



AMERICAN Educator

A QUARTERLY JOURNAL OF EDUCATIONAL RESEARCH AND IDEAS

There's a Gaping Hole in State Standards

WHAT'S MISSING? CLEAR, SPECIFIC CONTENT



8

Content for the Literacy
Block by E. D. Hirsch, Jr.

13

AFT's Latest Standards
Review by Heidi Glidden

22

Improving Math Standards
by William H. Schmidt

25

A Critique of Science
Standards by Paul R. Gross



www.NetOpTech.com

Prepare:

- Prepare lesson plans, tests and homework assignments remotely, without installing additional software on your personal PC

Teach:

- Share assignments, audio/visual files, documents and screens
- Follow students as they work and discretely answer questions

Evaluate:

- Distribute tests to all students simultaneously with the touch of a button
- Correct and score tests automatically and provide immediate individual feedback

Control:

- Prohibit students from accessing Web sites or using specific applications



For **FREE TRIAL SOFTWARE**, contact us and mention promotional code: **AE7**.

USSales@NetOp.com
1-866-907-2971



2 Notebook

38 Before Their Time

Child Labor Around the World

By DAVID L. PARKER

An occupational physician and photographer documents the ongoing, worldwide failure to meet children's basic needs. The result: globally, 320 million children under age 16 work—many, like those shown here, in deplorable conditions.

5 Calling for Clear, Specific Content

The AFT has been calling for standards with clear, specific content for more than a decade. But by and large, state standards are still vague and repetitive. For this issue, we called on education and subject-matter experts, as well as new and veteran teachers, to explain why strong standards are necessary for a well-aligned education system—one in which teachers, curriculum writers, textbook and assessment developers, and professional development providers have a shared understanding of what students must learn in each grade. In addition to pointing out the major weaknesses of most state standards and their deleterious effects, this issue also presents examples of clear, specific standards—some from states, others from the International Baccalaureate and Core Knowledge.

6 There's a Hole in State Standards

And New Teachers Like Me Are Falling Through

By A SECOND-YEAR TEACHER

8 Plugging the Hole in State Standards

One Man's Modest Proposal for Infusing More Content into the Literacy Block and Making Reading Tests More Equitable

By E. D. HIRSCH, JR.

13 Common Ground

Clear, Specific Content Holds Teaching, Texts, and Tests Together

By HEIDI GLIDDEN

20 California's Content-Rich History "Framework"

22 What's Missing from Math Standards?

Focus, Rigor, and Coherence

By WILLIAM H. SCHMIDT

25 No Contest

Up Close, Typical State Biology Standards Don't Have the Content or Coherence of the International Baccalaureate

By PAUL R. GROSS

31 Informative, Not Scripted

Core Knowledge Shows How Clear, Specific Content Supports Good Instruction



A Union of Professionals

EDWARD J. McELROY
President

NAT LaCOUR
Secretary-Treasurer

ANTONIA CORTESE
Executive Vice President

© AMERICAN FEDERATION OF
TEACHERS, AFL-CIO 2008

LISA HANSEL
Editor

JENNIFER JACOBSON
Assistant Editor

SANDRA HENDRICKS
Copy/Production Editor

JENNIFER CHANG
Graphic Designer

JENNIFER BERNEY
Production/Editorial Assistant

SEAN LISHANSKY
Editorial Intern

Cover Illustration by
Nenad Jakesevic

AMERICAN EDUCATOR (USPS 008-462) is published quarterly by the American Federation of Teachers, 555 New Jersey Ave. N.W., Washington, DC 20001-2079. Phone: 202/879-4400
www.aft.org

Letters to the editor may be sent to the address above or via e-mail to amered@aft.org.

AMERICAN EDUCATOR cannot assume responsibility for unsolicited manuscripts.

Please allow a minimum of four weeks for copyright permission requests.

Signed articles do not necessarily represent the viewpoints or policies of the AFT.

Although advertisements are screened as carefully as possible, acceptance of an advertisement does not imply AFT endorsement of the product or service.

AMERICAN EDUCATOR is mailed to all AFT teacher and higher education members as a benefit of membership. Non-AFT members may subscribe by mailing \$10 per year by check or money order to the address on the left.

MEMBERS: To change your address or subscription, notify your local union treasurer.

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.

Advertising Sales Representative
Karen Dorne Media Sales
319 Harrison Avenue
Westfield, NJ 07090
Phone: 908/233-6075
Fax: 908/233-6081

Another Kind of Bible Study

WHILE COLLEGE COURSES on the Bible's importance in history and literature are quite common, such classes typically aren't taught in high school. Yet, with all the references to the Old and New Testament in both classical and modern texts, they very well could be.

The Bible Literacy Project, a nonpartisan, nonprofit organization, dedicated to the academic study of the Bible in secondary schools, has published a

textbook on the Bible for grades 9 through 12, along with a teacher handbook. Entitled, *The Bible and Its Influence*, the book was released in September 2005 and is the first textbook designed to meet constitutional standards for public school use. It has also been reviewed by a panel of independent scholars from the Judeo-Christian faith and various universities.

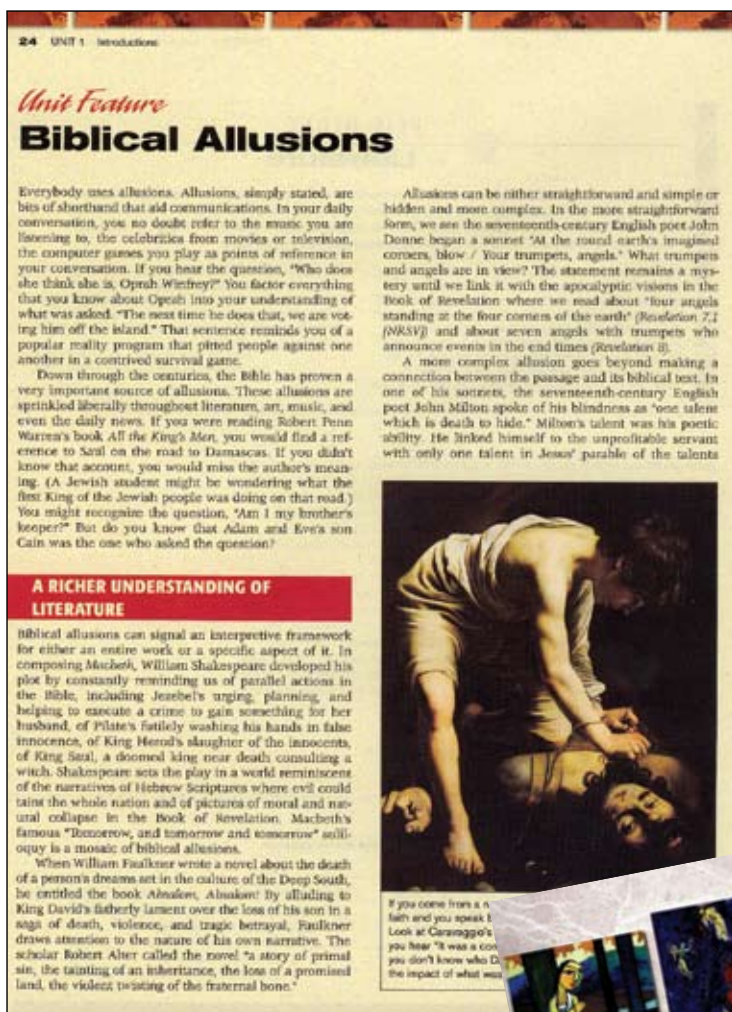
The nearly 400-page textbook covers the Bible's influence on literature, art,

music, and rhetoric, and is designed to be an elective in English or social studies. The book is divided into two parts: the Hebrew Scriptures and the New Testament. It also includes biblical scenes represented in

works of art, such as Leonardo da Vinci's *Last Supper*, *The Triumph of Judas Maccabeus* by Peter Paul Rubens, and Caravaggio's *David and Goliath* (shown below left). Along with the textbook, students study the actual Bible using a translation that each student chooses.

The Bible and Its Influence is a valuable resource for teachers who want their students to understand biblical references they may encounter inside and outside the classroom. According to the Bible Literacy Project, those references are numerous: more than 1,300 biblical references appear in Shakespeare's works, and more than 60 percent of allusions in one Advanced Placement literature prep course are biblical phrases.

To see if *The Bible and Its Influence* could supplement your English or history lessons, visit www.bibleliteracy.org/Site/index.htm.



Correction

ON PAGE 11 of the Winter 2007/08 issue of *American Educator*, a photograph was credited incorrectly in the article "4,000 Meters Below." The correct credit for the Marrus orthocanna photograph is Kevin Raskoff.

Correcting the Disconnect

FOUR YEARS AGO, James Rosenbaum told readers of *American Educator* that many high school graduates are unprepared for college-level work.* As he explained, there is a “tight connection between high school preparation (in terms of both the rigor of courses taken and grades received) and college completion.” High-achieving students who are aiming for selective universities know that—but many students who hope to attend college do not. They see plenty of students with mediocre grades heading off to college, not realizing that those students usually end up in remedial courses and often do not graduate. What to do? First and foremost, Rosenbaum recommended being honest with high school students about what it takes to prepare for college. Educators in California have another idea: work together to ensure that students are exposed to more challenging materials every year and finish high school college ready.

Through Cal-PASS, or California Partnership for Achieving Student Success, educators in K-12 schools, community colleges, and universities share student data (which is anonymous, of course) to improve instruction and better prepare students for the next grade level. Cal-PASS began as a regional effort in San Diego and Imperial counties; in 2003 it received a grant to go statewide. More than 2,600 elementary, middle, and high schools, community colleges, and universities participate.

“The reality is that if you want to create changes in the classroom, you have to involve the local educators in their region and have them review data on their students,” says Brad Phillips, Cal-PASS’s executive director.

To structure their discussions of curriculum and instruction, Cal-PASS members at different grade levels form “Professional Learning Councils” on particular topics, such as language arts, math, science, English language learners,

and career preparation. The councils meet once a month and are made up of 10 to 20 members. Each council has two chairs—one from K-12, another from a postsecondary institution—who each receive a stipend of \$1,250.

“We come up with research projects to promote an understanding of how to better transition students from segment to segment so that the college teachers don’t shake their heads and say ‘They should know this, how come they don’t?’” says Heidi Paul, a ninth-grade English teacher at Mission Hills High School in San Marcos, Calif. Paul belongs to the North County Professional Learning Council for language arts.

After professors in her council said that students were not ready for challenging texts when they got to college, Paul’s group decided to introduce such texts to their students earlier. Paul suggested that each member of the council, which ranges from sixth-grade teachers to college professors, teach part of Mary Wollstonecraft’s book of essays, *A Vindication of the Rights of Woman*, to their own students. “We asked them to write anything they understood, even if it was just one idea, a sentence,” Paul says. “Then we asked them to come up with two or three discussion questions.” Each teacher then collected the questions and used them to generate class discussion. Students then wrote about the new



understanding they developed through the discussion.

Paul says she and her colleagues shared students’ work—their questions and writings—at a council meeting. The group then made a rubric for each grade level for below competent, competent, proficient, and competitive work. “Our hope from this exercise is to determine when and how to start kids on challenging pieces of literature and nonfiction,” Paul says. “We determined that we baby them until they make this huge jump to college. At every grade level we keep saying ‘next year they’ll be ready.’” Paul says that teachers need to break that cycle. “We should give them more challenging pieces even if we only expect them to get a little out of it.”

Spring Brings New Leadership, New Look

THE AFT HAS named Lisa Hansel editor of *American Educator*, beginning with this issue. Hansel was previously managing editor. *American Educator*’s editor from 2002 through 2007, Ruth Wattenberg, has become the full-time assistant to AFT Executive Vice President Antonia Cortese.

Spring also marks the debut of *American Educator*’s updated look. Throughout 2007, the AFT solicited input from members by conducting focus groups and surveys, and we concluded it was time for a redesign. The layout is a little different, but the

research-based articles and in-depth reporting remain as trustworthy as ever.



* See “It’s Time To Tell the Kids: If You Don’t Do Well in High School, You Won’t Do Well in College (or on the Job)” in the Spring 2004 issue, available online at www.aft.org/pubs-reports/american_educator/issues/spring04/index.htm.

Teachers: The New Migrant Workers

WHEN TEACHERS COVER the subject of migrant workers in their history or social studies classes, they explain to their students that these low-paid workers usually pick fruit or vegetables or perform some other kind of agricultural or manual labor. Most educators wouldn't dream of adding their profession to that list. Teaching, after all, has never been considered migrant work. Until now.

Wealthy nations—including the U.S.—are addressing their teacher shortages by recruiting teachers from poorer countries. Researchers David Edwards and Carol Anne Spreen explore overseas teacher recruitment, which just started in the 1990s, in their article, "Teachers and the Global Knowledge Economy," published in the June 2007 issue of *Perspectives in Education*.

It's not a simple issue: "International support for the teaching profession is a human rights and social justice issue for both teachers and the children they serve," write Edwards and Spreen. "Education rights for children include access to quality education and the right to be taught by professionally trained teachers." At the same time, "teachers have rights to a living wage and decent working conditions—and to seek employment where these conditions exist."

Although not much research has been done on overseas teacher recruitment, one study cited by Edwards and Spreen indicates that in the year 2000, the United Kingdom recruited approximately 10,000 overseas teachers. Most were men with expertise in math and science, and 10 or more years experience; they mainly came from South Africa, Australia, New Zealand, Jamaica, and Canada.

In the U.S., school districts and recruiting agencies have been able to circumvent state monitoring and hire teachers

directly. Much research is needed, but it's clear that some large, urban school districts are paying international recruiting agencies—roughly 300 of which now exist—to locate, screen, and recruit overseas-trained teachers.

While teachers from developing nations earn more money—up to two to three times more—teaching overseas, the conditions may not be what they expected. Edwards and Spreen write, "Early reports indicate that the conditions and treatment ... [are] considerably worse than what they encountered in their home countries." This should come as no surprise to policymakers since school districts are using these overseas teachers to fill their hard-to-staff schools.

In addition, overseas recruitment causes a "brain drain." As poorer countries lose their teachers, they lose a significant part of their educated citizens, and their own teacher shortages become even more severe. In wealthier countries, there is approximately one teacher for every 25 students, but in developing countries there is sometimes only one teacher for every 75 students. Edwards and Spreen urge international agencies and development organizations to work together with school districts, states, national organizations, and in particular, teacher unions, to develop more effective ways to recruit, support, and evaluate teachers both nationally and internationally. They further call for "the promotion of national and international exchange programs and policies that prevent teacher shortages while also enabling teachers to move about in ways that enhance teaching and learning through meaningful and purposeful global exchange—rather than stop-gap, short-term measures to gloss over deep rooted long-term inequalities."

The Need to Read

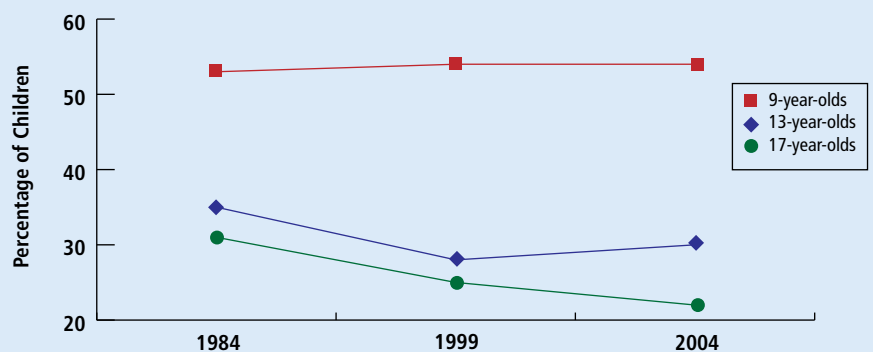
AMERICANS ARE NOT reading as much or as well as they once did, according to a report published by the National Endowment for the Arts. *To Read or Not to Read: A Question of National Consequence* was published in November 2007. It draws on a mix of large federal data sets and surveys by academics, foundations, and business groups to paint a comprehensive picture of the reading habits and achievement of children, teenagers, and adults. Among the key findings sure to alarm teachers in any discipline: teens and young adults read less often and for shorter amounts of time than other age groups and teens studied previously. Among 17-year-olds, the percentage who never or almost never read for pleasure has doubled over a 20-year period, from nine percent in 1984 to 19 percent in

2004. And as the chart above shows, as of 2004, less than 25 percent of 17-year-olds read almost every day for pleasure. On average, Americans ages 15 to 24 spend roughly two hours a day watching

television, but only seven to 10 minutes of their daily leisure time reading.

To Read or Not To Read can be viewed in full at www.arts.gov/research/ToRead.pdf.

Who Reads Almost Every Day for Fun?



While the percentage of 9-year-olds who read for fun almost every day has held pretty steady over the past 20 years, there's been a dip among 13-year-olds and a worrisome decline among 17-year-olds.

Calling for Clear, Specific Content

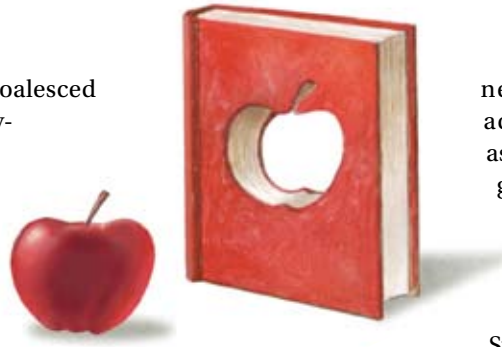
Nearly 20 years ago, the nation coalesced around a sound idea for improving schools: standards-based reform. The standards were supposed to establish what students ought to know and be able to do and, as a result, offer clear guidance to teachers, curriculum writers, textbook and assessment developers, and professional development providers. They were supposed to result in a well-aligned system that provides teachers all the resources and supports they need—at least, that's what we were promised.

Teachers know all too well just how broken that promise is. The typical state's standards are nowhere near strong enough to serve as the foundation for a well-aligned, coherent educational system. The AFT has been reviewing state standards for more than a decade, and our findings—that state standards are, for the most part, either much too vague or much too long (and sometimes, oddly, both)—have been confirmed by many other reviewers.

We should be outraged. As readers of *American Educator* know, cognitive science has established that knowledge builds on knowledge—the more you know, the faster you learn.* And so it's imperative that standards offer carefully sequenced content from the beginning of kindergarten through the end of high school. But they don't. And as a result, we have some serious problems:

- Professional development is too often about pedagogical fads.
- Too many districts don't even try to flesh out the state standards, leaving teachers to face that challenge on their own.
- Students, especially those who change schools frequently, end up with gaps and repetitions—never doing an experiment with seeds, for example, but having *Charlotte's Web* read to them three times.
- Textbook developers try to “cover” the standards by creating 800-page back breakers.
- Teachers' (and administrators') guesses as to what will be on the state assessment often end up driving instruction.

All of these problems could be addressed if we had clear, specific, content-rich, grade-by-grade standards. That may be obvious to teachers, but it doesn't seem obvious to many policymakers. Instead of delivering the well-aligned, coherent system we



need, they turned their attention to accountability. Operating under the assumption that what gets tested is what gets taught, they've done a great disservice to the nation's children—especially the most disadvantaged children. As Heidi Glidden and Amy Hightower explained in the Spring 2007 *American Educator*, there's “a

dirty little secret that educators know all too well: state tests and state content standards don't always match up.” In fact, they found that just 11 states have all of their reading and math tests clearly aligned to strong standards.

It should be abundantly clear that without strong standards, accountability is neither fair nor valid. We can, we must, do better.

We have to redo the standards so that they are clear and specific, yet of a reasonable length. The new clear, specific state standards could be designed to take about 75 percent of the school year to teach—leaving the other 25 percent open for teachers to respond to their students' interests, for districts to develop units on local history or local environmental problems, or for students who are behind to get intensive remediation without missing out on core content.

Once states have strong core standards, we could finally ask: what else do teachers need? Real instructional support. Kathi Cooper, a former teacher and administrator with the Sacramento Unified School District, said it well: “Teachers should not be expected to be the composers of the music as well as the conductors of the orchestra.” Strong standards are just one piece of a foundation that, at a minimum, should also include a content-rich, sequenced curriculum and aligned assessments. As for other instructional supports, how about standards-based guides for teachers (like the one shown on p. 34-37) that provide essential background knowledge? How about model lesson plans that new teachers could teach from and more experienced teachers could draw from as they see fit? How about pre-service teacher education and in-service professional development that prepare teachers to teach the specific content for which they are responsible? How about textbooks that, because they are based on clear standards of a reasonable length, are slim and focused?

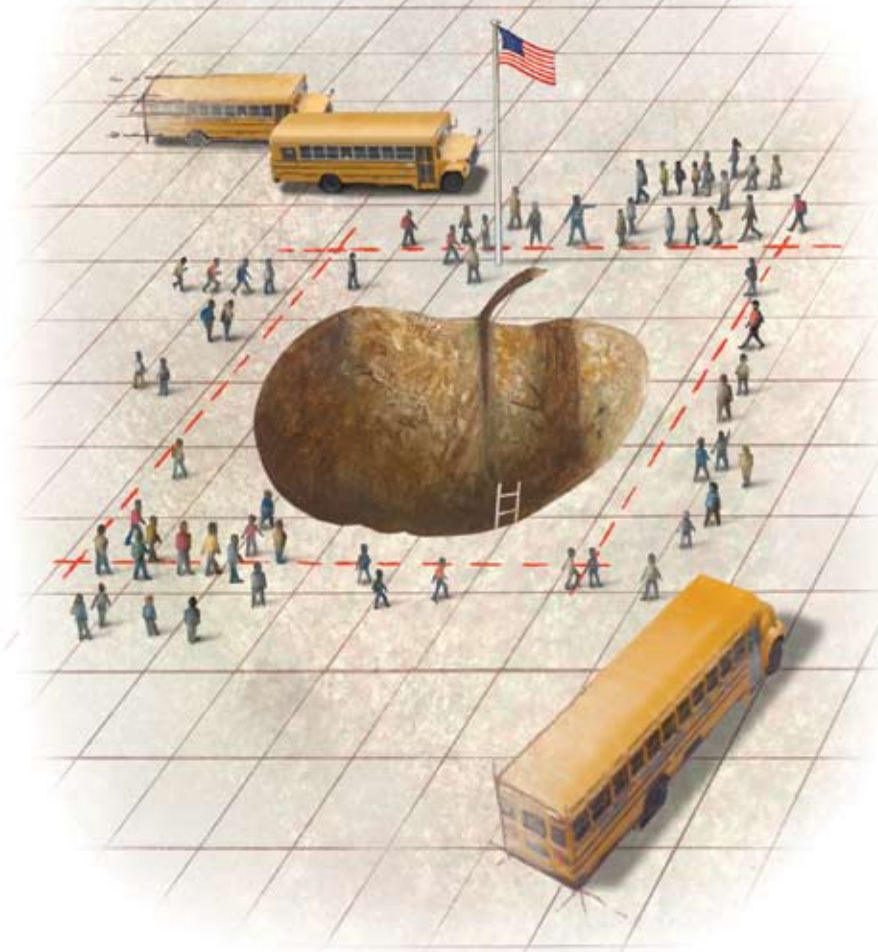
It is not too much to ask. And it all depends on plugging the hole in state standards with clear, specific content.

—EDITORS

* See articles by E. D. Hirsch, Jr., and Daniel T. Willingham in the Spring 2006 issue of *American Educator*: www.aft.org/pubs-reports/american_educator/issues/spring06/index.htm.

There's a Hole in State Standards

And New Teachers Like Me Are Falling Through



All states should have clear, specific, grade-by-grade, content-rich standards. When they don't, it's the students who miss out on a top-notch education and the teachers—especially the new teachers—who find more frustration than fulfillment. Below, we hear from a new teacher who laments the lack of direction she received in her first year on the job. We have withheld her name and school district to allow her to speak frankly and to emphasize that new teachers across the country are facing similar challenges.

—EDITORS

BY A SECOND-YEAR TEACHER

First days are always nerve-racking—first days attending a new school, first days in a new neighborhood, and especially first days at a new job. My first day as a high school

English teacher in a large, urban public school was no exception. It was my first “real” job after graduating college just three months earlier, and to add to my anxiety, I was hired just one day, precisely 24 hours, before my students would arrive. But my family and friends, mentors, and former professors all assured me that, like all other first days I had conquered, this day would be a successful start to a successful career. Unfortunately, this time they were wrong.

