to improve the schools. We will redouble our efforts so that the schools our poor children go to have at least the same resources as those that wealthier children go to....

We want all our students to have access to schools where order and discipline are taken for granted, where high standards are in place, and where children get the help they need to meet them....

None of us should defend schools we wouldn't want to send our own children to—we should fight like hell to improve them—and help to close and redesign them if that is necessary as a last resort. That's the real civil rights issue for us: not only the preservation of public education—but its dramatic improvement.

—AFT Civil, Human, and Women's Rights Conference, 1998

## Every School a Good School: Close Persistently Unsuccessful Schools

Put very simply and most starkly: I propose that we do not seek to defend or perpetuate failing schools to which we would not send our own children. Failing schools that you or I, or the mayor or governor or any elected official, wouldn't send their own children to, must be turned around. As John Dewey, that brilliant educator and great AFT activist put it, “What the

either from their parents or from the poor-quality daycare that's the best their families can afford.

—Where We Stand, January 2000



best and wisest parent wants for his own child, that must the community want for all of its children.”

We should not wait for states or superintendents to do it to us. We should advocate the closing and redesign of failing schools, and negotiate it—for the sake of the kids we serve, for the sake of the parents who shouldn't have to be torn between their commitment to their own children and to public education, for the sake of the public that is committed to public education but deeply troubled about its performance, for our own sakes, and for our union's sake, and for the sake of public education.

We should do this because when states or superintendents do it unilaterally ... they do it badly—rudely, crudely—getting rid of people instead of bad practices, putting in new people and keeping the same old programs and practices that didn't work.

\* \* \*

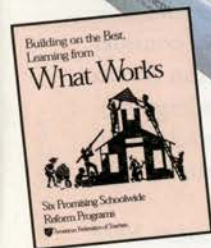
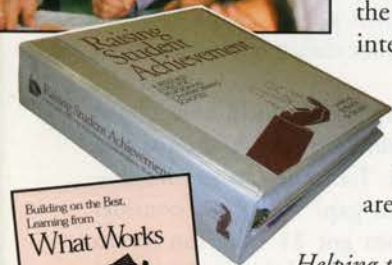
Closing down and re-opening failing schools can be done right—it can be done without blaming, without stigmatizing people, and without defending the indefensible.

As a local president, I've been deeply involved in doing this. I have met for hours and hours with members who were hurt and angry, understandably so, because they'd never been given the chance to do the right thing. They'd never been given the leadership, ... the support, the tools and conditions and access to programs that would have, and could have, made a difference....

One high school, for example, had had many incompetent principals for years. Discipline was never enforced. Violence was common. Many times there were assaults on teachers and students and student rioting.

Working with parents and some of the faculty and an enlightened superintendent, we were able to close that school, and re-open it as four small, theme-based schools in the same building. And today, children from the surrounding area whose parents had forsaken the

*Helping teachers and their unions take the lead in turning around low-performing schools was a top priority for Feldman. She spoke about it often and made sure members had practical materials to assist them.*



We have never shied away from criticism of low-performing schools. In fact, we've led the efforts to improve them. And doing so must remain part of the national strategy for closing the achievement gap. But when

elected leaders expect overcrowded, under-staffed, and under-funded schools to make up for every failure of society, and then attack us for failing, they are being disingenuous at best, and dishonest at worst.

—AFT Convention  
2002

school and probably public education altogether, are sending their children, and the schools have a waiting list for children and teachers wanting to go there. About half the original teachers stayed; the others took advantage of a dignified transfer program that allowed them to select schools they preferred and they, too, are teaching happily elsewhere....

We must do whatever we have to do to turn around the lives of the students (and the usually unhappy teachers) relegated to failing schools.

We can do this, and we can still protect our members from unjustifiable firing; we can negotiate their transfer rights and create processes where those who want to stay and work for change can do so—in a cooperative, dignified, professional setting.

—QuEST, AFT's professional conference, 1997



[A]s school people, we can't, by ourselves, end the discrimination, the racism, and the bigotry that our students often face and must overcome. We can't control what happens to them at home. And we can't control what happens to them in the streets. I wish we could. And as a union, we'll keep fighting for the policies, programs, and elected leaders who can move us toward a more just society.

But I know in my gut that we can do more to make our schools work for every child. I know it because I've seen it happen. Even under the worst circumstances. Even in the toughest neighborhoods. Even in high schools that once seemed hopeless.

—Chicago QuEST 2001

## Secondary School Students

I am worried, as many of you are, about those secondary-school students who were not the beneficiaries of high standards during the earlier years of their schooling. I am specifically talking about students who are dropping out, or at risk of dropping out, because they feel they have little or no chance of meeting new, tougher high-school graduation requirements. And I don't have to tell you what being a high-school dropout means in today's economy....

[T]he plain, painful truth is that most of these youngsters are still not benefiting from higher standards. In fact, they are being victimized. But let me be equally blunt: They would be just as victimized if standards were lowered for them.

Overcoming this problem requires understanding it. The problem is that the middle- and secondary-school students I'm talking about do not have the reading, math, and other basic skills they need. And you and I know that it is almost impossible to teach, and





for students to master, high standards, secondary-level courses when students don't have secondary-level skills.

Their teachers are in a terrible double-bind. On the one hand, if they teach material at a lower level that reaches these young adults and from there try to move them up, they are criticized for not "believing" in their students and for being "resistant" to high standards. But if, on the other hand, they teach material at a higher level, they are criticized for failing to reach their students, thereby discouraging them and causing them to drop out. Of course, they also get slammed for being "resistant" to reform.

This double-bind has terrible consequences for students.... [Along with other remedies,] I propose that we give these youngsters the time they need to catch up by guaranteeing them afterschool and summer-school programs. And for those kids who may need even more help to meet the necessary standards to graduate, I propose a transitional year program—either before they enter high school or during high school, as soon as they are identified. And I propose that such programs be staffed by teachers especially trained to accelerate the basic skills of young adults.

—AFT Convention 2000

## Early Childhood Education

[A]ccording to a major study on early childhood by the National Center for Education Statistics ... a small but significant percentage of our youngest children, primarily kids from low-income families, are in poor health and lack the pre-literacy, pre-math, and social skills that more advantaged youngsters have when they start kindergarten. Most of these children are perfectly capable of acquiring those skills, but they just haven't been exposed to the kinds of experiences and informal learning opportunities that produce them.

Without those early learning opportunities, it's hard for disadvantaged children to catch up with their more affluent peers. In fact, the study found that, while the children who had been behind at the beginning of the

*Feldman wanted quality pre-kindergarten available to every child, especially every poor child. She pushed hard for it, including through her Kindergarten Plus proposal, which is now the law in New Mexico and being considered elsewhere.*



### Extended Classes Show Results

#### Kindergarten Plus Improves Literacy

By ANDREA SCHILLERSON  
Journal Staff Writer

Students in the state's extended-year kindergarten program increased literacy skills and had more positive attitudes than those under a traditional schedule.

The findings from the 2001-2002 school year were made in a January report by the state's Office of Education Assessment to Lt. Gov. Diane Denish by the New Mexico Public Education Department. The program is considered one of the best in the country. "The Kindergarten Plus program seems to be an effective way to nurture student success... particularly the report by education policy analyst Steve Thornton..."

school year made great strides and had closed the learning gap in basic skills by year's end, the more advantaged youngsters continued to have an edge, especially in higher-order skills. In short, despite the terrific job their teachers did, they were unable to compensate for what many poor youngsters, because of their poverty, could not get outside of school....

It is clear that a critical part of closing this achievement gap is to get it right from the start. That's why we not only need full-day kindergarten available to all children, but also a national commitment to make high-quality, preschool education, starting at the age of 3, universally available—not compulsory, but accessible and affordable to all—with first priority given to needy children....

We can establish a successful universal early childhood education program through cost-sharing. By that I mean first, let's leverage federal, state, and local funds to establish the quality system we need and make it a priority to pay the costs for poor families who want to enroll their children in preschool. Second, let's ask other families who want their children in quality preschools and who can afford to pay some, or all, of the costs to do so according to a reasonable schedule of sliding-scale fees.

—Where We Stand, September 2001



The best solution to this problem is obvious—universal access to high-quality preschool, with priority given to poor children. The AFT has been pushing hard for this, but our nation is so far behind on early childhood education that it's not easy to get where we need to go, especially in today's economy.

However, we can make a "down payment" on quality preschool by extending the kindergarten year for disadvantaged children.

To do this, the federal government should help states and districts provide a "Kindergarten-Plus" program that would enable disadvantaged children to start during the summer before they would ordinarily enter kindergarten and then continue through the summer preceding first grade. Such a program would accelerate the progress of poor children and help them maintain it....

Four extra months of kindergarten would cost about \$2,000 a child. Approximately 580,000 poor children would qualify, for a total of \$1.16 billion. Too much to pay for dramatically reducing the achievement gap? Not if we consider that in one year alone, WorldCom got \$1.1 billion in tax breaks, with no benefits for our nation, while Kindergarten-Plus would reduce the need for remediation and special education, lower dropout rates, increase the supply of productive citizens, and ultimately save us billions.

—Where We Stand, October 2002

[We need] high-quality—let me emphasize, high-quality—alternative settings for violent and chronically disruptive students. Because these troubled kids need the kind of intense help our regular schools can't give

them. Because the vast majority of kids in our schools are doing the right things and they need to be protected from their troubled peers. And because no voucher advocate should be able to prey on parents' desire for school

discipline and their children's safety—desires we fervently share—by telling them they need a voucher to get it.

—AFT Convention 2000



## End Social Promotion and Retention: A Third Way

[I]t knocked my socks off when I heard the president of the United States, in his State of the Union Address, hold out as a national goal that every child would be able to read well by the end of the third grade. And, frankly, I was embarrassed. How is it that the president of the wealthiest, greatest nation in the world has to talk about universal third-grade literacy as a national goal? ...

[H]ow does it happen that a child gets beyond third grade without solid skills in reading or math? How could it happen that a youngster could reach 12th grade, let alone graduate from high school, without solid skills in reading, writing, and math? ... These are good questions....

I am here today with the results of this AFT survey, the first such national survey [on social promotion] ever conducted.... [W]hat did we find? We found that no district has an explicit policy of social promotion.... We also found that just about every district has an *implicit* policy of social promotion.... For example, about one-half of the districts restrict the number of times that a student can be retained.... Still other districts essentially forbid retaining certain children, like students with limited English proficiency or learning disabilities, saying that these students are to be moved along according to “a pace that is appropriate to their abilities”—whatever that means.... [I]n most districts there are no agreed upon standards defining what students should know and be able to do at every grade level.... In the majority of districts, final authority for promotion decisions rests with the principal.... Principals can overturn the teacher’s recommendation or change her grades.

\* \* \*

Ironically, and painfully, it turns out that not only is social promotion rampant, but retention is, too. Despite the restrictions on holding students back, retention is used as often as it can be, as often as it’s allowed to be. Accurate figures are hard to get, but it’s estimated that ... [in] many large urban districts, ... upwards of 50 percent of the students who enter kindergarten are likely to be retained at least once before they either graduate or drop out.

\* \* \*

The fact is, neither social promotion nor retention is the answer—if the answer we’re seeking is getting kids to achieve. In fact, throughout the 20th century, we’ve swung like a pendulum between these two policy approaches to student progression, and neither policy has done the job.

Now, if I had a gun to my head and I had to choose be-

tween retaining or promoting a student who hadn’t mastered the requisite material, I would choose retention over promotion. But there are better choices. And what are they?

First, we need to take an intensive care approach to students who are falling behind well before we’re at the point of promotion or retention decisions by quickly identifying these students and concentrating every possible resource on getting them back on track quickly....

Secondly, we have to adopt rigorous standards that are clear to parents, students, and teachers. The standards should be accompanied by grade-by-grade curriculum, assessments that make it possible for teachers to know in time when children are in trouble so they can seek timely intervention....

Third, I want to say this one very loud and clear: We must place well-educated, well-trained teachers in every classroom, but especially in the classrooms of our neediest and most vulnerable children. And we have to make it a top priority, both in the schools of education and in district professional development programs to insist that all teachers of very young children are proficient in the teaching of reading....

But perhaps our most significant recommendation, the one that will ultimately make the biggest difference, ... is to make high-quality preschool and kindergarten programs available for all children, and if not for all children, then definitely and urgently and immediately for our neediest children.

—National Press Club, 1997

## Improving Teacher Preparation

These are challenging times—ripe both with the prospect for the professionalization of teaching and for its slipping out of reach. And I know that when our institutions are under attack, it’s tempting just to circle the wagons. That, however, would be a big mistake. Yes, we need to defend ourselves vigorously against critics who are simply out to destroy us and, with that, the possibility of ensuring every child a well-prepared teacher. But we can’t shut our ears to all the criticism—especially not from the teachers you prepare and I represent. And when four out of five teachers—an overwhelming majority!—surveyed by the Department of Education in 1998 say they do not feel well prepared to teach in today’s classrooms, we must pay very serious and very prompt attention. This is not an attack; instead, it is, in Secretary Riley’s words, “a cry for help.” And if we are truly committed to the absolute necessity of a professional teacher education program, if we are really serious about making sure that teacher education is strengthened and not dismantled, then together, we must answer that cry for help. That is the spirit in which I make my remarks, including my criticisms, today.

\* \* \*

Consider this. A well-known, billionaire businessman, who has announced his intention to break up the “monopoly” of public education through vouchers, was recently asked, in an interview, what happens to diffi-

cult kids in his scheme. I quote: “No one wants them,” he said. “What becomes of them—it’s like every other marketplace. Some kids are not going to make it.”

—AFT Convention 2000





Put simply and plainly, a profession has a shared body of knowledge that all its members must possess. Of course, in teaching, there's a vast amount of information that teacher educators and others (everyone seems to have an opinion!) *feel* teachers should possess. But there is no agreement about the knowledge and skills teachers *must* possess—and, therefore, no core program that defines and unites teacher education. This is not the case with any other professional preparation. Let me give you an example.

The California State Department of Education surveyed their teacher training institutions about teaching reading. It turns out that [what is taught] varied from professor to professor. Even on the same campus and in courses bearing the same title, what teacher candidates were taught varied; it was all a matter of the discretion of the professor—no common core was discernible.... Contrast these findings about reading to what we would find about teaching anatomy to prospective physicians. No matter the medical school: number one, you'd find an anatomy course and, number two, you'd find its content and duration pretty much the same.

Now, I'm not focusing on teaching reading because I don't think math or science or English, etc., are important. But if this is the situation with teaching reading, which is so very fundamental, then we know we're unlikely to find comfort in how teachers are prepared in other subject areas and skills....

A core program of knowledge and skills is characteristic of the education and training of every other professional, and that is where we, too, must go. Moreover, without that, our enemies will continue to be able to say that any institution, any group any provider can prepare teachers, because, after all, what teachers should know and be able to do is just a matter of opinion or fashion.

—American Association of Colleges for Teacher Education Conference, 1999

## Making Standards-Based Education Work

The fact is, too many of our political leaders and school officials are not doing their part. Too many of them have reneged on their end of the bargain in the standards movement: that they would support our teachers in undertaking the hard work of teaching to much higher standards—not deny them the tools they need or seek to deprive them of their dignity and rights; that they would support our students, especially our neediest children, in their efforts to reach much higher standards of achievement—not drag their heels on early childhood education or class-size reduction, or other help youngsters need.

They promised we'd get new curriculum aligned with new



*Under Feldman, the union strengthened its own professional development programs and pushed districts and universities to improve how they prepared teachers and supported their professional growth.*



standards. Where is it? They said tests would be better and used more responsibly. In how many places is that true?

Of course, what worries us about these stumbles, unintended or otherwise, is the effect on teaching and learning. What worries us, too, is that they have provoked a backlash, especially among parents, that is understandable but also threatens everything that's right and working in the standards movement—a movement that parents, the public, and, not least of all, our members still strongly support.

\* \* \*

First, in the area of curriculum: We cannot continue to tolerate teachers being left to fend for themselves with a list of state standards and without curriculums or any other materials that are based on those new standards. State standards do not curricula make.

There is absolutely no other profession whose practitioners are denied their most basic tools and expected to invent them and try them out, all on their own, while simultaneously practicing their profession. It would be considered intolerable. It is equally intolerable for our teachers and grossly unfair to the children they serve.

How to get the job done? While we know that the federal department of education is prohibited from developing curriculum, it is not prevented from doing this: inviting the states to enter into a national consortium that solicits proposals to develop, try out, and evaluate new curricula, including high-quality educational software.

I'm not talking about an effort to get one, so-called "best" curriculum, because one size won't fit all students. I'm talking about developing a variety of outstanding and effective curriculums within each subject area, each of which is based on high standards.

This would be federalism in action. The federal government would contribute funds, but so, too, would the states. Plus, the states would have the added benefit of comparing their standards and following the example of the best. And by working

The AFT's push for higher academic standards during the past two decades is paying dividends: Dropout rates are down; more high school students are taking challenging academic courses; SAT and ACT scores are up;

students are taking more Advanced Placement exams; and more students are going on to college. There is no longer a question of whether our nation should have higher academic standards but, rather, how to achieve these standards.

To better serve students, the AFT is pressing for substantially more resources and attention paid to providing professional development for educators.

—1998-2000 AFT Officers' Report



together, they would have more resources, more intelligence, and more checks and balances than if any or each of them were to do it on their own.

\* \* \*

There's another important job this consortium can do: work together to straighten out the problems in testing.

Obviously, if we had curriculum, then the problem, in too many places, of tests becoming the curriculum would substantially disappear. No test, no matter how good—and all too many of them are not—can possibly capture the sum of education, let alone be a substitute for real education. Yet, in too many places, that's what our officials are encouraging because they have lined up the incentives in all the wrong directions.

Let me be clear. I personally, and the AFT historically, support testing; it's a legitimate and necessary tool of diagnosis and evaluation. We also unequivocally support reporting out test results, fully and accurately, to parents and to the taxpayers who fund our public schools. And we support fair accountability for schools, for educators, for students—and for our officials.

But it is we and our students who are bearing the full and, sometimes, unfair brunt of accountability. It is, therefore, time for our officials to be accountable.

\* \* \*

I urge those officials to listen to the voices of parents and teachers. They are telling you, loud and clear, that they support testing but that there is way too much of it going on, at the risk of getting kids truly educated. They—not to mention the testing experts—are telling you that some tests do not reflect high standards and actually undermine high-standards teaching and learning.... They are also asking you whether cut scores on some tests, challenging tests, have been set so high that they go beyond world-class standards into the world of the supernatural. Take these serious questions seriously. Look into them, and correct any problems you find.

—AFT Convention 2000

## Fixing No Child Left Behind

I know very well that the new standards-based Title I, and the standards movement in general, has taken a tremendous toll on you, on our members. You were working hard already, and you had to work even harder. You were given new standards, often vague, but no curricula to guide you. We still don't have them.

Instead, we got lots of new tests, and you were given the message that the test should be the curriculum—and then the blame for narrowing the curriculum and teaching to the tests. And while some of the new tests were better, most of them weren't even aligned with the standards to which you were

supposed to teach.... [W]hile the increased focus on testing has sometimes led to extra supports for struggling students, the resources for such interventions are still inadequate, and the work still falls primarily on you....

Instead of tests being used as a tool to give teachers, parents, and the public an accurate analysis of the strengths and weaknesses of our students and schools—instead of being used to get help where it's needed and change where change is needed—instead of, in other words, the kind of testing and accountability we support, we've seen too many instances of testing being misused and abused to cloud the true picture of our schools and to unfairly punish them....

Which brings me to the [new Title I law known as No Child Left Behind]. There is no question that there are serious problems [with it], and I fully understand why our members fear that life will get even harder and less fair than it's already been.

\* \* \*

I want to have a candid political discussion with you.... Simply put, this reauthorization was like no other we've seen.

First, Title I, for the first time since its inception, was in danger of elimination—not a cut, but elimination. For a time, it looked like the only way to avoid that fate or some of the ugly proposals being made was to let the law expire and try again later. But “later” meant that things could get even uglier and, at best, Title I funding would be dramatically cut, because the economic downturn that's now slashing funding for education and every other vital service was already upon us. We could see what was ahead, and there was no way our schools could sustain that kind of hit.

The fact that we have Title I at all, let alone an increase this year over what was proposed, is a major achievement, and we can't lose sight of it.

Second, the political ingredients that went into this compromise law were also very new. Remember, the law was passed with an overwhelmingly bipartisan vote in both the House and the Senate. The problems as well as the pluses were bipartisan. Support for the re-testing of veteran teachers and the elimination of paraprofessionals in Title I, for instance, was just as likely to come from a liberal Democrat as from a conservative Republican. Vouchers and other forms of privatization were backed by so-called New Democrats, as well as conservative Republicans.

Brothers and sisters, in this alliance-shifting, hard-line, often toxic atmosphere, we can be proud of the constructive role the AFT played and the good we did. Together with our allies, we defeated vouchers in both the House and Senate.... We defeated the re-testing of veteran teachers. We prevented the elimination of paraprofessionals in Title I. We stopped major

[T]he majority of teacher training institutions don't offer the ... rigorous, liberal arts education that you need to teach an ambitious, knowledge-based curriculum. In fact, many pre-service programs argue that the academic dis-

ciplines should never be emphasized—the “teachers teach children, not content” philosophy. (That we can neither teach what we don't know nor teach ... without knowing how is something many of us discover the hard way.) In most school

systems, this is compounded by ... professional development that can be compared to a drive-by shooting: It's rare that the right target gets hit, and who knows when they'll be coming back.

—Core Knowledge Conference 1999



block grants, and [as a result] we kept funds targeted on the neediest kids. And, as I already mentioned, we substantially increased the funding for Title I this year over what was proposed, thanks to the leadership of Senator Kennedy.

But we couldn't do it all. As [former AFT President] Al Shanker used to say to us about the contracts he negotiated: "I could have written a better one myself, but I couldn't because there was another side across the table." And in the case of Title I, that immovable side was, as I said, comprised of traditional friends and foes alike.

So we have some pain to deal with.... [But it's] a case ... of not throwing out the baby with the bath water, of keeping before us our vision of what needs to be done and fighting intelligently—and fighting like hell—for it.

—AFT Convention 2002



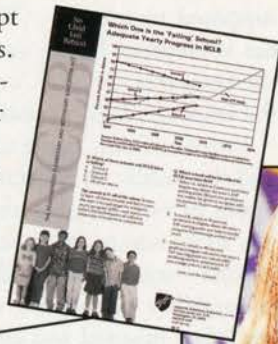
[T]hat brings me to AYP—adequate yearly progress ... the linchpin—land mine, really—of the standards, testing, and accountability provisions of the law.

How does AYP work? The law calls for 100 percent of students in general and in each of a number of subgroups—low-income, racial and ethnic minorities, special education, and English language learners—to reach a "proficient" level on tests of reading and math in grades 3-8 and at least one grade in high school....

This means that schools whose students are way behind from the start have to make far, far more annual progress—both on average and with each of their sub-groups—than schools already at or beyond the state's starting point. Indeed, the experts told us—and we and they tried to tell Congress—that this AYP formula is not only statistically stacked against diverse schools, it also calls on most high-poverty schools, with their well-documented lack of resources, to achieve a rate of academic progress that has never before been seen, not in our most advantaged schools and not even in so-called "world-class" school systems.

Moreover, despite the word "progress" in "adequate yearly progress," the formula doesn't really give credit for progress. A school may make a large amount of progress in a year—let's

*The union's greatest legislative challenge under Feldman was No Child Left Behind, which aimed to reduce the achievement gap, but often led to over-testing, narrowed curriculum, insufficient acknowledgement of schools' progress, and inadequate help for struggling students. Under Feldman, the union worked to bring these problems to public and congressional attention.*



say 6 points—but if the predetermined target is 7 points, tough luck; just like the school that made zero points, it'll be sanctioned, instead of praised.

Now, we led the way in turning around low-performing schools. AFT has always believed all children can learn and that the effects of poverty can be overcome with the right conditions and supports. I have always believed that no

child should have to go to a school we wouldn't want our own to attend. And we have worked hard to achieve that goal—and, folks, truth be told, we are making great progress.

