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WINTER 1987

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FALL MURAL

Materials:
 large sheets of brown mural paper or brown wrapping paper
 12" x 18" green construction paper
 sponge pieces
 brown, orange, red, and yellow paint
 multicolored construction paper in a variety of sizes

Procedure:

1. Cover a large bulletin board or wall with brown paper.
2. Drape the green paper across the bottom of the board lengthwise. Fringe the top edge of the paper for grass.
3. Paint large tree trunks across the paper with brown paint.
4. Sponge paint leaves onto the trees and grass by dipping the sponges into the orange, red, and yellow paint, and pressing the sponges onto the mural paper.
5. Have students make fall cutouts from the construction paper and paste or staple them onto the mural.
6. If available, staple indian corn and fall leaves around the bulletin board and:

Suggestions:

1. For the winter make large tree trunks and bare branches with black paint. Sponge paint snow onto the mural, and add snowmen, ice skaters, or the snowflakes on page 54.
2. In the spring make sponge-painted green leaves. Add flowers on pages 78, 81, 82-83, flying butterflies on page 80, or origami swans on page 82.

21

IN WINTER...

CHRISTMAS TREE



ROLLER PRINTING

Materials:
 newspaper
 rollers (scoops, cans, cardboard tubes, string, cardboard, yarn, rock, etc.)
 construction paper (any size)
 square aluminum pan

Procedure:

1. Cover your work area with sheets of newspaper.
2. Decorate the roller by cutting designs from cardboard and gluing them to the roller, or glue yarn, string, etc. around the roller.

SOME CARROLLING SHAPES TO TRY!



3. Let the glue dry.
4. Pour a layer of paint in the square aluminum pan.
5. Place the construction paper on the newspaper.
6. Dip the roller in the paint and roll across the paper. Roll as frequently and in as many directions as desired.

Suggestions:

1. Use holiday paint colors and cutouts to make printed cards and matching wrapping paper.
2. Store the rollers in a large carton for classmates to share.