My first day on the job, I entered the building expecting to be greeted by the principal or chairperson, guided to my classrooms, and provided with what I considered to be the essentials: a schedule, a curriculum, rosters, and keys. Instead, the only things I received were a piece of paper on which two numerical codes were written, and a warning not to use the women's bathroom on the second floor. After some

frantic inquiring, I learned that the codes signified that I would be teaching ninth- and tenth-grade regular English. As various colleagues pulled at my paper to get a glance, some nodded approvingly, while others sighed sympathetically. Eager to make a judgment of my own, I asked a question that, two years later, has yet to be answered: “What is taught in ninth- and tenth-grade regular English?” In response, I was given book lists containing over 20 books per grade, ranging from Robert Lipsyte's *The Contender* to William Shakespeare's *The Taming of the Shrew* on the freshman list alone, and even greater disparities on the other three lists. I was told to select six books from the appropriate list for each grade I taught, and “teach a book for every six weeks of the school year.” Unsatisfied with this answer, yet slowly beginning to feel foolish for asking (Should

I know the answers to these questions? Am I unqualified to be a teacher if I don't know what ninth- and tenth-grade English means?), I gathered the courage to inquire further. "What concepts are we supposed to teach the students through these books?" Now growing visibly agitated, several colleagues responded, "Teach literary elements and techniques. They need to re-learn those every year, and prepare them for the state test, and teach them some grammar and vocabulary as well as whatever concepts each book calls for."

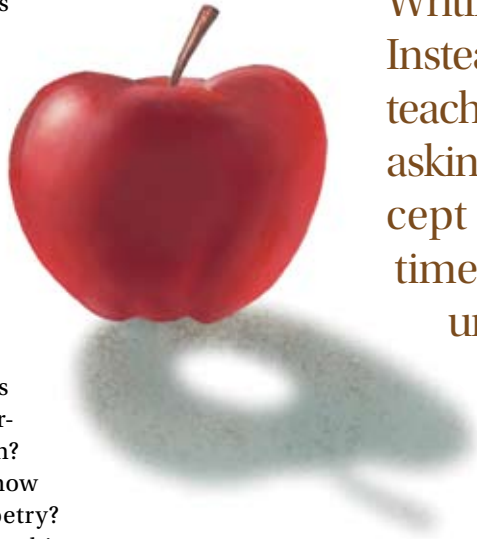
As everyone scrambled to inspect their classrooms and try out their keys, one experienced teacher kindly informed me that we don't receive any books for the first month as student programming issues are sorted out, so I should try to do poetry. Though I appreciated her advice, her recommendation frustrated me as much as receiving a book list in place of a curriculum. What does "do" poetry mean? What do these students need to know that I can teach them through poetry? Genre studies? Author studies? Iambic pentameter? Alliteration? What grammar should I be teaching them? Capitalization? Punctuation? Sentence structure? I surely can't teach the same thing to both ninth- and tenth-graders, so what separates ninth-grade poetry, literature, writing, and vocabulary from that taught the following year? What have my students already learned and what will they be expected to know by the end of the year when I pass them along to the next teacher?

Before I had a chance to find answers and determine what was expected of me, my students arrived eager to know what was expected of them. And so I reproduced the same vague responses that were given to me, and informed each of my classes that they would be reading various forms of literature, working on improving their writing, vocabulary, and grammar, as well as preparing for the state assessment, which they would be taking their junior year. I felt sorry for my students that day, and every other day I saw them diligently copying down notes, faithfully returning to my class, believing, along with their parents, that they were receiving the education they were intended to receive, and not just whatever I culled from whatever text we

happened to be reading that grading period.

Besides putting students at a great disadvantage, particularly those who transfer classes or schools mid-year, the lack of clearly defined expectations adds an enormous amount of work and stress to my life.

Since becoming a teacher my entire existence has revolved around a single,



haunting question

"What am I going to teach next?" Unlike other subjects that call for a particular sequence (How could one teach World War II before teaching World War I? Photosynthesis before cell structure?), the book lists around which all planning takes place in my department aren't organized according to genre, time period, or topic, leaving teachers free to do whatever they choose. Of course whatever teachers choose to teach must be communicated through a written objective that must correspond to one of the state's English standards (which are so vague most physical education lessons could fulfill them). While more experienced teachers who are well acquainted with their students and their craft may see this lack of structure as a blessing, as a new teacher, I find the limitlessness overwhelming.

Writing lesson plans takes me hours. Instead of asking myself, "How will I teach this concept?" I must begin by asking, "What is an appropriate concept to teach?" To do this I read and reread the portion of whatever text the class is studying and I list all possible directions the lesson could take: feminism, iambic pentameter, themes

of struggle or conflict, characterization of the protagonist, etc. Then, I list any vocabulary the students may struggle with, any portions of the text that may have been challenging, and any passages that should be highlighted for them. After filling half a dozen sheets of scrap paper, I ultimately arrive at a topic or concept that I will teach and finally begin writing my lesson. Once

Writing lesson plans takes me hours. Instead of asking myself, "How will I teach this concept?" I must begin by asking, "What is an appropriate concept to teach?" This process is so time-consuming that I often work until 11 P.M. and wake up at 5 A.M. to finish planning for the day.

that is done, I repeat the same procedure for my second prep, and this year, once more for my third prep.

This process is so time-consuming that I often work until 11 P.M. and wake up at 5 A.M. to finish planning for the day. I look forward to weekends and vacations so I can catch up on the grading and organizing that have taken a back seat to deciding what to teach. When I hear the commonly cited statistic that roughly 40 to 50 percent of new teachers leave the profession in their first five years,* I wonder how many of those departures could have been prevented if teachers were provided clear and achievable expectations for the year (as teachers must provide for students). With such guidance, instead of dedicating so many hours developing a curriculum from scratch and worrying about whether or not my students are prepared for the next grade, I could focus on how to best present the specified content, how to engage my students, and how to meet the needs of those who are falling behind. In short, I could devote myself to doing what I was hired to do—teach. □

*Ingersoll, R. M. and Smith, T. M. (2003). "The wrong solution to the teacher shortage." *Educational Leadership* 60(8), p. 30-33.

Plugging the Hole in State Standards

One Man's Modest Proposal



BY E. D. HIRSCH, JR.

Like other forward-looking organizations, the American Federation of Teachers believes that we need to have better state standards if we are truly going to improve K-12 education. I've earnestly stated that same view. That's no doubt why I've been invited to write on this subject.

I'm genuinely flattered. But after living with this question for more than two decades, my views have become so definite (some might say extreme) that I decided to conceive of this piece as a guest editorial where no one should think I am speaking for anyone but myself. That will allow me to speak my mind, which will I hope be more useful to readers than an attempt to find and express a consensus view on behalf of *American Educator* and the AFT on this controversial subject.

E. D. Hirsch, Jr., is professor emeritus at the University of Virginia and author of many articles and books, including the bestselling Cultural Literacy and The Schools We Need. He is a fellow of the Academy of Arts and Sciences and founder of the Core Knowledge Foundation. His most recent book is The Knowledge Deficit: Closing the Shocking Education Gap for American Children.

The subject is controversial in part because some teachers do not like explicit subject-matter standards. In my own state of Virginia, some teachers are quite annoyed with me personally because many years back my writings influenced the Virginia Board of Education when they introduced the "Virginia Standards of Learning"—the much debated, often dreaded SOLs. But let me say to those teachers, and to other teachers, that the state did not pay attention to what my colleagues and I said back in 1988. We said that subject-matter standards and tests of them should be just two prongs of a four-pronged policy. Standards and tests needed to be accompanied by good teacher training in the subject matter specified in the standards and by good classroom materials that clearly indicate what to teach, but not how to teach it. The last two prongs have never come properly into existence in Virginia, nor to my knowledge in any other state. Moreover, the Virginia standards (not to mention the tests) are not nearly as good as they should be. Other state standards are even worse. No wonder there is such dissatisfaction!

But many teachers I have talked to have agreed that they would very much prefer to work in a more coherent system, one that ensured that students who entered their classrooms were ade-

quately prepared. In their great book, *The Learning Gap*, Harold Stevenson and James Stigler said that the biggest problem for teachers in American schools is not ethnic diversity but diversity of student preparation. It is the great variability of students' knowledge and skills that makes work so immensely draining for so many American teachers. To ensure that all the students are adequately prepared for each new class is precisely what the four-pronged program—good standards, good tests, good teacher training, and good materials—can accomplish. The point of departure has to be good standards. They determine the nature of the tests, of the training, and of the classroom materials.

Why don't we have good standards? I can answer that question if I'm allowed a brief historical digression. Strangely enough, until a couple of decades ago we had no state standards at all. The historical reasons for that also explain why they turned out to be vague and ineffective when we finally got them.

In 1983, when *A Nation at Risk* was published, the nation became alarmed by declining scores in reading and math, and the cry went out for academic standards to be set. But why were there no standards before then, and why did reading scores begin to decline in the 1960s, and remain at low levels to today? To find the causes of vast nationwide movements like that, covering tens of thousands of schools, hundreds of thousands of teachers, and millions of students, one has to go back further in time. In her illuminating account of American K-12 education in the 20th century, *Left Back: A Century of Failed School Reforms*, Diane Ravitch shows that the decline was the startling result of what had been a gradual process of takeover by child-centered theories starting early in the last century.

By the 1920s and 1930s, these child-centered theories dominated the ideas of education professors, and by the 1950s they dominated the ideas of the schools, sometimes in extreme forms such as the open classroom. The different versions of the new theories varied from an emphasis on inward growth (which emphasized things like unleashing a child's creativity) to an emphasis on social efficiency (which used schools to prepare students for definite vocations). But all versions had in common a child-centered emphasis and hostility toward the traditional academic curriculum. It was this second emphasis—the successful attack on the academic curriculum—that explains the absence of standards before *A Nation at Risk*.

The child-centered, anti-academic theories are usually labeled "progressivism." They presented themselves as big improvements over educational theories of the past, and in some respects they were—especially in the very early progressive schools at the beginning of the century when a new-found sympathy for childhood and for the child's interests were put into the service of delivering a solid academic curriculum that would produce good readers and writers and high-minded citizens. The strength of the progressive movement was its empathy with childhood. That has been its lasting contribution. Its fatal flaw was its blind faith that somehow the needed curriculum (whether academic or vocational) would arise from the child's nature under gentle guidance. Yet it is the character of the nation and the needs of the community, not the nature of the child, that determines the needed school curriculum.

I've come to think that the most useful way to consider the theories that transformed and, in time, weakened American public education is not to call them by their self-proclaimed label "child-centered," but by their practical effect in diminishing the academic curriculum. The interest of the movement was focused less on the actual child, who often got lost in the various fads of the day, than on vigorously attacking traditional academic subjects. This attack was common to all forms and varieties of the new theories, as Ravitch has shown. I came to understand this point

It would take nothing short of magic for high academic achievement to come from students who have been deprived of a coherent academic curriculum.

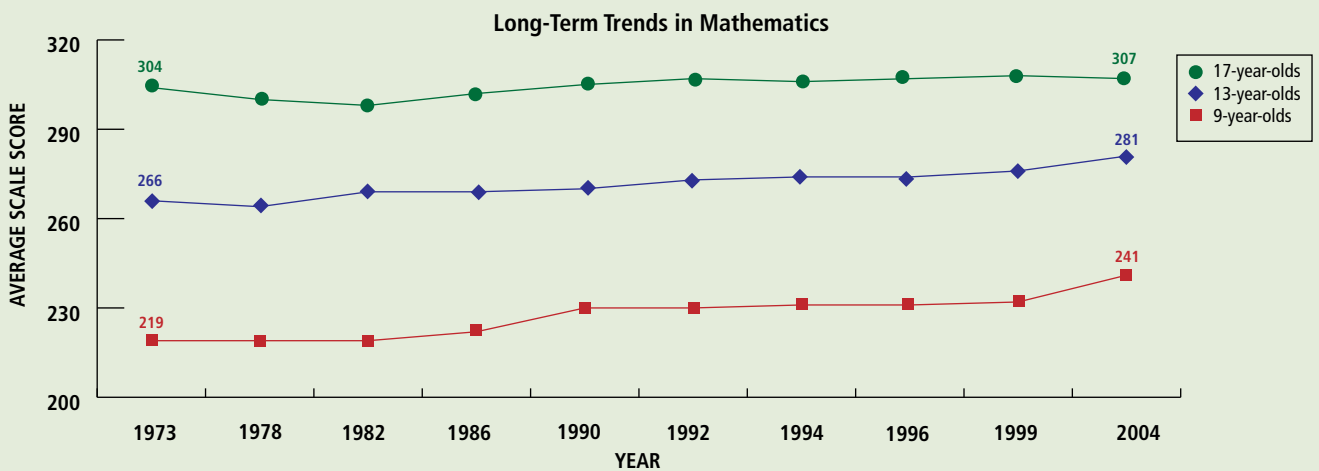
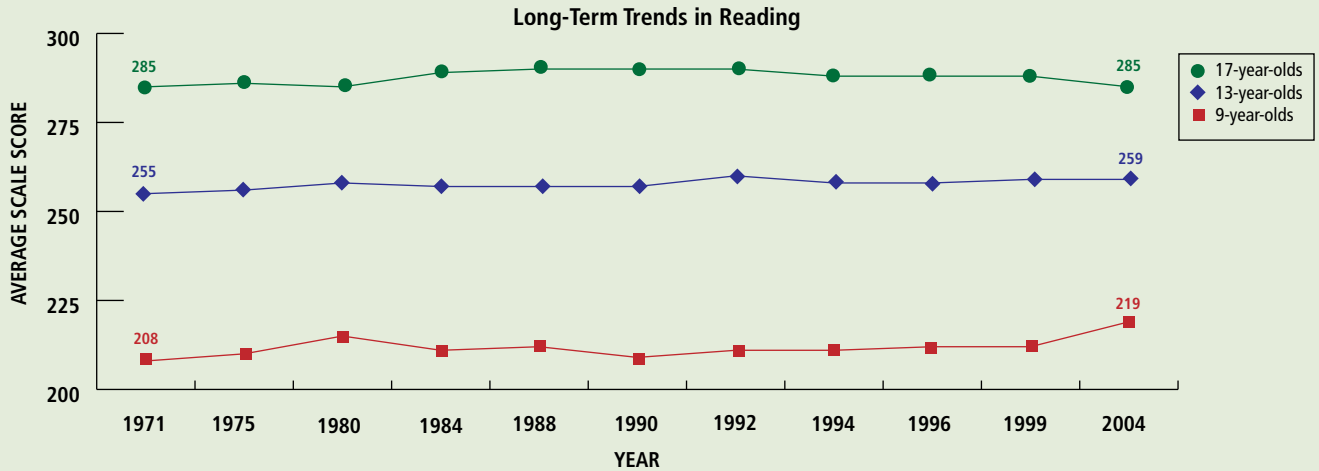
more fully when reading a 1939 talk by a brilliant opponent of the movement, Isaac Kandel:

Rejecting ... emphasis on formal subject matter, the progressives began to worship at the altar of the child. Children [they said] should be allowed to grow in accordance with their needs and interests.... Knowledge is valuable only as it is acquired in a real situation; the teacher must be present to provide the proper environment for experiencing but must not intervene except to guide and advise. There must, in fact, be "nothing fixed in advance" and subjects must not be "set-out-to-be-learned".... No reference was ever made to the curriculum or its content.... The full weight of the progressive attack is against subject matter and the planned organization of a curriculum in terms of subjects.

The most fruitful way to think about the effects of our recent history on state standards and lack thereof is to focus on just this trait, this hostility to academics. It might seem odd to call the movement an anti-curriculum movement, since *something* in the way of a curriculum has to be going on to take up time in school. In that sense, every school has a curriculum no matter how fragmented or ineffective it might be. But the public believes reasonably (and I think rightly) that the school curriculum concerns subject matter—history, science, math, language, and the arts. Their view is supported by the dictionary definition of curriculum: "an integrated course of academic studies." Progressivism really was an anti-curriculum movement.

A very useful perspective on the recent history of our schools emerges when we understand that the chief educational movement of the entire 20th century, the movement that gradually came to dominate in our colleges of education and schools, has been an anti-curriculum movement. You can see how that might explain why there were no well-defined academic standards before *A Nation at Risk*, and why, when the new standards were created, they were highly vague. It also explains why we experienced the slide in academic achievement that led up to *A Nation at Risk*, for it would take nothing short of magic for high academic

National Assessment of Educational Progress



NOTE: Data for 1973 are extrapolated.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), selected years, Long-Term Trend Reading and Mathematics Assessments.

achievement to come from students who have been deprived of a coherent academic curriculum.

Recently, at a state's request, I did a report on its language arts standards. What I found were standards like this:

Students will comprehend, evaluate, and respond to works of literature and other kinds of writing which reflect their own cultures and developing viewpoints, as well as those of others. Use prior knowledge to extend reading ability and comprehension. Use specific strategies such as making comparisons, predicting outcomes, drawing conclusions, identifying the main ideas, and understanding cause and effect to comprehend a variety of literary genres from diverse cultures and time periods. Students will demonstrate a willingness to use reading to continue to learn, to communicate, and to solve problems independently.*

*These examples come from "language arts." The admonition for students to "reflect their own cultures" is an excellent example of the way in which the virtue of respecting everyone's background, admirable in itself, has simply displaced the school's understanding of its fundamental responsibility to help nurture and sustain an effective democracy by ensuring that all students share some common knowledge.

These empty guidelines could be copied and pasted in any grade level. (In fact, that is the way many state language arts guidelines are constructed.**) It's obvious that such standards offer no concrete guidance to teachers, test makers, teacher-training institutions, or textbook makers.

Above are two interesting historical graphs that not only indicate something about our lackluster achievement, but also hold a positive moral. As the graphs make clear, math has begun to recover, with substantial gains among 9-year-olds and encouraging gains among 13-year-olds. But reading has not (other than a slight boost among 9-year-olds, likely due to the recent push for phonics-based reading instruction). What is the explanation for the different performance in reading and math?

The basic reason that math achievement has begun to recover is that, under the influence of *A Nation at Risk*, starting in the late 1980s and the 1990s, state and district math standards and tests have slowly improved. They still have a long way to go,[†] but they

**See, for example, "Common Ground" by Heidi Glidden, this issue, pg. 13.

[†]See, for example, "What's Missing from Math Standards?" by William H. Schmidt, this issue, pg. 22.

are somewhat more specific and focused than they used to be. One reason that reading, by contrast, has *not* recovered is that language arts standards remain vague, and language arts textbooks are delivering a fragmented curriculum.

It is astonishing how hard it has become for an American school to deliver a coherent, cumulative curriculum in language arts, history, science, and fine arts over several years. The available textbooks have been created in a commercial environment that actually discourages a selective and coherent pattern of instruction that systematically builds necessary preparatory knowledge. Not only are basal readers and literary series typically compiled by committee with the aim of satisfying as many states' standards as possible, publishers have been so battered by right- and left-wing critics that they have long lists of topics and words to avoid. All too often, they resort to altering their "excerpts" of literature.¹

Literary quality and instructional coherence take a back seat to these market pressures. The excerpts are so disconnected and often so trivial that little of enduring value is learned in the literacy block.

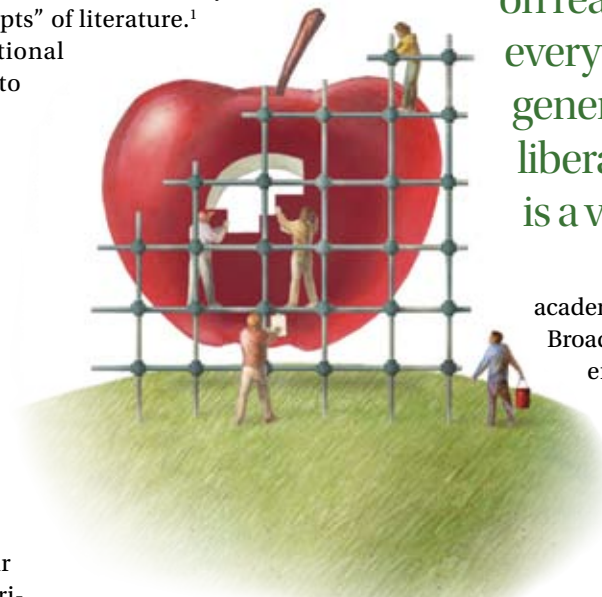
Probably the greatest wastes of school time in early grades occur in this so-called literacy block. Young children certainly need instruction in phonemic awareness, phonics, and fluency, but that need not take up much of the block.² The bulk of the two- to three-hour block should be devoted to serious literature and nonfiction (which, when well planned, allows science and history to be taught in meaningful ways). But that rarely happens. Instead, schools pursue the futile hope that trivial stories and reading comprehension strategies will offer a shortcut around the broad general knowledge needed for verbal progress. During these long periods, at the freshest time of the day, little coherent knowledge is being conveyed.

Here are the titles of some typical stories upon which our children are practicing their how-to reading exercises—I list them in sequence from the first-grade table of contents of the best-selling reading program by Houghton Mifflin: *A Dragon Gets by*, *Roly Poly*, *How Real Pigs Act*, *It's Easy to Be Polite*, *Mrs. Brown Went to Town*, *Rats on the Roof*, *Cats Can't Fly*, *Henry and Mudge and the Starry Night*, *Campfire Games*, and *Around the Pond*. The long periods devoted to language arts are cognitive wastelands. I have no intention of blaming Houghton Mifflin (my own excellent publisher) for this misfortune. If its language arts series is the most popular one among schools, it is because Houghton is offering schools what they want.

This is where my modest proposal comes in. Verbal abilities are the chief factor in overall academic achievement. They even correlate to some extent with math, which is not surprising, since math, like everything else, has to be learned in part by hearing

and reading words. The chief variable in determining verbal abilities is vocabulary size and range. Size is important, as they say. But range is important, too. It won't do just to know a lot of words in a few domains, for in order to understand a wide diversity of written and spoken utterances, you need to have broad general knowledge. In short, the best route to general academic achievement—high scores on reading tests and on everything else—is broad general knowledge. We now understand why a good liberal arts education really is a very practical thing to have. (The anti-

The best route to general academic achievement—high scores on reading tests and on everything else—is broad general knowledge. A good liberal arts education really is a very practical thing to have.



academic theorists were not so pragmatic after all.) Broad knowledge enables you to learn quickly and effectively.* And so it allows students to do what progressives prize above all else: learn how to learn. Broad knowledge is the key to comprehension, and it shows up very readily on reading tests.

The reading test is the instrument we use to assess the subject of "language arts," by which we chiefly mean fiction and poetry. But reading tests do not (and should not) restrict themselves to fiction and poetry.

Therefore, language arts standards should not only specify literary works and techniques, they should also directly correspond to the content standards in other subjects, especially science and social studies. Why? Because *some of those non-literary topics are going to show up in passages on the reading tests*. We should certainly be explicit about the literary texts and concepts that we want children to know at each grade level, but the words and concepts of literature are just one component of language arts ability, one domain among the many that make up verbal skill. Verbal skill as a whole depends on general knowledge, not just knowledge gained from fiction and poetry. Once the mechanics of decoding are mastered, the key to reading ability is general knowledge, not the mastery of strategies like summarizing and finding the main idea. The usefulness of strategy instruction fades after a few classes, and begins to waste class time that could much better be occupied with interesting subjects.[§]

*To learn more about the benefits of background knowledge, see the Spring 2006 issue of *American Educator*, available online at www.aft.org/pubs-reports/american_educator/issues/spring06/index.htm.

§To learn more about strategy instruction, see "Ask the Cognitive Scientist" in the Winter 2006-07 issue of *American Educator*, available online at www.aft.org/pubs-reports/american_educator/issues/winter06-07/CogSci.pdf.

So my modest proposal is that reading tests should contain passages about specific topics taught not just in literature, but in all other subjects taught in that grade, except for math. For instance, if third-grade language arts standards specify *Alice in Wonderland*, third-grade science standards call for studying the speed of light, and third-grade social studies standards include the Vikings' explorations of North America, then passages on the third-grade reading test should cover those same topics. We would then have true curriculum-based reading tests instead of the mysterious tests we now have. This cunning device would make tests fairer and pedagogically more useful, and boost our students' abilities.