But this AYP formula staggers the imagination and maybe even human capacity. Furthermore, this formula could put a large number of good schools on the "failing" list—which, since states are then required to help them, could result in even less money to help schools that are really in trouble.

Now, you can be absolutely sure that we are watching all of this very closely. And, again, we're doing this in the AFT way, protesting, yes, but at the same time gathering the necessary evidence to win the fight by exposing the indefensible.... Because ... accountability for that which is attainable is legitimate. But accountability for that which is humanly impossible, laudable as it may sound, is unacceptable.

—QuEST 2003

## Teaching Democracy

Democracy cannot be taken for granted. It must be taught; its values must be learned. Consider the following: Most of the youngsters in high schools today were just beginning school when the Berlin Wall—and all that it signified—came tumbling down....

This helps to remind us that those things which we adults take as current events—as if they had happened yesterday—are treated as ancient history by kids. The inspiring lessons about democracy that we learned from events such as the U.S. Civil Rights movement, or the birth of democracy in South Africa, will be lost unless they are taught.... Providing effective civic education is one of the key challenges to our society, since the

[M]any of our experienced teachers, too, need ongoing support in teaching phonology, phonetics, orthography, and other language skills.... I use those fancy words ... deliberately.... [T]hink of ... going before a

group of 25 or 30 wriggling, restless youngsters depending on you to unlock the mysteries of eye-to-brain coordination, of decoding and comprehension.... It is daunting. And it's as dumb and cruel to expect someone—even a

brilliant young AmeriCorps type—to go in and do that with at-risk kids without proper training, as it would be to think one of us could take out another's appendix.

—National Press Club, 1997



continued existence of any democracy is ultimately dependent on the knowledge, commitments, and actions of its citizens.

—*National Alliance for Civic Education, May 2000*



What do teachers and education have to offer in a war with the shadowy, well-funded network of terrorists who attack our country and its values? The answer: plenty. Education goes right to the heart of this conflict, which is a battle of ideas about values: Who governs? By what right do they claim power? Are there free elections? Are free speech, a free press, independent trade unions, and free enterprise protected? Are people free to worship—or not—as they wish? ...

The United States should support programs that promote the dissemination of books, tapes, pamphlets, and model curricula in schools and libraries and over the Internet... There are courageous people, many of them teachers, working in every sort of repressive situation around the world to promote and sustain democratic ideas. Where there are openings to help schools and promote the free flow of ideas, the U.S. and its partners—who know firsthand the value of the free exchange of ideas in teaching and learning—must act.

—*Where We Stand, March 2002*

## Education Work Is Union Work

Ultimately, at the heart of everything we do and have done is this fundamental question: What is best for the student, the child, the patient, or the ordinary citizen that we serve? In our schools, doing what is best for the child is ensuring that we have high academic standards; a good, solid curriculum; a safe building and an orderly environment; well-qualified and trained teachers, paraprofessionals and support staff; and adequate resources.

It also means that we have to identify and push for “what works” in our classrooms—solid, research-based solutions that lead to higher academic achievement. We are making progress. The AFT’s own analysis of state academic standards, “Making Standards Matter,” notes that, although much still needs to be done, higher standards, with better and more specific curricula, have been put in place throughout the states. There are more rigorous graduation and course requirements. We also have been critical of the practice of “social promotion” and equally critical of the lack of alternatives and supports for students who are failing and must be held back.

Through the work of the AFT’s task force on reading, we are also now advocating “what works” in the most fundamental skill on which everything else is built: reading.

—*1996-1998 AFT Officers’ Report*

I remember all of my teachers by name, and I’ll never forget how my second-grade teacher introduced me to reading and gave me books that I could keep.

—*The Reporter, Fall 1997*

I would like to be remembered for helping to move the [New York City] school system from a time when teachers had to punch time clocks toward a more professional environment ... for the development of collaboratively run

schools and leading the union into becoming an important player in the school reform movement.  
—*Crain’s New York Business*  
March 25-31, 1996



I know that it is not always comfortable for us to take on new roles. I know that many of these responsibilities are really “management’s problem.”

Well, sisters and brothers, if management in public education, in healthcare, in our colleges and universities, and in state and local services were dealing with their problems more effectively, we’d all be in better shape. But they are not. And the fact is, their problems have become our problems—the problem of whether or not we’ll have public education and public services, the problem of whether or not we’ll have a thriving middle class and the possibility of mobility into it. And these issues are so profound that we simply don’t have the option of turning our backs.

Besides, we know our members want us front and center on these issues. They want us to take on new responsibilities, to give them the help they need to do the job. They want us to take a leading role in improving public education, healthcare, and public services.

—*AFT Convention 1998*



On May 26, 2004, shortly before Sandra Feldman retired from the AFT presidency to fight her cancer, the United Federation of Teachers dedicated the new Sandra Feldman Education Conference Center. The Center will continue the professional development and school improvement work that Sandy advanced as president of the UFT—and later as president of the AFT. The following are from her remarks at the dedication:

I’m really grateful for this. I wouldn’t have loved anything more than to have [the new UFT] educational conference center in my name. And my fondest wish is that when the members pass through this center or its satellites, ... that they leave it with new knowledge of what to do for their students, and that it helps them ultimately with their kids, because that’s the bottom line.

\* \* \*

I see a lot of people right in this audience from across the country who, with the help of AFT ... [and the staff of the UFT Teachers Center] have begun to evolve [professional development] programs of their own... I think that almost every single AFT local in the country is involved in this work in one way or another. In the AFT, there is this belief, and it is deeply held, that this education work is union work. □





# How Spelling Supports Reading

## *And Why it Is More Regular and Predictable Than You May Think*

By Louisa C. Moats

**M**uch about spelling is puzzling. Our society expects that any educated person can spell, yet literate adults commonly characterize themselves as poor spellers and make spelling mistakes. Many children have trouble spelling, but we do not know how many, or in relation to what standard, because state accountability assessments seldom include a direct measure of spelling competence. Few state standards specify what, exactly, a student at each grade level should be able to spell, and most subsume spelling under broad topics such as written composition and language proficiency. State writing tests may not even score children on spelling accuracy, as they prefer to lump it in with other “mechanical” skills in the scoring rubrics.

Nevertheless, research has shown that learning to spell and learning to read rely on much of the same underlying knowledge—such as the relationships between letters and sounds—and, not surprisingly, that spelling instruction can be designed to help children better understand that key knowledge, resulting in better reading (Ehri, 2000). Catherine Snow et al. (2005, p. 86) summarize the real importance of spelling for reading as follows: “Spelling and reading build and rely on the same mental representation of a word. Knowing the spelling of a word makes the representation of it sturdy and accessible for fluent reading.” In fact, Ehri and Snowling (2004) found that the ability to read words “by sight” (i.e. automatically) rests on the ability to map letters and letter combinations to sounds. Because words are not very visually distinctive (for example, *car, can, cane*), it is impossible for children to memorize more than a few dozen words unless they have developed insights

---

*Louisa C. Moats is advisor on literacy research and professional development for Sopris West Educational Services. She developed Language Essentials for Teachers of Reading and Spelling, a professional development program for teachers, and Spellography, a spelling curriculum for children in grades 4 through 6. She has written several books and reports, including the AFT’s Teaching Reading Is Rocket Science and Speech to Print: Language Essentials for Teachers. This is her fourth article for American Educator.*

into how letters and sounds correspond. Learning to spell requires instruction and gradual integration of information about print, speech sounds, and meaning—these, in turn, support memory for whole words, which is used in both spelling and sight reading.

Research also bears out a strong relationship between spelling and writing: Writers who must think too hard about how to spell use up valuable cognitive resources needed for higher level aspects of composition (Singer and Bashir, 2004). Even more than reading, writing is a mental juggling act that depends on automatic deployment of basic skills such as handwriting, spelling, grammar, and punctuation so that the writer can keep track of such concerns as topic, organization, word choice, and audience needs. Poor spellers may restrict what they write to words they can spell, with inevitable loss of verbal power, or they may lose track of their thoughts when they get stuck trying to spell a word.

But what about spell check? Since the advent of word processing and spell checkers, some educators have argued that spelling instruction is unnecessary. It’s true that spell checkers work reasonably well for those of us who can spell reasonably well—but rudimentary spelling skills are insufficient to use a spell checker. Spell checkers do not catch all errors. Students who are very poor spellers do not produce the close approximations of target words necessary for the spell checker to suggest the right word. In fact, one study (Montgomery, Karlan, and Coutinho, 2001) reported that spell checkers usually catch just 30 to 80 percent of misspellings overall (partly because they miss errors like *here* vs. *hear*), and that spell checkers identified the target word from the misspellings of students with learning disabilities only 53 percent of the time.

Clearly, the research base for claiming that spelling is important for young children is solid: Learning to spell enhances children’s reading and writing. But what about middle-school students? Does continued spelling instruction offer any added benefits? Here the research is sparse indeed. Yet, the nature of the English language’s spelling/writing system provides reason to believe that there would be significant benefits to older stu-



remedy  
The root medicine has

it must  
have  
something  
to do with  
*healing*



medicinal



dents from allocating a small amount of time to continued, appropriate spelling instruction. In addition to continuing to learn the rules of spelling, students can develop a deep understanding of English by studying the meanings of roots, prefixes, and suffixes; families of related words; the historical development of the English language; and words' language of origin. It's very likely that this sort of word study (in addition to being intrinsically interesting to many students) would support vocabulary development and facilitate reading by enabling students to view any new word from the angles of sound, meaning, language of origin, and syntax. As a result, students would be more likely to be able to figure out the new word's meaning as well as how to spell it and how to use it with precision.

Those of us who can spell reasonably well take for granted the role that spelling plays in daily life. Filing alphabetically; looking up words in a phone book, dictionary, or thesaurus; recognizing the right choice from the possibilities presented by a spell checker; writing notes that others can read—and even playing parlor games—are all dependent on spelling. In a literate society, conventional spelling is expected and anything beyond a few small errors is equated with ignorance and incompetence. In fact, the National Commission on Writing for America's Families, Schools, and Colleges (2005) reported that 80 percent of the time an employment application is doomed if it is poorly written or poorly spelled.

Why does spelling appear on the one hand to be simple, something any reasonably intelligent person should be able to do, but on the other hand, cause so many students academic grief? How can spelling be taught so that it will support reading instruction as well as help students understand how the spelling system works and see the ways in which spelling is predictable? This article attempts to answer both of these questions by first exploring the nature of the English language's writing/spelling system and, second, by outlining the key content that students should master in kindergarten through seventh grade.

## I. Making Sense of the English Spelling System (It's Not as Irregular as You Think)

The spelling of words in English is more regular and pattern-based than commonly believed. According to Hanna, Hanna, Hodges, and Rudorf (1966), half of all English words can be spelled accurately on the basis of sound-symbol correspondences alone, meaning that the letters used to spell these words predictably represent their sound patterns (e.g., *back, clay, baby*). These patterns, though, are somewhat complex and must be learned (e.g., when to use "ck" as in *back* and when to use "k" as in *book*). Another 34 percent of English words

\*Typically, that error would occur in spelling a vowel sound; vowels have multiple alternative spelling and some are quite variable (e.g., these words all have a long *u* /ū/, sound: *use, few, beauty*).

†More current and sophisticated analyses of the sound-to-spelling system of English have shown that vowel spelling variation is much greater than consonant variation (Kessler and Treiman, 2001).

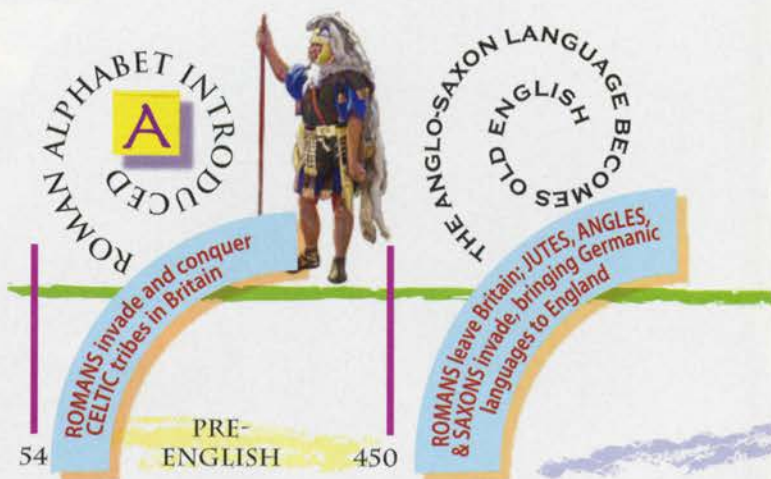
‡Of course, the reliance on Greek continues today in science, mathematics, and philosophy; recently coined terms include synthesizer and cryptogram.

would only have one error if they were spelled on the basis of sound-symbol correspondences alone.\* That means that the spelling of 84 percent of words is mostly predictable. Many more words could be spelled correctly if other information was taken into account, such as word meaning and word origin. The authors estimated that only four percent of English words were truly irregular.† Thus, the spelling of almost any word can be explained if one or more of the following five principles of English spelling is taken into account:

- 1) Words' language of origin and history of use can explain their spelling.
- 2) Words' meaning and part of speech can determine their spelling.
- 3) Speech sounds are spelled with single letters and/or combinations of up to four letters.
- 4) The spelling of a given sound can vary according to its position within a word.
- 5) The spellings of some sounds are governed by established conventions of letter sequences and patterns.

Each principle is explained in broad strokes and illustrated with one or more examples over the next several pages. Together, the first two principles explain why English words are so complex—and why that complexity is well worth the frustration it causes for beginning spellers (and readers). The last three principles reveal the order behind the seeming chaos; for the most part, these three result from well-meaning attempts to bring regularity to the English language.

As you read about these principles, keep in mind that this part of the article is designed to help teachers better understand the nature and structure of the English spelling system. This is essential background knowledge for teachers of reading, spelling, and writing. As Snow et al. (2005, p. 87) explained, the rules for spelling are very complex, "so it is not surprising that many highly literate adults who use those rules correctly [and automatically] find it difficult to talk about them or answer questions about them. Teachers who have been





taught about phonics ... have typically received information about ... [spelling] as lists of rules about letter sequence constraints. Such lists are unmotivated, unappealing, and difficult to learn. Lists without a logical framework or set of principles must be learned by rote rather than reason." By providing a logical framework, these five principles transform spelling from an arbitrary list of rules about how letters can and cannot be combined into a structured system. Section two of this article offers a way of breaking that system into key content for instruction in kindergarten through seventh grade.

## 1. Words' language of origin and history of use can explain their spelling.

One of the main reasons that English seems so irregular is that we have lots of different spellings for the same sound. For example, the /k/ sound can be spelled with several different letters and letter combinations, such as *k* (*king*), *c* (*cat*), *ck* (*back*), *qu* (*queen*), and *ch* (*chorus*). Why is this? Modern English has been influenced by several core languages, primarily Anglo-Saxon, Norman French (a dialect of Old French used in medieval Normandy), Latin, and Greek. Because each of these languages contributed its own conventions for spelling speech sounds, syllables, and meaningful units of speech, the spelling of a word is often related to, and even explained by, its history and language of origin (Balmuth, 1992; Bryson, 1990; Henry, 2003; King, 2000; Sacks, 2003).

As illustrated in the timeline below, the story of the English language begins roughly 1,600 years ago with the decline of the Roman Empire. At its height, the Roman Empire stretched from Britain to North Africa to the Persian Gulf, but barbarian attackers forced the Empire to split apart and withdraw from its outposts. After the Romans left Britain in 450 A.D., Germanic tribes known as Jutes, Angles, and Saxons invaded, pushing the Celtic inhabitants (who had lived under Roman rule for 400 years) to the west. As Celtic and Latin words, roots, and pronunciations were absorbed into the invaders' Low West German languages, Anglo-Saxon—or Old English—was born. The most common, frequent words of Modern English—like those

for animals, family members, numbers, common objects, emotions, and universal daily activities—are preserved from Anglo-Saxon. Some examples include *goat*, *wife*, *mother*, *one*, *house*, *love*, *cook*, and *walk*. Of the 100 words used most often in English, all can be traced to Anglo-Saxon origins.

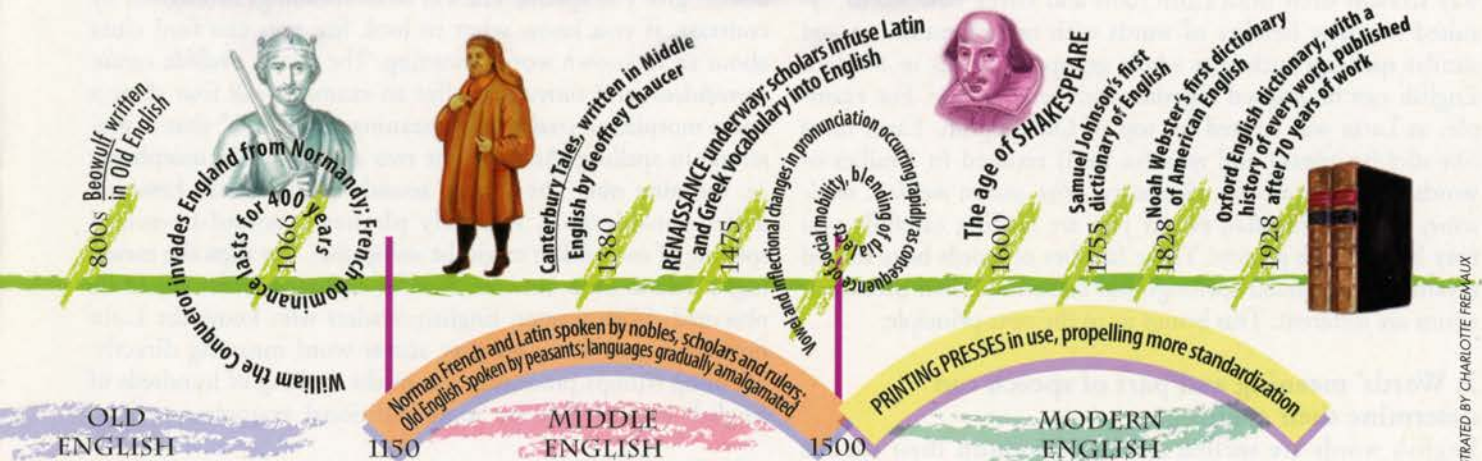
Famously in 1066, Britain was invaded by William the Conqueror from Normandy. As a result, the Norman French language was imposed on the British natives for almost 400 years. Norman French and Old English were gradually amalgamated, merging by the late 15th century into what is now known as Middle English. From Norman French we gained thousands of terms for legal concepts, social and moral ideals, and artistic values (such as *justice*, *peace*, *courageous*, *magnificent*, and *beauty*). Though the Normans spoke Norman French, their cultured class wrote in both their native tongue and Latin, languages that were closely related members of an Indo-European language family. Latin-based vocabulary became the language of scholarship, commerce, and official discourse (such as *solar*, *equine*, *residence*, *designate*, and *refer*).

During the Renaissance, which was a time of renewed interest in classical Roman and Greek culture and language, the growth of scientific disciplines created a need to name many discoveries. Scholars looked to Greek to coin new terms (such as *atmosphere*, *gravity*, and *chronology*).<sup>‡</sup> At the same time, as printed material became more common in the late 1500s, scholars trained in the classics brought even more Latin-based words (such as *malevolent*, *fortitude*, *maternal*, *stadium*, and *calculus*) into English.

What did all this merging, layering, and borrowing mean for English's spelling system? The short answer is that it became more complex: As explained below, the pronunciation of some of the oldest Anglo-Saxon words diverged from their spelling, and both Norman French and Greek contributed some new spellings.

Today, most of our regular sound-symbol correspondences come from the Anglo-Saxon layer of language (for example, almost all consonant spellings). Ironically, most of our irregular spellings come from Anglo-Saxon as well. Because the spelling

## TIMELINE OF THE ENGLISH LANGUAGE



ILLUSTRATED BY CHARLOTTE FREMAUX



of a word usually changes much more slowly than its pronunciation, some of our oldest and most common words (such as *said*, *does*, *friend*, and *enough*) have retained spellings that represent how they were pronounced eight or 10 centuries ago.

Norman French contributed additional sound-symbol correspondences, such as the soft *c* for /s/ as in *justice*, soft *g* for /j/ as in *courage*, *-ge* for /zh/ as in *garage*, *ou* as in *house* (which was *huse* in Old English), *qu* for /kw/ as in *queen* (which was *cwene* in Old English), *-que* for /k/ as in *boutique*, and *-ette* for /ɛt/ as in *baguette*. No new sound-symbol correspondences were contributed by Latin and only a few were adopted from Greek spelling patterns: *y* for /i/ as in *gym*, *ph* for /f/ as in *philosophy*, and *ch* for /k/ as in *chorus*.

During and after the Renaissance, however, English adopted words from many other languages—and their spellings were adopted as well (e.g., *barbecue*, *plaza*, *marijuana*, and *chocolate* from Spanish; *bayou*, *gauche*, *ballet*, and *levee* from French; *piano* and *cello* from Italian; *schmooze*, *schmaltz*, and *schlock* from Yiddish). For the most part, these adoptions added words to the English language, but unlike the earlier changes in which spelling patterns were adopted (e.g., from *cwene* to *queen*), they did not affect already established spelling patterns.

The many layers of the English language do make it harder to learn to spell, but they also provide a rich vocabulary: The English language has roughly double the number of words of seemingly comparable languages like German, Spanish, and French. As the lists below show, the layers of languages that merged to form modern English have left us with many words to express our ideas.

Anglo-Saxon	Norman French	Latin	Greek
Water		Aquifer, aquarium	Hydraulic, Hydroponic
	Change	Transform	Metamorphose
Sad	Morose	Depressed	Catatonic
Dead	Deceased	Moribund	

Fortunately, the way English evolved, and particularly the way scholars drew from Latin roots and Greek base words, resulted in many families of words with related meanings and similar spellings such that whole groups of words in Modern English can be learned together with relative ease. For example, as Latin was layered on top of Old English, Latin roots like *dict* (to speak) and *med* (to heal) resulted in families of words like these: *dictum*, *dictionary*, *edict*, *indict*; *medical*, *medicine*, *remedy*, *remedial*, etc. If you are reading carefully you may be about to protest: These families of words have related meanings and similar spellings, but sometimes their pronunciations are different. This brings us to the next principle.

## 2. Words' meaning and part of speech can determine their spelling.

English words are spelled according to both their sounds (phonemes, such as /b/) and their meaningful parts (morphemes, such as the root *dict*).\* In contrast, languages like

The many layers of the English language do make it harder to learn to spell, but they also provide a rich vocabulary.



Spanish and Finnish, for example, use single, consistent letters and letter combinations for sounds; they pretty much stick to the job of representing phonology. Once you know the sound-letter correspondences, you can read and write in Spanish or Finnish. That may sound great to a struggling speller, but it comes at a cost: If you encounter a new word, its spelling doesn't give you specific clues as to its meaning. In English, by contrast, if you know what to look for, you can find clues about an unknown word's meaning. The words *credible*, *credit*, *incredulous*, and *incredulity* offer an example—all four share a Latin morpheme *cred*, a root meaning "to believe" that is preserved in spelling. And the last two also share the morpheme *in*, meaning not. The spoken sounds of the words, however, differ considerably. A purely phonetic, sound-by-sound spelling of *incredulous* might be *inrejulous*, but then the meaningful relationship between *credible* and *incredulous* would be obscured. With written English, readers who know the Latin morphemes *in* and *cred* may access word meaning directly. Meaning trumps pronunciation in the spelling of hundreds of English words. Here are some additional examples: *anxious*,

\*This is why linguists describe English spelling as a morphophonological alphabetic system.



# Spelling Instruction: Key Content and Strategies for Kindergarten through Seventh Grade





As explained in the main article (see p. 22), this brief overview of spelling instruction identifies key content to be emphasized in each grade. It is not, however, exhaustive as to the content that should be introduced or reviewed in each grade.