22



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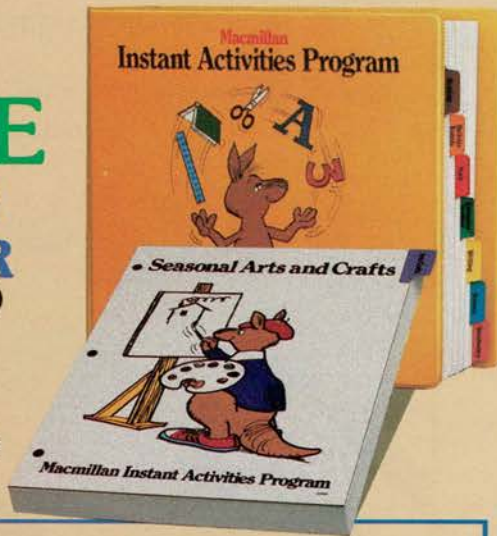
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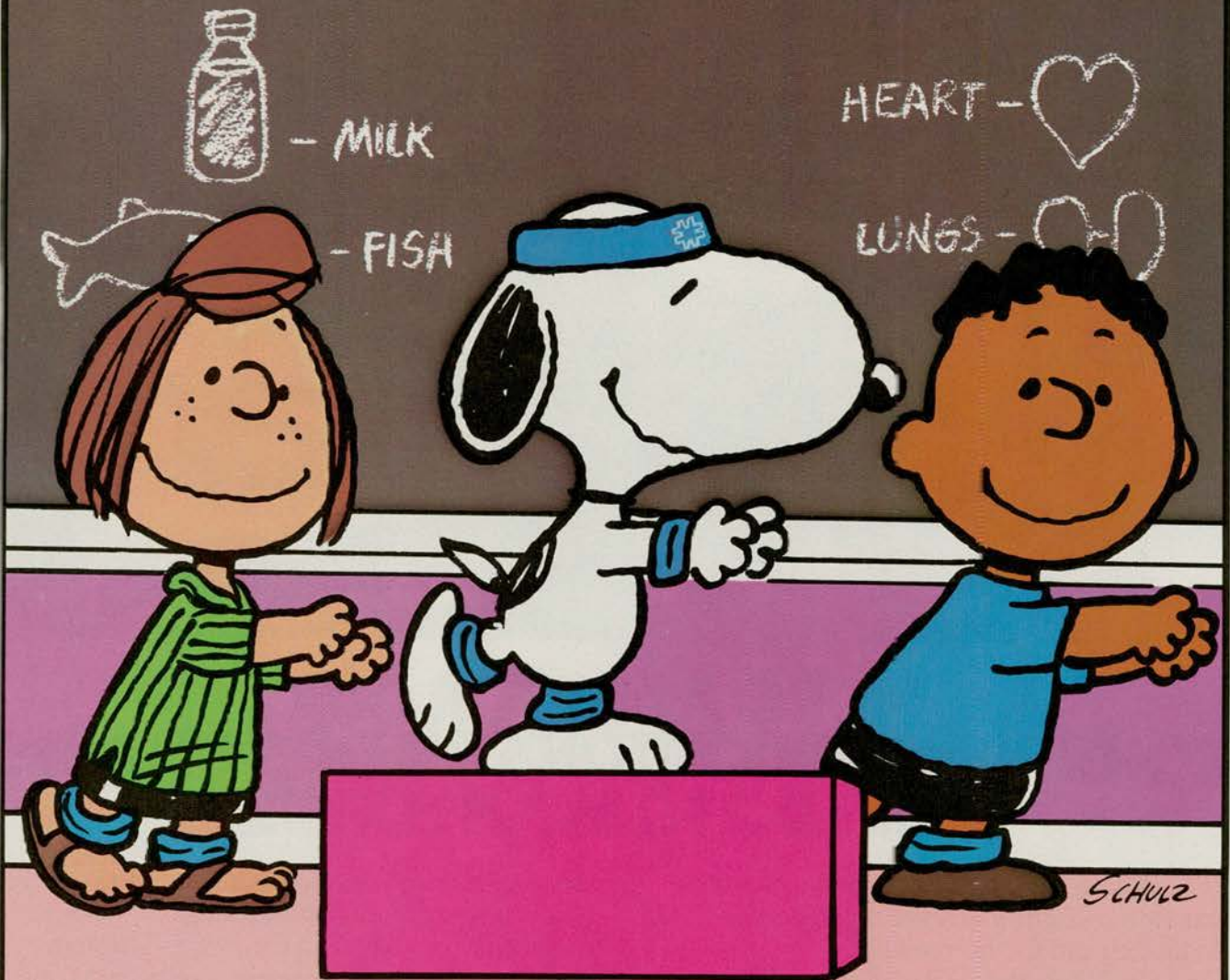
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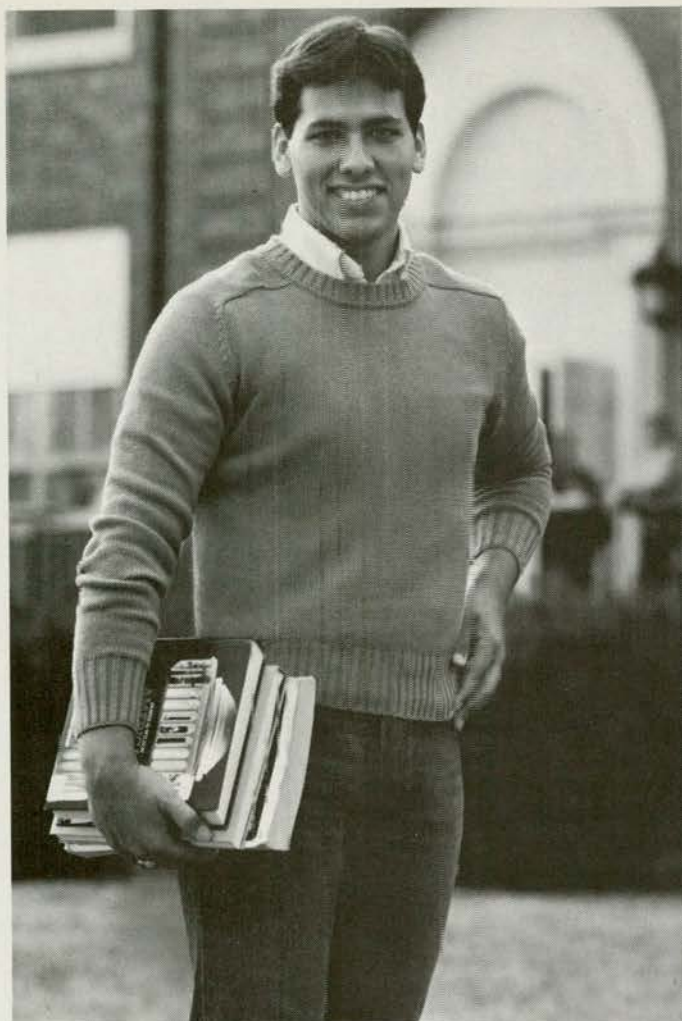
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Subscriptions: AFT members receive *American Educator* as part of their AFT membership services. Nonmembers may subscribe for \$8 per year.