Reading tests are currently Kafkaesque. In Franz Kafka's *The Trial*, Joseph K. is accused of something for which he must go on trial, but he never finds out what it is. American students face such an experience every year when they take reading tests,

for they and their teachers are never told in advance what topics the reading passages will cover. Students who happen to have wide general knowledge (as those who happen to come from advantaged circumstances usually do) have an unfair advantage on any reading test that contains passages on topics that are not taught in school. Because content standards are currently vague and variable, the makers of reading tests have no idea what topics are being taught in school. Moreover, test makers are psychometricians; their job is done when they make tests that show certain technical characteristics. They aren't curriculum deciders, and they aren't experts in the psychology of reading. Those who *are* reading experts will tell you that, other things equal, a student will score much higher on a reading passage with a familiar topic than on a passage with an unfamiliar topic. From this fact alone, you can quickly see why general knowledge is such a big factor in reading comprehension. The broader one's knowledge is, the more likely it will be that the topic of a given passage will be familiar.*

Introducing curriculum-based reading tests founded on explicit content standards would mean that reading tests for a particular grade level would no longer be a shot in the dark for teachers and students. The subject matter on the reading tests would be taken from the specific subject matter for that grade level

*See, for example, "What Do Reading Comprehension Tests Measure? Knowledge" in the Spring 2006 issue of *American Educator*, available online at www.aft.org/pubs-reports/american_educator/issues/spring06/tests.htm.

(excluding math). This would not only encourage tests that can be prepared for, it would also dramatically start raising students' reading scores and real-world reading ability. Here's why. Once students and teachers direct their efforts—especially during the literacy block—to learning a content-rich curriculum instead of pursuing the will-o'-the-wisp of "reading strategies," school time will be used much more productively to gain knowledge. We go to school for so many years because it takes a long time to build up the vast



If third-grade language arts standards specify *Alice in Wonderland*, third-grade science standards call for studying the speed of light, and third-grade social studies standards include the Vikings' explorations of North America, then passages on the third-grade reading test should cover those same topics.

knowledge and wide-ranging vocabulary we need. And, if we build it up cumulatively and effectively, year by year, we will become much better readers. But because the learning process is slow, it will only be in the later grades that this fact will be vividly apparent. In the lower grades, to ensure fairness as well as progress, we especially need to confine reading tests to school-based topics. With good standards and a good curriculum to match, general knowledge and reading ability build up remarkably.³

So, my focus on making language arts standards more specific ends up as a recommendation that we make *all* the grade-by-grade content standards more specific. And, it allows us to create more equitable reading tests. This would induce both a major change in our schools and a major improvement in the achievement of our students. It would start undoing the harm that—with the best of intentions—has been done. □

Endnotes

- 1 Ravitch, D. (2003). "Thin Gruel: How the Language Police Drain the Life and Content from Our Texts," *American Educator*, Spring 2003, p. 6-19.
- 2 Foorman, B.R. and Schatschneider, C. (2003). "Measurement of teaching practices during reading/language arts instruction and its relationship to student achievement," in Vaughn, S. and Briggs, K. (Eds.), *Reading in the Classroom: Systems for the Observations of Teaching and Learning*, pp. 1-30; Baltimore:BrookesPublishing. Also see Torgesen, J.K., Rashotte, C.A., Mathes, P.G., Menchetti, J.C., Grek, M.L., Robinson, C.S., et al. (2003). "Effects of teacher training and group size on reading outcomes for first-grade children at risk for reading difficulties," unpublished manuscript, Florida State University, Tallahassee.
- 3 Core Knowledge (2004). *How Do We Know This Works? An Overview of Research on Core Knowledge*. Available online at http://coreknowledge.org/CK/about/research/eval12_2002.htm.

Common Ground

Clear, Specific Content Holds
Teaching, Texts, and Tests Together



BY HEIDI GLIDDEN

Imagine for a moment that you are a new fourth-grade teacher with 25 children squirming in front of you. There's a test at the end of the year, though you really aren't sure what's on it, and there are stacks of enormous textbooks—too enormous to tackle cover-to-cover—on the shelf. The one thing that is abundantly clear is that you are supposed to teach to the standards.

So, when you open up that standards document, do you hope to see something like this?

Analyze the style or structure of a text.

Or something like this?

Heidi Glidden is an assistant director in the American Federation of Teachers' educational issues department, where she serves as a standards and assessment specialist for the AFT teachers division. This article is based on a forthcoming research brief.

Describe the differences of various imaginative forms of literature, including fantasies, fables, myths, legends, and other tales.

Example: After reading some of the Greek or Norse myths found in such books as *Book of Greek Myths* or *Book of Norse Myths*, both by Ingri and Edgar D'Aulaire, discuss how myths were sometimes used to explain physical phenomena like movement of the sun across the sky or the sound of thunder.

Both are from current state standards, but one, obviously, offers much more guidance as to what your fourth-graders need to learn. If your instruction is guided by the first standard, you may or may not adequately prepare students for the test—or for fifth grade. But if your instruction is guided by the second standard, your students have a much better chance of being on grade level. And we can imagine an even clearer, more specific standard that would give you greater confidence that your instruction was on target. For example, instead of merely suggesting books to draw

ILLUSTRATION BY MICHAEL GIBBS

from, the latter standard could specify exactly which myths, fables, legends, etc. students should read and ensure that none of those selections is repeated in other grades.

* * *

The AFT has been trying to drive home the need for clear, specific, grade-by-grade standards for many years. We first looked at states' efforts to develop content standards in 1995 and reported our findings in *Making Standards Matter*, the first in a series of reports looking at the quality of state content standards. I've had the unique opportunity to work on all the reports from 1995 to the present. I'll spend most of this article discussing current standards and the many ways they need to be improved. But first it's important to note that I have observed significant improvements to the standards over the past 13 years.

In 1995, most states were involved in setting content standards, but the quality of the standards varied greatly. It was the age of outcomes-based education, which in principle made sense: define the outcomes we want students to master. But in practice, this approach was skills-laden, with little to no attention paid to specific content. Too often the outcomes were controversial because they were impossible to measure. Here are a few typical outcomes: students will be lifelong learners; students will enjoy reading a variety of literature; and students will appreciate cultural differences. Laudable goals, but better suited to a mission statement than to a standards document.

In addition to outcomes being too vague to offer any real direction, back in 1995 my colleagues and I also noticed that almost all standards were written as one set of standards that applied to all of K-12 or were clustered to cover smaller grade spans (e.g., K-5, 6-8, 9-12). Only a handful of states had the foresight to realize that standards needed to be grade-by-grade. Nationally, there wasn't a strong emphasis placed on grade-by-grade standards, but we soon learned that they were necessary to help teachers, curriculum developers, and assessment designers distinguish one set of students from another (e.g., third-graders from fourth-graders), and therefore avoid costly repetitions and/or gaps in what students learned as they moved from one grade to the next.

Our first review of standards provided us with baseline data to compare to each subsequent year. Over the past 13 years we have changed our criteria several times, but our focus has remained constant: standards must be measurable, clear, specific, and focused on particular content.

Today, every state has content standards and every state has made efforts to articulate what students should master in the core subject areas. More states have moved to grade-by-grade standards, especially in reading and math. But there is more to do. For example, too many science and social studies standards are still clustered (e.g., K-5, 6-8, 9-12)—and too many language arts standards, although not technically clustered, simply repeat the same standards year after year. (For a table that summarizes the results of our latest review, see p. 19.)

Over the past decade, states have demonstrated that they can dramatically improve their standards. Let's turn now to AFT's most recent review of states' English, math, science, and social studies standards and focus on how states can continue to improve. After all, students in Elizabeth, Colo., for example, should learn the same content and skills as students in Denver—and

The quality of content standards varies enormously from state to state, subject to subject, and grade to grade. Some standards are full of empty rhetoric, unclear, and devoid of content.

clear, specific, content-rich, grade-by-grade standards are the only way to make sure they have the opportunity to do so.

Strong Standards Create Common Ground

Common, coherent, grade-by-grade standards are an important professional tool. When standards are neither too vague nor overly prescriptive, they enhance teaching and learning. Common, coherent standards:

- Allow teachers and parents to get a good sense of what students are expected to know and be able to do at any specific grade level.
- Help teachers identify which students are having difficulty and need extra help.
- Allow teachers to develop, share, and refine best practices with their colleagues, and professional development to be based on what teachers actually teach, not pedagogical fads.
- Ensure that transient students won't suffer from a new curriculum every time they switch schools.
- Guarantee that all students are exposed systematically to the knowledge and skills they need, without risking unproductive repetition or lack of exposure to key topics.
- Enable teachers to prepare their students for state assessments without drill and kill.

In brief, content standards are at the heart of a coherent, standards-based education system. They define our expectations for what's important for children to learn, serve as guideposts for curriculum and instruction, and should be the basis of all assessments, whether formal, informal, state-developed, or teacher-created. These state-developed, public documents are the source that teachers, parents, and the general public consult to understand content matter expectations.

Content standards should exist for every single grade, kindergarten through high school, in every subject. Grade-by-grade content standards increase the likelihood that all students are exposed to a rigorous, sequenced curriculum that is consistent

TABLE 1: EXAMPLES OF STRONG AND WEAK CONTENT STANDARDS

	STRONG STANDARDS	WEAK STANDARDS
ENGLISH	Distinguish between cause and effect and between fact and opinion in informational text. Example: In reading an article about how snowshoe rabbits change color, distinguish facts (such as <i>Snowshoe rabbits change color from brown to white in the winter</i>) from opinions (such as <i>Snowshoe rabbits are very pretty animals because they can change colors</i>). (Grade 4)	Demonstrate the understanding that the purposes of experiencing literary works include personal satisfaction and development of lifelong literature appreciation. (Grade 4)
MATH	Understand how real and complex numbers are related, including plotting complex numbers as points in the plane. Example: Plot the points corresponding to $3-2i$ and $1+4i$. Add these complex numbers and plot the result. How is this point related to the other two? (Algebra II)	Model and analyze real-world situations by using patterns and functions. (Grade 9-12)
SCIENCE	Describe how groups of elements can be classified based on similar properties, including highly reactive metals, less reactive metals, highly reactive nonmetals, less reactive nonmetals, and some almost completely nonreactive gases. (Grade 8)	Describe the historical and cultural conditions at the time of an invention or discovery, and analyze the societal impacts of that invention. (Grade 5-8)
SOCIAL STUDIES	Evaluate the significance of the presidential and congressional election of 1800 and the transfer of political authority and power to the Democratic-Republican party led by the new president, Thomas Jefferson (1801). (Grade 8)	Identify significant events and people and important democratic values (e.g., freedom, equality, privacy) in the major eras/civilizations of state, American Indian, United States, and world history. (Grade 8)

across grades, schools, and school districts. Grade-specific standards also facilitate greater alignment of standards-based curriculum, assessments, textbooks, professional development, and instruction. States that organize their standards grade-by-grade are best able to specify what students should learn and when they should learn it.

Unfortunately, the quality of content standards varies enormously from state to state, subject to subject, and grade to grade. Some standards are full of empty rhetoric, unclear, and devoid of content. Others are so vast and scattered that no teacher could prepare a student to meet them in the course of a school year. If they are too vague, teachers and test developers can't hope to focus on the same materials. If they are too narrow, they constrict the curriculum. If they are too long and/or fail to make priorities clear, teachers end up in a guessing game as to what to teach—and test developers end up guessing what to assess.* The quality of content standards matters greatly to the interrelated functions of teaching and learning, as well as to the fairness of tests and the accountability systems they support.

The Criteria

We examined each state's and the District of Columbia's content-standards documents to determine whether or not there was enough information about what students should learn to provide the basis for a common core curriculum and assessments. There is no perfect formula for this; we made a series of judgment calls based on a set of criteria. To be judged "strong," a state's content standards must:

- Be detailed and explicit, with little to no repetition, and firmly rooted in the content of the subject area to lead to a common core curriculum.
- Contain particular content:
 - ▶ English standards must cover reading basics (e.g., word attack skills, vocabulary), reading comprehension (e.g., exposure to a variety of literary genres), writing

conventions (e.g., spelling, writing mechanics) and writing forms (e.g., narrative, persuasive, expository).

- ▶ Math standards must cover number sense and operations, measurement, geometry, data analysis and probability, and algebra and functions.
- ▶ Science standards must cover earth, physical, and life sciences.
- ▶ Social Studies standards must require specific content in U.S. history, world history, and civics.
- Provide attention to both content and skills.
- Be articulated for every grade, K-8, and by grade or course at the high school level.

In general, strong content standards provide clear guidance to teachers, curriculum and assessment developers, textbook publishers, and others so that one person's interpretation of the central knowledge and skills students should learn at a particular grade will be comparable to someone else's. Table 1 (above) presents examples of state standards that meet and do not meet AFT's criteria.

What We Examined

We examined only those documents that states had posted on their Web sites in October 2007 and referred to as the state content standards. In our findings, we report on each state's standards by level (i.e., elementary, middle, and high school). To be judged as having strong content standards at any particular level, a state had to meet our criteria for strong content standards in more than half of the grades associated with that level. In order to have strong elementary standards, at least four of the six grades (K-5) had to

*For more on this all-too-common guessing game, see "Mismatch: When State Standards and Tests Don't Mesh, Schools Are Left Grinding Their Gears" in the Spring 2007 issue of *American Educator*, available online at www.aft.org/pubs-reports/american_educator/issues/spring07/Mismatch.pdf.

meet the AFT criteria; at the middle level (grades 6-8), at least two grades had to meet our criteria; and at the high school level (9-12), more than 50 percent of the required standards/courses needed for graduation had to meet our criteria.

Too Many States Give Teachers Little to Stand On

Only one state, Virginia, met the AFT criteria for strong standards in all levels and subjects. While some states have a lot of work ahead of them, others only have to focus on a few grades in one subject area (see Table 2 below).

Percentage	States
0%	Colorado, Illinois, Iowa, Montana, Nebraska, Pennsylvania, Wisconsin
1-24%	Maine, New Hampshire, New Jersey, Rhode Island, Vermont, Wyoming
25-49%	Alaska, Idaho, Kansas, Kentucky, Minnesota, Nevada, Oregon, Washington
50-74%	Arizona, Connecticut, Delaware, Florida, Hawaii, Maryland, Massachusetts, Mississippi, Missouri, North Dakota, New Mexico, South Dakota, Texas, Utah
75-99%	Alabama, Arkansas, California, Georgia, Indiana, Louisiana, Michigan, New York, North Carolina, Ohio, Oklahoma, South Carolina, Tennessee, Washington, D.C., West Virginia
100%	Virginia

In most states, the quality of standards continues to vary greatly by subject. Since AFT's first review of standards in 1995, states have consistently done a better job developing strong math and science standards than English or social studies standards. In our current review, 24 states have strong math standards and 22 have strong science standards. However, only eight states have strong English standards at all levels, and only two states have strong social studies standards at all levels (see Table 3 below).

Subject	States
ENGLISH	Georgia, Indiana, New Mexico, New York, North Carolina, Tennessee, Virginia, Washington, D.C.
MATH	Alabama, Alaska, Arkansas, California, Delaware, Florida, Georgia, Hawaii, Idaho, Indiana, Louisiana, Maryland, Mississippi, New York, North Carolina, Ohio, Oklahoma, South Carolina, South Dakota, Texas, Utah, Virginia, Washington, D.C., West Virginia
SCIENCE	Alabama, Arkansas, California, Connecticut, Delaware, Georgia, Hawaii, Indiana, Louisiana, Maryland, Michigan, Mississippi, Missouri, North Carolina, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Virginia, Washington, D.C., West Virginia
SOCIAL STUDIES	Massachusetts, Virginia

Too many states have clustered K-2 standards or have chosen not to write them at all. This is a serious problem because the early grades are essential to building students' background knowledge and vocabulary.

The quality of the standards also varies by level. We found that for most subjects, the middle level standards are the strongest, while the high school level standards are the weakest (see Table 4 below). The weaknesses at the high school level are, in many cases, due to the high school standards being clustered (e.g., one set of standards for grades 9-12) instead of being grade or course specific.

Subject	% OF ELEMENTARY LEVEL STANDARDS THAT ARE STRONG	% OF MIDDLE LEVEL STANDARDS THAT ARE STRONG	% OF HIGH SCHOOL LEVEL STANDARDS THAT ARE STRONG
ENGLISH	47	31	25
MATH	78	84	47
SCIENCE	53	63	53
SOCIAL STUDIES	6	45	43
AVERAGE	46	56	42

Standards that failed to meet our criteria did so for three main reasons: they were repeated, clustered, or had missing or vague content. All three of these problems have the same, terrible consequences: teachers do not have a common understanding of what students should have learned in the previous grade, what they are expected to master in the current grade, or what they are preparing to learn in the following grade. (Neither do textbook writers, professional development providers, or assessment developers.)

So how did the failing standards break out by subject? A number of states received poor ratings for their English standards



because of significant repetition from grade to grade. Thirty-five percent of elementary school English standards (grades K-5), 41 percent of middle school English standards (grades 6-8), and 24 percent of high school English standards (grades 9-12) simply repeat more than 50 percent of their standards from grade to grade.

More than three-quarters (78 percent) of math standards that did not meet our criteria were clustered, an additional 13 percent simply repeated the same standards from grade to grade, and nine percent were vague.

The vast majority of science standards that did not meet our criteria had clustered standards: 87 percent of science standards failures were due to clustered standards; an additional 10 percent were due to missing or vague content.

The failures in social studies were more evenly distributed between clustering and missing or vague content: 58 percent of social studies failures were due to the standards being clustered and 39 percent of failures were due to missing or vague content.

Through our analysis we also found that too many states have clustered K-2 standards or have chosen not to write them at all. In fact, *nine states have clustered or no standards for K-2 in the crucial areas of literacy and numeracy*. This is a serious problem that states must address because specific, coherent, grade-by-grade standards at the early grades are essential to building students' background knowledge and vocabulary. They can help ensure that all kids enter middle school ready to comprehend challenging materials. Knowledge-rich K-2 standards are especially vital for young children from low-income families who, on average, have been exposed to roughly 30 million fewer words than children from professional families—and whose “word and world knowledge” is, therefore, substantially less than that of their peers.*

What Should States Do?

Develop grade-by-grade standards that are explicit. Too many states only write standards for those grades and subjects assessed by the state. Yes, state tests must reflect the content found in the standards. But as any teacher or student can attest, there is more to teaching and learning than the state test. In addition, tests are

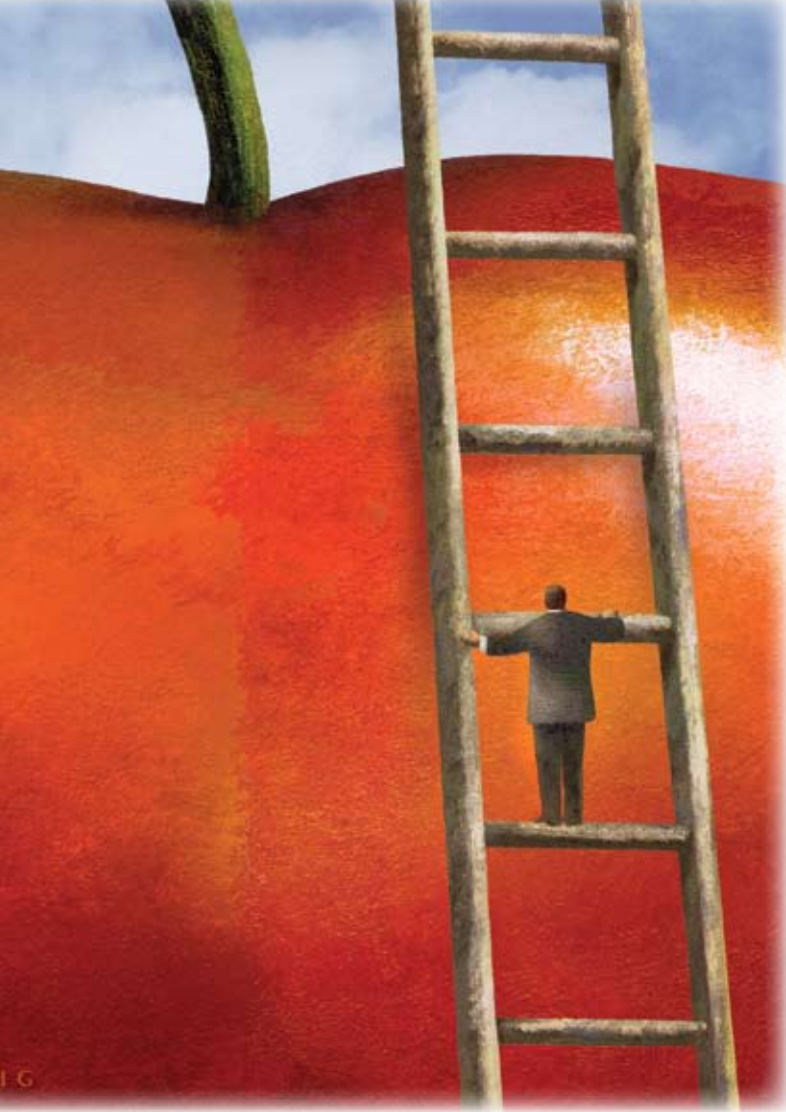
*For more on how content in the early grades contributes to reading comprehension, see the Spring 2003 and Spring 2006 issues of *American Educator*, available online at www.aft.org/pubs-reports/american_educator/issues/index.htm.

not measuring the knowledge gained in any single grade. Knowledge is cumulative. For students to do well on the fourth-grade math test, for example, they had to master certain content and skills in grades K-3 to prepare for fourth-grade math. Clearly, the existence of standards should not be contingent on a state test. Instead, it is imperative that administrators, teachers, parents, and students know what all students should be learning regardless of how, or even if, the content and skills are measured by a state assessment.

Bring specific U.S. and world history into their early elementary standards. Currently, only three states bring specific U.S. and world history into their early elementary standards (Arizona, Massachusetts, and Virginia). Most states wait to bring specific U.S. history in at grade 4 and specific world history at grade 5. And, in too many instances, world history is included in the context of U.S. history only. Ultimately, this means students learn about other nations through U.S. exploration (e.g., Christopher Columbus and Spain) or through conflicts (e.g., Japan's role in World War II or the U.S. and Vietnam during the Vietnam War). This practice is most prevalent at the elementary level; however, a few states also do this at the middle and high school levels.

Describe what high school students should know and be able to do by course. The reality of high school is that students enroll in courses, not grade-specific subjects. In other words, students are enrolling in U.S. History from 1877, not in Social Studies 11. Standards should reflect the reality of how high schools function. States that have grade-by-grade high school standards have made a positive first-step in defining what high school students should learn. But, those grade-by-grade standards are not comparable to the coursework high school students are taking, and are, therefore, of little use to teachers, professional development providers, textbook writers, and assessment designers.

There are also too many high school standards that are clustered, meaning one set of standards applies to more than one grade (e.g., grades 9-10, 9-11, or even 9-12). Forty-seven percent of high school English and math standards, and 45 percent of high school science and social studies standards are clustered. In these states, there is no clear understanding of what students are expected to learn throughout their high school years.



A strong education system must begin with strong standards. However, it is important to remember that standards alone—no matter how strong—do not provide the common ground that educators, and students, need.

An effective education system must include curricula and assessments aligned to the standards, professional development for teachers, help for children struggling to meet the standards, and policies that make meeting the standards count. And, states need to develop all of these components in an ordered and systematic fashion. Imposing consequences without also having aligned curriculum, teacher preparation, and adequate resources is a sure recipe for disaster. Administering tests disconnected from a state's standards and curriculum can only lead to student failure and widespread discontent, potentially undermining support for public education.

Finally, too many states have graduation requirements that don't complement or reflect their standards. For example, in one state, Algebra I may be a required course to graduate from high school, but there are no Algebra I standards. Or, a state may require four years of English, but only provide one set of standards to cover all grades 9-12.