## Kindergarten:

### Phoneme awareness, letter sounds, and letter names.

Phoneme awareness training helps children in the early stages of learning to spell (Tangel and Blachman, 1995; Uhry and Shepherd, 1993) and helps remediate the problems of poor spellers at any age (Carreker, 2005). A typical activity for developing this skill is direct teaching of all consonant and vowel sounds, which, as you recall from the main article, is different from teaching the letters (Lindamood and Lindamood, 1998; Moats and Rosow, 2002). Other activities include identifying speech sounds (What sound do *you* and *unicorn* start with?), finding examples of words with a given phoneme (Which word ends with /t/, *hummed* or *pitched*?), or reversing the sequence of sounds in a word such as *safe* (*face*). In a “sound workout,” children may strengthen their phonemic awareness by placing a chip into a box for each speech sound in a word, saying each sound as the chip is moved, or stretching out a finger for each sound that is articulated.

“sting”

			
/s/	/t/	/i/	/ng/

As they are learning the letter sounds, children also need to learn the letter names. In kindergarten, fluency with letter names and forms facilitates spelling and is an indicator that children are

likely to develop oral reading fluency. Letters should be taught directly and systematically. Older poor spellers should be asked to write the alphabet in order, accurately, and quickly. (Allen 2005, describes multi-sensory techniques and activities in detail for students in the primary grades.)

## Grade 1:

### Anglo-Saxon regular consonant and vowel phoneme-grapheme correspondences.

Spelling by explicit phoneme-grapheme mapping (Berninger et al., 1998; Ehri, 1998; Grace, in press; Moats, 2004) requires the learner to match the letters/letter combinations in a word to the speech sounds they represent. One approach is to use a simple grid; each box of the grid represents a phoneme. As these examples show, the teacher selects a word and gives children an empty grid with a box for each phoneme. The teacher says the word, then the students repeat it, segment the sounds, and write a grapheme in each box.

*Straight:* In this example, the long a (/ā/) is spelled with the four-letter grapheme, *aigh*.

s	t	r	aigh	t
---	---	---	------	---

*Crash:* In this example, the *cr* combination stands for two phonemes; the *sh* is a digraph (meaning it represents one phoneme).

c	r	a	sh
---	---	---	----

Because it helps fix phoneme-grapheme correspondences in children’s minds, this technique supports children’s spelling, reading, and writing develop-

ment. It should be taught in first grade, but it is also especially helpful with second- and third-grade students who missed the fundamentals in the earlier grades.

## Grades 1-3:

### Irregular Anglo-Saxon words.

Because they are often very old words from Anglo-Saxon whose pronunciation—but not spelling—has changed, high frequency words are more often irregular than lower frequency words with a Latin or other romance-language base (e.g., French). Although instruction in irregular words needs to start early so that children don’t memorize the wrong spelling, it should not supersede instruction in the common phoneme-grapheme correspondences. Irregular words are learned most easily by students who already know common phoneme-grapheme correspondences and who can explicitly analyze the speech-to-print mapping system. This is because irregular words have some regular correspondences, and also because a good speller makes mental comparisons between what a spelling ought to be and what it is. Awareness of phoneme-grapheme correspondences, regular and irregular, is the “glue that holds the word in memory” (Ehri, 2004, p. 155).

Some suggested methods for teaching irregular words include: a) grouping words with some memorable similarity (e.g., the irregular spelling of *two* may be more memorable if it is grouped with the regular words *twin*, *twice*, and *twenty*; similarly, the irregular words *there* and *where* may be easier to remember if they are learned with the regular word *here*; lastly, some irregular words can be paired on the basis of spelling, pronunciation, and a more indirect connection, as in *their* and *heir*, both referring to posses-



sion); b) calling attention to the odd part of the word that must be learned by heart (*friend*; *does*); c) using a multisensory memory strategy (Carreker, 2005) that gives the students many ways to repeatedly practice spelling the word (such as copying the word while saying the letters, discussing what is odd about the word, and covering the word and then spelling it aloud); d) using mnemonics (there is *a rat* in *separate*; the *principal* is my *pal*); and e) asking the learner to pay very close attention to the letter sequence by visualizing it and recalling it backwards as well as forwards.

I suggest introducing irregular words at the rate of about three to five per week, beginning with words the children write most often (Moats, 2003) and also tend to misspell. If a child learns a basic high frequency word the wrong way, unlearning it once a habit has been formed is more difficult than learning it the right way the first time. Spellings for words such as *they*, *went*, *who*, and *said* should not be “invented” or they will be misspelled *ad infinitum*. If students are very poor spellers, concentrate instruction on words they are most likely to write (Graham, Harris, and Loynachan, 1994).

## Grade 2:

### More complex Anglo-Saxon spelling (spelling according to the position of a sound in a word, letter patterns/conventions, and most common inflectional endings).

Guided discovery with word sorting and teacher questioning is a powerful approach for helping students understand spellings that depend on the position of a sound in a word (Bear, Invernizzi, Templeton, and Johnston, 2000) or established conventions (like *-ve*). For example, the *-ge* and *-dge* pattern for the phoneme /j/ lends itself to word sorting and guided discovery. Instead of telling students the pattern (i.e., when a single syllable word ends in /j/, spell it *-dge* right after a short vowel, and *-ge* right after a long vowel or other consonant), ask them to sort a list of words by the

spellings for /j/ and help them figure out what is going on. Once they see the pattern, they should be ready to learn the rule.

Inflections (*-ed*, *-s*, *-es*, *-ing*, *-er*, *-est*, which are also called grammatical suffixes) are morphemes that change the number, person, or tense of the word to which they are added, but they do not change its part of speech. The spelling errors in fourth- to sixth-grade students' writings frequently concern inflections, especially *-ed* and plural *-s* and *-es* (Apel et al., 2004; Bryant et al., 1997; Moats, 1996). Although inflections are emphasized (and should be mastered) in third grade, they should be introduced in first grade and practiced for several years thereafter. I'll use the suffix *-ed* to explain one teaching strategy. Begin by making students aware of the sounds the *-ed* suffix makes: /d/ as in *banged*; /t/ as in *snacked*; and /ɪd/ as in *lifted*. Next, sort words according to the sound of the past tense ending and explain that only one of the endings (the *-ed* on *lifted*) makes a new syllable. The *-ed* spelling looks as if it spells a whole syllable, but most of the time it does not; thus, those endings are easy to ignore or to misspell. Then, the rules for adding endings must be tackled. There are three major rules in English for adding suffixes to base words: the doubling rule (*hopped*), the drop *-e* rule (*hoped*), and the change *y* to *i* rule (*studied*). These rules should be introduced one at a time, beginning in second grade, and practiced for several years until they are internalized. To teach them, start by decomposing familiar words with inflections by taking off the ending and finding the base word: *hoping* = *hope* + *ing*; *studious* = *study* + *ous*; *committed* = *commit* + *ed*. Then start combining base words and endings.

## Grade 3:

### Multisyllable words, including Anglo-Saxon syllabication, compounds, schwa, and most common prefixes and suffixes.

Although children should begin practicing breaking words into syllables in first

grade, by third grade they should be ready to master syllabication. Children's spelling should be greatly improved if they learn the six basic syllable types and how they affect spelling. For example, once children learn about the open,\* closed, and consonant *-le* syllable types, they can reliably predict when they should double consonants in words that end with a consonant *-le* syllable. When an open syllable is combined with a consonant *-le* syllable—as in *cable*, *bugle*, and *title*—there is no doubled consonant. In contrast, when a closed syllable is combined with a consonant *-le* syllable—as in *dabble*, *topple*, and *little*—a double consonant results.

To teach how to spell multisyllable words, consider beginning with compounds (*catfish*, *hotdog*, *playground*, and *yellowtail*). Compounds offer two big advantages: Children more easily detect their syllables, and the spelling of each base word stays the same.

Multisyllable words bring up the unavoidable problem of schwa (/ə/), the unaccented vowel sound that has been emptied of its identity and can be described as a lazy vowel. Teach children that some vowel sounds have the stuffing taken out of them when they are unaccented. After students spell a word such as *prob-lem*, *a-dept*, or *com-mit*, they can say the word naturally and mark the syllable that has a schwa. Instruction about schwa helps students understand why some words do not sound the way they are spelled—and reminds teachers not to rely exclusively on “spell it by sounding it out” because that strategy is limited with multisyllable words.

Having already learned the common inflectional endings, students should be ready to move on to other common Anglo-Saxon and Latin suffixes (such as *-en*, *-ly*, *-y*, *-ful*, *-less*, and *-ness*) as well as common Anglo-Saxon and Latin prefixes (such as *pre-*, *sub-*, *re-*, *mis-*, and *un-*). Children need to learn to recog-

\* Open syllables end with a long vowel sound that is spelled with a single vowel letter (as in *program*); closed syllables have a short vowel and end with a consonant (as in *hostel*).



### Spelling Concept: Super-Duper Construction

**Zone** We have learned that Anglo-Saxon words are built by compounding. Sometimes, Latin and Anglo-Saxon word parts get combined into compounds.

One of this week's spelling words—**superb**—comes from the Latin prefix **super-**, which means "over, above, in addition, or on top." The **h** in **superb** comes from the Latin **bus**, meaning "to be." **Superb** means "to be super"! Superb! (Note that the word is NOT **supper**.)



Because the word/prefix **super-** means "over, above, in addition, or on top," it is similar to a group of words that are called **prepositions**. A **position** is a place, and the prefix **pre-** means "before." So, a **pre-position** is a word *placed before* something. Prepositions tell us *where* stuff is. **Over, under, by, to, and in** are all prepositions. There are a zillion Anglo-Saxon compound words built using prepositions (like **overdue**). Even though the prefix **super-** comes from the Latin language stream, there are also a zillion compound words built with **super-**. Are you a supersmart, supercool, supersweet superperson?

**Use a dictionary** to find compound words that use the prepositions **over** and **under**, and the prefix **super-**. See how many words you can list in ten minutes.

**Example answers:**

<b>over</b>	<b>under</b>	<b>super-</b>
<u>overcast</u>	<u>understand</u>	<u>superstition</u>
<u>overdue</u>	<u>underdone</u>	<u>superhuman</u>
<u>overgrown</u>	<u>underline</u>	<u>superhighway</u>
<u>overlook</u>	<u>undertake</u>	<u>supernatural</u>
<u>overcome</u>	<u>undercut</u>	<u>superstar</u>
<u>overthrow</u>	<u>undertow</u>	<u>superfine</u>
<u>overwhelm</u>	<u>underhand</u>	<u>supercharged</u>
<u>overtake</u>	<u>underdog</u>	<u>supervision</u>
<u>overlap</u>	<u>underestimate</u>	<u>superficial</u>
<u>overboard</u>	<u>underbrush</u>	<u>supersede</u>

56

Spellography • A Student Road Map to Better Spelling

*This exercise comes from Spellography, a program Louisa Moats developed with Bruce Rosow. Spellography teaches spelling explicitly and systematically, with concepts building on each other as children progress through the lessons. Spellography was designed for fourth- and fifth-graders, but it can also be used with older students in need of remediation. In addition to student workbooks, teacher resource and answer guides are also available. For more information, go to [www.sopriswest.com](http://www.sopriswest.com).*

nize these prefixes and suffixes as stable and meaningful word parts and they should begin learning their meanings.

#### Grade 4: Latin-based prefixes, suffixes, and roots.

Direct teaching about the meaningful parts of words begins with the most common inflections, but then extends to prefixes, suffixes, and roots of Latin origin (Henry, 2003). Prefixes and suf-

fixes have stable spellings and meanings. Suffixes such as *-ly, -al, -ment, -less, -ness, -ful, -ous* also signify the part of speech of the word to which they are added. Roots such as *nat* (to be born) can be studied through families of words, such as *natal, native, nation, national, multinational, international, nationalistic*, etc. This is especially helpful in grades four through eight to help students develop a larger vocabulary. A sample exercise on the prefix *super-* and

the prepositions *over* and *under* appears on the left. Although the relationship between the meaningful parts of a word and the present-day meaning of a word range from transparent, as in *antebellum* (with *ante* meaning *before* and *bellum* meaning *war*), to obscure, as in *apartment* (with *a* meaning *to* or *toward* and *part* meaning *to share* or *part*), the stability of morpheme spellings assists with recall and recognition.

#### Grades 5-6:

##### More complex Latin-based forms.

Content words (nouns, adjectives, adverbs, and verbs) in academic text are commonly of Latin origin and composed of prefixes, roots, and/or suffixes. Their study is productive for reading comprehension, spelling, and vocabulary development (Carlisle and Stone, 2005). However, more complex words or word parts derived from Latin often change either the pronunciation or spelling of the prefix and/or root. For example, *collaborate* is related to the root *labor* (to work). The prefix *col* is a changed form of *com* (*with*), designed to blend easily into the root. Many other "chameleon" prefixes operate this way. It's best to organize word study around a common root once prefixes and suffixes are recognized (Henry, 2003; Templeton et al., 1992).

#### Grades 6-7:

##### Greek combining forms.

Since the Renaissance, scholars have drawn from the Greek language to name scientific concepts and discoveries. As a result, middle school (and older) students will encounter hundreds of words derived from Greek in math, science, and philosophy texts. Greek word parts work more like compounds than roots. They can be combined more flexibly, as follows: *thermodynamics* and *isotherm*; *psychobiology* and *neuropsychology*; *telephone* and *phonogram*. Their spellings are very consistent, and often use the correspondences *ch* for /k/, *y* for /i/ or /i/, and *ph* for /f/.

—L.M.



*anxiety, define, definition; heal, health; wild, wilderness; and rite, ritual.* The spelling of the morphemes is constant, but the pronunciation of the morphemes varies.

We've dealt with the two big sources of complexity in English spelling: the layering of various languages as English evolved and the emphasis on meaning instead of sounds. Now it's time to run through the three principles that make English spelling more predictable than you may think it is. These principles provide a framework for understanding those seemingly endless lists of rules that have given English spelling its bad reputation. We'll start with the most straightforward principle and then build up to some odd—but regular—spellings, such as beginning and ending /j/ sounds in *judge*.

### 3. Speech sounds are spelled with single letters and/or combinations of up to four letters.

These sound-symbol relationships are known to linguists as phoneme-grapheme correspondences. A phoneme is the smallest speech sound that distinguishes words. The words *beet, bit, bate, bet, bat, bite, but, bought, boat, boot, and bout* are all distinguished from one another by one phoneme—the vowel sound. A grapheme is a letter or letter combination that spells a phoneme. Graphemes may be composed of one to four letters, as in the following spellings for the /ā/ phoneme: *cradle, maybe, feign, and weigh*. Although many phonics programs and assessments speak of “letter-sound” correspondences, the mapping system between sounds and symbols in English is more accurately conceptualized the other way around—as a map between phonemes (sounds) and graphemes (the letters that spell those sounds).<sup>§</sup> In English, we have just 26 letters to work with—but we have about 40 phonemes (sounds) and more than 250 graphemes (ways to spell those sounds). The lists below provide some examples of the variety of graphemes that can be used to spell a single sound.

#### Examples of Graphemes

Speech Sound	Examples	Graphemes
/m/	mitt, comb, hymn	m, mb, mn
/t/	tickle, mitt, sipped	t, tt, ed
/n/	nice, knight, gnat	n, kn, gn
/aw/	saw, pause, call, bought	aw, au, a, ough
/ū/	moo, tube, blue, chew, suit, soup	oo, u_e, ue, ew, ui, ou

The idea of learning 250 graphemes may seem overwhelming at first, but spreading instruction across several grades makes the task manageable for teachers and students. Most can be learned through direct instruction and practice; some are learned more opportunistically, such as the various spellings for the vowel sound /ū/: *ue, ui, ew, u, oo*.

Since the speech sounds in English can be spelled so many ways, how do we know when to use a particular spelling? For those of us who cannot just “absorb” the right spelling as we read, some memorization of spelling rules is helpful, but

mainly we need to practice recognizing and writing groups of words that share a given pattern. “Rules” are often predictable letter sequences that can be learned with a combination of pattern study and memorization. The next two principles provide a framework that makes the patterns a little easier to learn.

### 4. The spelling of a given sound can vary according to its position within a word.

Making sense of when to use which grapheme relies in part on the position of the sound in the word. Scribes and dictionary writers invented some of these conventions as our language absorbed new letters, sounds, and words from other languages. As an example, let's focus on the three graphemes most commonly used to spell the phoneme /k/: *c (cast), k (kitty), and -ck (rock)*.<sup>\*\*</sup> The letter *c* represents /k/ most of the time: It is used in consonant blends (as in *clam, craft, and scroll*) and is usually used before the vowel letters *a, o, and u* (as in *catch, corncob, and cup*). The letter *k* can represent /k/ before any vowel, but it is almost always used before *e, i, and y* (as in *ketchup, kid, and kyack*); in these cases, the letter *k* is taking over for *c* because when *c* is followed by *e, i, or y*, it has its soft sound /s/ (as in *cent, city, and cycle*). The letters *ck* represent /k/ after a stressed short vowel (as in *nickel*) and at the end of one-syllable words (as in *back, rock, neck, and stuck*).

Not all consonant or vowel spellings are that complex, but the choice of grapheme for a given speech sound is often determined by the speech sound that precedes or follows it. Here's a less complicated example: When the sounds /f/, /l/, or /s/ directly follow a short vowel in one-syllable words, a doubled *f, l, or s* is used to spell the sound (as in *staff, will, and grass*). Even vowel spellings, which can seem terribly complicated because they tend to have many graphemes for their short and long sounds, often become more predictable when the position of the vowel sound is considered. For example, /ou/ can be spelled with *ou* or *ow*—it's just a matter of where the /ou/ sound appears. If it is at the beginning of a word, use *ou* (as in *out*). If it is in the middle of a word or syllable, *ou* is usually correct (as in *mouse and house*)—except when /ou/ is followed by only a single *n* or *l* (as in *brown and houl*). Lastly, if the /ou/ sound is that the end of a word or syllable, use *ow* (as in *cow*).

### 5. The spellings of some sounds are governed by established conventions of letter sequences and patterns.

When dictionaries were first written and disseminated, rules for spelling had to be standardized. Scholars like Samuel Johnson and Noah Webster worked to accommodate the norms of the day and give the language more regularity.

To illustrate this principle, we'll examine the spellings for /v/ and /j/. It was not until the 1800s that the letters *j* and *v* were fully welcomed into the English alphabet (Sacks, 2003).

<sup>§</sup>For more detail on the speech-to-print system, see Moats, 2000 or Moats, 2004.

<sup>\*\*</sup>All of these spellings (plus *-c* as in *tonic*) come from the Anglo-Saxon layer of the English language. Three additional spelling for /k/ were adopted as English evolved over the past thousand years: *-que (antique)* and *qu (quit)* from Norman French and *ch (chorus)* from Greek.



Since the speech sounds in English can be spelled so many ways, how do we know when to use a particular spelling?



By then, scribes and writers of dictionaries had determined that English words would not end with those letters because they were easy to visually confuse with *i* and *u*, respectively, the letters from which each was derived. Though it seems odd to us today, that is why the spelling *-ve* is always used when the phoneme /v/ ends an English word; the combination prevents a word from ending in plain *v*. Thus, words with short vowels ending in /v/ (*have, give, glove*) are “regular” from the standpoint of spelling conventions. Likewise, because *j* is not an option at the ends of words, the speech sound /j/ may be spelled with either *-ge* or *-dge*. English uses *-dge* right after an accented short vowel. Why? Because if it were not for the extra consonant protection of *d*, the letter *e* could reach back over the single consonant *g* and make the vowel say its long vowel sound (*badge, nudge* vs. *wage, huge*).

Here’s another example of a spelling convention: The letter *u* is a marker for the hard /g/ sound in words like *guest* and *guide*. To see why it is necessary, you’ll need to know one more example of the previous principle (that the spelling of a sound can be affected by its position in a word). Like the letter *c*,

when *g* is followed by *e*, *i*, or *y*, it has its soft sound (/j/ as in *gem, gist, and gym*). So, in the case of *guest* and *guide*, the letter *u* intervenes between the *g* and the *e* or *i*, requiring the *g* to have its hard /g/ sound.

Conventions like these were developed to help people pronounce words correctly. Consider the differences in pronunciation between these words: *hopping* vs. *hoping*, *hotter* vs. *hotel*, *bubble* vs. *bible*, and *comment* vs. *moment* (Snow et al., 2005). In each pair, the first word has a short vowel sound that is “protected” from being a long vowel sound by the double consonant.

Together, these five principles explain how English can be rich and varied, yet contain words spelled in regular and predictable ways. Virtually every word’s spelling can be explained by its language of origin, meaning, and/or sound structure. But, as we’ve seen with the many ways to spell /k/ and /j/, it’s not as if words are simply predictable or not: The predictability of English words exists on a continuum. Only a few phoneme-grapheme correspondences work all of the time (regardless of sound sequence), such as in *that, must,* and *pan*. Most of the correspondences are predictable, but are determined by the position of a phoneme in a word and/or a variety of spelling conventions. Yet other correspondences visually represent the meaningful parts of and relationships between words, often at the expense of phoneme-grapheme correspondences. Odd and truly unpredictable spellings, such as *of, aunt,* and *does*, are only a small percentage of words in English. But because they are often very common words (coming from Anglo-Saxon), they are used frequently and, as a result, probably contribute to the widespread myth that English is terribly irregular.

## II. Spelling Instruction

Five years ago, the National Reading Panel (NRP, 2000) omitted spelling (and writing) from its list of five essential components of a comprehensive reading lesson (which were phonological awareness, phonics, fluency, vocabulary, and comprehension). At the time, the best evidence on spelling indicated that phonological awareness instruction (which covers all levels of the speech sound system, including word boundaries, phonemes, syllables, etc.) improves spelling in first-graders, and that phonics instruction (which is more narrowly focused on the relationship between letters and the sounds) has a positive effect on spelling achievement in the primary grades. As a result, the NRP implied that spelling would develop in response to appropriate reading instruction.

Evidence from a scientific study of literacy published earlier this year, however, challenges at least part of the NRP’s assumption: A group of researchers in Houston who followed children from first through fourth grade found that spelling achievement can plummet while reading comprehension holds steady at about the 50th percentile. Mehta et al. (2005) conducted a longitudinal, large-scale study of literacy achievement with 1,342 students in 127 classrooms in 17 high-poverty schools in two urban environments. The study’s goal was to determine the extent to which five indicators of literacy—



word reading accuracy, passage comprehension, spelling, writing, and phonological awareness—were related to or independent of one another in children in grades one through four, and to show how those interrelationships might change at each grade level. With regard to spelling and reading, they found that better spellers tended to be better readers (and vice versa), but that, on average, the children tended to be much better at reading comprehension than at spelling. While the children's passage comprehension scores fluctuated a bit from first to fourth grade, they remained close to average (the 50th percentile). Their spelling scores, however, dropped dramatically (see the table below). Children were learning to read at an average level, but their spelling achievement consistently decreased, dropping significantly below the national average by third grade and continuing to decline in fourth grade.

	Passage Comprehension		Spelling	
	Standard Score	Percentile	Standard Score	Percentile
Grade 1	98.47	47th	102.52	58th
Grade 2	102.65	58th	98.72	47th
Grade 3	99.70	49th	91.31	29th
Grade 4	97.61	45th	87.84	20th

Clearly, we should not assume that progress in reading will necessarily result in progress in spelling. So, how then should spelling be taught? Given English's complexity, teachers cannot hope to cover all of the rules of spelling. Instead, they should focus on teaching the ways in which English spelling is regular and predictable, as well as helping students memorize the most common irregular words. Even with young children, such instruction need not focus just on rules: Spelling can be approached as an exploration of language and then applied in various writing exercises. The less easily a child intuits the structure of words, the more vital is direct, systematic, long-term instruction in how our writing system works (Bailet, 2004). But all children, even those who are predisposed to be good spellers (Pennington et al., 1986), have much to learn about the history, structure, and representation of their own language that will pay off in many other verbal domains.