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

American Educator cannot assume responsibility for unsolicited manuscripts.

American Educator is published quarterly by the American Federation of Teachers, AFL-CIO, 555 New Jersey Ave., NW, Washington, DC 20001. Telephone: 202-879-4420.

General advertising office
555 New Jersey Ave., NW
Washington, DC 20001
Telephone: 202-879-4420

Advertising Sales Representative
Peter Li, Inc.
2451 E. River Rd.
Dayton, OH 45439
513-294-5785

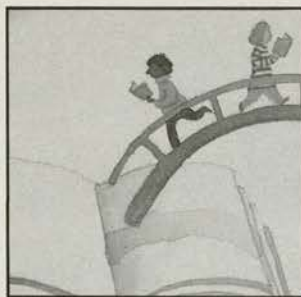
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American Educator is produced with the assistance of members of Local 2, Office and Professional Employees International Union, AFL-CIO, and members of AFT Staff Union. Composition and printing are done in 100 percent union shops.

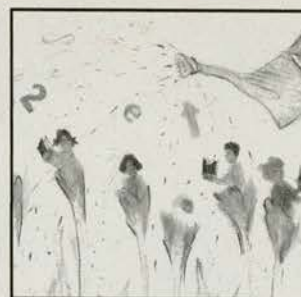
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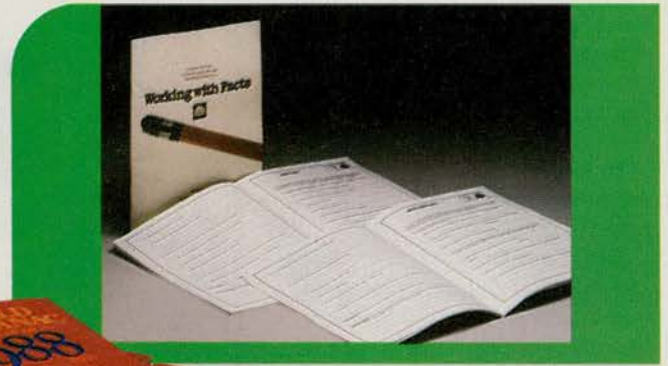
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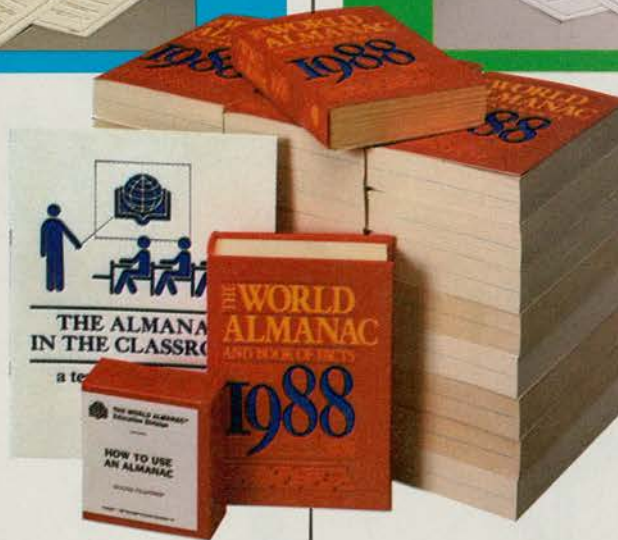
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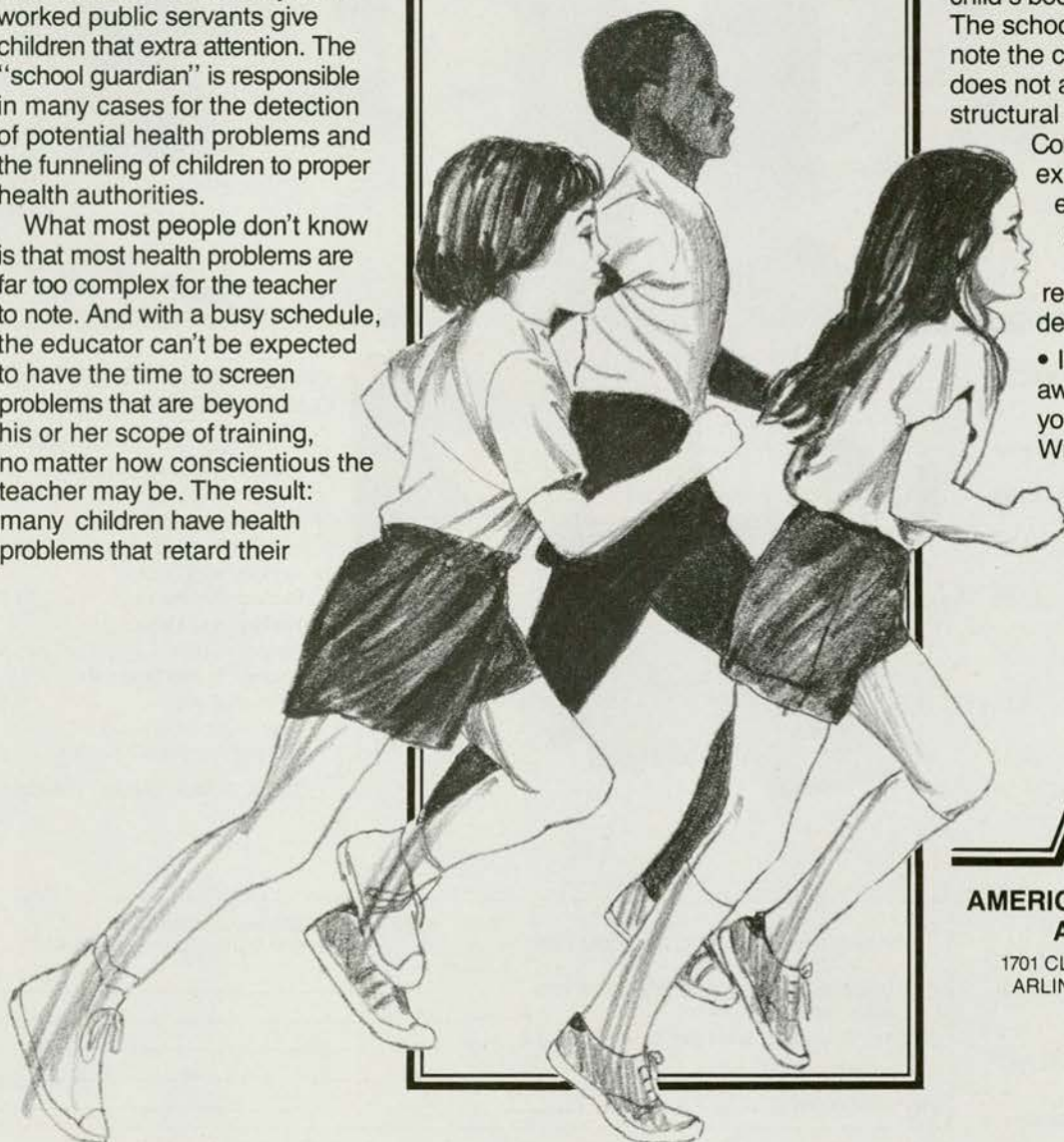
Part of their jobs? Not really. It's that extra sense of dedication that makes these already over-worked public servants give children that extra attention. The "school guardian" is responsible in many cases for the detection of potential health problems and the funneling of children to proper health authorities.