Provide instructional guidance and teacher resources to help teachers bring the standards into the classroom. It isn't enough to develop a strong set of standards. There must be an understanding of what the standards mean and the concepts and skills necessary for students to demonstrate mastery of them. Teachers should have access to detailed guides that explain the content to be taught, offer ideas (not mandates) for how to present the material, show sample student responses that indicate a standard has been met, and include sample classroom assessments.

Ultimately, state officials must ask themselves: Do students in district X cover the same content and skills and at the same depth of understanding as students in district Y? If the answer is 'No' or 'I don't know,' then more work is needed to ensure that all students, regardless of where they live in the state or their socioeconomic status, are given opportunities to learn and ultimately master the content standards. This process must start with strong content standards that reflect the qualities discussed throughout this article.

By addressing these four areas, we believe that states can strengthen their standards and make them more meaningful to teachers, students, textbook writers, teacher preparation programs, professional development providers, and test designers. A strong education system must begin with strong standards. However, it is important to remember that standards alone—no matter how strong—do not provide the common ground that educators, and students, need.

Today, testing and accountability, instead of curriculum and instruction, have taken center stage. As more accountability provisions are piled on schools, staff, and students, attention has shifted away from what kids should be learning and moved toward test scores and their implications. However, what seems to have been forgotten is that student achievement and test scores are a reflection of what is taught in the classroom. If we want students to have a deeper understanding of important topics, then we need to ensure that they have opportunities in the classroom to delve deeper into various concepts and skills. This is not possible in the current environment, which requires teachers to spend endless hours on test preparation and teaching-to-the-test activities. Now more than ever, the need for content-rich, common standards has become critical. □

WHICH STANDARDS MET AFT'S CRITERIA FOR CLARITY, SPECIFICITY, AND CONTENT?

E = ELEMENTARY LEVEL M = MIDDLE LEVEL H = HIGH SCHOOL LEVEL	ENGLISH			MATH			SCIENCE			SOCIAL STUDIES		
	E	M	H	E	M	H	E	M	H	E	M	H
ALABAMA	○	○	●	●	●	●	●	●	●	○	●	●
ALASKA	○	○	○	●	●	●	○	●	●	○	○	○
ARIZONA	●	○	○	●	●	○	●	●	○	●	●	○
ARKANSAS	●	○	●	●	●	●	●	●	●	○	●	●
CALIFORNIA	●	●	○	●	●	●	●	●	●	○	●	●
COLORADO	○	○	○	○	○	○	○	○	○	○	○	○
CONNECTICUT	●	●	○	●	●	○	●	●	●	○	○	○
DELAWARE	○	○	○	●	●	●	●	●	●	○	○	○
FLORIDA	●	●	○	●	●	●	○	●	○	○	○	○
GEORGIA	●	●	●	●	●	●	●	●	●	○	●	●
HAWAII	○	○	○	●	●	●	●	●	●	○	●	●
IDAHO	○	○	○	●	●	●	●	●	○	○	○	○
ILLINOIS	○	○	○	○	○	○	○	○	○	○	○	○
INDIANA	●	●	●	●	●	●	●	●	●	○	●	●
IOWA	○	○	○	○	○	○	○	○	○	○	○	○
KANSAS	○	○	○	●	●	○	○	○	○	○	●	●
KENTUCKY	○	○	○	○	●	○	○	●	○	○	○	●
LOUISIANA	●	●	○	●	●	●	●	●	●	○	●	●
MAINE	○	○	○	○	●	○	○	○	○	○	○	○
MARYLAND	○	○	○	●	●	●	●	●	●	○	●	○
MASSACHUSETTS	○	○	○	●	●	○	○	○	●	●	●	●
MICHIGAN	●	●	○	●	●	○	●	●	●	○	●	●
MINNESOTA	○	○	○	●	●	○	●	●	○	○	○	○
MISSISSIPPI	●	○	○	●	●	●	●	●	●	○	○	○
MISSOURI	○	○	○	●	●	○	●	●	●	○	●	○
MONTANA	○	○	○	○	○	○	○	○	○	○	○	○
NEBRASKA	○	○	○	○	○	○	○	○	○	○	○	○
NEVADA	●	●	○	●	●	○	○	○	○	○	○	○
NEW HAMPSHIRE	○	○	○	●	●	○	○	○	○	○	○	○
NEW JERSEY	●	○	○	○	●	○	○	○	○	○	○	○
NEW MEXICO	●	●	●	●	●	○	●	●	○	○	●	○
NEW YORK	●	●	●	●	●	●	○	○	●	○	●	●
NORTH CAROLINA	●	●	●	●	●	●	●	●	●	○	○	●
NORTH DAKOTA	○	○	●	●	●	○	●	●	○	○	●	○
OHIO	●	○	○	●	●	●	●	●	●	○	●	●
OKLAHOMA	●	●	○	●	●	●	●	●	●	○	○	●
OREGON	●	○	○	●	●	○	○	○	○	○	○	○
PENNSYLVANIA	○	○	○	○	○	○	○	○	○	○	○	○
RHODE ISLAND	○	○	○	●	●	○	○	○	○	○	○	○
SOUTH CAROLINA	●	○	○	●	●	●	●	●	●	○	●	●
SOUTH DAKOTA	○	○	○	●	●	●	●	●	●	○	●	●
TENNESSEE	●	●	●	●	●	○	●	●	●	○	●	○
TEXAS	○	○	○	●	●	●	○	●	●	○	○	●
UTAH	○	○	●	●	●	●	○	●	●	○	●	●
VERMONT	○	○	○	●	●	○	○	○	○	○	○	○
VIRGINIA	●	●	●	●	●	●	●	●	●	●	●	●
WASHINGTON	●	○	○	●	●	○	○	○	○	○	○	○
WASHINGTON, D.C.	●	●	●	●	●	●	●	●	●	○	●	●
WEST VIRGINIA	●	○	●	●	●	●	●	●	●	○	○	●
WISCONSIN	○	○	○	○	○	○	○	○	○	○	○	○
WYOMING	○	●	○	○	○	○	○	○	○	○	○	○

● = STANDARDS MET CRITERIA
○ = STANDARDS DID NOT MEET CRITERIA

California's Content-Rich History "Framework"

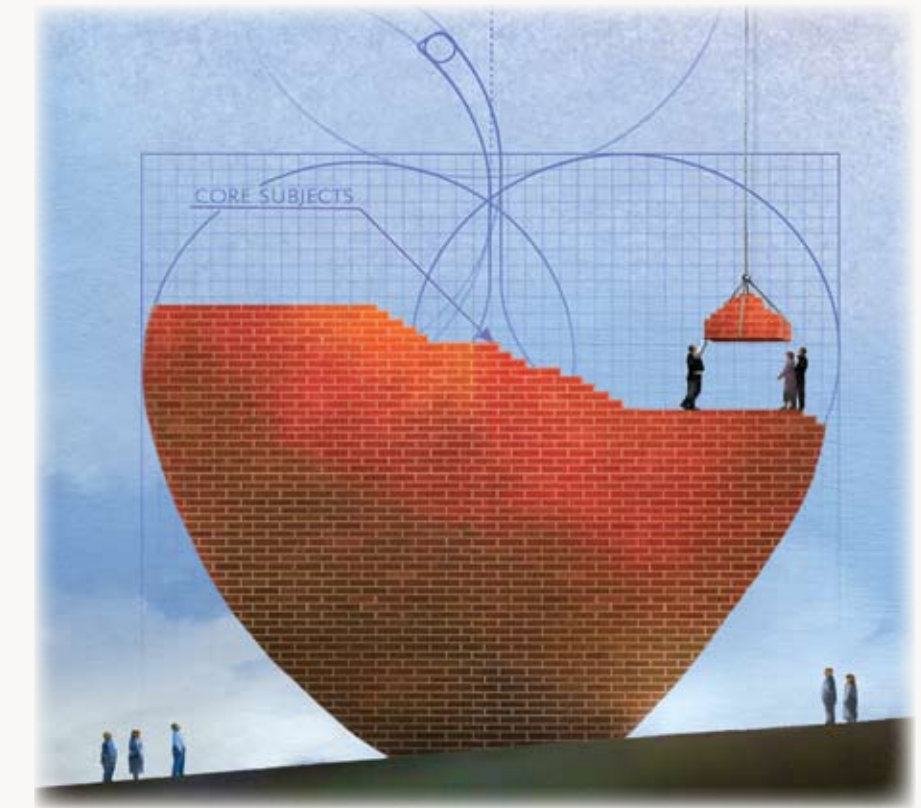
California's standards for 10th-grade modern world history are strong—but it's the "framework" that is really clear, specific, and content rich. This is a common problem: even when states have documents that flesh out the standards, they rarely do a good job of publicizing them or making them easily accessible. In California, a teacher must know to look online for the "curriculum frameworks" instead of the "content standards." It is within the "curriculum frameworks" that the course is explained through an essay, excerpted below, that clearly lays out what topics teachers should cover. The essay also provides suggestions for how to approach key themes and concepts, what points to emphasize, and what materials would enhance students' understanding. Also excerpted below are the corresponding standards, though in some places—especially regarding Nazi Germany—the frameworks and standards are somewhat different. We find it striking how much more difficult it would be to teach this course using only the standards. Even though these standards have some content, much detail and almost all coherence are lost when the essay is broken into a numbered list.

—EDITORS

Excerpt from the Framework for Grade Ten—World History, Culture, and Geography: The Modern World

World War I and Its Consequences

The growth of nationalism, imperialism, and militarism provides the backdrop for consideration of World War I, which permanently changed the map of Europe and deeply affected the rest of the world. Students should understand the political conditions that led to the outbreak of the war in Europe. Caused in large measure by nationalism, the war stimulated even greater nationalist impulses by dissolving old empires, unleashing irredentist movements, and promoting the spirit of self-determination. Within the context of human rights and genocide, students should learn of the Ottoman government's planned mass deportation and systematic annihilation of the Armenian population in 1915. Students should also examine the reactions of other governments, including that of the United States, and world opinion during and after the Armenian genocide. They should examine the effects of the genocide on the remaining Armenian people, who were deprived of their historic homeland, and the ways in which it became a prototype of subsequent genocides.



Through novels, poems, posters, and videotapes, students should gain an understanding of prewar European culture; of the meaning of total war (targeting civilian populations); of malicious wartime propaganda and false reports of German atrocities; of the opposition to the war in the United States; and of the disillusion that followed the war, including the sense of a world lost, despair over the destruction of a generation of young men, and loss of idealism when the world turned out not to be "safe for democracy" after all. In studying the significant consequences of the war, students should understand the importance of Woodrow Wilson's abortive campaign for the League of Nations; the rise of isolationism in the United States; the punitive terms of the peace imposed on Germany; the Russian Revolution and the national revolutions that resulted in the establishment of independent democratic republics such as Estonia, Latvia, Lithuania, Poland, and Ukraine; the Balfour Declaration (significant in the eventual creation of Israel); the role of women in the war efforts and the effect women's involvement had on social attitudes; the cultural changes after the war (for example, the "lost generation" of Ernest Hemingway, Gertrude Stein, F. Scott Fitzgerald, and others); the impact of Freudian psychology; and the changes

wrought by new technology, such as the automobile, radio, and telephone.

Totalitarianism in the Modern World

The aftermath of World War I planted the seeds for another world conflict a generation later. The study of Nazi Germany and Stalinist Russia will illustrate the methods used by a totalitarian state to extinguish political freedom and to amass total control of a society and its politics within a single party and under a single leader. Special attention should be devoted to the destruction of human rights by these two dictatorships. The Holocaust and the famine in Ukraine should receive close attention. This unit offers rich opportunities for analyzing relationships among history, political ideology, governmental structure, economics, cultural traditions, and geography and observing the ways that art and literature can reflect and comment on social conditions.

Nazi Germany

The rise of Hitler should be examined in relation to Germany's postwar economic crisis; the collapse of the Weimar Republic; and Hitler's successful appeal to racism and what the historian Fritz Stern called "the politics of cultural despair." German art, music, and literature (for example, George Grosz and Bertolt Brecht) will deepen students' understanding of this era.

Hitler's policy of pursuing racial purity and its transformation into the Final Solution and the Holocaust should receive close attention. To place Hitler's claim to Aryan superiority in perspective, students should examine the highly developed Jewish culture of central Europe that produced a great number of artists such as Marc Chagall, Gustav Mahler, Arnold Schoenberg, and Franz Kafka; scientists such as Albert Einstein and Sigmund Freud; and scholars such as Edmund Husserl and Rudolph Lipschitz.

Study of the Holocaust should focus students' attention on the Nazi party's racist ideology, the suppression of rights and freedoms, and the Final Solution—a systematic policy of extermination of all Jews and other “non-Aryan” peoples. The Holocaust's horror is underscored by the number of people killed, including six million Jews, as well as the Nazis' ruthless utilization of bureaucratic social organization and modern technology to gather, classify, and eradicate their victims. Genocides, such as that perpetrated on the Armenians, already had demonstrated the human capacity for mass murder. The Nazis perfected the social organization of human evil and provided an efficient and frightening model for future despots such as Pol Pot in Cambodia. Students should learn about *Krystallnacht*; about death camps; and about the Nazi persecution of Gypsies, homosexuals, and others who failed to meet the Aryan ideal. They should analyze the failure of Western governments to offer refuge to those fleeing Nazism. They should discuss abortive revolts such as that which occurred in the Warsaw Ghetto, and they should discuss the moral courage of Christians such as Dietrich Bonhoeffer and Raoul Wallenberg, who risked their lives to save Jews.

Numerous videotapes and books (for example, *The Diary of Anne Frank* and Elie Wiesel's *Night*) are available to demonstrate the gruesome reality of the Final Solution. The purpose is not to shock but to engage students in thinking about why one of the world's most civilized nations participated in the systematic murder of millions of innocent people, mainly because of their religious identity.

Stalinist Russia

The Stalin era should be set in the historical context of the czarist regimes with their secret police, censorship, and imprisonment of dissidents. Within this context, students should learn of the many abortive efforts at reform and revolution, the massive underdevelopment of the nation, and the Russian Revolution. Students should examine the Bolshevik overthrow of

the Kerensky government and understand the difference between the Bolsheviks and the Mensheviks. They should recognize the roles of Lenin, Trotsky, and Stalin; and they should analyze the meaning of communist ideology.

Students should perceive the connection between economic policies, political policies, the absence of a free press, and systematic violations of human rights, including the crushing of workers' strikes. With this background they should examine the forced collectivization of agriculture; the murder of millions of kulaks; the government-created famine in Ukraine that led to the starvation of millions of people; the political purges of party leaders, artists, engineers, and intellectuals; and the show trials of the 1930s.

By analyzing examples of socialist realist art and reading Yevgeny Zamyatin's *We*, the first antiutopian novel, and Arthur Koestler's classic *Darkness at Noon*, students will acquire deeper insights into this period.

As a result of these in-depth studies of Nazi Germany and Stalinist Russia, students should understand the nature of totalitarian rule and recognize the danger of concentrating unlimited power in the hands of the central government. They should develop understanding of the importance of a free press, the right to criticize the government without fear of reprisal, an independent judiciary, opposition political parties, free trade unions, and other safeguards of individual rights. This is an appropriate point at which to reflect on the role of the individual when confronted with governmental actions such as the Final Solution and other violations of human rights.

Corresponding Excerpt from the Standards

10.5 Students analyze the causes and course of the First World War.

1. Analyze the arguments for entering into war presented by leaders from all sides of the Great War and the role of political and economic rivalries, ethnic and ideological conflicts, domestic discontent and disorder, and propaganda and nationalism in mobilizing the civilian population in support of “total war.”
2. Examine the principal theaters of battle, major turning points, and the importance of geographic factors in military decisions and outcomes (e.g., topography, watersheds, distance, climate).
3. Explain how the Russian Revolution and the entry of the United States affected the course and outcome of the war.

4. Understand the nature of the war and its human costs (military and civilian) on all sides of the conflict, including how colonial peoples contributed to the war effort.
5. Discuss human rights violations and genocide, including the Ottoman government's actions against Armenian citizens.

10.6 Students analyze the effects of the First World War.

1. Analyze the aims and negotiating roles of world leaders, the terms and influence of the Treaty of Versailles and Woodrow Wilson's Fourteen Points, and the causes and effects of the United States's rejection of the League of Nations on world politics.
2. Describe the effects of the war and resulting peace treaties on population movement, the international economy, and shifts in the geographic and political borders of Europe and the Middle East.
3. Understand the widespread disillusionment with prewar institutions, authorities, and values that resulted in a void that was later filled by totalitarians.
4. Discuss the influence of World War I on literature, art, and intellectual life in the West (e.g., Pablo Picasso, the “lost generation” of Gertrude Stein, Ernest Hemingway).

10.7 Students analyze the rise of totalitarian governments after World War I.

1. Understand the causes and consequences of the Russian Revolution, including Lenin's use of totalitarian means to seize and maintain control (e.g., the Gulag).
2. Trace Stalin's rise to power in the Soviet Union and the connection between economic policies, political policies, the absence of a free press, and systematic violations of human rights (e.g., the Terror Famine in Ukraine).
3. Analyze the rise, aggression, and human costs of totalitarian regimes (Fascist and Communist) in Germany, Italy, and the Soviet Union, noting especially their common and dissimilar traits.

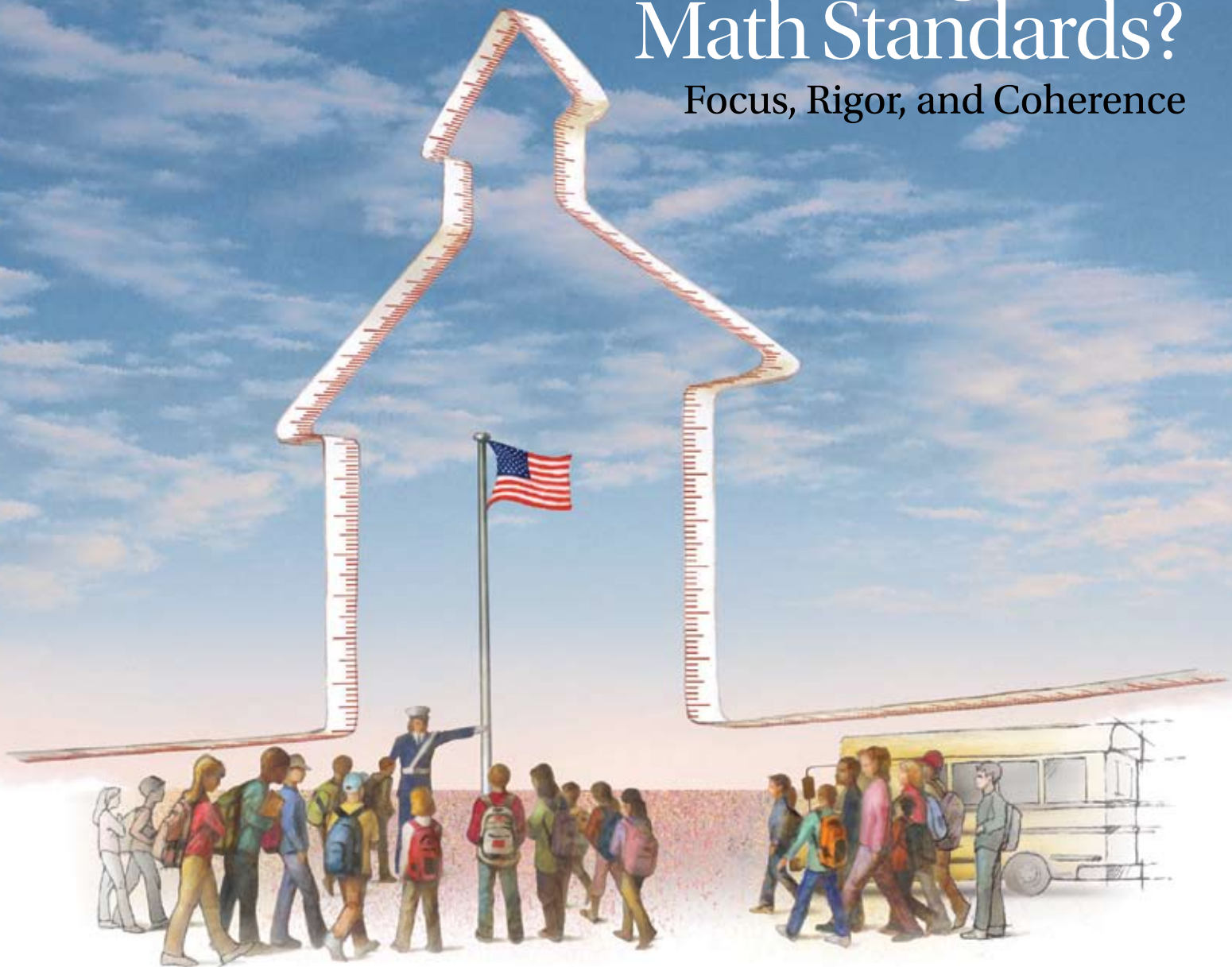
10.8 Students analyze the causes and consequences of World War II.*

1. Compare the German, Italian, and Japanese drives for empire in the 1930s, including the 1937 Rape of Nanking, other atrocities in China, and the Stalin-Hitler Pact of 1939.
5. Analyze the Nazi policy of pursuing racial purity, especially against the European Jews; its transformation into the Final Solution; and the Holocaust that resulted in the murder of six million Jewish civilians.

* Section 10.8 has six standards; only those relevant to the excerpt from the framework are shown.

What's Missing from Math Standards?

Focus, Rigor, and Coherence



BY WILLIAM H. SCHMIDT

Why do some countries, like Singapore, Korea, and the Czech Republic, do so much better than the United States in math? I've heard all sorts of reasons; diversity and poverty top the list. But after some 15 years conducting international research, I am convinced that it's the diversity and poverty of U.S. math standards—not the diversity and poverty of U.S. students—that are to blame.

William H. Schmidt is a university distinguished professor at Michigan State University as well as co-director of the Education Policy Center, co-director of the U.S. China Center for Research, and co-director of the National Science Foundation PROM/SE project. Previously he served as national research coordinator and executive director of the U.S. National Center, which oversaw U.S. participation in the Third International Mathematics and Science Study (TIMSS).

The single most important result of the Third International Mathematics and Science Study (TIMSS) is that we now know that student performance is directly related to the nature of the curricular expectations. I do not mean the instructional practices. I mean the nature of what it is that children are to learn within schools. (In the U.S., the curricular expectations are usually referred to as standards; in other countries they are known by various names.) After all, what is more central to schooling than those things we, as a society, have chosen to pass on to our children?

The TIMSS research has revealed that there are three aspects of math expectations, or standards, that are really important: focus, rigor, and coherence. Let's take a brief look at each.

Focus is the most straightforward. Standards need to focus on a small enough number of topics so that teachers can spend months, not days, on them. I'll just give you one illustration: in the early grades, top-achieving countries usually cover about four to

six topics related to basic numeracy, measurement, and arithmetic operations. That's all. In contrast, in the U.S., state and district standards, as well as textbooks, often cram 20 topics into the first and second grades. That's much more than any child could possibly absorb.

Rigor is also pretty straightforward—and we don't have enough of it. For example, in the middle grades, the rest of the world is teaching algebra and geometry. The U.S. is still, for most children, teaching arithmetic. It's not rocket science: other countries outperform us in the middle and upper grades because their curricular expectations are so much more demanding, so much more rigorous.

Coherence is not quite as easy to grasp, but I believe it is the most important element. Coherent standards follow the structure of the discipline being taught. All school subject matter derives from some academic discipline, be it geography, history, mathematics, physics, etc. Once that formal academic body of knowledge has been parsed out and sequenced from kindergarten through 12th grade, it should reflect the internal logic of the discipline. This is especially important in mathematics, which is very hierarchical. Topics in math really need to flow in a certain logical sequence in order to have coherent instruction. If you look at the math curricula of top-achieving countries, you see a very logical sequence (which I describe in the box on p. 24). The more advanced topics are not covered in the early grades. Now, that seems obvious—until you look at state and district standards in the U.S. Everything is covered everywhere. Far from coherent, typical math standards in the U.S. often appear arbitrary, like a laundry list of topics.