Research that directly compares or validates specific instructional methods is minimal (Apel et al., 2004; Bailet, 2004). But we do have some solid footing to draw on; research has identified the linguistic proficiencies that are essential to spelling and the developmental phases that children typically progress through as they learn to spell (Ehri, 2004; Moats, 1995; Templeton and Bear, 1992; Treiman and Bourassa, 2000). Drawing on this research, as well as the studies summarized in the introduction about the relationships between spelling, reading, and writing, I've worked with colleagues Bruce Rosow and Ellen Javernick to develop a comprehensive approach to spelling instruction for kindergarten through seventh grade that is designed to complement reading instruction. As Marcia Henry (1997) suggested, every layer of language or-

ganization merits attention in the elementary and middle school curriculum. A coherent progression for reading and spelling begins with phoneme awareness training and concludes with the study of Greek combining forms (i.e., the morphemes used in compound words) that are so prevalent in math and science vocabulary (e.g., *neuro*, *psych*, *ology*, and *chloro*). Phoneme awareness training is an obvious place to start, but what may not be so obvious is the importance of introducing young children to higher level content, such as some vowel teams, syllable types, and inflections (i.e., the suffixes, like *-s* and *-ing*, that alter words' number, person, or tense). For example, first-graders should be introduced to the vowel-consonant-*e* syllable type since it appears in so many words they are learning to read and write, but those children may not master this syllable type until second or even third grade. Likewise, older children who are behind in spelling and/or reading may need to return to some lower level content they have not yet mastered. The following list provides the main content that I believe should be emphasized in each grade, but it does not list the years in which content should be introduced or the years in which some content may need to be reviewed. As a general rule, many spelling concepts are introduced early and then are studied in greater depth in later grades.

- Kindergarten: Phoneme awareness, letter names, and letter sounds
- Grade 1: Anglo-Saxon regular consonant and vowel phoneme-grapheme correspondences
- Grades 1-3: Irregular Anglo-Saxon words
- Grade 2: More complex Anglo-Saxon spelling (spelling according to the position of a sound in a word, letter patterns/conventions, and most common inflectional endings)
- Grade 3: Multisyllable words, including Anglo-Saxon syllabication, compounds, schwa, and most common prefixes and suffixes
- Grade 4: Latin-based prefixes, suffixes, and roots
- Grades 5-6: More complex Latin-based forms
- Grades 6-7: Greek combining forms

A complete discussion of what needs to be covered in each grade would be much too long for this article, but brief explanations of these topics and some teaching suggestions are presented in the box on page 17. As a general guide for covering the proposed content, about 15-20 minutes daily or 30 minutes three times per week should be allocated to spelling instruction. Application in writing should be varied but continual. While invented spelling helps young children learn more about phoneme-grapheme correspondences and frees them to focus on the ideas they want to write down, students should be expected to correct errors on words they have already studied, whether they do this through reference to a list, word wall, dictionary, or proofreading partner.

*(Continued on page 42)*



# HOW WE LEARN

## ASK THE COGNITIVE SCIENTIST



ILLUSTRATED BY GUY SCHUM

# How Praise Can Motivate—or Stifle

*How does the mind work—and especially how does it learn? Teachers' instructional decisions are based on a mix of theories learned in teacher education, trial and error, craft knowledge, and gut instinct. Such gut knowledge often serves us well, but is there anything sturdier to rely on?*

*Cognitive science is an interdisciplinary field of researchers from psychology, neuroscience, linguistics, philosophy, computer science, and anthropology who seek to understand the mind. In this regular American Educator column, we consider findings from this field that are strong and clear enough to merit classroom application.*

By Daniel T. Willingham

**Question: I keep hearing conflicting things about praise. Some say that too much praise can decrease students' motivation, but others say praise boosts self-esteem and, therefore, you can never praise too much. Should I praise my students? How much? For what? Are there times when I should avoid praising students?**

Praise is such a natural part of human interaction in our culture that it would be difficult indeed to stop praise altogether. Fortunately, existing research indicates that praise *can* motivate and guide children—but despite the fact that praise seems so

*Daniel T. Willingham is professor of cognitive psychology at the University of Virginia and author of Cognition: The Thinking Animal. His research focuses on the role of consciousness in learning. Readers can pose specific questions to "Ask the Cognitive Scientist," American Educator, 555 New Jersey Ave. N.W., Washington, D.C. 20001 or to [amerred@aft.org](mailto:amerred@aft.org). Future columns will try to address readers' questions.*

benign, there are circumstances under which praise is not beneficial. A rule of thumb that can summarize this complex research literature is that if you try to use praise for your own ends or even in a conscious attempt to help the student, it is likely to go wrong. If, on the other hand, praise is an honest expression meant to congratulate the student, it will likely be at least neutral or even helpful to the student; even under these circumstances, however, care must be taken in what is praised.

\* \* \*

How often and for what do you praise students? Most teachers that I have observed use praise liberally: They praise students for academic success, of course, but also for desired behaviors like quieting down when asked or putting materials away neatly. On occasion, I've observed students praised for relatively trivial "achievements"—I once saw a fourth-grader being told he did "a great job!" of passing out papers. When I asked the teacher about it later, she laughed and said that she was unaware of having said it.

It would be easy to assume that praise would be at least neutral and possibly helpful to students; it might raise self-esteem or motivation. But articles periodically appear that warn teachers of potentially dire effects of praise; praise is alleged to reduce motivation, to manipulate children, or to make them less able to make decisions (Kohn, 2001; Mangin, 1998). So, does praise help or harm? Most of the research examining praise has focused on how it affects student motivation. In a typical study, the child first performs a task, then receives some praise (or not). Either immediately thereafter or perhaps following a delay, some measure is taken of how interesting the children found the task or how motivated the children are to perform it again. For example, in one study (Koestner, Zuckerman and Koestner, 1989) the experimenters explained to fifth-graders



that the illustrator Al Hirschfeld hid his daughter's name, Nina, in his drawings. They were then shown several of his illustrations with the task of finding as many "Ninas" as they could. Next, children were given one of several types of praise about their performance. Then the experimenter said that he had to leave the room for a couple of minutes and the children could either look for "Ninas" in new drawings, or read cartoon books (*Garfield* and *The Far Side*). One measure of task motivation was whether children chose to continue working on the puzzles in the experimenter's absence. After two minutes, a different experimenter asked the students to rate, on a scale of 1-4, how interesting they found the puzzle task, how fun it was, and how well they thought they had performed. These ratings provided another measure of motivation, with the assumption that tasks that children report as interesting are also ones that they would be motivated to perform.

Many studies on praise fit the general framework described above. Some indicate that praise increases motivation, whereas others indicate a decrease (Anderson et al., 1976; Birch et al., 1984; Harackiewicz, 1979; Swann and Pittman, 1977; Weiner, 1992). But the bulk of the studies do not actually contradict each other. Collectively, they show that whether or not praise is beneficial depends on when and how it is used. Praise is a complex phenomenon, but a relatively clear picture has emerged that provides guidelines as to when and why praise will—and will not—be beneficial.

### **Praise Should Be Sincere**

When praise positively affects motivation, it appears to do so because it changes the student's self-concept. For example, if someone that the student respects (e.g., a teacher) praises the student for the ability to stick with a task even if it's difficult, the student may well incorporate that attribute into his self image: "I am the type of kid who keeps working even if a project is hard." That self-concept may, in turn, influence the child's behavior. If the praise does not change the child's self-concept, not only will the behavior not improve, it may get worse.

One key to effective praise appears to be sincerity. To motivate students—especially older students who are more discerning and better able to appreciate the differences between what is said and what is meant—teachers need to avoid praise that is not truthful, is designed to control behavior, or has not been earned. Each of these is briefly explained below.

### **Dishonest Praise**

Most researchers take it as self-evident that the praise will not have much impact if the student perceives that it is not truthful—the student will simply dismiss it (Henderlong and Lepper, 2002). There has not been extensive research on when students perceive praise to be insincere, but it has been suggested (e.g., O'Leary and O'Leary, 1977) that very global, effusive praise ("You are the smartest boy ever!") carries a higher risk of disbelief than specific praise ("You did very well on that set of problems"). There also may be times that the praise may be demonstrably untrue to the student, such as praising a student for her hard work when she knows quite well that she didn't work hard.

### **Controlling Praise**

Praise may also be insincere if the purpose is not to congratulate the student, but rather to control him. As it sounds, "control" in this case means that the praise includes language meant to direct what the student does. Several studies have compared the effect of controlling praise (usually including a direction of something the student should do, such as, "Good job on your journal entry; you should write that legibly every day") to similar praise without the controlling phrase (such as, "Good job on your journal entry; it was very legible"). Results typically show that that praise increases later motivation to engage in the praised task, but controlling praise reverses the effect (Deci, Koestner, and Ryan, 1989).

For example, in one study, Audrey Kast and Kathleen Connor (1988) had third-, fifth-, and eighth-graders complete some word-search puzzles. (Previous work had shown that children in these age groups enjoyed these puzzles.) Three days later, the puzzles were returned with feedback written on them. Some children were given praise feedback: "Good. You did very well on this game. You were right on almost all the puzzles." Other children received praise-with-control feedback: "Good. Keep it up. I would like you to do even better on the next game." A third group received no feedback. All children then completed a brief questionnaire meant to measure how interesting they found the puzzles. The results showed that children in each grade receiving praise-with-control reported that they found the puzzles less interesting than children receiving praise or children receiving no feedback. The praise feedback led to slightly higher scores than no feedback, but in this study the difference was not statistically significant.

Why does the controlling element undercut the praise? Think back to the explanation of why praise works in the first place—it makes the student think, "I'm the kind of kid who enjoys puzzles and does them well." When "keep it up" is added, the student is less likely to make that attribution to himself or herself. The student is more likely to think, "I'm doing these puzzles because the teacher wants me to, not because I enjoy them."

### **Unearned Praise**

Praise may also go wrong if the teacher tries too hard to boost the student's motivation or self-esteem. Suppose you have a student who seldom succeeds; he doesn't seem to try hard, he often doesn't complete his work, and he clearly lacks confidence. The student turns in a project and you can see at a glance that, although the project completes the assignment, it is not the best work the student can do. Would you praise the student anyway, since he at least submitted something?

It is easy to understand that a teacher would want to encourage this student, but whether or not praise will backfire in this situation depends on whether or not the student is sophisticated enough to understand the unspoken message behind praise for poor work. Research shows that younger students generally just take praise at face value, but older students (middle school and beyond) are sensitive to deeper meanings (Barker and Graham, 1987; Meyer et al., 1979). To understand the message that praise might carry to a middle- or high-



---

By not criticizing substandard work, the teacher implicitly says, “I believe that you are not capable of anything better. This work is not all that good, but I know it’s the best you can do.”

---

school student, first consider how you typically react to poor performance in others. Imagine that one of your fellow teachers has been asked to write a proposal to a funding group and has done a poor job. If you believe that she failed because she put little effort into the job, you would react negatively, probably feeling that she deserved blame for poor work (and that if she went back and tried harder, the result would be better). If, on the other hand, you believe that this sort of expository writing is difficult for her, you would not blame her; you would believe that she failed because she lacks ability (and that asking her to do better would not elicit better work). Students—especially older students—understand this pattern as well. They understand that people are typically criticized for lack of effort, but not for lack of ability. Consider, then, the silent message that a teacher sends when he praises a student for mediocre work. By not criticizing substandard work, the teacher implicitly says, “I believe that you are not capable of anything better. This work is not all that good, but I know it’s the best you can do” (Meyer, 1992; Meyer, Mittag and Engler, 1986). The student would assume that the teacher doesn’t think that the problem was one of effort, because if it had been, the teacher would have told the student to try harder, rather than praising him.

Now think about how you respond when you fail. When you fail, your feelings about it are shaped by your attribution of *why* you failed. If you believe that you failed because you didn’t work hard, the failure doesn’t affect your self-concept

much. You don’t like the fact that you failed, but you attribute the failure to lack of effort, and you know that effort is under your control; next time, you can work harder. But if you believe that you failed because you lack ability, that is much more discouraging. Your level of ability is not so easily changed, so there is little you can do to succeed if you try again.

Now let’s return to the effect on the student of praising mediocre work. In so doing, the teacher essentially says, “This work is fine ... for a person of your ability. It’s not that you didn’t try hard. You just can’t do better.” Thus, by praising the student, the teacher offers an interpretation—the more damaging interpretation—of why the work is not very good. It would have been more encouraging to the student to have been told, “It’s great that you finished the assignment, but I’m a little disappointed in the quality of this work because I know you can do better.” Ironically, the teacher who praises substandard work in an effort to provide encouragement will have just the opposite effect on the student.

### **Praise Should Emphasize Process, Not Ability**

Praise can take many forms. One could praise the product of the student’s work (“That’s a wonderful story”) or some attribute of the process that went into making the product (“I’m proud of how hard you worked on that story”) or the student’s ability (“You’re a really good writer”). There is evidence that any of these types of praise can have positive effects on motivation (Henderlong and Lepper, 2002)—at least in the short run. But Carol Dweck and her colleagues (Dweck, 2002; Kamins and Dweck, 1999; Mueller, and Dweck, 1998) have argued persuasively that praising ability can have more subtle, negative influences later.

To understand why, we must first examine how students think about ability. Dweck’s research has examined one ability most often: intelligence. She argues that students may take a fixed or a malleable view of intelligence. Students who take a fixed view believe that intelligence is a basic characteristic about an individual that cannot be changed. Students with the malleable view believe that intelligence can be changed, depending on what a person does. Dweck has found that students with the fixed view are very concerned about looking smart. This concern is natural, given that they believe that intelligence is fixed; once it’s been established that you are *not* smart, they think that there is nothing that can be done about it.

Children also hold different beliefs about the meaning of failure, and about the value of effort, depending on whether they think intelligence is fixed or malleable. For the child with the fixed view, failure is very negative. They may view a single test as a measure of their intelligence for the rest of their lives (Stone and Dweck, 1998). Children with the malleable view are less concerned about failure because they do not view performance on any one task as a reflection of how smart they are, and because they believe that if they do fail, there is something they can do about it: Try harder. Thus, children with a malleable view of intelligence believe that effort is useful. Children with a fixed view do not. For example, these children tend to agree with statements like, “It doesn’t matter how hard



you work—if you're smart, you'll do well, if you're not smart, you won't." These views lead children to an odd conclusion: Effort is a sign of stupidity. According to the fixed view, if you're smart, you don't need to work hard. Thus, working hard is a sign of not being smart. Dweck (2001) eloquently describes the trap these students have created for themselves: It is desperately important to them that they appear smart, but they believe that they must achieve the signs of success without working hard.

What does a child's view of intelligence have to do with praise? Dweck's research indicates that one important source of these views is the type of praise that children get from adults. If adults praise what the children *are* (such as "smart"), they attribute their success to a fixed character that they possess. If adults praise something the children *do* (such as focus on the task), they attribute their success to their efforts, which are under their control.

In one study (Mueller and Dweck, 1998), the researchers had fifth-graders complete some relatively easy problems, whereupon they were given intelligence praise (including the phrase, "You must be smart at these problems") or effort praise, ("You must have worked hard at these problems") or positive feedback about their high score, but no other praise. On a questionnaire administered soon after, the students who heard intelligence praise were more likely to believe the fixed view of intelligence than those who heard the effort praise. At least for the duration of the study, praise from an adult that emphasized ability or effort influenced children's views about intelligence.

Praising ability is harmless in the short run; indeed, many studies show positive effects on motivation immediately following ability praise. But in the long run, praising ability backfires. The problems come when the child encounters difficulty. When faced with difficulty, the child who has been praised for her effort (and, therefore, holds the malleable view of intelligence) will work harder and seek more experiences from which she can learn. The student who has been praised for her ability (and, therefore, holds the fixed view of intelligence) will seek to maintain the "intelligent" label and will try to look good, even at the expense of learning. In fact, even if they are told they will not learn much from them, these children will seek out tasks that are easy (and, therefore, on which they will likely succeed). In contrast, children with a malleable view will select tasks that are tougher, if they are told that they will learn from them (Dweck and Leggett, 1988; Stone and Dweck, 1998).

Although it has not been studied as thoroughly, praise that uses social comparisons—praising the child as being better than her peers—may operate the same way that ability praise does: offering an immediate boost in motivation, but backfiring when the student is faced with difficulty. A teacher might say to the class, "I really like the way Jane has put away her materials and is ready to work," in an effort to hurry those who are not ready, but the message to Jane is that she's praiseworthy not because she got ready quickly, but because she got ready *first*. Praise that tells children they are better than their peers *does* increase motivation (e.g., Boggiano and Ruble, 1979; Shanab, Peterson, Dargahi, and Deroian, 1981), but its

effect on motivation when the child later fails is not clear. If the next day the teacher says, "I really like the way Sam is ready to work...." will Jane be pleased that she is also ready quickly, or will she be disappointed because this time she wasn't first? The effects of social comparison praise are not yet fully known, but work in related areas indicates that comparison praise might do more harm than good.

The clear conclusion from this work is that teachers should not encourage the fixed view of intelligence through *ability* praise. But isn't there a potential problem in praising student's *effort*? Older children might already have the fixed view of intelligence fairly well entrenched. I know I did—how well I remember sitting in my sixth-grade classroom before a test, arguing with my friends about who had studied the least. If I had been praised with the words, "You tried really hard," I would have taken that as polite code for, "You're a dim bulb, but nice try."

There are two solutions to the problems presented by both ability and social comparison praise. First, the idea is to praise a *process* that the student has applied. Effort is just one example of such a process. The student might also be praised for using good strategies for a project, showing good concentration, sticking with a project when obstacles arose, thoughtful planning, paying attention to details, and so on.

Second, the teacher can talk to students directly about fixed versus malleable views of intelligence, encouraging the latter. Students may think that people who have achieved great things did so easily, because they have a lot of ability. Teachers know better, and they can share this knowledge with students through the study of biographies. Students are often surprised to learn that musicians or athletes whom they respect are not simply talented, but also work very hard at their craft. Student athletes are usually familiar with this principle from personal experience. They are all familiar with the kid on the team who has a lot of ability, but doesn't work hard. They know that such athletes are seldom the best players, and they are certainly not esteemed by the rest of the team. Student athletes at the college level always understand this analogy, but they are almost always surprised that it applies to academics.

### **Praise Should Be Immediate and Unexpected**

It is self-evident that praise should immediately follow the praiseworthy act. Praise obviously loses much of its informational and motivational impact if the teacher praises a child for having shown good effort two weeks ago. The trickier issue is the predictability with which the student is praised. Praise that comes like clockwork presents a potential problem: The student may start to work with the expectation of being praised.

Research has shown that predictability is an important variable in understanding the effect of rewards on motivation. In one classic study (Lepper, Greene, and Nisbett, 1973), preschool children were either rewarded for drawing with markers (with an attractive "Good Player" certificate) or not rewarded. Of the children who were rewarded, some were told in advance that playing with markers would earn them the reward, whereas others received the reward as a surprise. (Naturally, the three groups of children were studied separately.) One week later, all of the children were given the



# Examples of Constructive Praise and Encouraging Comments

## Label the praiseworthy action, not the child.

These examples point out a single instance in which a student has been helpful, honest, or organized. There is no pressure for her to always be that way.

*"You saw that Amy was having trouble memorizing her part for the play, so you rehearsed with her until she had all her lines down pat. That was helpful—not only to Amy, but to the whole cast."*

*"You told me what happened at recess today even though you knew I might get angry. I appreciate your honesty."*

*"You sorted out your pencils, crayons, and pens, and put them in separate boxes. That's what I call being organized!"*

## Avoid the kind of praise that hints at past weaknesses or failures.

Instead of referring to past weaknesses, focus on the child's present strength.

*"Well, you finally played that piece of music the way it should be played!"* vs. *"I really like the way you kept a strong, rhythmic beat going in that piece."*

*"I never thought you would pass that test—but you did!"* vs. *"I can see you put in a lot of work to pass that test."*

## When students are too eager for praise, be positive without explicitly praising.

A positive comment can help students think about working for their own satisfaction, instead of trying to earn praise from the teacher.

When the teacher says:

*That was a tough problem, but you kept working at it until you solved it.*

*You cleaned the brushes and put away all the art materials without being asked. I really appreciate that.*

*Your opening sentence grabbed my interest and made me want to read on.*

She helps the student think to himself:

*I don't give up easily. I persist.*

*I can be responsible.*

*I'm getting good at writing.*

*These examples were adapted from How to Talk So Kids Will Listen & Listen So Kids Will Talk and How to Talk So Kids Can Learn At Home and In School by Adele Faber and Elaine Mazlish.*

opportunity to play with markers, among other activities. On average, the children who expected the reward spent less time playing with markers than they had before the experiment started, and less than the non-rewarded children. Crucially, the children who received the reward as a surprise behaved like the non-rewarded children. These results have been replicated in other studies with other tasks and children of other ages (Deci et al., 1999).

The expectation of the reward is so important because it changes the child's attribution of why he plays with the markers. The child who expects no reward rightfully believes, "I'm playing with these markers because it is fun." The child who expects a reward may believe, "I'm playing with these markers because I'm going to get a reward if I do." Later, if no reward is promised, the child sees less reason to play with the markers.

Since praise is essentially a verbal reward, it is important to avoid punctiliously doling out praise every time students engage in a particular behavior. Teachers would like students to work for intrinsic rewards, not to gather praise. Therefore, praise should be an unexpected bonus, not a right. For the student who is already a praise addict, the teacher might engage the student in a positive conversation about the work (such as showing interest in why he made particular choices in its execution), but resist the urge to offer explicit praise. The student

will likely continue to bid for praise. If the teacher is trying to curb the student's appetite for praise, it is important not to give in at this point; doing so sets up a new implicit bargain with the student: "Ask me for praise and you won't get it, but if you keep asking, I can be worn down."

The goal is not simply to get the child to stop asking for praise; it is to help the child to think of his work differently—as something that is done for the student's own satisfaction, not to garner praise from the teacher. The teacher might encourage the student to think in those terms by the language she uses to discuss the work; she can model for the student the way that she would like the student to think about the work. The teacher can also show that independence is a worthy value in the classroom. The student who continually approaches the teacher for praise might be told, "You are working so well on your own that I don't think you really need to check in with me. Why don't you continue with your independent work, and let's check in later in the morning."

## Praise in Perspective

It likely comes as no surprise that praise is neither an automatic expander of self-esteem, nor the ruin of a child's self-efficacy.