What most people don't know is that most health problems are far too complex for the teacher to note. And with a busy schedule, the educator can't be expected to have the time to screen problems that are beyond his or her scope of training, no matter how conscientious the teacher may be. The result: many children have health problems that retard their

ability to learn or engage in sports effectively.

Here's what you can do:

- Parents should be urged to take more responsibility for their children's health.
- Parents and teachers should be alert to such things as changes in energy level, postural changes, moodiness, listlessness or any unusual signs that signal a problem that will impede learning. One of the observable signs is lack of interest in school activities.
- The structural balance of the child's body should be considered. The school teacher will no doubt note the child's posture, but that does not always indicate the structural integrity of the body. Comprehensive chiropractic examinations, including examinations of the spine, pelvis, neck and limbs should be recommended to avoid developmental problems.
- Incorporate posture awareness programs into your class projects. Write for suggestions and materials.



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CREATING A THOUGHT-PROVOKING CURRICULUM

*Lessons from Whodunits
and Others*

BY GRANT WIGGINS

REFORM OF secondary education continues to be a hot topic—with more heat than light being shed on the problem. A new study conducted by the National Assessment of Educational Progress^a seems to show what E.D. Hirsch's best-selling *Cultural Literacy*^b has argued: American students have a poor grasp of history and literature. The authors of the book that analyzes the NAEP findings (*What Do Our 17-Year-Olds Know?*), Diane Ravitch of Columbia University's Teachers College and Chester Finn of the Department of Education, suggest the results show "something is gravely awry" with secondary education.

But lest educational discourse become polluted by a "Trivial Pursuit" mentality and the wrong remedies be proposed, a number of questions need to be asked: Do low scores mean that important topics and books are not being taught in high schools? Or is so much now being taught in the name of importance that everything is merely "covered" and forgotten? What if the students had scored better? Should we be satisfied with our educational system if students score well on simplistic multiple-choice exams?

Notably, Finn and Ravitch themselves warn against settling for familiarity.* But, unfortunately, in some quarters, the standards seem not as high. The editors of *The New York Times*, for example, have warned against a "rash rush to denounce high schools" and have asked readers to take heart from the fact that students were "familiar [italics ours] with laissez-faire economics, [and that] three in five were familiar with *Moby Dick*."^c If that's to be the reaction, the debate is being poorly framed.

IN FACT, much of the ignorance revealed by the test may be the result of our textbook-driven curriculum that assumes education consists only of "exposure" to many facts and ideas. But trying to cover every impor-

Grant Wiggins is director of research for the Coalition of Essential Schools. He is responsible for developing curricular and pedagogical alternatives that honor Coalition principles. An expanded version of this paper, with additional practical information for teachers, is available from Wiggins at the Coalition of Essential Schools, Brown University, Providence, Rhode Island, 02912.



tant idea leads to the trivialization of them all. Current syllabi and textbooks already verge on the silly in trying to do too much: Four pages on the Reformation? A glib sentence on "undefined terms" in a geometry textbook? Too much of the secondary curriculum operates as if it were possible to inoculate students against ignorance and forgetfulness with one "shot" of essential facts.

The Coalition of Essential Schools (See related articles.) operates under the aphorism "Less is More," because important ideas become forgettable when they are only "covered." We believe students come to understand ideas the way they develop habits: by actively playing with them, exploring them, and "practicing" them—all of which is impossible unless teachers are

^aSee "Content Counts," a review of *Cultural Literacy: What Every American Needs To Know* and *What Do Our 17-Year-Olds Know?* elsewhere in these pages.