And it shows in our abysmal math achievement. On the math portion of the 2003 Trends in International Mathematics and Science Study, just seven percent of fourth- and eighth-graders in the U.S. attained the advanced level; in comparison, in Singapore (the top achieving nation), 38 percent of fourth-graders and 45 percent of eighth-graders attained the advanced level (Gonzales et al., 2004).

So it's important to ask, why do we have such unfocused, undemanding, and incoherent math standards? I attribute it to the long tradition in the U.S. of shared responsibility in curriculum decision-making, as well as a complex decentralized arrangement for schooling and curriculum development. What many other countries take for granted is problematic, and political, in the U.S.

The development of standards, even at a very localized level, does not occur in a vacuum. Inevitably, the process is influenced by standards from other organizations, such as districts, states, and national associations. It is also influenced by examination of textbooks and standardized tests, as well as an intuitive sense of what is currently being taught in the classroom. The resulting multiple possibilities, coupled with the U.S. notion of individualism and the virtual absence of input from the academy (i.e., university professors and research mathematicians), make defining the sequence of topics an exercise in democratic consensus-making. Unfortunately, standards setting in the U.S. is more conducive to politically motivated, *ad hoc* approaches to content than to discipline-based ones (Schmidt et al., 2005).

Perhaps that explains why several states, instead of addressing

the lack of coherence, focus, and rigor in their standards, have tried to raise math achievement by increasing Carnegie units required for high school graduation and specifying higher-level courses that must be completed (Dounay, 2006). Unfortunately, this strategy won't work. Neither seat time nor credentials are reasonable indicators of student learning.

One researcher recently reported that despite having taken Geometry and Algebra II, 60 percent of low-income, 65 percent of African-American, and 57 percent of Hispanic students in Texas failed the state test that covered Algebra I. Here's how the

In the math curricula of top-achieving countries, the more advanced topics are not covered in the early grades. Now, that seems obvious—until you look at the U.S. Far from coherent, typical math standards in the U.S. often appear arbitrary, like a laundry list of topics.

researcher summed up the situation: "While truth-in-labeling practices in the food industry ensure that orange drink cannot be labeled orange juice without legal ramifications, schools have no such safeguards in place. Algebra I can be placed on any child's transcript without any guarantee about the content taught or learned" (Rutherford, 2005, as cited in Dounay, 2006).

A study my colleagues and I recently conducted with about 6,000 students from eight high schools in two districts had similar findings (Kher et al., 2007). When we surveyed teachers as to what was actually taught, we found great variability among courses with the same title. In addition, we were quite surprised at just how many math courses were being offered. While one of the districts offered 20 math courses, the other offered 68—including seven varieties of Algebra I that ranged from Fundamentals of Algebra to Basic Algebra to Algebra 1A.*

The courses students take to fulfill graduation requirements clearly affect what they learn and their future academic options. But with this kind of variability in course offerings, how can high school students find the rigorous courses they need? Lack of clear standards coupled with a smorgasbord of choices creates a set of artificial tracks in the curriculum that adversely affect mathematical literacy, and also limit students' future educational and career opportunities. The analyses of TIMSS data show strong relationships cross-nationally between content standards and both what teachers teach and what students learn (Schmidt et al., 2001). Curricular expectations in high-performing countries focus on fewer topics, but also communicate the expectation that those topics will be taught in a deeper, more profound way. This is not happenstance; it means making real choices about what to teach and, of equal importance,

*As if that weren't bad enough, the district also offered Life Math, Consumer Math, Basic Math, etc.

articulating those choices in a consistent manner in key instructional supports like standards, textbooks, and assessments (Newman et al., 2001).

I've been beating the drum for focus, rigor, and coherence for many years, and there has been some progress. Some of the more recent standards are more focused, but they're still not very coherent. Many states have reduced the number of topics per grade, but sometimes they have removed the wrong topics, making their standards even more incoherent. In order for U.S. math standards to improve, states and districts must bring mathematicians into the standards setting process—and push the politics out.

Better still, states and districts should work together to establish national (if not federal) math standards. More than 30 states have joined forces through Achieve, Inc., so the U.S. may already be headed toward *de facto* national math standards. Along the way, looking to other countries would serve us well. The vast majority of the 40-plus countries participating in TIMSS had common national standards for all K-8 students. Even in countries with different schools for different types of students, the grade-level curricular expectations were usually the same. To many people in the U.S., common national standards are synonymous

with federal standards. But “national” does not have to mean “federally imposed.” TIMSS showed that the final decision regarding specific aspects of curriculum and its implementation varied greatly among countries, even when a common set of national content standards guided education overall. □

References

- Dounay, J. (2006). *Ensuring rigor in the high school curriculum: What states are doing*. Education Commission of the States Policy Brief. Denver, Colo.
- Gonzales, P., Guzmán, J.C., Partelow, L., Pahlke, E., Jocelyn, L., Kastberg, D., and Williams, T. (2004). *Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2003* (NCES 2005-005). U.S. Department of Education, National Center for Education Statistics. Washington, D.C.: U.S. Government Printing Office.
- Kher, N., Schmidt, W.H., Houang, R.T., and Zou, Z. (2007). “High School Mathematics Trajectories: Connecting Opportunities to Learn with Student Performance.” Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, Ill., April 9-13, 2007.
- Newmann, F.M., Smith, B., Allensworth, E., and Bryk, A.S. (2001). “Instructional program coherence: What it is and why it should guide school improvement policy.” *Educational Evaluation and Policy Analysis*, 23(4), p. 297-321.
- Schmidt, W.H., McKnight, C.C., Houang, R.T., Wang, H.C., Wiley, D.E., Cogan, L.S., and Wolfe, R.G. (2001). *Why Schools Matter: A Cross-National Comparison of Curriculum and Learning*. Jossey-Bass: San Francisco, Calif.
- Schmidt, W.H., Wang, H.C., and McKnight, C.C. (2005). “Curriculum coherence: An examination of U.S. mathematics and science content standards from an international perspective.” *Journal of Curriculum Studies*, 37(5), p. 525-559.

World-Class Math Standards

To find out what world-class math standards in grades 1-8 would look like, we created a composite of the top-achieving countries' math curricula.* What we found was a three-tier pattern of increasing mathematical complexity. The first tier, covered in grades 1-5, includes an emphasis primarily on arithmetic, including whole-number concepts and computation, common and decimal fractions, and estimation and rounding. The third tier, covered in grades 7 and 8, consists primarily of advanced

number topics, including exponents, roots, radicals, orders of magnitude, and the properties of rational numbers, algebra, including functions and slope, and geometry, including congruence and similarity and 3-dimensional geometry. Grades 5 and 6 appear to serve as an overlapping transition or middle tier marked by continuing attention to arithmetic topics (especially fractions, decimals, estimation, and rounding), but with an introduction to the topics of percentages, negative numbers, integers and their properties, proportional concepts and problems, 2-dimensional coordinate geometry, and geometric transformations, all of which, except for percentages, were also topics found in the third stage. Thus, grades 5 and 6 serve as a point of transition where attention to topics such as proportionality and coordinate geometry led to the formal treatment of algebra and geometry that is characteristic of the third stage.

The implied curriculum structure also includes six topics

that provide a form of continuity across all three stages. These topics—measurement units; perimeter, area, and volume; algebraic equations, including the representation of numerical situations and the informal solution of simple equations; data representation and analysis; and basic two-dimensional geometry including points, lines, angles, polygons and circles—appear to ensure stability across the three tiers, serving as buttresses supporting the overall curriculum structure. Those buttresses include the fundamentals of algebra, geometry, measurement and data analysis, and, by way of the implied breadth of these topics, could move from their most elementary aspects to the beginnings of complex mathematics.

When we examined state and district math standards, the contrast with the international composite was striking. Not only is the organizing principle underlying these standards unlike that of the top-achieving countries, it actually seems illogical. The organizing principle (if one can call it that) seems to include almost every topic at almost every grade.

For a much more in-depth look at both the international composite and U.S. math standards, see the Summer 2002 issue of *American Educator*, available online at www.aft.org/pubs-reports/american_educator/summer2002/curriculum.pdf.

—W.H.S.



* We studied the curricular expectations of Singapore, Korea, Japan, Hong Kong, Belgium (Flemish), and the Czech Republic; these were the top-achieving countries on the TIMSS math assessment of seventh- and eighth-graders.

No Contest

Up Close, Typical State Biology Standards Don't Have the Content or Coherence of the International Baccalaureate



BY PAUL R. GROSS

Since the beginning of the standards movement, national and state science standards have been padded with politically correct matter having little to do with the substance of scientific knowledge. According to philosopher of science Noretta Koertge, this invasion can be traced to the 1996 National Science Education Standards. They were developed by the National Research Council and have served as a model for the states. Koertge doesn't blame the national standards; she merely notes that they created the opportunity:

[The National Science Education Standards] note that learning about science as process is not enough. Understanding of content is also required.... But one of their goals opens

Paul R. Gross is emeritus professor of life sciences, as well as former vice president and provost, University of Virginia. He has been a faculty member at New York University, Brown University, Massachusetts Institute of Technology, and the University of Rochester, and he was director and president of the Marine Biological Laboratory at Woods Hole, Mass., 1978-88. He is author of numerous articles and books on topics ranging from molecular biology to the intersection of science and culture.

wide a door [for] ... political correctness [to] ... intrude. This is the requirement to present Science in Personal and Social Perspectives. "An important purpose of science education is to give students a means to understand and act on personal and social issues." What might this mean in practice?¹

In practice, it could mean almost anything except the actual content of science. As she notes, the national science education standards *do* recognize content as important. But they don't resist the politicized formulas and prescriptions for science, nor the sociological turn, that came into prominence during the 1980s and 1990s. Since then, many 18-wheelers, loaded with cargo other than science content, have barreled through the wide-open door.

Despite optimistic predictions that flagrant politicizing of science would doom these initiatives to an early demise, at least in K-12, the incursion succeeded. K-12 education standards, which precede and give direction to everything from teaching to professional development to textbook and assessment writing, ought to be "standards of scholarship and intellectual responsibility."² But, of course, there has always been right- and left-leaning political correctness intruding, even into the science classroom. Science

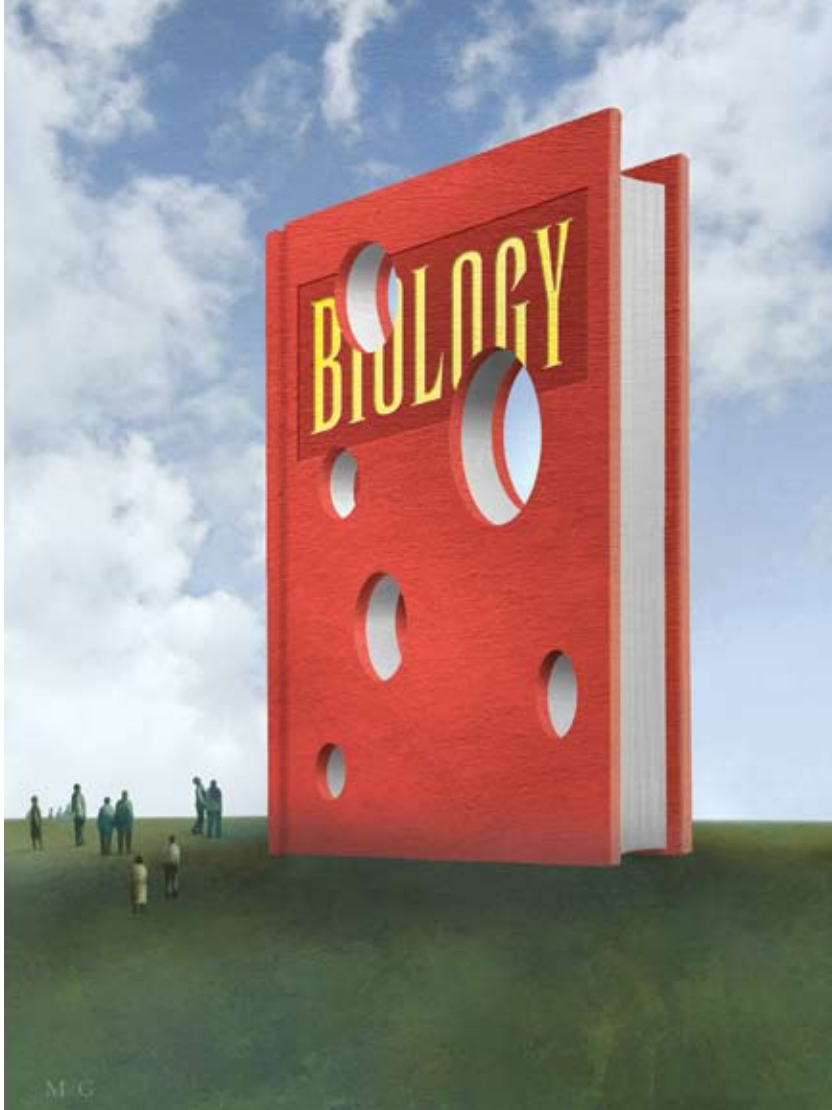
The vaulting of process over content has become established nationwide. Unfortunately the results of nationwide, objective testing of students have not yet—after decades of process emphasis—demonstrated any noteworthy increase in proficiency.

education and science standards have not been immune from the culture wars of academe and society. And the comments in this article, which focus on biology standards, do apply in general to the rest of natural science.

Conservative political correctness for science, which today as in the 1920s is most clearly visible in reference to biology, is mainly a pervasive anti-Darwinism.* Currently, the attack protests against viewpoint discrimination (a catchphrase conservatives borrowed from the left). Unfair discrimination is claimed to be implicit in the teaching of evolution without equal time for favored alternatives: “scientific creationism” or “intelligent design.” But, as good science, both of those fail. As has been demonstrated time and again, they are *not* good science but something else: bad science or, at best, a kind of theology.³ Since the mid 1990s, anti-Darwinism has grown faster and with greater threat to national scientific literacy than have any of the left’s intrusions.⁴

But individual anti-science attacks from the right, damaging as they might well become to our already deficient national science literacy, have not so far survived for very long. Vigilance has routed them, one at a time, sometimes in the courts (as in *Kitzmiller v. Dover School District of Pennsylvania*). Unfortunately, the same cannot be said of intrusions from the left. Their target is the alleged “narrow,” “authoritarian” insistence in traditional science study on content and “factoids,” as opposed to something else: something higher, more analytical—*science process*, for example. This vaulting of process over content has become established nationwide. Its promoters have succeeded because their basic claim resonates with the intuition of most nonscientists. This is that the processes of science are distinct and separable from its content, that *the processes are of equal or greater importance, and that they, as well as content, must be taught in the science class.*

So conceived, “process” includes not only some necessary and appropriate history of science, and some simple but serious definitions of inquiry and methodology, but also much deliberation on the cultural, social, and political origins, and the social consequences, of both. “Process” becomes, as it were, sociological. This emphasis comes with a rider: so far as actual science content is concerned, as some standards documents proclaim, “less is more.” The claim is that with emphasis on process in the science classroom, and with diminished specific content (but pursued in



depth), we shall raise science literacy and expand proficiency, providing experiences of “rigorous” science for every child. Thereby it is implied, for example, that the child with no glimmering of elementary solution chemistry, of microbiology, limnology, or hydrology can learn (enough of) those sciences, for practical purposes, without actually studying them. How? Well—still for example—by participating team-wise in a science classroom simulation, with role-playing, of a town council hearing on pollution by local industry of the water supply.

Unfortunately the results of nationwide, objective testing of students (e.g., the NAEP assessments) have not yet—after decades of process emphasis—demonstrated any noteworthy increase in proficiency. Nor have they shown any significant closing of the achievement gaps between various groups of students.

Rating the Standards

Are the state standards as bad as all this suggests? Yes, although with some happy exceptions. Most are strongly influenced by national standards publications (e.g., from the National Research Council and the American Association for the Advancement of Science). But the failures cannot be directly attributed to these

*Conservative intellectuals, many but by no means all of whom dislike evolution and wish it could be kept quiet, like to justify this wish, in print, as a decent respect for tradition. So doing, they forget that after more than 150 years, richer and sounder than ever, evolutionary science is among the very strongest of our intellectual traditions.

models. The national standards are sound where they deal with content (although there is not enough of it at the necessary levels of detail). Their emphases on process are adopted enthusiastically by the states and usually expanded; but the same state standards often do *not* match the quality of the already somewhat attenuated content in the national models.

States write their own standards, most of them organized idiosyncratically, dense, and long-winded as to process. They stress learning by doing, praise “hands-on, minds-on” classroom work; but they focus more on those “personal and social issues”—in chic pedagogical language. They reduce science content even further. And it is often clear that there has been insufficient input from scientists. There is far too much plain error and misleading content.

How can I assert all this so confidently? In 2005, I was lead author of *The State of State Science Standards*.⁵ There were five other referees. Most of us are working scientists and teachers (two are biologists). One is a distinguished philosopher of science, also a dedicated teacher. Together, we examined 50 sets of science standards (49 states** plus the District of Columbia), employing well-defined criteria that allowed quantifiable judgments. Prominent among those were explicit measures of content and the approach taken to its teaching.

The result: 15 states flunked, with a letter grade of F. Seven more earned a reluctant D, “just passing.” Nine were awarded a C. To be sure, 19 states earned an A or B. And the “A” documents (California, Indiana, Massachusetts, New Mexico, New York, South Carolina, and Virginia) were excellent, in places outdoing the national models on content and in the organization of content for sequencing by grade and (in high school) course. But overall, for the 50 standards, the result was disheartening and no advance over earlier reviews.

Except for those heartwarming “A” documents, most standards suffer from excessive length, obsession with process and pedagogy (including discovery learning, cooperative learning, paeans to constructivist theory and practice, relativist praises of peoples’ and indigenous science), and inadequate attention to the kind, amount, and organization of the subject matter: science content. Such standards *cannot* ensure that what happens in the classroom follows from the stated expectations of the standards—that is, systematic alignment, all the way from standards to tests and portfolios.

Biology in State Standards

To illustrate the findings of what has been done well and poorly in state standards, I’ve sampled a few summaries from the 2005 review of life science standards (remembering that they represent well the handling of the other natural sciences taught in school). It is neither necessary nor appropriate to identify the states referred to in these excerpts from the experts’ reviews. State standards are in continuous revision, and there were some remarkable changes, up or down, between the prior and the new set. Thus what was found for a state in 2005 may not be true in 2008. The

Most standards suffer from excessive length, obsession with process and pedagogy, and inadequate attention to the kind, amount, and organization of the subject matter: science content.

point is to identify what is right when it was provided in the standards, and what was wrong in far too many of them.

Starting with the (too few) “A” standards on biology, here is a sample expert comment to stand for their content and backup:

Life science treatment is sophisticated. It begins in kindergarten, but grade 1 already introduces material that is both serious and interesting to children: “Conduct simple experiments/investigations related to plant needs by changing one variable (food, air, water, light or place to grow) at a time. Students do not need to know the term *variable*.” Interweaving of science content with process continues through grade 6. In middle school, cell [sub-organismal] biology is balanced by [community and population] ecology. Genetics begins, and so does the real study of evolution. The high school program opens with the history of discovery in biology! This, to keep things balanced, is matched in the program by biotechnology. Evolution has its appropriate place and is presented without the usual glosses and misunderstandings. The standards draw evidence from a variety of sources, including the fossil record, radiometric dating, genetics, biogeography, comparative morphology, and embryology....

In those seven “A” standards, carefully written, explicit guidance is provided for follow-through, from the standard itself through curriculum design, lesson planning, laboratory and library projects, and by implication to assessments. This need not yield a hundreds-of-pages document. It can be done with less print and paper than is now the norm, if the standards-makers know what they want to do in each science discipline, know what they are talking about, and engage a competent editor.

In 2005, the “A” standards were alone in providing such guidance. Elsewhere there were gaping holes in the depiction of modern biology and, just as frequently, misdirection and mistakes in the content presented. Here are a few observations on several of the inferior standards (of which, remember, there were at least 20 out of the 50) from the experts who reviewed them. The first sample finding discusses standards that earned a D, the rest are for “F” standards.

For the life sciences, treatments of fundamentals—mitosis, meiosis, and cell division; basic embryology; the genetics of

**At the time, Iowa did not have science standards. It has since adopted a rather disappointing set of science standards.



In the seven “A” standards, carefully written, explicit guidance is provided for follow-through, from the standard itself through curriculum design, lesson planning, laboratory and library projects, and by implication to assessments.

each other, to society, and to the workplace.” [Why stop there? Are they not related to beekeeping, ballroom dancing, Mesopotamian architecture...?]

The[se] Content Standards, Benchmarks, and Performance Standards all produce the same letdown: they are too general, and they begin with verbs like analyze, infer, investigate, and evaluate, which are used as though they had no specific meaning.

High school biology is supposed [in these standards] to emphasize biological knowledge in a social/ecological context—biological concepts as they relate to human well-being and the common good. Fair enough; curricula can be built on such themes. But neither the concepts nor the connections are sufficiently spelled out to guide a curriculum or lesson planner. Without [cogent and comprehensible statements of the concepts and] the connections, good intentions [in the social/ecological context] are more self-congratulation than guidance.

There is no more depth in the standards for biology [than in the previously discussed standards for physical and earth/space sciences], exemplified by these selections, for Grade 12: “State the relationships between functions of the cell and functions of the organisms as related to genetics and heredity.” Or, “Understand the impact of energy on organisms in living systems,” and “Apply the underlying themes of science to develop defensible visions of the future.” Local specialists and teachers needn’t worry about biology content in planning to comply with such standards.

Simply put, these standards are not serious about science education. They put political correctness—be it anti-evolution or an excessive emphasis on scientific process—over science content. As a result, they are of little value to teachers, assessment writers, and others who are concerned with students’ scientific literacy.

If states decided to get serious about science education, what would a no-nonsense, comprehensive, serious approach to science look like? Many models exist—including the seven “A” states discussed above. But for a truly world-class model, states might turn to IB, the International Baccalaureate.[†]

evolutionary change—are rather weak, and grade-wise progression is often in the form of mere repetition.

For example, we find: “Evolution vs. Creation: two approaches to help explain the origin of life; the former based on Darwin’s Theory of Evolution and the latter on divine intervention”.... [Darwin said nothing about the origin of life.*] In modern biology, origin of life is a quite independent discipline and its success, or lack of it, has no effect on the theory of evolution. For grade 7, we find “Have students review the evidence that support and refute [*sic*] the theory of natural selection. The review can be done through textbooks, the Internet, and journals.” Despite the implications of this statement, there has been to date no “evidence” that “refutes” the “theory of natural selection.” Natural selection occurs....

Treatment of the life sciences is similarly scant.... “The student will understand the theory of biological evolution. Observe and explore the characteristics of plants and animals.” That is for 5-year olds[!]..... The problem of this entire [standard-writing] undertaking ... is a pervasive vagueness combined with hortative turns of phrase. In grade 2, for example, students will “brainstorm questions that can be investigated.” In grade 5, they will be expected to “know that science and technology are human endeavors related to

*“Origin of life” is an active branch of science centered mainly in biogeochemistry and geophysics. Evolutionary biology is concerned with *the history of life on Earth after it got started*. Darwin’s theory was concerned with the latter and had nothing to offer about the former. For a useful reference on this question see www.csuchico.edu/~curbanowicz/DarwinDayCollectionOneChapter.

IB's Biology Syllabus Is Clear and Specific

See for Yourself with This Excerpt on Cell Theory

1.1.1 Discuss the theory that living organisms are composed of cells.

Skeletal muscle and some fungal hyphae are not divided into cells but have a multinucleate cytoplasm. Some biologists consider unicellular organisms to be acellular.

1.1.2 State that a virus is a non-cellular structure consisting of DNA or RNA surrounded by a protein coat.

1.1.3 State that all cells are formed from other cells.

1.1.4 Explain three advantages of using light microscopes.

Advantages include colour images instead of monochrome, a larger field of view, easily prepared sample material, the possibility of examining living material and observing movement.

1.1.5 Outline the advantages of using electron microscopes.

In comparing electron and light microscopes, the terms *resolution* and *magnifi-*

cation should be explained. Scanning and transmission electron microscopes should be mentioned briefly, but the principles of how they work need not be discussed.

1.1.6 Define *organelle*.

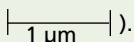
An organelle is a discrete structure within a cell, and has a specific function.