*(Continued on page 48)*



# Child Soldiers

## *The New Faces of War*

*The rebels told me to join them, but I said no. Then they killed my smaller brother. I changed my mind.*

—L., age 7<sup>1</sup>

By P.W. Singer

One of the original sins of humanity has been its inability to live at peace. From the very beginning of history, conflicts over food, territory, riches, power, and prestige have been an almost constant recurrence. Indeed, much of what is written in human history is simply a history

*P.W. Singer is senior fellow in Foreign Policy Studies and director of the Project on U.S. Policy Towards the Islamic World in the Saban Center at the Brookings Institution. He is the author of numerous publications on child soldiers and other military issues. This article is excerpted with permission from Children at War, Pantheon, 2005. Many thanks to Sandra Hendricks, American Educator's production manager and copy editor, for her tireless efforts in finding this extraordinary collection of photographs.*

of warfare. The world that we know today, from the states that we live in to the technology that we use daily, has been greatly shaped by violent struggle.<sup>2</sup>

Yet even in this most terrible realm of societal violence, rules of behavior developed. Among the very first was the differentiation between warriors and civilians. In even the most primitive societies, a distinction was made between those who chose to bear the risks involved in the profession of fighting and those who lay outside the field of battle. In a sense, a bargain was struck. Honor and power were accorded to the warriors. In exchange, civilians were granted a sort of guarantee of protection from their depredations. While it applied to all those who were unarmed, special immunity was usually given to certain groups: the old, the infirm, women, and, most particularly, children.<sup>3</sup>

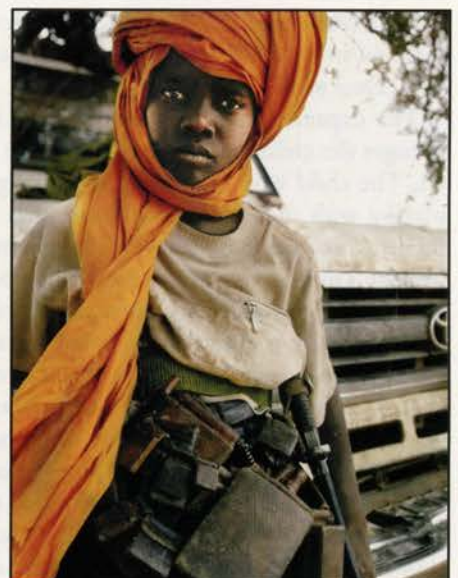
While certainly not always complied with, this "law of the innocents" had been one of the most enduring rules of war, arguably the most important of what legal theorists term *jus in bello* (laws in war). The deliberate targeting of civilians, in particular children, has been the single



Burma, 2000  
© Reuters/Corbis



Democratic Republic of the Congo, 1997  
© Christophe Calais/Corbis



Sudan, 2004  
© Jehad Nga/Corbis





Liberia, 2003

© Georges Gobet/AFP/Getty Images



Iraq, 1990

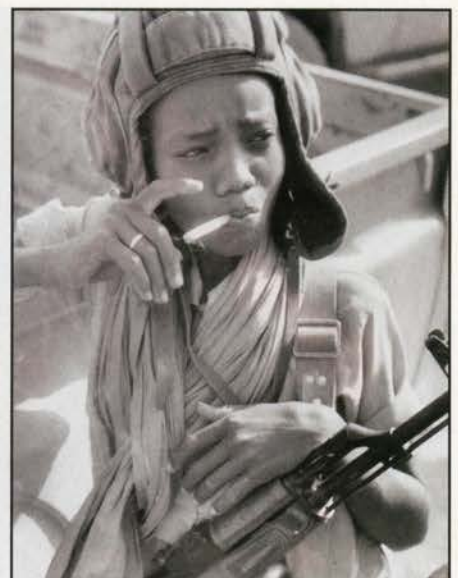
© AP/Wide World Photos

WINTER 2005/06



Bosnia, 1993

© Patrick Chauvel/Sygma/Corbis



Chad, 1987

© Reuters/Corbis



greatest taboo of all, extending from ancient Chinese philosophy and traditional African tribal societies to the state signatories of the modern-day Geneva Conventions.

Unfortunately, in the chaos and callousness of modern-day warfare, this law has seemingly broken down. Civilians have always suffered in war, but the difference today is that in many present-day conflicts they are the primary target. Tactics of ethnic cleansing and genocide have replaced the strict codes of conduct and chivalry that guided such military social orders as medieval European feudalism and ancient Japanese Bushido. Whereas wars were once fought almost exclusively between soldiers, in recent decades, the worldwide percentage of victims from wars has become predominantly civilian. In World War I, civilian casualties were under 10 percent of the total; in World War II, they had risen to nearly 50 percent. The evolution continued through the next 50 years, to the point that now the overwhelming majority of those killed in conflicts are civilians, not soldiers. For example, of all the persons killed in African conflicts in the late 20th century, 92 percent were civilians. Similar figures hold true for the wars in the Balkans.<sup>4</sup> Civilians once had no place on the battlefield; now the battlefield is almost incomplete without them.

In particular, the once unimaginable targeting of children has become a widespread tactic of war. Examples run from the Serb snipers during the Sarajevo siege who deliberately shot at children walking between their parents, to Rwandan radio broadcasts before the 1994 genocide that reminded genocidal Hutu killers to be sure not to forget “the little ones.” The resulting tolls from this shift in attitudes are staggering. In the last decade of warfare, more than two million children have been killed, a rate of more than 500 a day, or one every three minutes, for a full 10 years. As you read this article, these numbers are growing only larger.

As the most basic laws of war have been increasingly violated, there is a new, perhaps even more disturbing element: Not only have children become the new targets of violence and atrocities in war, but many now have also become the per-

petrators. The use of child soldiers is far more widespread than the scant attention it typically receives.

Twenty-three percent of the armed organizations in the world (84 out of 366 total) use children age 15 and under in combat roles. Eighteen percent of the total (64 of 366) use children 12 and under.<sup>5</sup> While the exact average age of the entire set of child soldiers around the world is not known, there are clues. For example, in one survey taken of child soldiers in Asia, the average age of recruitment was 13. However, as many as 34 percent were taken in under the age of 12.<sup>6</sup> In a separate study in Africa, 60 percent were 14 and under.<sup>7</sup> Another study in Uganda found the average age to be 12.9.<sup>8</sup> Indeed, many child soldiers are recruited so young that they do not even know how old they are. As one boy from Sierra Leone, thought to have been 7 or 8 when he was taken, tells, “We just fought. We didn’t know our age.”<sup>9</sup>

## There’s a Child Soldier Near You

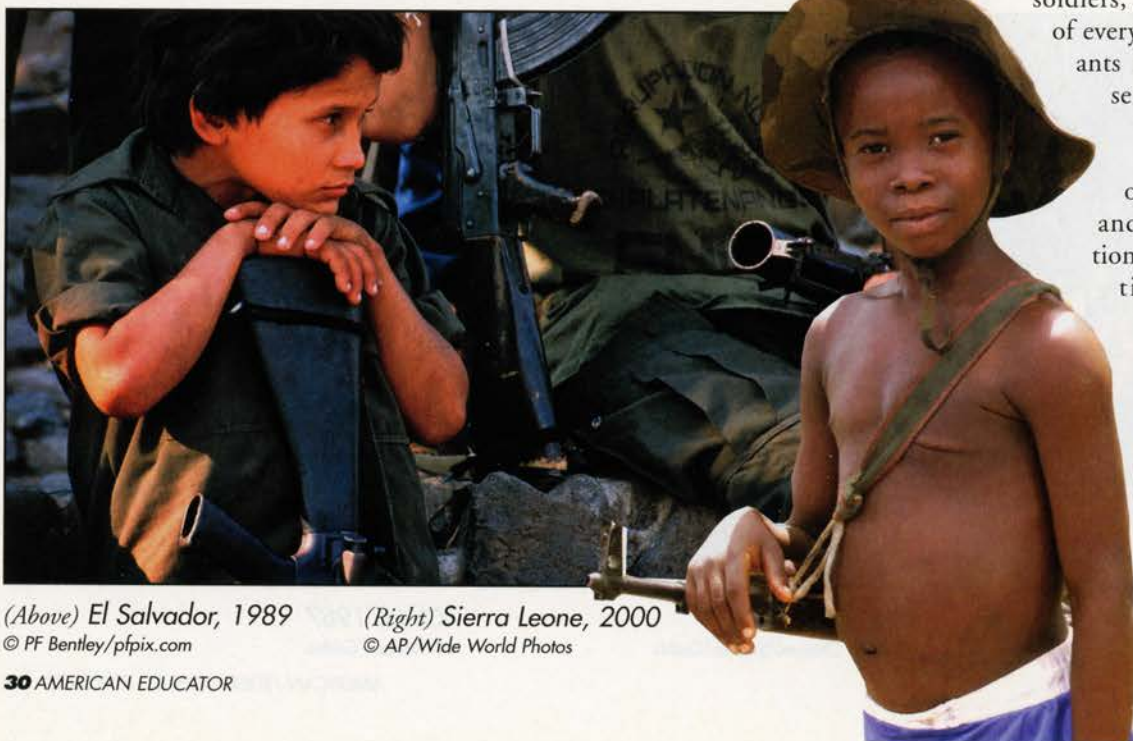
By the turn of the 21st century, child soldiers had served in significant numbers on every continent of the globe except Antarctica. They have become integral parts of both organized military units and nonmilitary, but still violent, political organizations, including rebel and terrorist groups. They serve as combatants in a variety of roles: infantry shock troops, raiders, sentries, spies, trench diggers, and porters. In short, the participation of children in armed conflict is now global in scope and massive in number.

Quick snapshots from around the world give us a feel for how child soldiers are being used to achieve political and criminal ends:

### The Americas

In the Americas since 1990, child soldiers have fought in Colombia, Ecuador, El Salvador, Guatemala, Mexico (in the Chiapas conflict), Nicaragua, Paraguay, and Peru. The most substantial numbers are in Colombia. There, more than 11,000 children are being used as

soldiers, meaning that one out of every four irregular combatants is underage. They have served on both the rebel side, in the Revolutionary Armed Forces of Colombia (FARC) and the National Liberation Army (ELN) organizations, and with the Colombian government’s military and rightist paramilitary groups such as the United Self-Defense Forces (AUC). As many as two-thirds of these child fighters are under 15 years of age, with



(Above) El Salvador, 1989

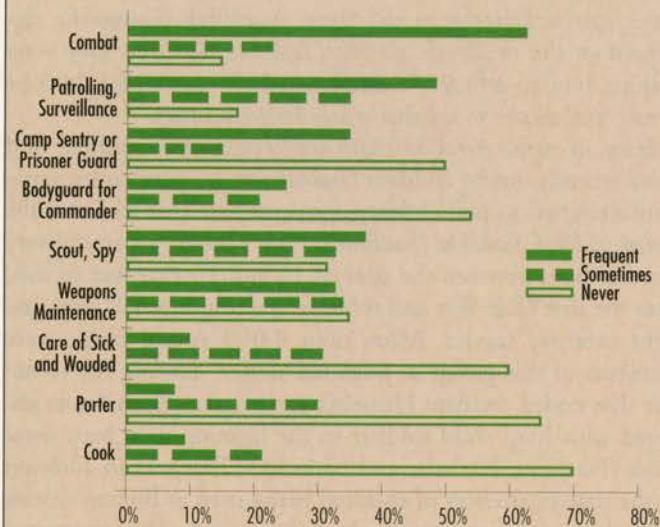
© PF Bentley/pfpx.com

(Right) Sierra Leone, 2000

© AP/Wide World Photos



### Sample Child Soldier Tasks and Duties



Source: International Labour Office, "Democratic Republic of the Congo Survey," in *Wounded Childhood: The Use of Children in Armed Conflicts in Central Africa* (Geneva, 2003), p. 39.

the youngest being 7 years old.<sup>10</sup>

Child soldiers in Colombia are nicknamed "little bells" by the military that uses them as expendable sentries, and "little bees" by the FARC guerrillas, because they "sting" their enemies before the enemies know they are under attack. In urban militias, they are called "little carts," as they can sneak weapons through checkpoints without suspicion. Up to 30 percent of some FARC guerrilla units are made up of children. These child guerrillas are used to collect intelligence, make and deploy mines, and serve as advance troops in ambush attacks against paramilitaries, soldiers, and police officers. For example, when the FARC attacked the Guatapé hydroelectric facility in 1998, the employees of the power plant reported that some of the attackers were as young as 8 years old. In 2001, the FARC even released a training video that showed boys as young as 11 working with missiles.<sup>11</sup> In turn, some government-linked paramilitary units are 85 percent children, with soldiers as young as 8 years old seen patrolling.<sup>12</sup> There has also been cross-border spillover of the practice. The FARC recruits children from as far away as Venezuela, Panama, and Ecuador, some as young as 10.<sup>13</sup>

### Europe

The majority of child soldiers in Europe have fought in opposition groups in the east, serving in Chechnya, Daghestan, Kosovo, Macedonia, and Nagorno-Karabakh. For example, young teens fought in the Kosovo Liberation Army (KLA) in the war against the Serbs in 1997-98. Many children have since joined the other Albanian rebel groups attempting to break away bits of territory from Serbia and Macedonia, serving in both the Liberation Army of Presevo, Medvedja and Bujanovac (UCPMB) and the Albanian National Liberation Army. In Chechnya, Russian commanders are now wrestling with the fact that, as the war has persisted, they are faced with

younger and younger opposition fighters. As one Russian colonel commented, "In the [separatist] bands there are more and more youths, ages 14-16. They place the mines; they fire at the checkpoints. An adolescent does not even understand what he is being killed for..."<sup>14</sup> It is in Turkey, though, where most child soldiers in Europe are found. In 1994, the Kurdish Workers' Party (PKK) began the systematic recruitment of children, even creating dedicated children's regiments.

### Africa

Africa is often considered to be at the epicenter of the child soldier phenomenon. Armed groups using child soldiers cover the continent and are present in nearly every one of its myriad of wars. The result appears to be an almost endemic link between children and warfare in Africa. For example, a survey in Angola revealed that 36 percent of all Angolan children had either served as soldiers or accompanied troops into combat.<sup>15</sup> Similar patterns hold for children in Liberia, which has seen two waves of wars over the last decade. First, Charles Taylor seized power as the head of a mainly youth rebel army in the early 1990s. By the end of the decade, Taylor faced new foes in the Liberians United for Reconciliation and Democracy (LURD) and the Movement for Democracy in Liberia (MODEL), rebel groups that also used child soldiers to eventually topple him in 2003. The United Nations estimates that some 20,000 children served as combatants in Liberia's war, up to 70 percent of the various factions' fighting forces.<sup>16</sup> Of particular note in Africa is the Lord's Resistance Army (LRA) in Uganda, renowned, or rather infamous, for being made up almost exclusively of child soldiers. It has abducted more than 14,000 children to turn into soldiers. The LRA also holds the ignoble record for having the world's youngest reported armed combatant, age 5.<sup>17</sup>

The areas where child soldiers have been present read like a master list of the continent's worst zones of violence. In Somalia, boys 14 to 18 regularly fight in warlord militias. In Rwanda, thousands of children are thought to have participated in the 1994 genocide in which Hutus killed hundreds of thousands of Tutsis. For example, one rehabilitation camp alone housed some 486 suspected child *genocidaires*. The boys were all younger than 14 when they allegedly took part in the mass killings of thousands.<sup>18</sup> Across the border, in the ongoing fighting between Hutus and Tutsis in Burundi, up to 14,000 children have fought in the war, many as young as 12.<sup>19</sup> Indeed, at the start of the war, Hutu rebel groups sent between 3,000 and 5,000 children to training camps in the Central African Republic, Tanzania, and Rwanda. Since then, refugee and street children in these countries and Kenya have also been recruited for the fighting in Burundi. Similar practices prevail in fighting to the east in Congo-Brazzaville and Côte d'Ivoire (where there are some 3,000 child soldiers), while to the north, large numbers of Ethiopian youths fought in their country's war with Eritrea.

Child soldiers have also become a common feature of the continent's largest conflict, the war in the Democratic Republic of the Congo (DRC). The fighting in what used to be Zaire began in 1996 with the revolt led by Laurent Kabila. His army



had some 10,000 child soldiers between the ages of 7 and 16.<sup>20</sup> As the war spread, it involved armies from eight different countries and a multitude of rebel groups. It continues today. Estimates are that there are presently between 30,000 and 50,000 child soldiers in the DRC—as many as 30 percent of all combatants.<sup>21</sup> In Bunia district, a particularly nasty war zone where European peacekeepers were deployed in summer 2003, children make up between 60 and 75 percent of the warring militias (8,000 to 10,000 in the restive town of Ituri alone).<sup>22</sup>

Congolese child soldiers were known as *kadogos*, “little ones” in Swahili. They have been so prevalent that they even served in Kabila’s Presidential Guard. Indeed, when Kabila was later assassinated in January 2001, many held his unruly *kadogos* responsible. The ultimate blame fell on a boy serving as his bodyguard, who was shot during the ensuing firefight.<sup>23</sup>

### The Middle East and Central Asia

The Middle East is another area where child soldiers have become an integral part of the fighting. Children today are engaged in fighting in Algeria, Azerbaijan, Egypt, Iran (as part of rebel groups now fighting against the regime), Iraq, Lebanon, Sudan, Tajikistan, and Yemen. These include children younger than 15 serving in a number of radical Islamic groups. Young teens are also at the center of fighting in Palestine, making up as much as 70 percent of the participants in the intifada.

The first modern use of child soldiers in the region was actually during the Iran-Iraq war in the 1980s. Iranian law, based on the Koranic *sharia*, had forbid the recruitment of children under 16 into the armed forces. However, a few years into the fighting, the regime began to falter in its war with its neighbor, Saddam Hussein’s Iraq. So it chose to ignore its own laws, and in 1984, Iranian President Ali-Akbar Rafsanjani declared that “all Iranians from 12 to 72 should volunteer for the Holy War.”<sup>24</sup> Thousands of children were pulled from schools, indoctrinated in the glory of martyrdom, and sent to the front lines only lightly armed with one or two grenades or a gun with one magazine of ammunition. Wearing keys around their necks (to

signify their pending entrance into heaven), they were sent forward in the first waves of attacks to help clear paths through minefields with their bodies and overwhelm Iraqi defenses. Iran’s spiritual leader at the time, Ayatollah Khomeini, delighted in the children’s sacrifice and extolled that they were helping Iran to achieve “a situation which we cannot describe in any way except to say that it is a divine country.”<sup>25</sup>

Iraq, in turn, enrolled child soldiers in that conflict, and more recently, under Saddam Hussein, built up an entire apparatus designed to pull children into conflict. This included the noted *Asbbal Saddam* (Saddam’s Lion Cubs), a paramilitary force of boys between the ages of 10 and 15 that was formed after the first Gulf War and received training in small arms and light infantry tactics. More than 8,000 young Iraqis were members of this group in Baghdad alone.<sup>26</sup> During the recent war that ended Saddam Hussein’s regime, American forces engaged with Iraqi child soldiers in the fighting in at least three cities (Nasariya, Karbala, and Kirkuk).<sup>27</sup> This was in addition to the many instances of children being used as human shields by Saddam loyalists during the fighting.<sup>28</sup> As the insurgency picked up in spring 2003, rebel leaders sought to mobilize this cohort of trained and indoctrinated young fighters. Over the next weeks and months, incidents between U.S. forces and armed Iraqi children began to grow, ranging from child snipers to a 15-year-old who tossed a grenade into an American truck, blowing off the leg of a U.S. army trooper.<sup>29</sup> As the fighting picked up intensity starting in spring 2004, child soldiers served not only in Saddam loyalist forces, but also in both radical Shia and Sunni insurgent groups. U.S. Marines fighting in the battle to retake Falluja in November 2004 reported numerous instances of being fired upon by “12 year old children with assault rifles” and wrestled with the dilemmas it presented. The overall numbers of Iraqi children involved in the fighting are not yet known. But the indicators are that they do play a significant and growing role in the insurgency. For example, British forces have detained more than 60 juveniles during their operations in Iraq, while U.S. forces have captured 107



Liberia, 1994

© Patrick Robert/Syigma/Corbis



Iran, 1986

© Jean Gaumy/Magnum Photos



Iraqi juveniles determined to be “high risk” security threats. Most were held at the infamous Abu Ghraib prison.<sup>30</sup>

Sudan has seen the largest use of child soldiers in the region, with estimates reaching as high as 100,000 children who have served on both sides of the two decades-old civil war. Since 1995, the Islamic government in the north has conscripted boys as young as 12 into the army and the paramilitary Popular Defense Forces. Homeless and street children have been a particular target. Poor and refugee children who work or live on the streets have been rounded up into special closed camps. Ostensibly orphanages, these camps have often acted as reservoirs for army conscripts.<sup>31</sup> The government has also targeted children in the towns it holds in the south to use against their kinsmen in the rebel Sudan People’s Liberation Army (SPLA). One report found that 22 percent of the total primary school population in Wahda province had been recruited into the Sudanese army or pro-government militias, the youngest being 9 years old.<sup>32</sup>

The SPLA rebel group, in turn, has relied greatly on child fighters in its battle with the government. While it recently made a public relations gambit in demobilizing 3,000 child soldiers, another 7,000 of its fighters (roughly 30 percent of its forces) are thought to be underage.<sup>33</sup> Actually, the SPLA began a practice of “warehousing” young recruits in the mid-1980s. It would encourage and organize young boys to flee to refugee camps located beside its bases on the Ethiopian border. At the boys-only camps, those past the age of 12 would be given full-time military courses, while those younger were trained during school breaks. These boys became the basis of what was known as the Red Army, and were even subcontracted out to the Ethiopian army while it was still allied with the SPLA.<sup>34</sup> Many of these boys later became the core of the famous Lost Boys of Sudan.

### Asia

Children are engaged in insurgencies underway in Cambodia, East Timor, India, Indonesia, Laos, Myanmar (formerly Burma), Nepal, Pakistan, Papua New Guinea, the Philippines,

Sri Lanka, and the Solomon Islands. In India, some 17 different rebel groups are suspected of using child soldiers, including along the volatile Kashmiri border with Pakistan.<sup>35</sup>

Children have particularly been at the center of the explosion of rebel groups and internecine fighting on the many islands of Indonesia, such as in Ambon.<sup>36</sup> There, thousands of Muslim and Christian boys have formed local paramilitary units that protect and raid against the other community. As one local aid worker notes, “They [the boys] are so proud of their contribution. It’s a common thing for them to say they’ve killed. Since the government can’t seem to do anything, they all say they have an obligation to protect their families and their religion.”<sup>37</sup>

It is estimated that Myanmar has more than 75,000 child soldiers, one of the highest numbers of any country in the world, serving both within the state army and the ethnic armed groups pitted against the regime. The army pulls in young children through its *Ye Nyunt* (Brave Sprouts) camps. As many as 45 percent of its total recruits are under age 18. Twenty percent are under 15, with some as young as 11. The various rebel groups are estimated to have another 6,000 to 8,000 child soldiers.<sup>38</sup>

The generally accepted estimate is that well over 300,000 children are currently fighting in wars or have recently been demobilized.<sup>39</sup> However, this figure is from a series of country case studies (26 in all) and thus may be at the low end of the likely total, given the number of conflicts that were not included in the studies. When looking at the armed forces actually involved in conflict in the world at this time (as opposed to those at peace), these 300,000 child soldiers make up nearly 10 percent of all combatants.<sup>40</sup> What is more significant is that this number was near zero just a few decades ago.

Any debate over the numbers, though, belies the real issue at



Burma, 2000  
© Reuters/Corbis

Democratic Republic of the Congo, 2003  
© Reuters/Corbis



# Why Now?

The desperate position in which many children around the world find themselves is almost unimaginable. Although positive in some terms, the developments of globalization that dominated the last quarter century have left many behind, while rending many traditional societies and mores. The brunt of these socioeconomic problems has fallen on the youngest segments of the population, as we are now in the midst of the largest generation of youth in human history. Almost a quarter of all the world's youth survive on less than a dollar a day. As many as 250 million children live on the street; 211 million children must work to feed themselves and their families and 115 million children have never been to school.<sup>1</sup> A third of all children in Africa suffer from severe hunger. These desperate and excluded children constitute a huge pool of labor for the illegal economy, organized crime, and armed conflicts.

To make matters worse, there is AIDS, which is gradually creating a new pool of orphans, a group especially susceptible to being pulled into child soldiering. By 2010, more than 43 million children will have lost one or both of their parents to AIDS, including 33 percent of all children in the hardest-hit countries. (The normal percentage of children who are orphans in developing countries is two percent.) Among them are 2.7 million in Nigeria, 2.5 million in Ethiopia, and 1.8 million in South Africa.<sup>2</sup> India alone already has 120,000 AIDS orphans. That only six of the 40 countries hardest hit by AIDS have any plans to assist orphans makes the situation only worse.<sup>3</sup>

This cohort represents a new "lost orphan generation."<sup>4</sup> Both the stigma of the disease and the sheer number of victims will overwhelm the communities and extended families that would normally look after these orphans. Their prospects are heartrending, and dangerous. Besides being malnourished, stigmatized, and vulnerable to physical and sexual abuse, the mass of disconnected and disaffected children is particularly at risk of being exploited

as child soldiers. Having watched their parents die and been forced to fend for themselves, many will consider they have nothing to lose by entering into war.

Concurrent with these global trends have been the proliferation and technological advancement of personal weaponry. Technological changes are what allow this broadened pool of potential recruits to be turned into able soldiers. When thinking about military operations, we typically focus on the most complex and expensive weapons systems, such as missiles, tanks, and aircraft carriers. But the weapons that shape most conflicts around the globe are the ones that are the simplest and least costly.