ILLUSTRATED BY DAN SHERBO

mulae. Mathematics then becomes like routine assembly-line work. ("Plug in that equation.") Science labs become like cooking courses with simple recipes and predictable outcomes. Physics becomes a metaphysical catechism. Writing gets reduced to rigid rules. ("Every essay must be a five-paragraph, six-sentence-to-a-paragraph essay.")

In such an education, the student's use of thoughtful judgment is unendingly postponed in the name of mastering vast amounts of "important" information and a variety of skills. Both are constantly tested and drilled but rarely applied to meaningful work.

But judgment atrophies if it's not used. Without an education that forces us to pose hypotheses, inquire into the assertions of others, or consider the merits of an idea, mastery of facts is thoughtless. Trivial facts become as important as fundamental principles; truths have importance only because a book or teacher says so.

In an education for thoughtfulness, students are expected to understand why important facts are important. If "thoughtfulness" is our aim, we need to rethink our curriculum so that it is filled not just with "content" but with thought-provoking ideas and activities.

THE THOUGHT-PROVOKING CURRICULUM

WE BELIEVE that thinking is not so much "trained" as "awakened." Deeper thought is provoked and understanding developed by the jolt of suddenly not understanding what once seemed simple or unproblematic. An unthinking habit or once-successful algorithm becomes inadequate. We are unsure where to look for the answer; we are not even sure what will count as a good answer. We are forced to think—and rethink—our earlier assumptions. To find the answer, we must abandon our passive role in the learning process.

Put differently, to be thoughtful we require a context that compels us to stubbornly inquire—to regularly *suspend* judgment as well as employ it. Thoughtful students are like wise judges who avoid applying precedent unthinkingly. They ask "But what if...?" or "Is there another way to look at this?" or "What are we unthinkingly assuming here?"

"Thoughtfulness" is an apt word to describe the aim of such an education because the word's *moral* connotation is appropriate. We are expected to become not only more "critical" but more open-minded.² The curriculum, then, must avoid providing answers that seem or are meant to seem definitive; it should encourage collaborative inquiry by offering unsettling material that requires students to rethink and refine "answers."

WHAT MIGHT such a curriculum look like? Consider some instructive metaphors from activities outside the world of academics that require participants to be thoughtful. In the sport of orienteering, for example, competitors try to get from point A to point B in a stretch of wilderness, using only their knowledge of geology, plus compasses and topographical survey maps. By analogy, conventional academic curricula act like constricting tourist guides, telling students where

allowed to slow things down and cover less. Instead of covering every aspect of an idea, we hope teachers will guide students through the factual mire, helping them to become thoughtful by seeing the questions that lurk behind the "answers." As Robert Hutchins said, the good teacher is recognizable by the many important things he or she declines to teach. Our curriculum designers and text writers would do well to take this point to heart.

TOWARD THOUGHTFUL MASTERY

To make students more thoughtful about important ideas, we need to better identify the qualities of current practice that lead to thoughtless, forgetful learning.

In a thoughtless education, students have no control over what they learn and how they learn it. They are taught at, told merely to note and apply facts or for-

to go, what is important, and how to get there—rendering thoughtfulness unnecessary.

Or consider what the writers of good dramas and mysteries know: Thinking is provoked when the answers worth knowing need to be sorted out from false leads or superficially plausible viewpoints. The good author makes the reader the detective. Even as a scholar, one only wants to undertake the slogging legwork if the problem is under one's skin. To present the student with a summary of someone else's inquiry, like the police-blotter account of the intellectual "case," is to rob it of all engaging charm. The writer of textbooks is all too often like the boorish friend who wants to reveal how the mystery movie turns out before one has seen it.

As curriculum designers, we can learn from the director's questions: What entices the viewer to enter the setting and "own" the problem? How does the script of a mystery build in challenges and obstacles that provoke rather than dull or intimidate thinking? What important ideas are concealed or postponed in order to promote engagement?