1.1.7 Compare the relative sizes of molecules, cell membrane thickness, viruses, bacteria, organelles and cells, using appropriate SI units.

Appreciation of relative size is required, such as molecules (1 nm), thickness of membranes (10 nm), viruses (100 nm), bacteria (1 μm), organelles (up to 10 μm), most cells (up to 100 μm). The three-dimensional nature/shape of cells should be emphasized.

1.1.8 Calculate linear magnification of drawings.

Drawings should show cells and cell ultrastructure with scale bars

(e.g., ).

Magnification could also be stated, e.g., x250.

1.1.9 Explain the importance of the surface area to volume ratio as a factor limiting cell size.

Mention the concept that the rate of metabolism of a cell is a function of its mass:volume ratio, whereas the rate of exchange of materials and energy (heat) is a function of its surface area. Simple mathematical models involving cubes and the changes in the ratio that occur as the sides increase by one unit could be compared.

1.1.10 State that unicellular organisms carry out all the functions of life.

1.1.11 Explain that cells in multicellular organisms differentiate to carry out specialized functions by expressing some of their genes but not others.

1.1.12 Define *tissue*, *organ*, and *organ system*.

SOURCE: FROM IBO DIPLOMA PROGRAMME, BIOLOGY SYLLABUS © INTERNATIONAL BACCALAUREATE ORGANIZATION, 2003.

IB Biology

The IB program, a rigorous, internationally monitored two-year (junior-senior) curriculum, is mature (40 years old) and highly organized. Curriculum design is under continuous review by experts, many of them university faculty in relevant disciplines. The courses are meant to reflect and, if appropriate, to substitute for, introductory college courses in each subject. Teachers of IB courses must, for example, be trained by IB, and their performance as assessors of student work is monitored.

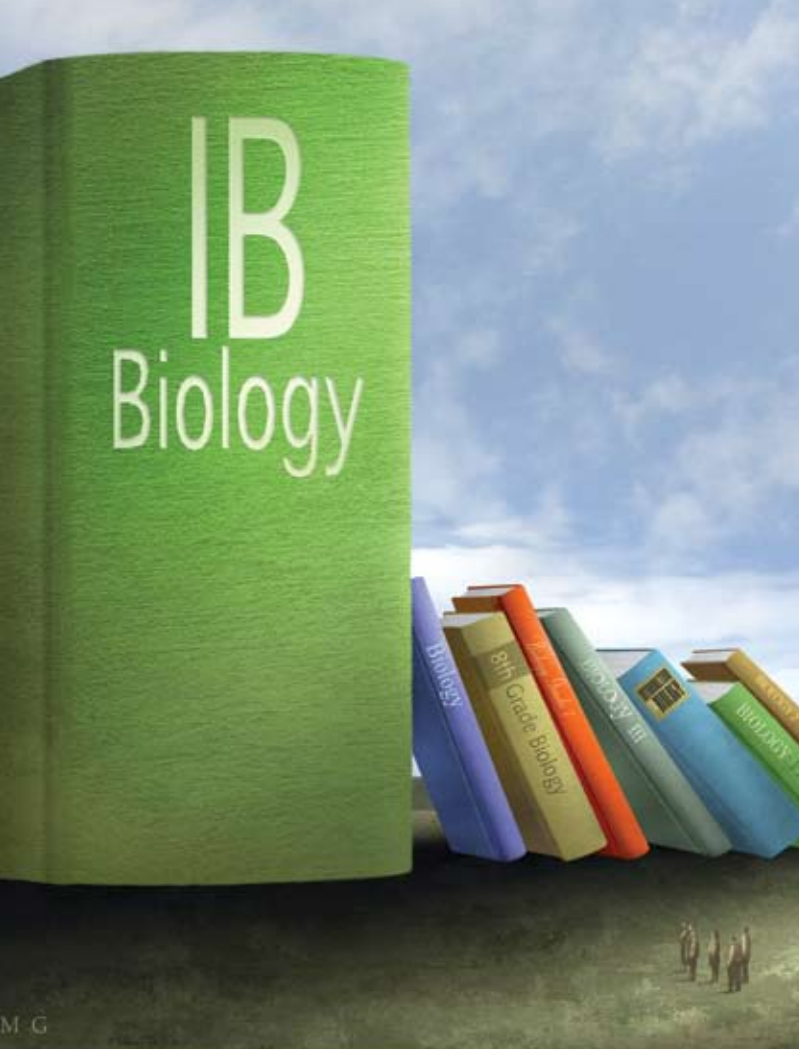
Using biology, then, as our test object, and in light of the findings on state biology standards already discussed, what can be observed about the IB version of that key science subject?

First, no ambiguity is allowed on what is to be learned and understood. In the standard level IB course, which is comparable, time-wise, to a good American high school biology program, five major subjects are covered: Cells, the Chemistry of Life, Genetics, Ecology and Evolution, and Human Health and Physiology. Asso-

ciated with these (they are the main sub-disciplines of modern biology) are highly specified and clearly stated aims and objectives. Associated with each of those, for each main topic and in an orderly way, are full sets of “action verbs,” together with attached content statements. The action verbs are the same as the terms “analyze,” “understand,” “know that,” etc., so often used vaguely and interchangeably in the state standards documents. In the IB biology course, however, they are very carefully defined so that teacher and student know exactly what each term requires the student to do—annotate, calculate, compare, define, distinguish, outline, etc.

The first topic, “Cells,” will serve as a sample of syllabus detail. Under Cells, there are three subheads: Cell Theory, Prokaryotic Cells, and Eukaryotic Cells. Seven hours are specified for teaching all of these. Each subtopic then specifies a number of subdivisions. Cell Theory, for example, has 12 subdivisions (which you can see in the box above), each structured as a sentence beginning with an action verb, which is followed by a brief but carefully written explanation of what that action requires and the appropriate (credit-worthy) results. There is no mandate to teach these topics in the order or with the specific emphases of the curriculum guide, but it is clearly expected that everything will be covered at some time during the IB biology experience. Anything touched upon in the syllabus is liable to appear on an exam at the end. So both the clarity of purpose and program organization are excellent.

¹Some readers may wonder why I chose to highlight IB over Advanced Placement (AP). Although AP does offer a strong biology program, it does not have as many quality control mechanisms as IB. The International Baccalaureate Organization exerts much tighter quality control over the syllabi, as well as the mounting and grading of assessments, so that results from schools all over the world are intercomparable. For a recent review of AP and IB, see *Advanced Placement and International Baccalaureate: Do They Deserve Gold Star Status?* at www.edexcellence.net/institute/publication/publication.cfm?id=378.



No state needs to have third-rate standards when there are already first-rate ones available to be copied or at least adapted conscientiously to local need.

There is little that seems to cover all the “process” that is so dominant in states’ standards. In fact, more than enough process is captured in the full IB Diploma Program, but it is taught as a very general, independent course dubbed Theory of Knowledge. Every IB student takes it. There, process can be dealt with in appropriate disciplinary context. The biology course is, as it should be, for biology; the same goes for the other IB “Experimental Sciences.”

All proceedings of the IB biology course are set forth in the *Introduction* and the *Curriculum Guide*. There is room for some innovation in sequencing and practical work, but it is plain that a specified body of knowledge and skills, elaborately documented in these course materials, is to be acquired by each student, and tested. One would have to concede that this is teaching to the test, and with a vengeance; but a student who absorbs this specified body of knowledge and skills will acquire a good command, at the average first-course level for a good American college, of the current state of the science.

Student achievement is measured by a linear combination of grades from two independent evaluations. Written tests are graded *externally* by trained examiners, and are worth 76 percent of the total course grade. An internal assessment is graded locally by the teacher (but centrally monitored by the International Baccalaureate Organization). It covers practical, interdisciplinary, and independent student work. This is a system of assessment that leaves nothing to chance or favoritism (or its inverse). Credit is available for good work in biology and for nothing else.

The issue of conceptual or “higher-level” learning, so central to our arguments about what should be in a set of standards, disappears, handsomely as it should, when an objective reader who knows biology reads these tests. They require plenty of “free response” or essay or analytical-thought answers. But not one of the many questions in the several tests that make up an IB assessment can be answered as a pure exercise in *conceiving*, or of *process*. Every such question must first be understood; the meanings of its words, its technical terms, and its graphics, when those are present, must be known. The contexts of their use must be recognized. And once they are, the needed conceptual manipulations can be undertaken or will, often, fall out of the definitions, the “factoids,” making up the question’s language.

This is the cogent answer to fashionable handwringing about conceptual learning versus “mere facts.” *For real knowledge of a science subject, the two are never really distinguishable. Concepts are manipulations of facts. Facts are certainties brought into existence by concepts.*

Is the IB approach for every student? Probably not. But nobody has offered a good reason why our state standards should not move in the direction of excellence and detailed guidance exemplified by IB’s best features. The political reasons offered for incompetent standards produced in too many states have no evidentiary support. No state needs to have third-rate standards when there are already first-rate ones available to be copied or at least adapted conscientiously to local need. □

Endnotes

- ¹ N. Koertge (2007). “Political Correctness in the Science Classroom.” Paper prepared for the American Enterprise Institute Conference, “Reforming the Politically Correct University,” November 14, 2007. Available online at www.aei.org/docLib/20071115_Koertge.pdf.
- ² See Boghossian, P. A., “What the Sokal Hoax Ought to Teach Us.” *Times Literary Supplement*, December 13, 1996, p. 14-15.
- ³ Forrest, B. and Gross, P. R. (2007). *Creationism’s Trojan Horse*. New York:Oxford University Press.
- ⁴ Gross, P.R. (2000). *Politicizing Science Education*. Washington, D.C.: Thomas B. Fordham Foundation.
- ⁵ Gross, P. R. et al. (2005). *The State of State Science Standards*. Washington, D.C.: Thomas B. Fordham Institute. Available online at www.edexcellence.net/institute/publication/publication.cfm?id=352.

Informative, Not Scripted

Core Knowledge Shows How Clear,
Specific Content Supports Good Instruction



To some readers, “clear, specific content” may sound like a euphemism for “script.” But Core Knowledge demonstrates that standards could—and should—be heavy on content and light on pedagogy. By clarifying what to teach, but letting teachers decide how to teach, Core Knowledge supports good instruction.

Instead of writing a typical standards document, Core Knowledge developed a bare-bones “sequence” of content for grades K-8. It then developed a detailed teacher handbook for each grade that provides key information—like vocabulary, background knowledge, and connections to other subjects. Teachers can use the sequence to quickly see what is taught in the grades above and below theirs, and the handbook to guide their lesson planning and teaching. Here, we show the full fourth-grade language arts sequence, which includes speeches by Patrick Henry and Sojourner Truth, and the speeches section of the fourth-grade teacher handbook (p. 34-37).

The handbooks have some teaching suggestions, but they do not mandate any particular way of teaching, and they don’t offer anything that even resembles a script. But don’t just take it from us, read what two teachers have to say about it. We asked Kethkeo

Vichaiyarath and Xia Lee to discuss how they have used the handbook as they developed lessons on the speeches. Both have nine years’ experience and currently teach fourth grade at Phalen Lake Elementary in St. Paul, Minn. Nearly 70 percent of the students are English language learners and roughly 90 percent qualify for free or reduced-price lunch. Core Knowledge provides Kethkeo and Xia the rich content their students need.

—EDITORS

Core Knowledge Sequence

Language Arts: Grade 4

I. Writing, Grammar, and Usage

TEACHERS: Children should be given many opportunities for writing, both imaginative and expository, but place a stronger emphasis than in previous grades on expository writing, including, for example, summaries, book reports, and descriptive essays. Provide guidance that strikes a balance between encouraging creativity and requiring correct use of conventions. Children should be

given more responsibility for (and guidance in) editing for organization and development of ideas, and proofreading to correct errors in spelling, usage, and mechanics. In fourth grade, children should be able to spell most words or provide a highly probable spelling, and know how to use a dictionary to check and correct words that present difficulty. They should receive regular practice in vocabulary enrichment.

A. WRITING AND RESEARCH

- Produce a variety of types of writing—including stories, reports, summaries, descriptions, poems, letters—with a coherent structure or story line.
- Know how to gather information from different sources (such as an encyclopedia, magazines, interviews, observations, atlas, on-line), and write short reports presenting the information in his or her own words, with attention to the following:
 - understanding the purpose and audience of the writing
 - defining a main idea and sticking to it
 - providing an introduction and conclusion
 - organizing material in coherent paragraphs
 - documenting sources in a rudimentary bibliography

NOTE: Introduce fourth-graders to the purpose of a bibliography, and have them prepare one that identifies basic publication information about the sources used, such as author, title, and date of publication.

- Organize material in paragraphs and understand
 - how to use a topic sentence
 - how to develop a paragraph with examples and details that each new paragraph is indented

B. GRAMMAR AND USAGE

- Understand what a complete sentence is, and
 - identify subject and predicate in single-clause sentences
 - distinguish complete sentences from fragments
 - identify and correct run-on sentences
- Identify subject and verb in a sentence and understand that they must agree.
- Identify and use different sentence types: declarative, interrogative, imperative, exclamatory.
- Know the following parts of speech and how they are used: nouns, pronouns, verbs (action verbs and auxiliary verbs), adjectives (including articles), adverbs, conjunctions (*and, but, or*), interjections.
- Know how to use the following punctuation:
 - end punctuation: period, question mark, or exclamation point
 - comma: between day and year when writing a date, between city and state in an address, in a series, after *yes* and *no*, before conjunctions that combine sentences, inside quotation marks in dialogue

apostrophe: in contractions, in singular and plural possessive nouns

quotation marks: in dialogue, for titles of poems, songs, short stories, magazine articles

- Understand what synonyms and antonyms are, and provide synonyms or antonyms for given words.
- Use underlining or italics for titles of books.
- Know how the following prefixes and suffixes affect word meaning:

Prefixes:

im, in (as in impossible, incorrect)

non (as in nonfiction, nonviolent)

mis (as in misbehave, misspell)

en (as in enable, endanger)

pre (as in prehistoric, pregame)

Suffixes:

ily, y (as in easily, speedily, tricky)

ful (as in thoughtful, wonderful)

able, ible (as in washable, flexible)

ment (as in agreement, amazement)

NOTE: A brief review of prefixes and suffixes introduced in third grade is recommended. Prefixes: *re, un, dis*. Suffixes: *er* and *or, less, ly*.

- Review correct usage of problematic homophones:
 - their, there, they're
 - your, you're
 - its, it's
 - here, hear
 - to, too, two

II. Poetry

TEACHERS: The poems listed here constitute a selected core of poetry for this grade. You are encouraged to expose children to more poetry, old and new, and to have children write their own poems. To bring children into the spirit of poetry, read it aloud and encourage them to read it aloud so they can experience the music in the words. At this grade, poetry should be a source of delight; technical analysis should be delayed until later grades.

A. POEMS

Afternoon on a Hill (Edna St. Vincent Millay)

Clarence (Shel Silverstein)

Clouds (Christina Rossetti)

Concord Hymn (Ralph Waldo Emerson)

Dreams (Langston Hughes)

The Drum (Nikki Giovanni)

The Fog (Carl Sandburg)

George Washington (Rosemary and Stephen Vincent Benet)

Humanity (Elma Stuckey)

Life Doesn't Frighten Me (Maya Angelou)

Monday's Child Is Fair of Face (traditional)

Paul Revere's Ride (Henry Wadsworth Longfellow)

The Pobble Who Has No Toes (Edward Lear)

The Rhinoceros (Ogden Nash)
Things (Eloise Greenfield)
A Tragic Story (William Makepeace Thackeray)

B. TERMS

stanza and line

III. Fiction

TEACHERS: In fourth grade, children should be fluent, competent readers of appropriate materials. Decoding skills should be automatic, allowing the children to focus on meaning. Regular practice in reading aloud and independent silent reading should continue. Children should read outside of school at least 20 minutes daily.

The titles below constitute a selected core of stories for this grade. Teachers and parents are encouraged to expose children to many more stories, and to encourage children to write their own stories. Children should also be exposed to non-fiction prose: biographies, books about science and history, books on art and music, etc. Also, engage children in dramatic activities, possibly with one of the stories below in the form of a play. Some of the stories below, such as *Gulliver's Travels*, *Robinson Crusoe*, and the stories by Washington Irving are available in editions adapted for young readers.

See also *American History 4*, *American Revolution*, *re* stories by Washington Irving.

A. STORIES

The Fire on the Mountain (an Ethiopian folktale)
From *Gulliver's Travels*: Gulliver in Lilliput and Brobdingnag (Jonathan Swift)
The Legend of Sleepy Hollow and *Rip Van Winkle* (Washington Irving)
The Magic Brocade (a Chinese folktale)
Pollyanna (Eleanor Porter)
Robinson Crusoe (Daniel Defoe)
Robin Hood
St. George and the Dragon
Treasure Island (Robert Louis Stevenson)

NOTE: "The Magic Brocade" is also known as "The Chuang Brocade," "The Enchanted Tapestry," "The Magic Tapestry," and "The Weaving of a Dream."

See also *World History 4*, *The Middle Ages*, *re* "Robin Hood" and "St. George and the Dragon."

B. MYTHS AND MYTHICAL CHARACTERS

Legends of King Arthur and the Knights of the Round Table
How Arthur Became King
The Sword in the Stone
The Sword Excalibur
Guinevere
Merlin and the Lady of the Lake
Sir Lancelot

See also *World History 4*, *Middle Ages: Feudalism and chivalry*, *re* *Legends of King Arthur*.

C. LITERARY TERMS

novel
plot
setting

IV. Speeches

TEACHERS: Famous passages from the following speeches should be taught in connection with topics in *American History 4*.

Patrick Henry: "Give me liberty or give me death!"
Sojourner Truth: "Ain't I a woman?"

V. Sayings and Phrases

TEACHERS: Every culture has phrases and proverbs that make no sense when carried over literally into another culture. For many children, this section may not be needed; they will have picked up these sayings by hearing them at home and among friends. But the sayings have been one of the categories most appreciated by teachers who work with children from home cultures that differ from the standard culture of literate American English.

As the crow flies
Beauty is only skin deep.
The bigger they are, the harder they fall.
Birds of a feather flock together.
Blow hot and cold
Break the ice
Bull in a china shop
Bury the hatchet
Can't hold a candle to
Don't count your chickens before they hatch.
Don't put all your eggs in one basket.
Etc.
Go to pot
Half a loaf is better than none.
Haste makes waste.
Laugh and the world laughs with you.
Lightning never strikes twice in the same place.
Live and let live.
Make ends meet.
Make hay while the sun shines.
Money burning a hole in your pocket
An ounce of prevention is worth a pound of cure.
Once in a blue moon
One picture is worth a thousand words.
On the warpath
RSVP
Run-of-the-mill
Seeing is believing.
Shipshape
Through thick and thin
Timbuktu
Two wrongs don't make a right.
When it rains, it pours.
You can lead a horse to water, but you can't make it drink.

Clear, Specific Content Allows These Teachers to Focus on Their Students

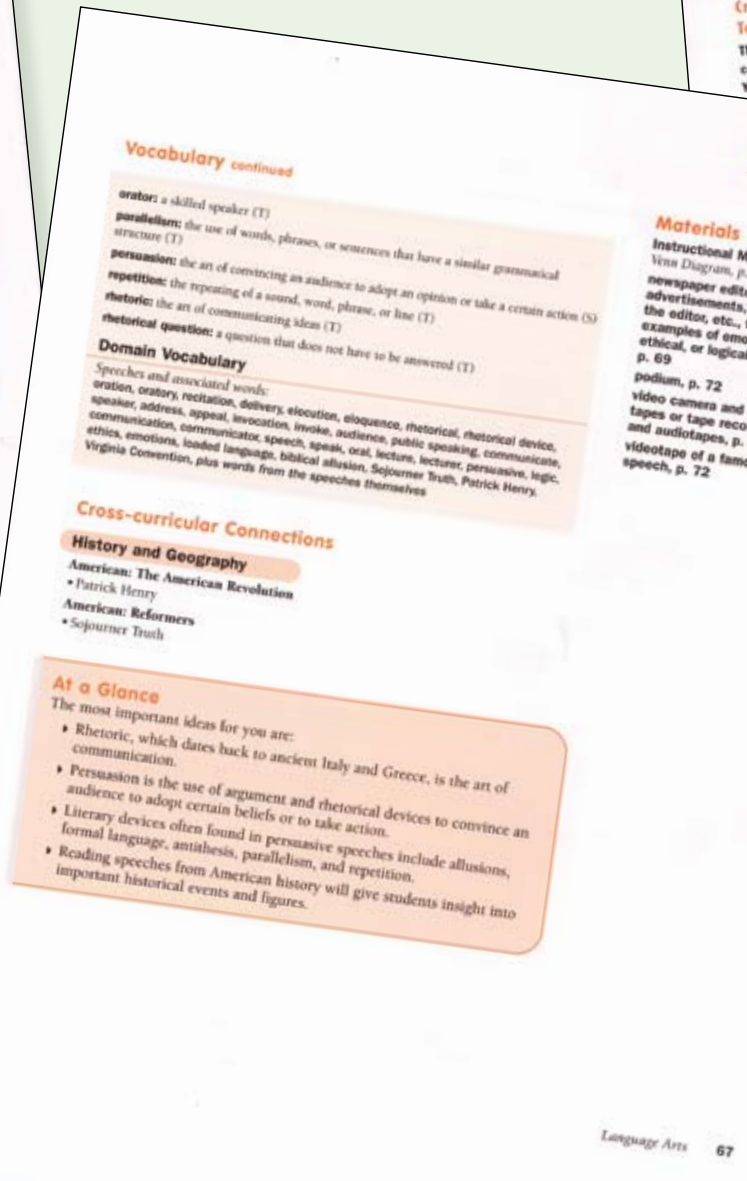
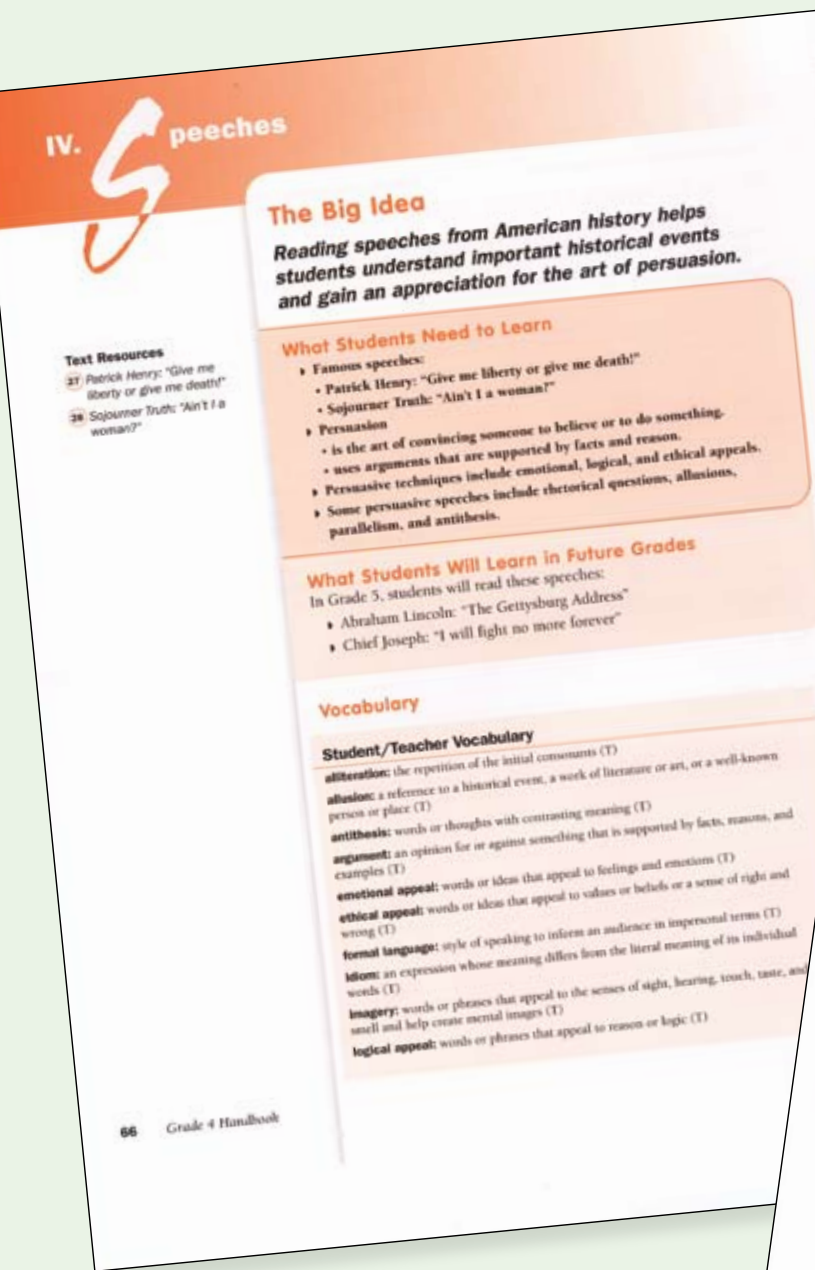
Kethkeo Vichaiyarth, a fourth-grade teacher at Phalen Lake Elementary, describes how she teaches “Ain’t I a woman?”