These "small arms," or "light weapons," include rifles, grenades, light machine guns, light mortars, land mines, and other weapons that are "man-portable" (a term often used by the military). Even though they represent less than two percent of the entire global arms trade in terms of cost, these small arms are the weapons most often used both in battle and in attacks on civilians; they have produced almost 90 percent of all casualties in recent wars.<sup>5</sup> In just West Africa alone, more than two million people were killed by small arms in the last decade.<sup>6</sup>

Advances in technology and efficiency of these weapons now permit the transformation of children into fighters equally as lethal as any adult. For most of human history, weapons relied on the brute strength of the operator. They also typically required years of training to

master. This obviously prohibited the effective use of children as soldiers. A child who was not physically mature could not bear the physical burdens of serving in the phalanx of the ancient Greek hoplites or carrying the weight of a medieval knight's armor, let alone serve as an effective combatant. Even until just a few generations ago, personal battlefield weapons such as the bolt action rifles of World War II were heavy and bulky, limiting children's participation.<sup>7</sup>

However, recent improvements in manufacturing, including the incorporation of plastics, mean that modern weapons, particularly automatic rifles, can be configured to be so light that small children can use them as easily and effectively as adults. Just as important, most of these weapons have been simplified in their use, to the extent that they can be stripped, reassembled, and fired by a child under the age of 10. The ubiquitous Russian-designed Kalashnikov AK-47 is a prime example. Having only nine moving parts, it is brutally simple. Interviews reveal that it generally takes children around 30 minutes to learn how to use one.

Along with these improvements in weight and simplicity, vast strides have been made in the lethality of these small weapons. The weapons that children can now fire with ease are a far cry from the spears of the phalanx or the single bolt rifle of the GIs. With just one pull of the trigger, a modern assault rifle in the hands of a child can release a burst of 30 bullets that are lethal more than 400 yards away. Or they can shoot off a rocket-propelled grenade (RPG) whose explosions can tear down buildings or maim tens at a time.

Thus, a handful of children can now have the equivalent firepower of an entire regiment of Napoleonic infantry. When targeting unarmed civilians, the results are doubly devastating. Hence, with only a few hours' training, a youngster can be taught all he or she needs to know in order to kill or wound hundreds of people in a matter of minutes.

—P.W.S.





hand, the vast changes in war and breakdown in norms that these figures signify. Graça Machel, the former first lady of Mozambique and wife of Nelson Mandela, has served as a special expert for the United Nations on the topic. She perhaps said it best:

These statistics are shocking enough, but more chilling is the conclusion to be drawn from them: More and more of the world is being sucked into a desolate moral vacuum. This is a space devoid of the most basic human values; a space in which children are slaughtered, raped, and maimed; a space in which children are exploited as soldiers; a space in which children are starved and exposed to extreme brutality. Such unregulated terror and violence speak of deliberate victimization. There are few further depths to which humanity can sink.<sup>41</sup>

## From Children to Soldiers

Transforming a child into a fairly effective combatant is disturbingly simple. It begins with recruitment, either through abduction or “voluntary” means. Recruitment is rapidly followed by cruel but straightforward methods of training and conversion. Brutality and abuses of the worst kind underscore each stage, but these lie in part behind the overall program’s usual effectiveness. The ultimate aim of the process is to foster a child’s dependency on an armed organization and inhibit escape.

Case studies indicate that in the majority of conflicts, a widely used method of recruitment of children is some form of abduction. Typically, recruiting parties are given conscription targets that change according to the group’s needs and objectives. For example, the Union of Congolese Patriots for Reconciliation and Peace (UPC/RP), a militia led by Thomas Lubanga in eastern Congo, has a policy that each family within its area of control must provide a cow, money, or child to the group.<sup>42</sup> Often, the groups are more efficient. For example, the

LRA in Uganda sets numeric goals for child recruits and sends raiding parties into villages to meet them.<sup>43</sup>

The decision of where groups carry out their operations to find their recruits is

also based on planned efforts to maximize the efficiency of their efforts. The most frequent targets are secondary schools or orphanages, where children of suitable size are collected in one place, but out of contact with their parents, who would try to spirit them away. Indeed, the Liberation Tigers of Tamil Eelam (LTTE) even took to setting up a unit formed exclusively of orphans, the elite *Sirasu Puli* (Leopard Brigade).<sup>44</sup> The Congolese Rally for Democracy-Goma (RCD-Goma) and Rwandan Patriotic Army (RPA) are two other groups that also target schools almost exclusively, using kidnapping or coercion to pull in kids. Another common target area is the marketplace. For instance, during the Ethiopian fighting in the 1990s, a common practice was that armed militias would simply surround the public bazaar. They would order every male to sit down and then force into a truck anyone deemed “eligible.” This often included minors.

Homeless or street children are at particular risk, as they are most vulnerable to sweeps aimed at them, which prompt less public outcry. In Sudan, for instance, the government set up camps for street children, and then rounded up children to fill them in a purported attempt to “clean up” Khartoum. These camps, however, served as reservoirs for army conscription.<sup>45</sup>

Other groups that are in frequent danger are refugee and IDP (internally displaced persons) populations. In many instances, families on the run become disconnected. Armed groups then target unaccompanied, and thus more vulnerable, minors.

Not all children are forced into soldiering, though. Many may “choose” to join an armed group and thus the groups that use them often claim they broke no moral codes. The rough trend line seems to be that nearly two out of every three child soldiers have some sort of initiative in their own recruitment. For example, estimates are that 40 percent of the FARC’s child soldiers are forced into service, and 60 percent

(Below) Sierra Leone, 2000

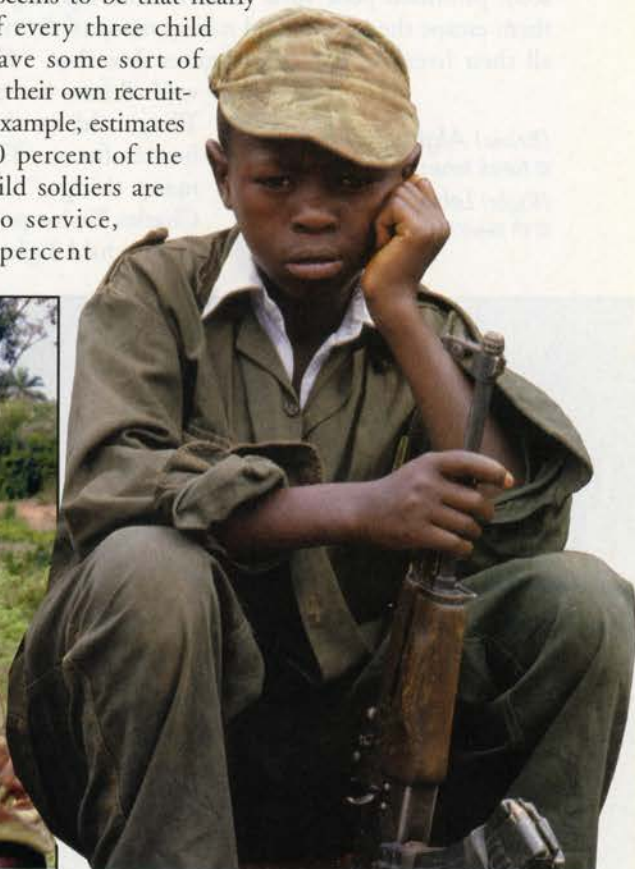
© AP/Wide World Photos

(Left) Iraq, 1998

Saddam’s Lion Cubs recruitment photo

(Right) Uganda, 1986

© William Campbell/Corbis





joined of their own volition.<sup>46</sup> Another survey in East Asia found that 57 percent of the children had volunteered.<sup>47</sup> Finally, a survey of child soldiers in four African countries found that 64 percent joined under no threat of violence.<sup>48</sup>

To describe this choice as voluntary, however, is greatly misleading.<sup>49</sup> The most basic reason that children join armed groups is that they are driven to do so by forces beyond their control. A particularly strong factor is economic. Hunger and poverty are endemic in conflict zones. Children, particularly those orphaned or disconnected from civil society, may volunteer to join any group if they believe that this is the only way to guarantee regular meals, clothing, or medical attention. As one young boy in the DRC explained, "I joined [President Laurent] Kabila's army when I was 13 because my home had been looted and my parents were gone. As I was then on my own, I decided to become a soldier."<sup>50</sup> Indeed, surveys of demobilized child soldiers in the DRC found that almost 60 percent originally joined armed groups because of simple poverty.<sup>51</sup> The same ratio was found in a separate survey of child soldiers half the globe away in East Asia, indicating a broader international trend.<sup>52</sup>

Children may also join armed organizations for protection. Surrounded by violence and chaos, children may decide they are safer in a conflict group, with guns in their own hands, than going about by themselves unarmed. Similarly, a good portion of girl soldiers who join as "volunteers" cite domestic abuse or exploitation as the underlying reason for joining.<sup>53</sup>

Innocent children have been tricked into joining with extraordinary or impossible promises to which only gullible children would give credence. In Sierra Leone, for example, the RUF promised poor rural children that fighting would help them escape the poverty and misery many of them had known all their lives. As one child fighter describes, "They told us we'd all have our own vehicle.

They told us they'd build houses for us. They told us many things."<sup>54</sup> In Liberia, Charles Taylor promised that every child fighting for his

group would get a computer if he won the war.<sup>55</sup>

Many children may have personally experienced or been witness to the furthest extremes of violence, including massacres, summary executions, ethnic cleansing, death squad killings, bombings, torture, sexual abuse, and destruction of home or property. Thus, vengeance can also be a particularly powerful impetus to join the conflict.<sup>56</sup>

Lastly, some groups may take deliberate advantage of the fact that adolescents are at a stage in life where they are still defining their identity. Conflict groups offer what are perceived as glamorous or honorable roles (soldier, hero, leader, protector), as well as membership and acceptance in a group. These messages are particularly seductive in areas where children feel the most powerless or victimized. One survey of child soldiers in Africa found that 15 percent volunteered because they were simply fascinated by the prestige and thrill of serving in a unit and having a gun.<sup>57</sup>

\* \* \*

As we look to the future, perhaps most worrisome is that the underlying forces that led to the rise of this practice appear likely to stay in place if no action is taken to amend them. World order remains in a state of constant flux, with little end in sight to the panoply of wars and smoldering conflicts, diseases, famine, and mass poverty. The result is a generation of estranged and isolated children growing up without educational and economic opportunities, and without any hope of prospering. In turn, the predominant weapons of war have become cheap, widespread, and easily used by children (see sidebar pg. 34). Their accessibility allows the conversion of mass numbers of vulnerable, disconnected children into low-cost and expendable soldiers.

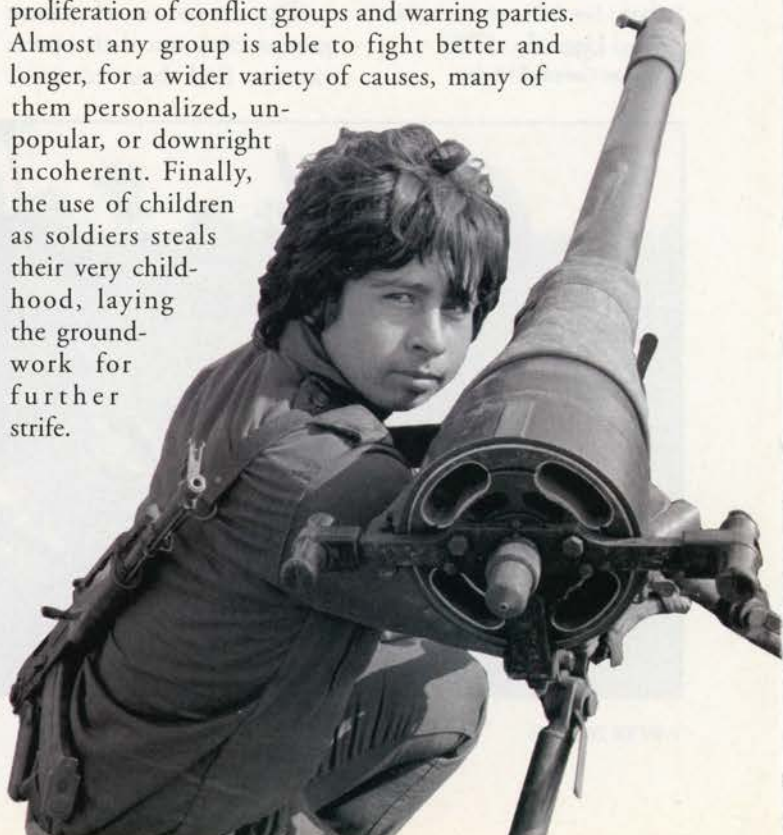
Children's recruitment and use in battle not only violates acceptable practices of war, but also makes conflicts both more likely and more bloody. It can also lead to a proliferation of conflict groups and warring parties. Almost any group is able to fight better and longer, for a wider variety of causes, many of them personalized, unpopular, or downright incoherent. Finally, the use of children as soldiers steals their very childhood, laying the groundwork for further strife.

(Below) Afghanistan, 2001

© Patrick Robert/Sygma/Corbis

(Right) Lebanon, 1983

© Eli Reed/Magnum Photos





While the task of changing this path is daunting, it is not without hope. If there is any hope of halting the trend, the exploitation of children as weapons of war must be faced down in each of its stages: before, during, and after. Such global challenges as the spread of disease, mass poverty, the lack of educational and economic opportunity, and the global trade in cheap weaponry are important not only on their own merits, but because they carry a greater cost for us all. They lead to wider risks of war, enable terrorism, and sustain child soldier groups.

More direct preventive measures must also be undertaken. We must set up realistic systems of punishment and deterrence. Such measures include the use of sanctions against child soldier leaders, supporters, and enablers, and the wider application of war crimes tribunals and labor laws. These steps may not fully deter the use of child soldiers, and they certainly will not end the practice. They will, however, at least take away some of its advantages and, most importantly, connect the practice of recruiting and using child soldiers with some form

of realistic penalty. Thus, the decision calculus of those weighing whether or not to use children as soldiers will be altered.

Lastly, post-conflict efforts can provide far better attention and support to the growing pool of children who have served as soldiers. If we do so successfully, they will be less likely to serve as soldiers again, and thus end a terrible cycle. Peace treaties and post-conflict planning must recognize who is now actually at war and the unique challenges that the widening use of child soldiers presents. Greater support must be given to the difficult but important tasks of child soldier demobilization, rehabilitation, and reintegration. Former child soldiers must be treated as the victims they are. They require sustained and systematic support to allow them to regain the childhood and opportunities that were stolen from them. It was once a long-held conviction that children have no place in war. To make it a reality once more, we need only to match the will of those who do evil with our own will to do good. □

(Endnotes on page 46)

## Child Soldiers Speak Out

*If you join the paramilitaries [the AUC in Columbia], your first duty is to kill. They tell you, "Here you are going to kill." From the very beginning, they teach you how to kill. I mean when you arrive at the camp, the first thing they do is kill a guy, and if you are a recruit they call you over to prick at him, to chop off his hands and arms.*

—A., age 12<sup>1</sup>

*They bring the people they catch . . . to the training course. My squad had to kill three people. After the first one was killed, the commander told me that the next day I'd have to do the killing. I was stunned and appalled. I had to do it publicly, in front of the whole company, 50 people. I had to shoot him in the head. I was trembling. Afterwards, I couldn't eat. I'd see the person's blood. For a week, I had a hard time sleeping. . . . They'd kill three or four people each day in the course. Different squads would take turns, would have to do it on different days. Some of the victims cried and screamed. The commanders told us we had to learn how to kill.*

—O., age 15 (recruited by FARC at age 12)<sup>2</sup>

*Seven weeks after I arrived, there was combat. I was very scared. It was an attack on the paramilitaries. We killed about seven of them. They killed one of us. We had to drink their blood to conquer our fear. Only the scared ones had to do it. I was the most scared of all, because I was the newest and the youngest.*

—A., age 12<sup>3</sup>

*I joined the Army when I was 14 because, one, I was persuaded that the only way to get my parents back or to stop that from happening was to be a part of the Army and kill those people who were responsible for killing my parents. But, you see, the thing that is very disturbing about this . . . is that once I joined the Army and started fighting, I was also killing other people's parents and so I was creating a circle of revenge where I killed somebody else's parents, he's going to be persuaded by a different group, either the RUF [Revolutionary United Front] or the Army, saying, "Okay. Join the Army and kill this person who killed your parents." So, it's a circle of revenge. And the disturbing thing about it is that it's kids that are killing kids.*

—I., age 14<sup>4</sup>

*The military was in need of people to increase their number. All the boys in the village were asked to join the army. There was no way out. If I left the village I would get killed by the rebels who would think that I was a spy. On the other hand, if I stayed in the village and refused to join the army, I wouldn't be given food and would eventually be thrown out, which was as good as being dead.*

—I., age 14<sup>5</sup>

*I am praying for forgiveness so that more fruitful things can come our way, praying that God will help us to become good people.*

—Z., age 14<sup>6</sup>

*When we arrived at their base, the rebels trained me on how to use a gun. They showed me how to dismantle a weapon and put it back together again. They showed me how to fire the gun and how to clean it. They taught me how to make sure I didn't get injured when it recoils.*

—P., age 12<sup>7</sup>

—P.W.S.

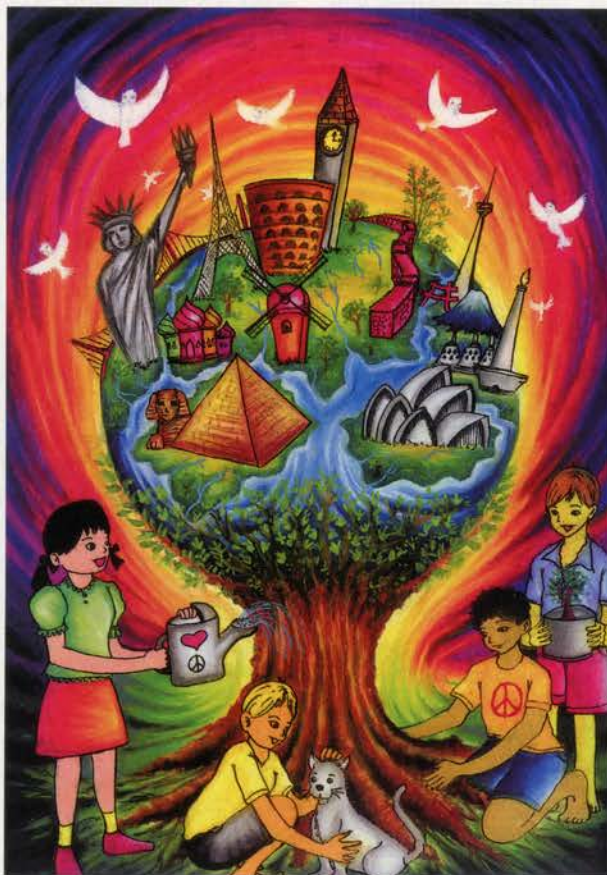
These quotes are from former and current child soldiers from Colombia, Sierra Leone, Liberia, and Burma. These children's willingness to speak out is deeply appreciated.



# Children Map the World

For the past 12 years, the International Cartographic Association (ICA) has held a competition to introduce children to cartography. To date, thousands of 5- to 15-year-old children from 52 different countries have participated. The competition encourages children to learn more about their environment and then creatively map the world: It's part art, part graphic design, and part cartography. As the maps on these pages demonstrate, the results are often both beautiful and informative, with subject matter ranging from iconic buildings and endangered wildlife to flags and discovery routes.

Officially, the competition is called The Barbara Petchenik Children's World Map Competition; it is named in honor of a past vice president of the ICA who was the first cartographer to design maps specifically for elementary children by studying what aspects of maps they could understand and what types of maps they preferred. By working one-on-one with roughly 1,000 children as they analyzed various types of small-scale maps,



Let's Protect Our Earth to Make  
a Better World for Children

*William Christian*

*Age 13*

*Indonesia*

*Kolese Kanisius Junior High School, Jakarta*  
*2003*

Petchenik identified the difficulties that children often have with interpreting maps' scale, coordinates, symbols, and topography. She put her findings to good use as the cartographic editor of the *World Book Encyclopedia*, which was aimed at 9- to 14-year-olds.

The competition is held every other year, and one was just completed in the summer of 2005. Information on the 2007 competition will be posted on the Web site of the U.S. National Committee for the ICA, [www.USNC-ICA.org](http://www.USNC-ICA.org), by fall 2006. Shown here are just a handful of the 100 maps published in a new book, *Children Map the World*, edited by Jacqueline M. Anderson, Jeet Atwal, Patrick Wiegand, and Alberta Auringer Wood. The book contains maps from each of the competitions—some were winners or runners-up, some are simply the editors' favorites. Proceeds from the book will go to an ICA fund that promotes graphic literacy among students in developing countries as well as disadvantaged students in developed countries.

**The Map of the World**

*Nikola Zlatanov*

*Age 7*

*Bulgaria*

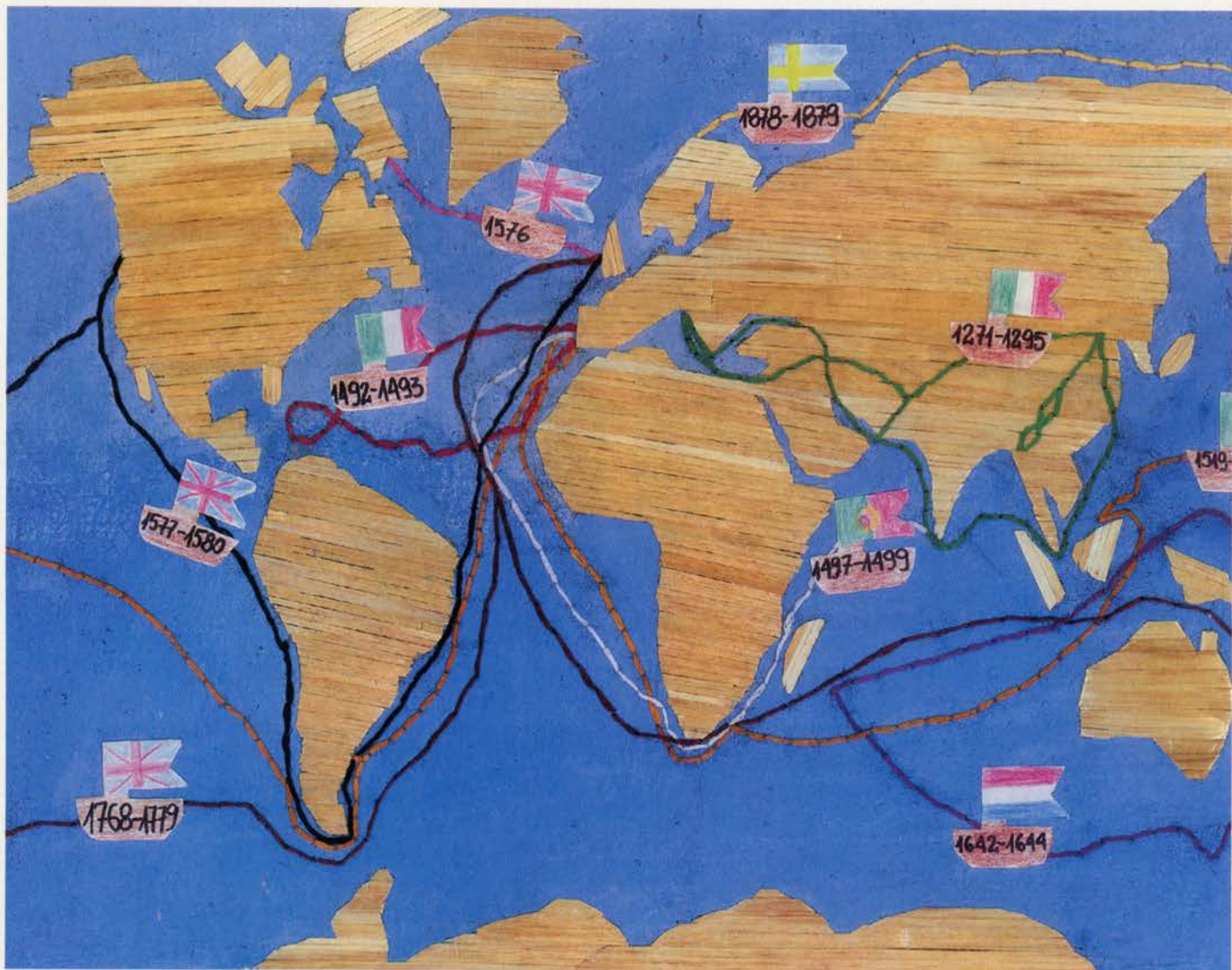
*Children's Art Center, Sofia*

*1999*









**The Geographical Discoveries**

*Julita Trzaskowska*

*Age 12*

*Poland*

*Chotomow/Warszawa*

*1995*



**National Flags of the World**

*Ikuko Hara*

*Age 13*

*Japan*

*Nishidai jh, Itabashi-ku, Tokyo*

*1999*





**Save the Earth**

*Saba Sameti*

Age 11

Iran

*Edalat Secondary School, Isfahan University Campus*

2001



**Let Flowers Bloom All over the World**

*Mika Hayashi and Nagisa Kawasaki*

Age 14

Japan

*Nishidai jh, Tokyo*

1999



## Spelling Supports Reading

(Continued from page 22)

Spelling instruction may be old fashioned, but its importance has not diminished with computerized spell checkers—and there's no reason to believe that it will diminish in the foreseeable future. Even if spell checkers were improved dramatically, such that they caught virtually all spelling errors and supplied the right word as the first choice, the type of in-depth word study described here would still be extremely valuable to students. The benefits go well beyond good spelling: For young children, research clearly indicates that spelling supports learning to read, and for older children, it's likely that learning about the meaningful relationships between words will contribute to vocabulary growth and reading comprehension. The complexity of English gives us seemingly infinite choices among words when we're searching for the right way to express ourselves, and the language's regularity makes reading, speaking, and writing those words an achievable goal. □

### References

Allen, K. (2005). Alphabet knowledge: Letter recognition, naming, and sequencing. In J. Birsh (Ed.), *Multisensory teaching of basic language skills*, 2nd Edition, pp. 113-150. Baltimore, Md.: Paul Brookes.