In fact, we usually arrange curricula in the opposite way. "Knowledge" is usually presented by textbooks and syllabi as answers—already researched, sanitized, settled, and organized by the author or teacher into material "to be learned." Thus, the teacher or author has already done the academic inquiry—the analysis and synthesis. They are the intellectual performers, not the student. No matter what "work" is given the student, he or she is just a spectator sitting on the bleachers. To remedy this, the logic of curricula needs to be radically rethought to honor the needs of the thinker.

As curriculum designers, we can learn from the director's questions. . . . How does the script of a mystery build in challenges and obstacles that provoke thinking?

ESSENTIAL QUESTIONS

If thought is awakened by a problem, not by the authoritative claims of a teacher or a text, then knowledge must be seen as the product of inquiry, as the answer to some set of pertinent questions. To be engaged in intellectual orienteering, students need a question that focuses inquiry and calls forth a search for knowledge. If the syllabus and the texts are the answers, students need to know what questions the authors and teachers are attempting to answer—and what assumptions and alternative answers are being kept hidden. On what basis were these books chosen? What problems are meant to be addressed by the theories and arguments presented in them?

We propose that teachers organize courses not around "answers" but around Essential Questions, to which "content" represents answers. To get students to think seriously about what they are learning, a course must raise unsettling questions, keep them constantly

in view, and show that "knowledge" provides the answers to them. Courses would thus treat a favored or sanctioned set of answers as only a response to a particular set of questions deemed more important than another set.

How can we better identify these Essential Questions? Essential Questions meet the following criteria:

- **They go to the heart of a discipline.** They can be found in the most historically important (and controversial) problems and topics: What "causes" events in history? Is light a particle or a wave? Is *The Death of a Salesman* a "tragedy"? What is a "good" translation? What is "proper" language use? What justifies the use of the postulates in the geometry textbook? Are mathematical concepts inventions or discoveries? What is adequate "proof" in each field of inquiry?

- **They have no one, obvious, "right" answer.** By definition, there are other plausible theses and hypotheses to be considered and sorted through along with the "sanctioned" view contained in most textbooks and syllabi, so that the students can come to their own understanding of why a certain view has become pre-eminent.

- **They are higher order, in Bloom's sense:** matters of analysis, synthesis, and evaluative judgment. The student is thus always asked on major assignments and tests to "go beyond the information given," in J. Bruner's phrase.

- **They generate "personalized" interest.** Essential questions provide opportunities for more stylized answers and approaches; there is no one way to do things or prove that the question has been mastered. Students have a greater incentive to learn because they can be more creative and enterprising in grappling with the questions, thus mimicking the work of the professional.

Once the questions have been asked, the textbook or syllabus can be seen not as providing fixed "knowledge" to be mastered whole, independent of guiding questions, but as data, which can serve the student as he or she tries to reach judgment on the larger questions. The final exam or paper would demand increasingly refined judgments in answer to Essential Questions, irrespective of how simple the supporting data has to be made to be understood by students.³

IT FOLLOWS that these Essential Questions should overtly guide the coursework from the beginning, enabling the student to know in general (if not in fact) what the "final" will entail. Why should there be any secret about the question if it is truly essential and higher order? In fact, there is no good reason why students can't have some say in designing the questions, either.⁴

In U.S. history, the major question guiding all work might be: Is the United States more or less of a "pure" democracy now than at its founding? The lessons and the textbook would be designed to give students help and practice in constantly addressing that question. The

student would discover and consider, for example, that "free" Americans in 1787 could hold slaves and could not directly elect senators. Is that consistent with "democracy"? But does having the vote count the most? What about control over capital? What about freedom from government interference?

The course would be designed to generate, not close off, thinking about seemingly "obvious" (unthinking) opinions on these points. We want students to confront the dilemmas of American life, not be fed a narrative history that "explains" them (making them no longer worth thinking about). Otherwise, how will they see the authentic, live connection between the dilemmas of the past and the present?