With Sojourner Truth’s “Ain’t I a woman?” speech, the teacher handbook gives you thorough information about what you need to discuss, some of the background knowledge and vocabulary that students might be stuck on, and some literary elements you can teach. You get to decide how you go about teaching it. The curriculum just gives you a guideline of how to do it. It’s more thorough than the state standards.

How I teach “Ain’t I a woman?” varies from year to year. It depends on my students’ prior knowledge. If my students are not familiar with Sojourner Truth, I do more of her biography. Some years I have to do that; some years I don’t. This year I focused on the state reading standard that says students should “read a long narrative and expository text with fluency, accuracy, and appropriate pacing, intonation, and expression.” Because many of my students are learning English as a second language, I used a poem that I found of “Ain’t I a woman?” (www.womenwriters.net/domesticgoddess/truth.htm). It simplified the speech, making it better suited to fluency lessons for my students.

And at the same time, I looked at the handbook for the different literary elements and devices, such as repetition and alliteration, that I can teach with the poem and speech.

When I came to Phalen Lake three years ago, I did not know anything about Core Knowledge. I had to study it, and at the same time, align it with the state standards. The handbook helped me a lot in teaching the core



topics. Because state standards are so vague, and you can go in so many different directions, it's hard for teachers to figure out what to do. For example, one of the state history standards says to teach colonialism and expansion. What does that mean? I have no idea. But the Core Knowledge handbook talks extensively about the colonial period. It maps out the timeline for imperialism and colonialism really nicely. With Core Knowledge, the curriculum is pretty much all there. I can spend my prep time finding additional resources. If anything, I'd like the handbook to be even more detailed because I'd like it to suggest additional resources at different reading levels.



7. Speeches

Cross-curricular Teaching Idea
 Speeches should be taught in the context of American history lessons. You can return to them several times throughout the lessons.



ater 69,
 72
 rials,
 letters to
 hat show
 onal,
 appeals,

ideo-
 der
 72
 as

What Teachers Need to Know

Background: Why Study Speeches?

This section offers two speeches by well-known Americans. The purpose of this section is to help students appreciate rhetoric, or the art of communicating ideas, in the context of American history. Rhetoric, as the art of formal speaking, started in Syracuse in ancient Italy and developed in Greece in the 5th century BCE. When students listen to speeches, they will experience the power of persuasive rhetoric, recognize persuasive techniques used in persuasive speeches (such as allusions, parallelism, and rhetorical questions). As you teach this section, you may want to read other grade-appropriate speeches from American history with your class.

Students need to have studied the period in which the speeches were given in order to understand them. After reviewing the historical context of the speeches, read the speeches aloud to the class and have students discuss them. Then invite students to read them aloud to practice speaking and listening. Delivering a persuasive speech helps students develop an awareness of language that will help them become better public speakers and persuasive writers. By listening closely, students in Grade 4 learn more about American history, continue to build their vocabulary, and develop an understanding of literary techniques used in persuasive writing.

Reading Speeches Aloud

Reading speeches aloud enables students to more immediately experience the music and persuasive power of words. When you read speeches to students, read them aloud several times. Speak slowly and clearly. Use gestures to punctuate certain passages or important points. Also, use your voice to emphasize the rhythmic nature of the words, the literary elements and devices being employed, and the importance of the message being conveyed.

Focusing on Meaning

After reading a speech, discuss it. Ask questions such as these:

- Who gave the speech?
- Where and when did he or she give it?
- Why did he or she deliver this speech?
- What is the main message in the speech?
- How does the speaker try to convince an audience to accept his or her point of view?
- Do you think the speech is convincing? Why or why not?

Read the speech again, inviting students to join in by repeating certain words, phrases, or lines they recall. If necessary, provide additional information that will help students comprehend the speech, including clarifications of difficult words, unfamiliar cultural references, or historical allusions. Then help students paraphrase the main message of the speech in their own words.

Focusing on Elements in Persuasive Rhetoric

To make a strong argument for or against something, speakers and writers use certain literary devices and persuasive techniques, such as rhetorical questions and emotional appeals. The purpose of these devices is to sway the audience's opinion and give power to the words the speaker or writer uses. As you teach the speeches in this section, you may want to point out examples of these elements.

You do not need to introduce these literary terms or persuasive techniques to your class. However, you can call attention to these devices as you read. For example, ask questions such as, "Which words or phrases appeal to your emotions?" to help students recognize emotional appeals. Ask, "Which words or phrases are said more than once?" to help them identify examples of repetition, or to help them recognize rhetorical questions.

Element	Definition	Example
allusion	a reference to a historical event or custom, a work of literature or art, or a well-known person or place	"The battle . . . is not to the strong alone" is a biblical allusion.
anaphora	words and thoughts that have recurring meaning	freedom, slavery
emotional appeal	words or ideas that appeal to feelings and emotions	I have borne thirteen children, and seen them most all sold off to slavery
ethical appeal	words or ideas that appeal to values or beliefs or a sense of right and wrong	Our brethren are already in the field!
formal language	a style of speaking to inform an audience in impersonal terms	formidable, adversary
idiom	an expression whose meaning differs from the literal meaning of its individual words	out of letter, in a fit
logical appeal	words or phrases that appeal to reason or logic	If my cup won't hold but a pint, and yours holds a quart, wouldn't you be sure not to let me have any half-stewards fill?
parallelism	the use of words, phrases, or sentences that have a similar grammatical structure	Is life so dear, or peace so sweet . . .
rhetorical question	a question that does not have to be answered	Ain't I a woman?

Teaching Idea
 To help students understand persuasive techniques in these speeches, point out examples of emotional, ethical, or logical appeals in newspaper editorials, advertisements, letters to the editor, and so forth.

Teaching Idea
 Teach students to write their own short speeches on a topic of interest and deliver them to the class or other large audience.

IV. Speeches

Teaching Idea

Divide up a speech, and give students sections to memorize. Work on recitation with expression.

Teaching Idea

Patrick Henry's speech is a key document in American history and should be studied as a patriotic document. However, students in Grade 4 are not too young to understand that there are two sides to every issue. You may wish to invite students to think what sorts of things a speaker might say if he or she disagreed with Patrick Henry—for example, if he or she didn't want to see Virginians rush into war for fear of casualties, or if he or she insisted that colonists should remain loyal to their king. The British writer Samuel Johnson raised another objection when he pointed out that many of those who cried out for liberty were in fact slave owners: "How is it that we hear the loudest yelps for liberty among the drivers of the negroes?"



Patrick Henry

Introducing the Speeches

When reading the following speeches, you may use some or all of the information provided to help students understand what the speech is about, what literary elements and devices it contains, who gave it, and what reasons the person had for giving the speech. Suggested teaching strategies and activities are also provided.

Give me liberty or give me death!

Author Information: Patrick Henry (1736–1799) was a lawyer, politician, and orator from Virginia. In 1765, he joined Virginia's colonial legislature, the House of Burgesses. In 1773, he argued persuasively against the attempts of the British government to put a tax on tea. In 1775, Henry delivered this, his most famous speech. In 1776, he helped create Virginia's first state constitution and was elected Virginia's first governor. After serving as governor five times, Henry retired from public life.

Background: As tension escalated between the American colonies and Great Britain, the First Continental Congress met in Philadelphia in 1774. Delegates from all 13 colonies except Georgia attended. The purpose of the convention was to work out disagreements with Great Britain and send formal petitions of protest to King George III. Six months later, the Second Virginia Provincial Convention was held to vote on whether Virginia should be prepared to defend itself against a possible British attack. At the convention, Patrick Henry gave this speech at St. John's Church in Richmond on March 23, 1775. By then, several of the key events that eventually led to war had already occurred, such as the Boston Tea Party. Tensions between colonists and British troops in Boston were already intense. Henry refers to the Bostonians several times in his speech, for example, when he says, "Our brethren are already in the field!"

Before Reading: Do you think it is better to fight a war or seek peace? Can you think of times when it might be impossible to avoid war? Do you remember from American history what life was like before the American Revolution? If you had lived then, would you have been loyal to Great Britain? Why do you think Patrick Henry made this speech? To whom do you think he was talking?

Vocabulary: sentiments: feelings, opinions; awful: full of awe; moment: a time of importance; magnitude: importance; apt: inclined, want to; arduous: difficult, demanding; temporal: not eternal, limited by time; solace: consolation; comfort; insidious: sneaky; snare: trap shaped like a noose; comports: fits together, squares; subjugation: forced submission, oppression; rivet: to secure with a metal fastener; entreaty: request; supplication: prayer, request; remonstrated: argued, protested; interposition: intervene; slighted: treated indifferently or with contempt; spurned: rebuffed, rejected; inviolate: intact; inestimable: beyond calculation or measure; basely: meanly, despicably; cope: deal with, handle; formidable: hard to defeat; adversary: enemy; disarmed: without weapons; irresolution: indecision; supinely: passively; invincible: undefeatable, unconquerable; vigilant: watchful; submission: surrender; forged: formed from metal; inevitable: certain; extenuate: make less serious; gale: strong wind; resounding: echo arms; weapons; brethren: brothers, fellow American colonists who support cause of independence; idle: not active; dear: precious; forbid: command against doing something; course: direction or path; liberty: freedom

Literary Elements and Devices: rhetorical questions (Is life so dear, or peace so sweet, as to be purchased at the price of chains and slavery?), repetition (let it come), antithesis (freedom, slavery), parallelism (give me liberty, or give me death), formal language (formidable, adversary, extenuate), allusion (The battle . . . is not to the strong alone is a biblical allusion to Ecclesiastes 9:11: "The race is not to the swift, nor the battle to the strong"), alliteration (free, fight), imagery (Their clanking may be heard on the plains of Boston appeals to the sense of hearing), emotional appeal (give me liberty, or give me death), ethical appeal (I consider it as nothing less than a question of freedom or slavery), logical appeal (But when shall we be stronger?)

After Reading: What is Patrick Henry's opinion of preparing Virginia for war with the British? What reasons does he give to support his opinion? To what emotions does Henry appeal in the speech? What does Henry think is wrong with hoping for peace? 27

Ain't I a woman?

Author Information: Sojourner Truth (1797–1883) was born into slavery in New York. After she gained her freedom in 1828, she worked as a servant for a wealthy white family in New York City for nine years. Then she began to speak out publicly against slavery and in favor of women's rights, traveling all over to attend rallies and conventions. Although she could not read or write, Sojourner Truth became known as an inspiring, powerful speaker.

Background: In 1851, Sojourner Truth went to the Women's Rights Convention in Akron, Ohio. Some male religious leaders at the meeting argued against women's rights, calling women weak and recalling the biblical story of Adam and Eve. Despite being hissed at by some audience members who did not believe African Americans should speak publicly, Truth addressed the convention. She gave this speech, "Ain't I a woman?"

Before Reading: Put Sojourner Truth in context for students. She was an African-American woman, standing up to speak in a time when neither women nor African Americans were allowed to participate in political discussions or vote. Do men and women have the same rights today? From your lessons in American history, did they at this time?

Vocabulary: racket: noise; out of kilter: out of sorts, confusing; twixt: betwixt, or between; negroes: term for African Americans that is no longer used; in a fix: in a difficult situation; ain't I: nonstandard English for "am I not"; bear the lash: withstand being whipped; head: be better than; intellect: intelligence; they is: nonstandard English for "they are"; obliged: grateful; ain't got nothing: nonstandard English for "haven't got anything"

Literary Elements and Devices: rhetorical question (Ain't I a woman?), alliteration (glougged, planned), repetition (Ain't I a woman?), parallelism (into carriages, or over mad-puddles), antithesis (pint, quart; upside down, right side up), emotional appeal (I cried out with my mother's grief), logical appeal (If my cup won't hold but a pint, and yours holds a quart, wouldn't it be mean not to let me have my half-measure full?), ethical appeal (If the first woman God ever made was strong enough to turn the world upside down alone, these women together ought to be able to turn it back), imagery (bear the lash appeals to the sense of touch), idiom (in a fix, out of kilter)

Xia Lee, a fourth-grade teacher at Phalen Lake Elementary, describes how she teaches "Give me liberty, or give me death!"

Instead of teaching Patrick Henry's "Give me liberty, or give me death!" during language arts, I teach it during our history lessons on the American Revolution. To do that, I look at the state standards and my students, many of whom are new to the U.S. To teach them content like the American Revolution, we have to simplify language and break down lessons even further than the curriculum suggests.

As I teach, I say that Patrick Henry is giving a persuasive speech. We talk about what persuasive means. After we read the speech we talk about the ideas behind it. Students then go into groups and discuss it with a partner.

One thing I have done with my students this year is to help them understand the history of the American Revolution first and then talk about what liberty means. We also talk about war in

connection with students' life experiences. Many of my students are from Thailand and their parents have lived through war.

"Give me liberty, or give me death!"—it's a huge concept for them to understand. It helps that right now, all my students who are recent immigrants speak Hmong. I'm bilingual, so I'm able to use both languages to make sure they understand in Hmong and then in English.

Although we simplify language, we don't go too slowly because we have regular students in our classroom. We still have the scope and sequence we need to get through by the end of the year. I have simplified as much as possible within my guided reading group. I also have an English language learner teacher who works with me and several of my students.

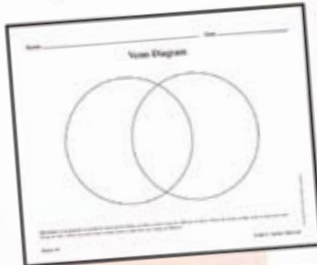
While the teacher handbook is helpful, some of the words in the Core Knowledge student materials are too difficult for students who are still learning English. When we study the American Revolution, Core Knowledge uses a dialogue that only a native English speaker would understand. So we have to look for

IV. Speeches

After Reading: What is Sojourner Truth's opinion about women's rights? Why does she feel this way? What reasons does she give to support her opinion? What emotions does Truth appeal to in her speech? Do you think her audience listened to her? Would you listen to her? 28

The Big Idea in Review

Reading speeches from American history helps students understand important historical events and gain an appreciation for the art of persuasion.



Use Instructional Master 69.

Review

Below are some ideas for ongoing assessment and review activities. These are not meant to constitute a comprehensive list.

- Have small groups of students work together to prepare a dramatic reading of either speech. Have students stand before a podium and then tape record or videotape their presentations.
- Visit the school media center and find an example of a famous speech that you are able to watch on videotape. Discuss with students the differences in hearing the speech, seeing the person, and reading the speech. How does that affect the emotional impact? After watching a short segment of a speech, have students write a reaction to what they have heard. Have students complete Instructional Master 69, Venn Diagram, comparing a written text of a speech to the one on videotape. How are their reactions different? You may also wish to have students compare and contrast two speeches in terms of style and purpose.
- Extend this section by identifying other speeches by reformers studied in the history sections. For example, there are a number of interesting speeches by Elizabeth Cady Stanton available online and in books.
- Give students an opportunity to write and give speeches. If you have class or student body officer elections, encourage students to run for office and give speeches about their positions on school issues. What do they want to think about while preparing a speech? Have the class brainstorm elements of a good speech.
- Practice summarizing. Speeches provide a good opportunity to listen closely and practice finding the main idea. After hearing both speeches from this section, have students write one or two sentences about the speech's main idea.

More Resources

The titles listed below are offered as a representative sample of materials and not a complete list of everything that is available.

For students —

- *You Can Write Speeches and Debates*, by Jennifer Rozines Roy and Johannah Haney (Enslow, 2003). Hardcover, 64 pages, ISBN 0766020878.

For teachers —

- American Rhetoric, www.americanrhetoric.com, has an online speech bank with audio files of more than 5,000

speeches, including Martin Luther King, Jr.'s "I Have a Dream" speech.

- *Great Speeches in History* (Naxos Audiobooks, 1996). Dramatic readings of many historic speeches. Audio CD, ISBN 962634083.
- *The World's Great Speeches* (Fourth Enlarged Edition), selected by Lewis Copeland and others (Dover, 1999). Paperback, 944 pages, ISBN 0486409031.

Cross-curricular Teaching Idea

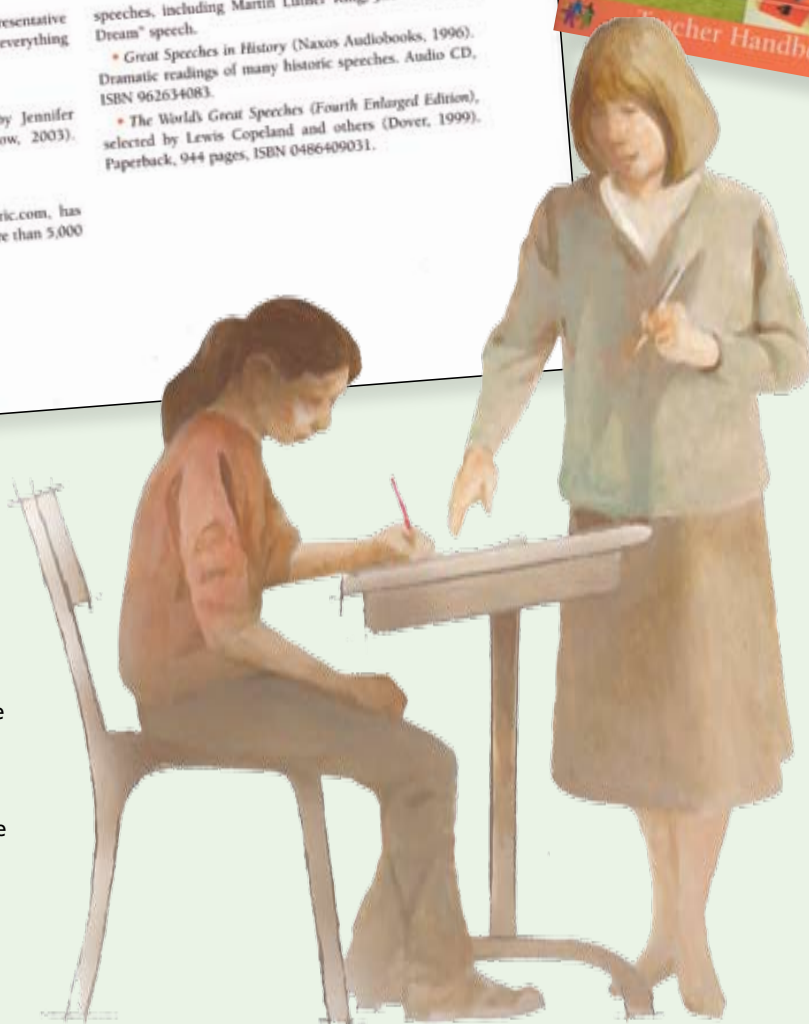
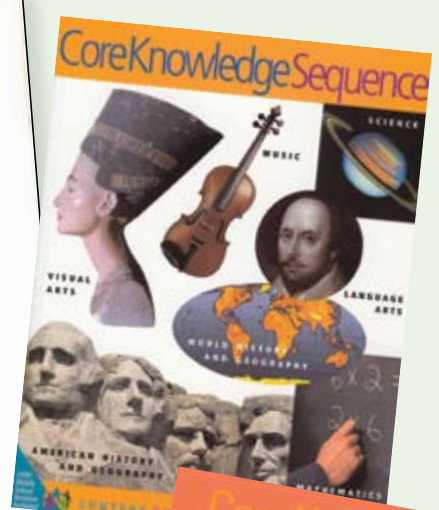
Students are learning about the American Revolution, leading up to the American Revolution, introduce the American Revolution and this opportunity to them that the speech over 200 years ago, but it is still relevant today. Ask students to think the speech is still important and read the speech when you are in the section on the American Revolution and ask students the questions.



Sojourner Truth

Curricular Idea

Students will be learning about the American Revolution when they study the American Revolution in American History (see pp. 228-236). You can put the speech in the hands of students. Have them read the speech when you work on the "Speeches" part of the section.



other resources. We don't just teach from the teacher handbook. We look for guided reading that is based on the American Revolution. For example, the Magic Tree House children's book series (www.randomhouse.com/teachers/magictth/guides/america.html) does a really nice timeline about how to teach the American Revolution in simple language. We use that as our guide to cover this big concept and in guided reading groups. Kethceo and I both have done that. But we still use our Core Knowledge handbook as our reference to ensure that we're not skipping any major concepts that students are supposed to know. If we don't cover this material thoroughly, then when students go to fifth grade they will have a harder time understanding and they will have much to relearn.

Before Their Time

Child Labor Around the World

BY DAVID L. PARKER

When I began photographing child labor in 1992, I had no idea how many children worked, what their working conditions were like, or how difficult it would be to document the issue. Although many factories and workplaces were open and easy to photograph, others were closed and unwelcoming. To gain entry into some factories, I presented myself as a buyer of shirts, carpets, or other products for an international corporation with only a post office box for an address.

I was surprised at what lay just beyond the surface of everyday activity. In 1993, during my first trip to Nepal, I visited dozens of carpet factories where children were hand-knotting carpets in cramped, musty rooms. After leaving Nepal, I went to Bangladesh and photographed children working waist deep in leather-tanning chemicals and scavenging plastic and cardboard amid the rotting waste in garbage dumps.

The photographs in this article, and in my book, *Before Their Time: The World of Child Labor*, portray the range of work and working conditions of children around the world. In a larger sense, these photographs document an ongoing failure to meet children's basic needs—a goal that is out of reach of their families. I have no doubt that poverty forces most working children and their families to become victims of economic exploitation. Some of these situations, such as sex trafficking, make regular

David L. Parker is an occupational physician affiliated with Park Nicollet Clinic in St. Louis Park, Minn., and the University of Minnesota. He has photographed working children, labor conditions, and public health problems around the world since 1992. His previous books are Stolen Dreams: Portraits of Working Children and By These Hands: Portraits of the Factory Floor. Photographs courtesy of David L. Parker.

news headlines. But problems such as lack of schools and lack of jobs in which parents can earn enough money to feed a small family go largely unnoticed.

To protect children from what are often deplorable working conditions, national and international communities have implemented laws and treaties to regulate child labor. Since the United Nations General Assembly adopted the Universal Declaration of Human Rights in 1948,¹ dozens of international treaties concerning children's rights have been written.

Nonetheless, child labor remains an enormous problem, and millions of children lack access to basic education. Officially, more than 320 million children under age 16 work worldwide and 25 percent of children do not complete a primary school education.