Apel, K., Masterson, J.J., and Niessen, N.L. (2004). Spelling assessment frameworks. In Stone, C.A., Silliman, E.R., Ehren, B.J., and Apel, K. (Eds.), *Handbook of language and literacy: Development and disorders*, pp. 644-660. New York: Guilford.

Baillet, L. (2004). Spelling instructional and intervention frameworks. In Stone, C.A., Silliman, E.R., Ehren, B.J., and Apel, K. (Eds.), *Handbook of language and literacy: Development and disorders*, pp. 661-678. New York: Guilford.

Balmuth, M. (1992). *The roots of phonics: A historical introduction*. Baltimore, Md.: York Press.

Bear, D., Invernizzi, M., Templeton, S., and Johnston, F. (2000). *Words their way* (2nd Edition). Columbus, Ohio: Merrill.

Bryson, B. (1990). *The mother tongue: English and how it got that way*. New York: Avon Books.

Berninger, V. Vaughan, K., Abbott, R., Brooks, A., Abbott, S., Reed, E., Rogan, L. and Graham, S. (1998). Early intervention for spelling problems: Teaching spelling units of varying size within a multiple connections framework. *Journal of Educational Psychology*, 90, 587-605.

Bryant, P., Nunes, T. and Bindman, M. (1997). Children's understanding of the connection between grammar and spelling. In B. Blachman (Ed.), *Foundations of reading acquisition and dyslexia*, pp. 219-240. Mahwah, N.J.: Erlbaum.

Carlisle, J.F. and Stone, C.A. (2005). Exploring the role of morphemes in word reading. *Reading Research Quarterly*, 40(4), 428-449.

Carreker, S. (2005). Teaching spelling. In J. Birsh (Ed.), *Multisensory teaching of basic language skills* (2nd Edition), pp. 257-295. Baltimore, Md.: Paul Brookes.

Ehri, L.C. (1998). Grapheme-phoneme knowledge is essential for learning to read words in English. In J.L. Metsala & L.C. Ehri (Eds.), *Word recognition in beginning literacy*, pp. 3-40. Mahwah, NJ: Erlbaum.

Ehri, L. (2000). Learning to read and learning to spell: Two sides of a

coin. *Topics in Language Disorders*, 20(3), 19-49.

Ehri, L. (2004). Teaching phonemic awareness and phonics. In P. McCordle and V. Chhabra (Eds.), *The voice of evidence in reading research*, pp. 153-186. Baltimore, Md.: Brookes Publishing.

Ehri, L. and Snowling, M.J. (2004). Developmental variation in word recognition. In Stone, C.A., Silliman, E.R., Ehren, B.J., and Apel, K. (Eds.), *Handbook of language and literacy: Development and disorders*, pp. 433-460. New York: Guilford.

Grace, K. (in press). *Phonics and spelling through phoneme-grapheme mapping*. Longmont, Colo.: Sopris West.

Graham, S., Harris, K.R., and Loynachan, C. (1994). The spelling for writing list. *Journal of Learning Disabilities*, 27 (4), 210-214.

Hanna, P.R., Hanna, J.S., Hodges, R.E., and Rudorf, E.H., Jr. (1966). *Phoneme-grapheme correspondences as cues to spelling improvement* (USDOE Publication No. 32008). Washington, D.C.: U.S. Government Printing Office.

Henry, M. (2003). *Unlocking literacy*. Baltimore, Md.: Brookes Publishing.

Henry, M. (1997). The decoding/spelling curriculum: Integrated decoding and spelling instruction from pre-school to early secondary school. *Dyslexia*, 38, 178-198.

Kessler, B. and Treiman, R. (2001). Relationships between sounds and letters in English monosyllables. *Journal of Memory and Language*, 44, 592-617.

King, D. (2000). *English isn't crazy*. Baltimore, Md.: York Press.

Lindamood, C.H. and Lindamood, P. (1998). *The Lindamood Phoneme Se-*

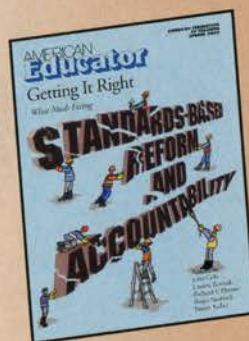
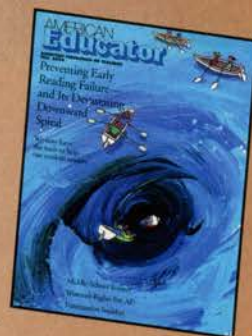
## American Educator

### online!

Share *American Educator* without letting your copy out of sight. Easily print articles for your study group, e-mail colleagues links to your favorite articles, e-mail a letter to the editor, and review the guidelines for submitting your own article.

Visit [www.aft.org/pubs-reports/american\\_educator/index.htm](http://www.aft.org/pubs-reports/american_educator/index.htm)

It's just a click away!





- quencing Program for reading, spelling, and speech. Austin, Texas: Pro-Ed.
- Mehta, P., Foorman, B.R., Branum-Martin, L., and Taylor, P.W. (2005). Literacy as a unidimensional construct: Validation, sources of influence, and implications in a longitudinal study in grades 1 to 4. *Scientific Studies of Reading*, 9(2), 85-116.
- Moats, L.C. (1995). *Spelling: Development, disability, and instruction*. Baltimore, Md.: York Press.
- Moats, L.C. (1996). Phonological spelling errors in the writing of dyslexic adolescents. *Reading and Writing: An Interdisciplinary Journal*, 8, 105-119.
- Moats, L.C. (2000). *Speech to print: Language essentials for teachers*. Baltimore, Md.: Brookes Publishing.
- Moats, L.C. (2003). *The speech to print workbook*. Baltimore, Md.: Paul Brookes.
- Moats, L.C. (2004). *Language essentials for teachers of reading and spelling (LETRS), Module 2, The Speech Sounds of English, and Module 3, Spellography for Teachers*. Longmont, Colo.: Sopris West Educational Services.
- Moats, L.C. and Rosow, B. (2002). *Spellography*. Longmont, Colo.: Sopris West.
- Montgomery, D.J., Karlan, G.R., and Coutinho, M. (2001). The effectiveness of word processor spell checker programs to produce target words for misspellings generated by students with learning disabilities. *Journal of Special Education Technology*, 16 (2).
- National Commission on Writing for America's Families, Schools, and Colleges (2005). *Writing: A Powerful Message from State Government*. New York: College Board.
- National Institute of Child Health and Human Development (2000). *The Report of the National Reading Panel*. Washington, D.C.: NICHD.
- Pennington, B. F., McCabe, L.L., Smith, S.D., Lefly, D.L., Bookman, M.O., Kimberling, W.J., and Lubs, H.A. (1986). Spelling errors in adults with a form of familial dyslexia. *Child Development*, 57, 1001-13.
- Sacks, D. (2003). *Language visible: Unraveling the mystery of the alphabet from A to Z*. New York: Broadway Books.
- Singer, B. and Bashir, A. (2004). Developmental variations in writing. In Stone, C.A., Silliman, E.R., Ehren, B.J., and Apel, K. (Eds.), *Handbook of language and literacy: Development and disorders*, pp. 559-582. New York: Guilford.
- Snow, C. E., Griffin, P., and Burns, M. S. (Eds.) (2005). *Knowledge to Support the Teaching of Reading: Preparing Teachers for a Changing World*. San Francisco: Jossey-Bass.
- Tangel, D. and Blachman, B. (1995). Effect of phoneme awareness instruction on the invented spelling of first-grade children: A one-year follow-up. *Journal of Reading Behavior*, 27, 153-185.
- Templeton, S. and Bear, D. (Eds.) (1992). *Development of orthographic knowledge and the foundations of literacy*. Hillsdale, N.J.: Lawrence Erlbaum Associates.
- Treiman, R. and Bourassa, D. (2000). The development of spelling skill. *Topics in Language Disorders*, 20, 1-18.
- Uhry, J. K. and Shepherd, M. J. (1993). Segmentation and spelling instruction as part of a first-grade reading program: Effects on several measures of reading. *Reading Research Quarterly*, 28, 219-233.

## Learning for Leadership



This innovative and dynamic program offers educators and administrators the following benefits:

- Focused on diverse learners
- Strengths-based
- Outcomes-driven
- Cohort model enhanced with online learning
- A one-week study-abroad component that exposes educational administrators to international education systems

### ED.D. in EDUCATIONAL LEADERSHIP: K-12

As a seasoned school administrator, you desire to close the achievement gap so prevalent in today's urban schools. Azusa Pacific University equips you to make a difference through its Ed.D. in Educational Leadership (K-12) degree.

CALL (626) 815-5374  
 CLICK [www.apu.edu/education/k-12](http://www.apu.edu/education/k-12)  
 EMAIL [cjquinn@apu.edu](mailto:cjquinn@apu.edu)  
 VISIT Our Azusa campus, located in L.A. County

  
**AZUSA PACIFIC**  
 UNIVERSITY  
 901 E. Alosta Ave.  
 Azusa, CA 91702-7000

1205

## FRENCH TEACHERS

Students aged 11-19 from Metropolitan France, West French Indies, French Guyana, Reunion Island and French Polynesia would like to contact teachers for personal/professional correspondence, student exchanges, exchange of flats, or holidays.

If interested, write to  
**SNES Exchanges—Roger Charles Le Breton**  
 Syndicat National des Enseignements de Second degré  
 46 avenue d'Ivry - 75647 PARIS CEDEX 13 - France  
 Fax: (33) 1 40 63 29 68  
 E-mail: [internat@snes.edu](mailto:internat@snes.edu)





## AFT PLUS POINTS THE WAY TO SAVINGS

### Education Finance Solutions

The AFT PLUS Education Loan Marketplace is the tool that will help you and your family solve the puzzle of paying for and managing the costs of education. Call 800/936-4976 or visit [www.aft.org/aftplus/financial/educationloans.htm](http://www.aft.org/aftplus/financial/educationloans.htm).

### Mortgage Program

AFT members are eligible for low down payments for houses, condos and co-ops. Competitive mortgage rates for you, your children, and your parents. More than \$713 million financed for AFT members to date. Call 800/981-3798 or visit [www.aft.org/aftplus/financial/mortgage.htm](http://www.aft.org/aftplus/financial/mortgage.htm).

### EF Travel

EF is now accredited. Teachers can earn CEUs and students can earn high school credit by traveling with EF. Accompany students on tours and you can travel free! For domestic travel, call 800/807-9021 or visit <http://www.efamerica.com/aft>. For international travel, call 800/590-1103 or visit <http://www.eftours.com/aft>.



AFT PLUS

## Letters

(Continued from page 2)

source of information that they increase the understanding of the teachers using them, as well as instruct the students.

I think Deborah Ball misses the real significance of Liping Ma's findings. She urges lengthy and expensive research into the nature of "teacher's mathematical knowledge," when we could define that operationally as "whatever the Chinese teachers know." That, in turn, would come down to the contents of their curricula and textbooks. (See "A Coherent Curriculum" by William Schmidt et al., *American Educator*, Summer 2002.)

Ball also states that "the effects of ... teacher's mathematical knowledge on student achievement are largely unproven." I would say that the relative scores of Chinese and American students on the 2003 TIMSS test are overwhelming proof of that effect (with students in Hong Kong scoring, on average, 81 points higher than students in the U.S.).

Why research a question whose answer is already known beyond a shadow of a doubt? Liping Ma's book shows very clearly that elementary mathematics can be taught conceptually, as well as procedurally, and shows examples of the concepts and how they are used to explain procedures. This is their mathematical knowledge, and the topics and details of all of it are displayed in their textbooks.

Why not do the obvious and use a translation of a text from a high-performing country? Not only would the text be better from the students' standpoint, it would serve as a source of knowledge and understanding that American teachers need to teach the students effectively.

—DANIEL M. STAMM  
Smyrna, Georgia

### Authors Ball, Hill, and Bass reply:

Of course my colleagues and I agree with much that Mr. Stamm says. The goal is better student learning and better systems for supporting teachers' learning of the mathematics and of ways to teach it. The conceptual clarity and focus on mathematical principles and connections that we often see in clips from Asian classrooms should be



come the standard. Not only have we learned more about some of the things that Chinese teachers do, but also about the professional work culture of Japanese teachers. We agree that there is plenty to learn from the work and education of teachers in these and other countries.

We further agree with Mr. Stamm that creating opportunities for teachers to learn this sort of knowledge is crucial. Few teachers develop it simply from experience. We absolutely believe in excellent teaching and agree that teachers deserve nothing less in their own professional learning.

But we also differ with Mr. Stamm on three important points.

First, we have no reason to believe that texts alone “cause” good instruction. It is not just the quality of Chinese texts that matters, but also the ways in which teachers study and use them. Similarly, teachers in Japan study topics and students’ difficulties in mastering them. These approaches to “professional study” are important, yet seldom practiced in the U.S. Thus, trans-

lating textbooks and using them in the U.S. may not alone lead to teaching of the carefully sequenced and mathematically precise kind that Mr. Stamm advocates. But he is quite right that exploring Asian curriculum materials and ways of using them is a promising idea.

Second, to claim that differences in student achievement in China and Japan, as reflected in the TIMSS data, are due only to the quality of the textbooks or to teachers’ knowledge of mathematics, oversimplifies the factors involved. In the research reported in our article, “Knowing Mathematics for Teaching,” we analyzed a variety of influences on U.S. student achievement gains. We found that teachers’ mathematical knowledge, as we measured it, significantly predicted gains, but students’ family SES level did, as well, and at about the same effect size as teachers’ content knowledge. What might be the factors in China, or Japan? We are not aware of rigorous empirical research that convincingly establishes answers to these questions.

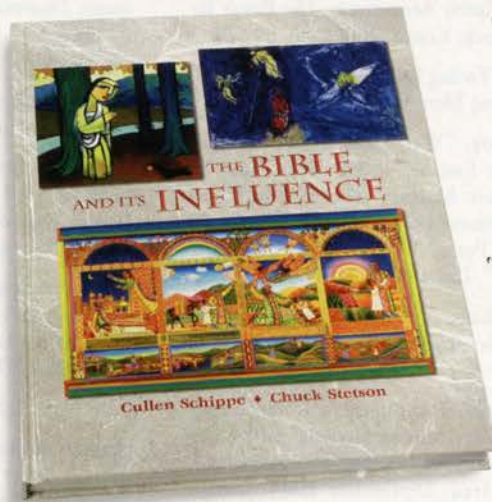
Third, figuring out what constitutes

mathematical knowledge for teaching does require research. Liping Ma’s work built on and extended fundamental research on this question. That only 10 percent of Chinese teachers have this knowledge cannot be concluded from her study. However, she did provide some portraits of what knowledge of mathematics for teaching may look like. Since the time of her study, major progress has been made on specifying further the nature of this kind of knowledge. At its core, a definition of the knowledge needed for teaching must be linked to student learning. To be clear, we are not developing an instrument to “eliminate teachers who lack this knowledge.” Rather, we are developing questions that can help to discriminate different levels of knowledge, so that we can compare the impact of different programs of professional development, or the influence of teachers’ knowledge on students’ learning. Without such instruments and analyses, we have no basis for mediating entirely different claims about the mathematical knowledge needed for teaching. □



## UNIQUE NEW TEXTBOOK FOR ACADEMIC STUDY OF THE BIBLE IN PUBLIC HIGH SCHOOLS

- \* Meets First Amendment standards
- \* An elective in literature or social studies
- \* Pilot-tested in public schools
- \* Reviewed by 40 scholars
- \* Special sections on literature, art and music
- \* Coming in 2006: teacher's edition and online teacher training



*"An undisputed triumph of scholarship and presentation. The achievement is breathtaking."*

LELAND RYKEN, PH.D., CLYDE S. KILBY PROFESSOR OF ENGLISH  
AT WHEATON COLLEGE, ILL.

*"A feast for the mind, the eye, and the heart. Instructive, beautiful, and engaging!"*

AMY A. KASS, PH.D., SENIOR LECTURER, UNIV. OF CHICAGO

*"Solidly researched... I endorse this effort wholeheartedly."*

BISHOP RICHARD SKLBA, CHAIR OF THE BOARD OF TRUSTEES  
FOR THE CATHOLIC BIBLICAL ASSOCIATION

*"An outstanding resource for public schools."*

CHARLES C. HAYNES, PH.D., SENIOR SCHOLAR,  
FIRST AMENDMENT CENTER

### BIBLE LITERACY PROJECT

*An Educated Person is Familiar with the Bible*

FREE SHIPPING FOR AFT READERS AT:

WWW.BIBLELITERACY.ORG/GO/AFT

© 2006 by BLP Publishing



# Child Soldiers

(Continued from page 37)

## Endnotes

- <sup>1</sup> "Child Soldiers," Radio Netherlands, January 21, 2000, [www2.rnw.nl/rnw/en/features/humanrights/childsoldiers.html](http://www2.rnw.nl/rnw/en/features/humanrights/childsoldiers.html).
- <sup>2</sup> John Keegan, *A History of Warfare* (New York: Knopf, 1993).
- <sup>3</sup> Michael Walzer, *Just and Unjust Wars: A Moral Argument with Historical Illustrations* (New York: Basic Books, 1992).
- <sup>4</sup> Jane Green Schaller, "Children, Child Health, and War," paper presented at the IPA/WHO/UNICEF Pre-Congress Workshop on Assessment of the Mid-Decade Goals: Evaluation and Recommendations, Cairo, September 9-10, 1995.
- <sup>5</sup> Data from Rädä Barnen, *Childwar Database*. These figures also blunt the spurious arguments that the standards against use of child soldiers are Western derived. No culture considers its members mature at these young ages, nor do their prior histories of warfare indicate such use of pre-teen warriors.
- <sup>6</sup> UNICEF, *Adult Wars, Child Soldiers* (Geneva, 2003), p. 19.
- <sup>7</sup> International Labor Office, *Wounded Childhood*, p. 36.
- <sup>8</sup> Ilse Derluyn et al., "Post Traumatic Stress in Former Child Soldiers," *The Lancet*, March 13, 2004.
- <sup>9</sup> "Child Soldiers," Radio Netherlands, January 21, 2000, [www2.rnw.nl/rnw/en/features/humanrights/childsoldiers.html](http://www2.rnw.nl/rnw/en/features/humanrights/childsoldiers.html).
- <sup>10</sup> Human Rights Watch, *You'll Learn Not to Cry: Child Combatants in Colombia* (New York, September 2003), pp. 4-5; Karl Penhaul, "Colombia's Force of Child Soldiers," *Boston Globe*, March 4, 2001.
- <sup>11</sup> Jan Mckirk, "Brutality of Child Army Shocks Colombia," *The Independent* (London), May 2, 2001.
- <sup>12</sup> Coalition to Stop the Use of Child Soldiers (CSC), "The Use of Child Soldiers in the Americas: An Overview," 2001, [www.child-soldiers.org](http://www.child-soldiers.org); Human Rights Watch, "Child Soldiers Used by All Sides in Colombia's Armed Conflict," press release, New York, October 8, 1998, [www.hrw.org/hrw/press98/oct/childsold1008.htm](http://www.hrw.org/hrw/press98/oct/childsold1008.htm).
- <sup>13</sup> CSC, "Action Appeal: Colombia," September 2002; *UNHCR News*, May 21, 2002.
- <sup>14</sup> Colonel Boris Okhtinsky, quoted in "Sausage, Shahid's Dream," *Moskovskie Novosti*, July 2, 2002.
- <sup>15</sup> Richard Reid, "The Impact of Armed Conflict on Children's Rights," *International Pediatric Association Journal* 6, no. 4 (October 1995).
- <sup>16</sup> "Liberia: Child Soldiers Are Back on the Frontline," Integrated Regional Information Networks (IRIN), June 9, 2003; Somini Sengupta, "Soldiers of Misfortune," *The Hindu* (Madras), December 2, 2003.
- <sup>17</sup> The RUF in Sierra Leone is next with a six-year-old, closely followed by a number of armed groups with seven- and eight-year-olds. Rädä Barnen, *Childwar Database*, principal investigator: Henric Häggström, at [www.rb.se/eng/](http://www.rb.se/eng/) (accessed November 2000).
- <sup>18</sup> Even after the overthrow of the regime behind the genocide, the fighting by children still continues. The Army for the Liberation of Rwanda (ALIR) rebel group recruits and sometimes abducts children for military service, some as young as 10 years old. Rädä Barnen, *Children of War Newsletter*, no. 1/01 (March 2001), at [www.rb.se/eng/](http://www.rb.se/eng/).
- <sup>19</sup> Up to 14,000 Children Used in War," IRIN, June 12, 2001.
- <sup>20</sup> International Labor Office, *Wounded Children: The Use of Children in Armed Conflict in Central Africa* (Geneva, 2003), p. 5.
- <sup>21</sup> Evelyn Leopold, "Congolese Kids Face Horrific Conditions," Reuters, June 17, 2003; "UN Finds Congo Child Soldiers," BBC News, February 21, 2001; "Amman Conference to Seek Ban on Use of Child Soldiers in Region, World," AFP, April 7, 2001; "DRC Child Soldiers," *Child Soldiers Newsletter* 3 (March 2002).
- <sup>22</sup> Emily Wax, "Boy Soldiers Toting AK-47s Put at Front of Congo's War," *Washington Post*, June 13, 2003; Anne Edgerton, "Rapid Deployment of Emergency Multinational Force Critical," Refugees International press release, June 2, 2003; AFP report, June 6, 2003.
- <sup>23</sup> Interviews with DRC experts, spring 2003.
- <sup>24</sup> Ian Brown, *Khomeini's Forgotten Sons: The Story of Iran's Boy Soldiers* (London: Grey Seal, 1990), p. 2.
- <sup>25</sup> Quoted in Karen Armstrong, *The Battle for God* (New York: Knopf, 2000), pp. 327-28.
- <sup>26</sup> P.W. Singer, "Facing Saddam's Child Soldiers," Brookings Iraq Memo, January 8, 2003.
- <sup>27</sup> Matthew Cox, "War Even Uglier When a Child Is the Enemy," *USA Today*, April 8, 2003; "Report: Marines Wounded in Fighting Late Wednesday in Iraq," AP, March 27, 2003; Alex Perry, "When Kids Are in the Cross Hairs," *Times*, April 21, 2003.
- <sup>28</sup> Martin Bentham, "Fedeyeen Use Children as Shields," *The Telegraph* (London), April 4, 2003.
- <sup>29</sup> "Enemy Tactics, Techniques, and Procedures (TTP) and Recommendations," 3rd Corp Support Command briefing document, LSA Anaconda, Iraq, September 2003; Joseph Galloway, "Hurt Still Arriving at Army Hospital," *Charlotte Observer*, November 3, 2003; Interviews with U.S. Army Officers, November-December 2003.
- <sup>30</sup> Neil Mackay, "Iraq's Child Prisoners," *Sunday Herald*, August 1, 2004; Richard Sisk, "Teen Held, U.S. Admits Juveniles in Abu Ghraib," *New York Daily News*, July 15, 2004.
- <sup>31</sup> Human Rights Watch, *Children in Sudan: Slaves, Street Children and Child Soldiers* (New York, September 1995).
- <sup>32</sup> CSC, *Child Soldier Use, 2003: A Briefing for the 4th UN Security Council Open Debate on Children and Armed Conflict*, January 2004.
- <sup>33</sup> Rachel Stahl, "Child Soldiers Released in Sudan, Still No U.S. Action," *Weekly Defense Monitor* 5, No. 9 (March 1, 2001).
- <sup>34</sup> Carol Ann Berger, "From Cattle Camp to Slaughterhouse: The Politics of Identity Among Cuban-Educated Dinka Refugees in Canada" (master's thesis, University of Alberta, 2001); Human Rights Watch/Africa, *Civilian Devastation: Abuses by All Parties in the War in Southern Sudan* (New York, 1994).
- <sup>35</sup> CSC, *1379 Country Report*, 2002.
- <sup>36</sup> Recent reports indicate that children between the ages of 7 and 12 are fighting on both sides in Ambon. CSC, "Child Soldiers: A Human Security Challenge for ASEAN (Association of South East Asia Nations)," July 24, 2000, at [www.child-soldiers.org](http://www.child-soldiers.org).
- <sup>37</sup> Quoted in John McBeth, "Children of War," *Far Eastern Economic Review*, May 2, 2002.
- <sup>38</sup> Human Rights Watch, *My Gun Was as Tall as Me* (New York, 2002), p. 46; Coalition to Stop the Use of Child Soldiers, *Child Soldier Use 2003*.
- <sup>39</sup> Save the Children, "Children of the Gun"; United Nations, Report of the Expert of the Secretary General, Graça Machel, "Impact of Armed Conflict on Children," Document A/51/306 & Add. 1, August 26, 1996.
- <sup>40</sup> Data on overall combatant figures from Taylor Seyboldt, Ed., *SIPRI Yearbook 2000: Armaments, Disarmament and International Security* (Oxford, UK: Oxford University Press, 2000), Appendix 1A, Uppsala Conflict Data Project.
- <sup>41</sup> United Nations, Report of the Expert of the Secretary General, 1996.
- <sup>42</sup> "MONUC Denounces Recruitment of Child Soldiers by Lubanga's UPC/RP," International Regional Information Networks (IRIN), February 7, 2003.
- <sup>43</sup> Amnesty International, "Breaking God's Commands"; "The Destruction of Childhood by the Lord's Resistance Army Report," AFR 59/01/97, September 18, 1997.
- <sup>44</sup> Gunaratna, "LTTE Child Combatants."
- <sup>45</sup> Human Rights Watch, *Children in Sudan: Slaves, Street Children and Child Soldiers* (New York, September 1995).
- <sup>46</sup> John Otis, "Rebel Held: Child Soldiers," *Houston Chronicle*, August 3, 2001.