For many families, child labor is part of an intergenerational cycle of poverty, social exclusion, and lack of education. Poor families frequently lack the resources to ensure that their children go to school and stay healthy. An increased risk of illness contributes to the cycle of poverty. Young women who work and go to school or who work instead of attending school tend to have less-healthy children. A woman who has been to school for even a few years is more likely to marry later, obtain prenatal care, have a smaller family, and have healthier, better-educated children.²

I have sometimes found it difficult to determine when work is harmful because of the complexity or ambiguity of some job circumstances. For example, in 1993 and 1995, I photographed circus performers in Nepal and India. Although the children are often laughing and having fun, most are bonded laborers, a type of modern-day slave. Circus owners trick families into selling their children and then force them to work many years with-

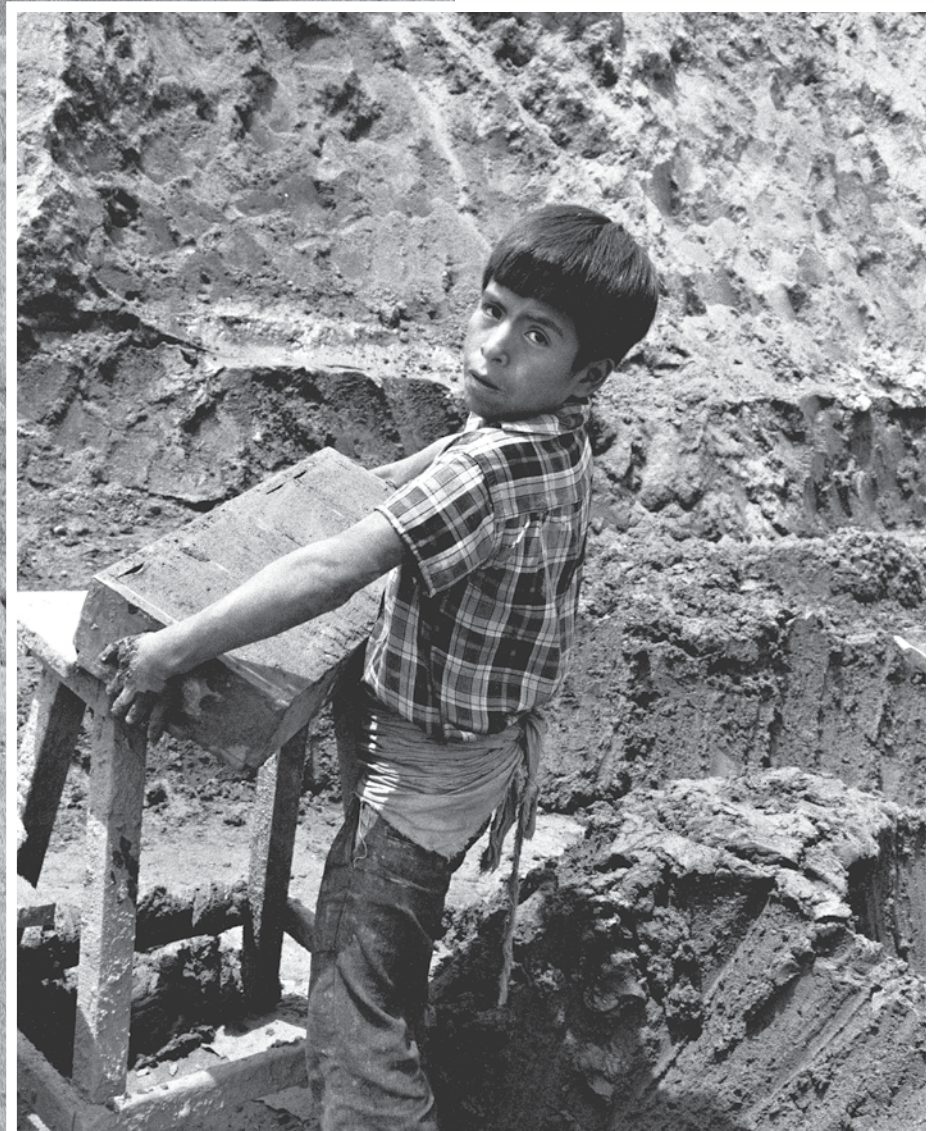
(Continued on page 42)





Left, hauling bricks for firing, Nepal, 1995.
Below, forming bricks, Peru, 1998.

Throughout much of the world, bricks are made by hand. In Asia, Latin America, and Africa, children and adults dig clay for bricks using shovels, picks, and awls. After mixing the clay and water to the proper consistency, workers form bricks using small wooden molds. When the bricks are dry, barefoot workers load them on their backs or on top of their heads and carry them across fields of stones and broken bricks. Each brick weighs four to nine pounds. A small child may haul 1,000 to 2,000 bricks each day.





Left, migrant worker picking cotton, Turkey, 1997.

Above, looking for conch shells in a mangrove swamp, Nicaragua, 2004.

In many countries, large migrant communities follow the agricultural seasons from one region to another. In the U.S., migrants may start the year in Texas and gradually work their way to the sugar beet fields in Minnesota's Red River Valley.¹ In Turkey, entire communities move from the eastern part of the country to central Anatolia to pick cotton, dig potatoes, or harvest vegetables. Common to all migrant communities are low wages, unhealthy sanitary facilities, and meager opportunities for education.



Above, stone quarry worker, Nicaragua, 2004.

Stone quarrying is the most common type of mining work children do. Workers crush stones to form aggregate used in construction. Families sit on the roadside and break apart stones delivered by truck. Young children use small hammers; the hammers get larger as the children grow. Flying chips of stone can lodge in workers' eyes.

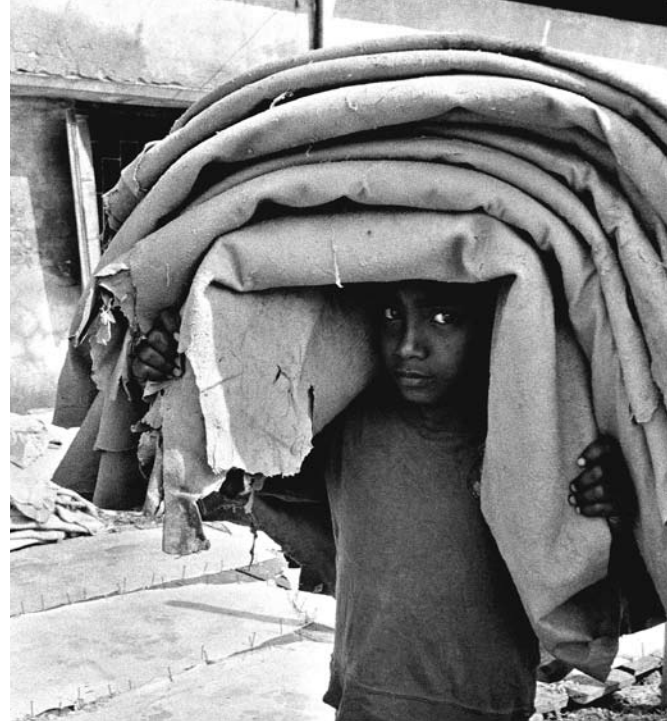


Above, carpet weaver, Nepal, 1993.

In India, Pakistan, Turkey, and other countries, children knot wool or silk carpets. Children who spend day after day doing this type of detailed handwork are likely to develop arthritis at an early age. Virtually all children who knot carpets get skin rashes and frequently cut their hands with razors or knives.

Right, sex workers in front of a brothel, Thailand, 1993.

Globally, an estimated 1.8 million children are engaged in prostitution and pornography.² A taxi ride in Bangkok or a late-evening stroll through the central part of the city, known as Patpong, reveals the easy sale of young boys and girls. Young women sit in front of brothels drinking alcohol and waiting for the next customer.



Above, leather tannery, Bangladesh, 1993.

Children tan leather in cottage industries around the world. Leather tanning is one of the dirtiest jobs imaginable, carried out in a tumbling barrel or large vats using chromic acid, oxalic acid, formaldehyde, and alkalis such as trisodium phosphate and borax. In addition to exposing workers to toxic chemicals, the process releases carbon monoxide, hydrogen sulfide, and other noxious gases.

Left, garbage pickers in a market, Mexico, 1996.

I have never seen a published report on the number of children or adults who work as garbage pickers around the world. Although it is impossible to obtain good estimates, based on even casual observation the number is likely high. People sort through rotting garbage in search of paper, wood, plastic, or other items to sell. As they search, the workers battle flies, vermin, and mangy, sometimes rabid, dogs.



Left, fishing platform worker carrying rice, Indonesia, 1995. Above, fishing platform worker, Indonesia, 1995.

Children in coastal areas fish or help farm coastal waters. In Indonesia, up to 2,000 fishing platforms, called jermals, rise from stilts in the ocean around Java and Sumatra. Labor contractors lure young workers from inland villages with promises of good wages. Because the platforms lie far out at sea the children cannot escape. Platform workers subsist on rice; fresh fruit and vegetables are a rare luxury and potable water is brought in just once a week. The bosses often subject the children to physical and sexual abuse.



Above, injured fireworks worker, Guatemala, 1999.

In India, Guatemala, and other places, children make fireworks and matches. Children take part in all steps of the manufacturing process, including mixing gunpowder or potassium nitrate and cutting firecracker tubes with machetes. In Guatemala, small factories are attached to homes. These families face the risk of an explosion that can destroy their home and injure family members.

(Continued from page 38)

out pay. Neither the poor working conditions nor the slavery-like situation is obvious to a casual observer.

Other forms of work harm children in obvious and painful ways. In 2000, I photographed children at a rehabilitation center for young combatants in Sierra Leone. The children told stories of being drugged and forced to kill their parents or mutilate their neighbors. They also reported being shot during combat or beaten if they tried to escape from military service.

Some domestic workers are held in virtual slavery behind locked doors. Although I have photographs of children doing domestic chores—preparing food, caring for sisters and brothers, and washing clothes—only once did I gain access to a private home where children were employed. The employer did not allow me to take photographs.

Overall, working conditions for most

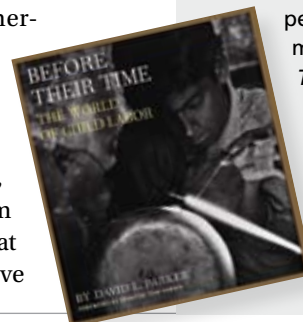
children are pathetic. Many work sites lack sanitary facilities and clean drinking water. Child workers are exposed to excessive noise, clouds of dust, and other safety hazards. They eat food they find on the street or in the garbage dump, drink water and bathe in the same pond where they wash their tools and mix mud for making bricks, and live on the street or in cardboard huts.

Because children are still developing, harmful substances have a greater impact on them than on older workers. Pound for pound, children breathe more air, eat more food, and drink more water than adults. Toxic chemicals such as mercury or lead can cause brain damage and permanent disabilities.

Children work long hours with little time for rest, play, or school. Even jobs that seem relatively safe place children at risk. Street vendors may leave

for work at four or five in the morning and not return home until late at night. They go long stretches without eating. They may be robbed or abused. Street children often work for unscrupulous adults who refuse to pay them, cheat them of their earnings, or sexually exploit them.

Children who work face a wide array of dangers: from rats, wild dogs, and rotting waste in garbage dumps or choking dust in stone quarries to injuries from high-speed machinery or the harsh chemicals used to



This article was excerpted with permission from David Parker's most recent book, *Before Their Time: The World of Child Labor*, Quantuck Lane Press, 2007. To learn more about child labor, visit his Web site at childlaborphotographs.com or e-mail him at parke065@umn.edu.

tan leather. Some children develop diseases typically associated with adults, such as arthritis or skin diseases. Most children do not wear protective equipment. Even when such equipment is provided, it does not serve children well since it is designed for adults.

New data indicate that the number of working children has declined over the past few years. Some nations have made strides to protect child workers from dangerous conditions, yet many others still fail to keep children safe, healthy, and educated. It will take the commitment of all nations to eliminate the worst forms of child labor. This commitment must provide for the basic needs of children, families, and their communities. These needs include food, schools, books, and health-care. The failure to control the AIDS pandemic continues to result in the displacement of millions of children. Many end up living and working on the street.

Perhaps the most common question I am asked is, "What can I do?" Many organizations, such as the Global March to End

Child Labor, the National Consumers' League, and Anti-Slavery International, help child laborers. For example, Minnesota Advocates for Human Rights operates a small school in Sankhu village, on the outskirts of Kathmandu, Nepal.³ The school serves poor children, who receive free schooling and a daily meal. Anyone can support these efforts by donating time and money. □

Endnotes

¹ A copy of the Universal Declaration of Human Rights may be found at www.un.org/Overview/rights.html.

² A discussion of the impact of child labor on the development of girls may be found in D. L. Parker and S. Bachman, 2002, "Economic exploitation and the health of children: Towards a public health model." *Health and Human Rights: An International Journal*, 5: 93-119.

³ Minnesota Advocates for Human Rights may be found online at www.mnadvocates.org.

Caption Endnotes

¹ Human Rights Watch provides an excellent discussion of migrant workers in the United States in its publication *Fingers to the Bone: United States Failure to Protect Migrant Farmworkers*. Human Rights Watch: New York, 2000.

² International Labour Organization, International Programme on the Elimination of Child Labour, "Every Child Counts: New Global Estimates on Child Labour," ILO: Geneva, 2002. This document offers a wide range of statistical data on working children.

**EDUCATORS
B&B NETWORK
CELEBRATING 20 YEARS!**



\$40

**A NIGHT
FOR TWO!**

6,000 Locations Worldwide

"What a Delight!"
Beth & Carl, Ann Arbor, MI #5898

"Greatest Way to Travel!"
Christine & Harry, Elmsford, NY #11429

EASY!
*Choose your hosts
We do the rest!*

Box 5279 - Eugene OR 97405
800-377-3480

www.educatorstravel.com

The GuildScholar Program

A Scholarship for Visually Impaired High School Students

Open to all legally blind high school students entering college in **September 2009**. Application to be made at the end of the junior year of high school.

Must be a US Citizen or legal resident, have an excellent academic record and have demonstrated school and community leadership.

Scholarships of up to **\$15,000** will be competitively awarded to qualified students. The deadline for the 2009 scholarships is **July 1st, 2008**. The GuildScholar application is online.

Please log on to
www.jgb.org/guildscholar.asp



For more information,
contact Gordon Rovins at
rovinsg@jgb.org

FRENCH TEACHERS

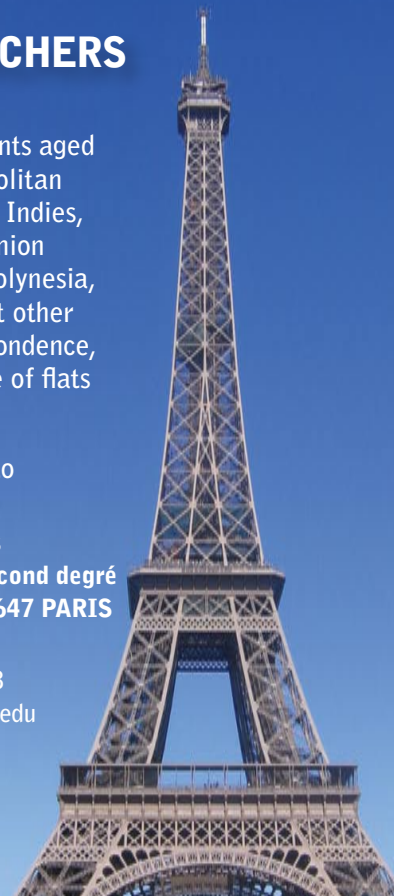
Teachers, with students aged 11-19, from Metropolitan France, West French Indies, French Guyana, Reunion Island and French Polynesia, would like to contact other teachers for correspondence, exchanges, exchange of flats or holidays.

If interested, write to

SNES Exchanges
Syndicat National des
Enseignements de Second degré
46 avenue d'Ivry - 75647 PARIS
CEDEX 13 - France

Fax: (33) 1 40 63 2 68

E-mail: internat@snes.edu



Educating tomorrow's leaders.

100% Online Degrees

Bachelor's, Master's, Doctoral & Certificates of Advanced Graduate Studies

MEd now \$285 a credit

*Monthly course starts
No residency
Many career building specializations*

NCU Ed students recently awarded Hawaii Teacher of the Year, Texas Teacher of the Year finalist, Outstanding E-Learning Faculty Award from ITC.



NORTHCENTRAL UNIVERSITY

Convenient. Affordable. Accredited.

Contact us at 866-776-0331 • www.ncu.edu/AE

Teach. Lead. Advance.

Earn a Master of Science Degree in Educational Technology.

An MSET degree from DeVry can enhance your standing in the classroom, in your district—and on the earnings scale. And you may be eligible for a fellowship with tuition benefits.

Learn more today!
www.devry2.com/energize1 • 877-518-6475

DeVry University is accredited by the Higher Learning Commission and is a member of the North Central Association (NCA), www.ncahlc.org.

Program availability varies by location. DeVry University operates as DeVry Institute of Technology in New York and Calgary.

©2008 DeVry University. All rights reserved.

DeVry University
We major in careers.

NEW SCHOLARSHIPS NOW AVAILABLE!

as part of a federally-funded Institute of Museum and Library Services grant

Earn your master's degree on your own time, from home with

Mansfield University's SCHOOL LIBRARY AND INFORMATION TECHNOLOGIES PROGRAM.

SCHOOL LIBRARIANS ARE IN DEMAND. BECOME ONE... ONLINE.

- Award-winning practitioner-based faculty
- Personalized teaching via the web, email & phone
- Nationally recognized NCATE-AASL reviewed & approved School Library Media Education Program
- Accredited by the Middle States Association and certified by the Pennsylvania Dept. of Education



MANSFIELD UNIVERSITY 
mansfield.edu

Visit us at: <http://library.mansfield.edu/> or email: gradapp@mansfield.edu

CALL 1-800-577-6826 FOR A FREE DVD ABOUT THE PROGRAM!

AFT

Subscription Services

Serving AFT members for over 30 years!



Box 258, Greenvale, N.Y. 11548
www.buymags.com/aft

1-800-774-9162

Just For You!

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

1-800-774-9162

www.buymags.com/aft

Alfred Hitchcock's Mystery	43.90	29.97
Allure	20.00	11.97 *
American Baby	23.94	13.97
American Civil War	29.95	21.95
American Heritage	24.00	24.00
American History	29.95	21.95
American Photo	21.00	10.50
Aquarium Fish	27.97	14.99
Architectural Digest	42.00	24.00 *
Arthritis Today	30.00	12.95
Artist's Magazine	19.96	19.96
Asimov's Science Fiction	43.90	32.97
The Atlantic	29.95	24.95
Aviation History	29.95	21.95
Backpacker	29.98	19.94 *
Baseball Digest	35.94	19.95
Better Homes & Gardens	22.00	14.97
2 yrs	44.00	22.00
Bicycling	19.98	19.94 *
Bird Talk	27.97	13.99
Black Enterprise	22.00	17.95
Boating	28.00	14.00
Bon Appetit	28.00	24.00 *
British Heritage	35.95	21.95
Business Week	58.79	40.00 *

3 SPECIAL RATES FOR OUR MEMBERS!



ENJOY THEM ALL YEAR LONG!

Cabella's Outfitter Journal	12.99	9.99
Car & Driver	22.00	10.97
Cat Fancy	27.97	15.00
Civil War Times	39.95	29.95
Coach, Scholastic	23.95	17.98
Coastal Living	36.00	16.00
Columbia Journalism Review	20.00	11.95
Computer Shopper	25.00	14.99
Conde Nast Traveler	19.97	14.97 *
Consumer Reports	26.00	26.00
Cooking Light	18.00	18.00
Cosmopolitan	29.97	18.00 *
Country Living	24.00	12.00
Cruise Travel	35.94	17.95
Dell Original Sudoku	20.96	15.97
Discover	29.95	19.95

* These rates for teachers and college students only.

The latest ideas, events & current issues



A best buy \$29.95

Disney and Me (ages 2-6)	29.70	24.97
Disney's Princess (age 4+)	39.60	29.97
Dog Fancy	27.97	15.00
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	43.90	29.97
Entertainment Weekly [57 iss]	39.95	34.95 *
Entrepreneur	19.97	11.97
ESPN	26.00	20.00
Esquire	15.94	8.97
Essence	22.00	18.96
Every Day w/ Rachael Ray	34.00	24.00
Family Circle	19.98	15.00
Family Fun	16.95	9.97
Family Handyman	24.00	15.00
Field & Stream	19.97	10.00
Fitness	19.98	14.97

LOW, low rate. Just for our members!



12 issues \$13.96

Food & Wine	32.00	19.00
Forbes	59.95	24.95
Foreign Affairs	44.00	32.00
Foreign Policy	24.95	19.95
Fortune [25 iss]	59.95	29.98 *
Girls Life	19.95	14.95
Glamour	20.00	11.97 *
Golf	19.95	15.00
Golf Digest	27.94	17.77
Golf World	53.97	29.97
Good	1 yr	23.97 12.00
Housekeeping	2 yrs	39.94 24.00
Gourmet	20.00	15.00
GQ	20.00	15.00 *
Harper's Bazaar	18.00	15.00
Harper's Magazine	21.00	11.97
Hawaii	20.00	15.00
Hispanic Magazine	24.00	10.00
Home	24.00	12.00
House Beautiful	19.97	12.00

Visit our website at

Publication	Usual Price	Your Price
Humpty Dumpty (ages 4-6)	22.95	17.29
Inc. (18 issues)	19.00	14.00
Instructor (K-8)	19.95	9.95
InStyle [12 issues]	22.15	18.00 *
Jet	38.00	24.00
TheKiplinger Letter	79.00	48.00
Kiplinger's Personal Finance	23.95	12.00
Kiplinger's Retirement Report	59.95	29.95
Ladies Home Journal	16.97	12.00
Latina	17.97	9.97
Lucky	20.00	14.97
Marie Claire	19.97	12.00
Martha Stewart Living	28.00	24.00
Men's Fitness	21.97	10.00
Men's Health	24.94	24.94 *
Men's Journal	19.97	9.97
Men's Vogue	18.00	15.00
Metropolitan Home	29.00	13.97
Midwest Living	19.97	11.97
Military History	39.95	29.95
Modern Bride	17.97	9.95
Money [12 issues]	36.82	19.95 *
More Magazine	20.00	16.97
Mother Earth News	18.00	13.97
Motor Trend	18.00	10.00

Keep up with events and their implications.



Full year - just \$29.95

Motorboating	19.97	14.00
The Nation	52.00	26.00
Natural Health	23.90	9.97
New York	1 yr	29.90 14.97
	2 yrs	55.02 29.90
New Yorker	52.00	29.95 *
Newsweek [53 iss]	41.87	19.97 *
[106 iss]	73.14	39.97 *
O Oprah	28.00	28.00 *
Old House Journal	27.00	13.97
Organic Gardening	24.96	24.96 *
Out	24.95	14.95
Outdoor Photographer	19.94	10.98
Parenting	17.97	9.97
Parents	15.98	9.97
PC Magazine	44.97	29.97
Popular Mechanics	24.00	12.00
Popular Photography	24.00	11.97
Popular Science	19.95	12.00

- Best Titles
- LOWEST Rates
- SAFE GIFTS!

Extended Office Hours
Mon.-Thur. 9am-7pm
& Fri. til 5pm ET

Portfolio	20.00	15.00
Preschool Playroom	29.70	24.97
Prevention	21.97	16.94 *
Psychology Today	21.00	15.97
Reader's Digest	24.98	13.96
large print edition	29.96	21.95
Selecciones (en español)	27.46	19.97

Wine Enthusiast	35.00	26.95
Wired	24.00	12.00
Woman's Day	18.00	9.99
Women's Health	14.97	14.97 *
Working Mother	10.38	9.97
World War II	39.95	29.95
Yachting	19.97	16.00
Yoga Journal	21.95	15.95

Hundreds of Others Just Ask!

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 _____

email _____

Your School _____

Home Phone (_____) _____

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

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)

The Plight of Chinese Workers



© CONSTRUCTION PHOTOGRAPHY/CORBIS

China's abysmal human rights record and opposition to democratic reforms continue to make headlines. Teachers who want their classes to dig deeper can turn to three new reports:

- *A Cry for Justice: The Voices of Chinese Workers*, published by the Albert Shanker Institute, provides a detailed history of the suppression of workers' rights in China, as well as firsthand accounts of workers' experiences taken from interviews with Han Dongfang, Tiananmen Square protester and labor rights advocate.
www.shankerinstitute.org/ACryforJusticeFinal.pdf
- *Investigations on Toy Suppliers in China; Workers are still suffering*, published by China Labor Watch, finds that toy factories, affiliated with Disney, Hasbro, and others, continue to violate labor laws.
www.chinalaborwatch.org/20070821eighttoy.htm
- *Small Hands: A Survey Report on Child Labour in China*, published by China Labour Bulletin, documents the living and working conditions of child laborers and explains why they drop out of school to work.
www.clb.org.hk/en/files/share/File/general/Child_labour_report_1.pdf



© MICHAEL REYNOLDS/EPA/CORBIS



© ANDREW HOLBROOKE/CORBIS