- <sup>47</sup> UNICEF, *Adult Wars, Child Soldiers* (Geneva, 2003), p. 19.
- <sup>48</sup> International Labor Office, *Wounded Childhood: The Use of Children in Armed Conflict in Central Africa* (Geneva, 2003).
- <sup>49</sup> Center for Defense Information (CDI), "The Invisible Soldiers: Child Combatants," *Defense Monitor* 26, no. 4 (1997), [www.cdi.org/dm/1997/issue4](http://www.cdi.org/dm/1997/issue4).
- <sup>50</sup> Save the Children, "Children of the Gun," Children in Crisis project report, September 2000.
- <sup>51</sup> Refugees International, "Children in the Eastern Congo: Adrift in a Sea of War and Poverty," February 6, 2002; "DRC: Minimal Net Reductions in Child Soldiers," *Child Soldiers Newsletter* 3 (March 2002).
- <sup>52</sup> UNICEF, *Adult Wars, Child Soldiers* (Geneva: 2003), p. 19.
- <sup>53</sup> "Girl Soldiers: Challenging the Assumptions," *Geneva Reporter* 21, no. 3 (July 2002); Yvonne Kearins, "The Voices of Girl Child Soldiers," Quaker UN Office newsletter (New York, October 2002).
- <sup>54</sup> "Child Soldiers," Radio Netherlands, January 21, 2000, at [www2.rnw.nl/rnw/en/features/humanrights/childsoldiers.html](http://www2.rnw.nl/rnw/en/features/humanrights/childsoldiers.html).
- <sup>55</sup> Tom Kamara, "Children Remain 'Useful,'" *The Perspective*, January 24, 2001. Note: Taylor won the war and obviously did not

keep his promise.

- <sup>56</sup> CDI, "Invisible Soldiers."
- <sup>57</sup> International Labor Office, *Wounded Childhood*, p. 31.

## Sidebar Endnotes

From page 34

- <sup>1</sup> Figures from the U.S. Department of Labor, Bureau of International Labor Affairs (Washington, D.C., 2003) and UN Population Fund, *State of World Population: Making 1 Billion Count* (New York: UNFPA, 2003).
- <sup>2</sup> Raymond Copson, "AIDS in Africa," Congressional Research Service Issue Brief IB10050, May 14, 2001; International Crisis Group (ICG), "HIV/AIDS as a Security Issue," ICG Report, June 19, 2001, [www.crisisgroup.org/home/index.cfm?id=1831&=1](http://www.crisisgroup.org/home/index.cfm?id=1831&=1); National Intelligence Council, "The Global Infectious Disease Threat and Its Implications for the United States," NIE 99-17D, January 2000, [www.odci.gov/cia/reports/nie/report/nie99-17d.html](http://www.odci.gov/cia/reports/nie/report/nie99-17d.html); P.W. Singer, "AIDS and International Security," *Survival* 44, no. 1 (spring 2002): 145-58.
- <sup>3</sup> Sharon LaFraniere, "Millions of AIDS Orphans Strain Southern Africa," *New York Times*, December 24, 2003.
- <sup>4</sup> "South Africa AIDS Orphans Struggle to Survive," CNN.com, June 21, 2001;

"HIV/AIDS: The Impact on Social and Economic Development," 2001; National Intelligence Council, 2001; UN Population Fund, *State of World Population*.

- <sup>5</sup> Michael Klare, "The Kalashnikov Age," *Bulletin of the Atomic Scientists* 55, no. 1 (January/February 1999).
- <sup>6</sup> Robert Neild, "Expose the Unsavory Business Behind Cruel Wars," *International Herald Tribune*, February 17, 2000.
- <sup>7</sup> Center for Defense Information (CDI), "The Invisible Soldiers: Child Combatants," *Defense Monitor* 26, no. 4 (1997).

From page 37

- <sup>1</sup> Human Rights Watch, "You'll Learn Not to Cry": *Child Combatants in Columbia* (New York, September 2003), p. 95.
- <sup>2</sup> Human Rights Watch, "You'll Learn Not to Cry," p. 64.
- <sup>3</sup> Human Rights Watch, "You'll Learn Not to Cry," p. 64.
- <sup>4</sup> UN panel, "Reclaiming Our Children," UN headquarters, transcript, May 7, 2002.
- <sup>5</sup> Document provided to author by I., a former child soldier, June 2002.
- <sup>6</sup> Tom Masland, "Voices of the Children: We Bet and Killed People," *Newsweek*, May 13, 2002.
- <sup>7</sup> "Child Soldiers," Radio Netherlands, January 21, 2000, [www2.rnw.nl/rnw/en/features/humanrights/childsoldiers.html](http://www2.rnw.nl/rnw/en/features/humanrights/childsoldiers.html).

## VOLUNTEER IN CHINA!

GLOBAL LANGUAGE VILLAGES

## PROFESSIONAL DEVELOPMENT OPPORTUNITY

Teach at an English language and culture camp for Chinese students this summer!

**PROGRAM DATES:** July 10 - August 1, 2006

**FOR MORE INFORMATION, VISIT OUR  
WEB SITE OR CONTACT:**

1-800-222-4750 ext. 61

glv@cord.edu



**CONCORDIA  
LANGUAGE  
VILLAGES**

A program of Concordia College,  
Moorhead, Minnesota, USA



[www.GlobalLanguageVillages.org](http://www.GlobalLanguageVillages.org)

## AT ARGOSY UNIVERSITY, THE BEST TEACHERS NEVER STOP LEARNING.



VISIT  
OUR  
WEBSITE  
FOR  
OPEN HOUSE  
DATES

Expand your horizons in education at Argosy University. We're here to help you continue along the path to higher knowledge. We offer master's, specialist, and doctoral degree programs in a range of educational concentrations. Day, evening, weekend, and online instruction is available for your convenience. Contact us today and see how we can help you raise your level of professional education.

**ARGOSY  
UNIVERSITY**

ARGOSY UNIVERSITY/ATLANTA  
Atlanta, GA  
ARGOSY UNIVERSITY/CHICAGO  
Chicago, IL  
ARGOSY UNIVERSITY/DALLAS  
Dallas, TX  
ARGOSY UNIVERSITY/HAWAII  
Honolulu, HI  
ARGOSY UNIVERSITY/NASHVILLE\*  
Franklin, TN

ARGOSY UNIVERSITY  
ORANGE COUNTY  
Santa Ana, CA  
ARGOSY UNIVERSITY/PHOENIX  
Phoenix, AZ  
ARGOSY UNIVERSITY  
SAN FRANCISCO BAY AREA  
Point Richmond, CA  
ARGOSY UNIVERSITY/SARASOTA  
Sarasota, FL  
ARGOSY UNIVERSITY/SCHAUMBURG  
Schaumburg, IL

ARGOSY UNIVERSITY/SEATTLE  
Seattle, WA  
ARGOSY UNIVERSITY/TAMPA  
Tampa, FL  
ARGOSY UNIVERSITY/TWIN CITIES  
Eagan, MN  
ARGOSY UNIVERSITY  
WASHINGTON DC  
Arlington, VA

1.888.488.7537

[www.  
argosyu.edu/ae](http://www.argosyu.edu/ae)

ARGOSY UNIVERSITY  
Two First National Plaza  
20 South Clark Street, 28th Floor  
Chicago, IL 60603

Program names vary by location. Not all programs are available at every location. Argosy University is accredited by the Higher Learning Commission and is a member of the North Central Association (NCA) (30 North LaSalle Street, Suite 2400, Chicago, IL 60602 [www.ncahc.org](http://www.ncahc.org); 312.263.0456

\*Argosy University/Nashville is a branch location of Argosy University/Atlanta.

© 2005 by Argosy University® 1424-7/05



## Cognitive Scientist

(Continued from page 27)

Praise can take so many forms that its effects are inevitably complex. Still, some useful generalizations can be made. Praise should be sincere, meaning that the child has done something praiseworthy. The content of the praise should express congratulations (rather than express a wish of something else the child should do). The target of the praise should be not an attribute of the child, but rather an attribute of the child's behavior. Parents and teachers are familiar with the admonition "criticize the behavior, not the child." For similar reasons, the same applies to praise—praising the child carries the message that the attribute praised is fixed and immutable. Praising the process the child used encourages the child to consider praiseworthy behaviors as under his or her control. □

## References

- Anderson, R., Manoogian, S. T., and Reznick, J. S. (1976). The undermining and enhancing of intrinsic motivation in preschool children. *Journal of Personality and Social Psychology*, 34, 915-922.
- Birch, L. L., Marlin, D. W., and Rotter, J. (1984). Eating as the "means" activity in a contingency: Effects on young children's food preference. *Child Development*, 55, 431-439.
- Deci, E. L., Koestner, R., and Ryan, R. M. (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin*, 125, 627-668.
- Dweck, C. S. (2002). Messages that motivate: How praise molds students' beliefs, motivation, and performance (in surprising ways). In Aronson, J. (Ed.) *Improving academic achievement: Impact of psychological factors on education*. New York: Academic Press.
- Hacker, J. M. (1979). The effects of reward contingency and performance feedback on intrinsic motivation. *Journal of Personality and Social Psychology*, 37, 1352-1363.
- Henderlong, J. and Lepper, M. R. (2002). The effects of praise on children's intrinsic motivation: A review and synthesis. *Psychological Bulletin*, 128, 774-795.
- Kamins, M. and Dweck, C. S. (1999). Person versus process praise: Implications for contingent worth and coping. *Developmental Psychology*, 35, 835-847.
- Koestner, R., Zuckerman, M., and Koestner, J. (1989). Attributional focus of praise and children's intrinsic motivation: The moderating role of gender. *Personality and Social Psychology Bulletin*, 15, 61-72.
- Kohn, A. (2001). Five reasons to stop saying "Good job!" *Young Children*, September, 24-28.
- Mangin, M. C. (1998). Praise: What does it accomplish? *Dimensions of Early Childhood*, Summer/Fall, 26, 12-18.
- Mueller, C. M. and Dweck, C. S. (1998). Intelligence praise can undermine motivation and performance. *Journal of Personality and Social Psychology*, 75, 33-52.
- Swann, W. B. and Pittman, T. S. (1977). Initiating play activity of children: The moderating influence of verbal cues on intrinsic motivation. *Child Development*, 48, 1128-1132.
- Weiner, B. (1992). *Human motivation: Metaphors, theories, and research*. Newbury Park, Calif.: Sage.

## Imagine teaching in a classroom...

- With nothing but a chalkboard
- Where 65 students have no desks
- When you make only \$50 per month

And yet for thousands of students, YOU are their only hope



Education is a right of every child.  
Help us make it a reality in Afghanistan.



**Help The Afghan Children**

8603 Westwood Center Drive, Suite 230  
Vienna, Virginia 22182

[www.HELPTHEAFGHANCHILDREN.org](http://www.HELPTHEAFGHANCHILDREN.org)

To contribute, please send check or money order or visit us online  
Please mark contributions with AMED05

## New Leaders for New Schools

Fostering high academic achievement for every child by attracting, preparing, and supporting the next generation of outstanding leaders for our nation's urban public schools.

Great schools are led by great principals.

## Become an urban public school principal.

New Leaders for New Schools is looking for candidates who have a relentless drive to improve education for all children, a record of effective teaching, and a strong foundation of skills needed for general management and leadership.

If you believe that every child can achieve academically at high levels, learn more at

[www.nlins.org](http://www.nlins.org)  
646-792-1070

New Leaders for New Schools is committed to a policy of non-discrimination against any person because of age, ancestry, color, disability or handicap, national origin, race, religious creed, sexual orientation, or veteran status.

Baltimore • CA Bay Area • Chicago • Memphis • New York City • Washington, D.C.



**Just For You!**

**These and Several  
Hundred others.  
For Friends and  
Family too!**

**1-800-774-9162**

[www.buymags.com/aft](http://www.buymags.com/aft)

Alfred Hitchcock's Mystery	39.97	27.97
Allure	20.00	11.97 *
American Baby	23.94	13.97
American History Illustrated	29.95	19.95
American Photo	21.00	10.50
Aquarium Fish	27.97	15.97
Architectural Digest	42.00	24.00 *
Arthritis Today	23.94	12.95
Artist's Magazine	26.00	18.97
Asimov's Science Fiction	39.97	29.97
The Atlantic	29.95	24.95
Aviation History	29.95	19.95
Backpacker	29.98	19.94 *
Baseball Digest	29.95	19.95
Better Homes 1 yr & Gardens 2 yrs	22.00	14.97
Bicycling	19.98	19.94 *
Bird Talk	27.97	13.99
Black Enterprise	22.00	17.95
Boating	28.00	14.00

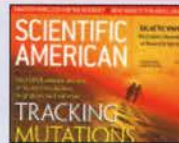
**Keep up  
with events  
and their  
implications.**



**Full year - just \$29.95**

Bon Appetit	28.00	24.00 *
British Heritage	35.95	19.95
Business 2.0	19.98	12.00 *
Business Week	59.97	39.97 *
Car & Driver	21.94	10.97
Cat Fancy	27.97	14.99
Chicago	19.90	9.95
Child [12 issues]	19.16	12.00
Civil War Times	29.95	19.95
Coach, Scholastic	23.95	14.95
Coastal Living	18.00	16.00
Columbia Journalism Review	20.00	11.95
Computer Shopper	25.00	14.99
Conde Nast Traveler	19.97	14.97 *
Consumer Reports	1 yr 26.00 2 yrs 44.00	26.00 44.00
Cooking Light	18.00	18.00
Cosmopolitan	29.97	18.00 *

**NEW, low  
rate. Just  
for our  
members!**



**12 issues \$24.97**

Country Living	24.00	12.00
Creating Keepsakes	24.97	19.97
Cruise Travel	29.95	17.95
Disney's Princess (age 4+)	27.00	19.97
Dog Fancy or Dog World	27.97	14.99
Ebony	20.00	14.97
Economist	125.00	77.00 *
Elle	28.00	14.00
Elle Decor	29.00	14.50
Ellery Queen's Mystery	39.97	27.97
Entertainment Weekly [54 iss]	39.95	34.95 *
Entrepreneur	19.97	11.97
Esquire	15.94	8.97
Essence	22.00	18.96

\* These rates for teachers and college students only.

Publication	Usual Price	Your Price
Family Circle [12 iss]	15.98	12.00
Family Fun	16.95	9.97
Family Handyman	24.00	15.00
Fast Company [15 iss]	29.94	19.75
Fitness	19.98	11.97
Flying	26.00	13.00
Food & Wine	35.00	20.00
Forbes	59.95	24.95
Foreign Affairs	44.00	32.00

**55 weekly  
issues  
at a special  
member  
rate.**



**55 issues \$24.99 108 issues \$48.99**

Foreign Policy	24.95	19.95
Fortune [26 iss]	59.95	29.98 *
Girls Life	19.95	14.95
Glamour	20.00	11.97 *
Golf	19.95	15.94
Golf Digest	27.94	14.97
Golf World	53.97	29.97
Good Housekeeping	21.97	10.00
Gourmet	20.00	15.00
GQ	20.00	15.00 *
Harper's Bazaar	18.00	9.00
Harper's Magazine	21.00	11.97
Hawaii	20.00	15.00
Hispanic Magazine	24.00	18.00
Home	24.00	12.00
House Beautiful	1 yr 19.97 2 yrs 23.00	12.00 23.00
House & Garden	25.00	19.97 *
Humpy Dumpty (ages 4-6)	22.95	17.29
Inc.	19.00	14.00
Inside Stuff (NBA)	19.95	12.95
Instructor (K-8)	19.95	9.95
InStyle [12 issues]	22.15	18.00 *
Jet	38.00	24.00
Kiplinger's Personal Finance	23.95	14.97

- **Best Titles**
- **LOWEST Rates**
- **GREAT GIFTS!**

Publication	Usual Price	Your Price
The Nation	52.00	26.00
National Geographic	34.00	34.00
National Review	59.00	39.00
New York	1 yr 29.90 2 yrs 55.02	14.97 29.90
New Yorker	49.95	29.95 *
Newsweek	[55 iss] 43.45 [108 iss] 85.32	24.99 48.99 *
Old House Journal	27.00	13.97
Organic Style	19.96	14.96 *
Outdoor Photographer	19.94	10.98
Paper Magazine	14.95	12.97
Parenting	17.97	9.97
Parents	15.98	8.97
PC Magazine [25 iss]	45.45	25.00
PC World	24.95	19.97
Photographic	17.97	7.97

Publication	Usual Price	Your Price
The Weekly Standard	79.96	47.96
Stereophile	19.94	10.00
Sunset	24.00	16.00
Teaching Pre K-8	23.97	16.97
Technology & Learning	24.00	14.00

**The latest  
ideas,  
events &  
current  
issues**



**A best buy \$29.95**

Teen People	15.97	12.45 *
Teen Vogue [10 iss]	15.00	10.00
Tennis	18.00	12.00

# American Federation of Teachers

## Subscription Services

**No Gimmicks...  
Just the Lowest Prices!**



Box 258, Greenvale, N.Y. 11548  
[www.buymags.com/aft](http://www.buymags.com/aft)  
[aft@buymags.com](mailto:aft@buymags.com)

**1-800-774-9162**

Popular Mechanics	24.00	12.00
Popular Photography	19.94	9.97
Popular Science	19.95	15.94
Premiere	21.94	7.97
Preschool Playroom	23.94	19.97
Prevention	21.97	16.94 *
The Progressive	32.00	19.97
Psychology Today	21.00	15.97
Reader's Digest	24.98	13.96
large print edition	29.96	21.95
Real Simple [10 iss]	28.95	28.95 *
Redbook	17.97	8.00
Rolling Stone	23.94	11.97
Runner's World	24.00	20.00 *

This Old House	19.95	19.95
Time [56 issues]	59.95	29.95 *
Town & Country	28.00	15.00
Travel & Leisure	39.00	20.00
TV Guide	56.68	39.52
U.S. News	1 yr 53.58 2 yrs 43.94	21.97 43.94
US Magazine	65.00	52.00

### 3 SPECIAL RATES FOR OUR MEMBERS!

**\$39.95** **\$20.00** **100+** **\$20.00**

**ENJOY THEM  
ALL YEAR LONG!**

Vanity Fair	28.00	24.00 *
Veranda	24.00	15.00
Vietnam	29.95	19.95
Vogue	29.95	17.97
W Magazine	29.90	14.95
Weight Watchers	17.70	13.95
WildBird	19.97	12.99
Wine Enthusiast	32.95	26.95
Wired	24.00	12.00
Woman's Day	17.97	9.99
Women's Health	14.97	14.97 *
World War II	39.95	21.95
Writer's Digest	26.00	17.97

**Hundreds of Others Just Ask!**

Visit our website at [www.buymags.com/aft](http://www.buymags.com/aft)

For renewals include a mailing label, if available. All subscriptions one year unless otherwise indicated

### AFT SUBSCRIPTION SERVICES

Box 258 • Greenvale, NY 11548

Name \_\_\_\_\_

Address \_\_\_\_\_

City, State, Zip \_\_\_\_\_

Your School \_\_\_\_\_

Home Phone (\_\_\_\_) \_\_\_\_\_

Publication Name	Years	Price
Total		

Check enclosed payable to: **AFTSS**

Charge to my credit card

Visa  MasterCard  Discover  Amex

Acct: \_\_\_\_\_ Exp. Date: \_\_\_\_\_

Please bill me (phone # required)

FREE gift card upon request-- please send us a separate note.



# Your Union Colleagues Still Need Your Help



Above, all that is left of the home of AFT member Marla Mauffray and her family is a concrete slab.

Please help your fellow AFT members along the Gulf Coast put their lives back together. Donate now to the AFT Disaster Relief Fund through your local or state affiliate or go online to [www.aft.org/katrina](http://www.aft.org/katrina). This fund provides direct assistance to AFT members; no monies are used for administrative expenses. Checks made payable to **AFT Disaster Relief Fund** can be submitted through your local or state affiliate or mailed directly to: AFT Disaster Relief Fund c/o Connie Cordovilla, 555 New Jersey Ave. N.W., Washington, DC 20001-2079.