A simple final exam question might be:

What are the essentials of the history of American democracy? Write a six-page outline, with proposed chapter headings, of a new U.S. history textbook that focuses on the development of democracy; write a four-page draft of any one unit. Convince the would-be publisher that your text will cover everything of importance while being of interest to adolescents. What would be the essential events, people, ideas, documents, etc.? Give a justification for what you

leave in and for three or four ideas you leave out that other texts have seen as important.

In geometry, the questions "Is geometry an invention or a discovery?" and "What problems does Euclid's set of postulates solve?" go straight to the heart of important issues—making the theorems *answers* to larger questions. Where is Euclid *going* and why? Faced with such questions, students would be encouraged, as they now are not, to investigate the relation between mathematical space and physical space, as well as the differences between different geometries.

ENTRY POINTS

But a set of over-arching questions is not enough to generate student interest, let alone deep thought. How can the Essential Questions be tied to the nitty-gritty material of daily work? A provocative or generative entry point gives students a manageable introduction to the intriguing problems that await them.

Consider, for example, beginning a physics course with the following two problems: 1) Ask students to "prove" (in any way they can, thereby raising the ques-

SEMINAR STRATEGIES

A mainstay of the Coalition classroom is the seminar, in which students must use their knowledge to engage in thoughtful discussion. The following suggestions may help you in conducting your own classroom seminars.

In the early grades, students get used to being respondents only, dependent always on the teacher for the next "move" in class. This is a far cry from collaborative, autonomous inquiry. (Watch student eyes after a student contribution in a discussion: They naturally revert to the teacher to find out the "next move.") To encourage students to ask more and better questions, teachers have to rethink the incentives that govern student performance in their classes. For example: How could teachers' tests and grading policies better reflect the importance they assign to question asking.

The following are suggested strategies designed to make the student take on, over time, roles and responsibilities that typically have been the teacher's.

QUESTIONS TO BE ASKED

The following questions, which could be posted around the room and practiced by individual stu-

dents or groups, reflect strategies to be practiced when the seminar seems unproductive or a participant's contribution is unclear.

1. What question are we trying to answer? Why?
2. Could you give me an example or an analogy?
3. Can you show me where the text supports you?
4. What are you assuming?
5. But what about . . . ? (That seems to be inconsistent with the text, what was said before, etc.)
6. How do we need to modify our original questions and answers?
7. How does this relate to . . . ? (what we said before, read last week, concluded yesterday, etc.)
8. I think we're lost. How can we get oriented or find some landmarks?
9. I *think* I know what you mean, but can you say more about what you mean by . . . ?
10. Well, here's one way to make this book's point sound plausible. . . .

ROLES TO BE TAUGHT AND TAKEN

Teachers can at first assign roles on a rotating basis, making a point of assigning unfamiliar roles to those who need to practice them.

ROLES FOR THE SPEAKER

Explorer: "Let's throw this out, give this a try"

Gadfly: "Everyone seems to be content with saying"

Matchmaker: "What you are saying is a lot like what Sue was saying"

Flinty-eyed skeptic: "I am not sure I see good reasons for saying this"

Will Rogers: "Let's find a way to make this seemingly odd or incorrect comment plausible"

Judge Wapner: "Let's see what the argument between you two is about and resolve it"

Sherlock Holmes: "I think we have overlooked something important"

Librarian: "Here's a passage that supports your point"

ROLES FOR THE LISTENER

Journalist: Summarize the important points.

Map-Maker: Make a visual chart of where the discussion did and did not go, who did and did not speak.

Shadow: Listen to and observe one person.

Referee: Determine which claims or "moves" seem warranted or unwarranted.

Coach: "Here's how this point might be improved. . . ."

G.W.

tion "What is a proof?") that the spoon in the glass of water is not bent. 2) Ask students to formulate a "law" about different moving bodies (rolling ball, dropped block of wood, and dropped bits of lighter-than-air paper) that explains the observed differences. (The question should be posed in a way that deliberately underemphasizes quantitative precision.) Because the first experiment involves an "obvious" (but in other respects counterintuitive) fact with no clear explanation, the student must enter physics to solve it. In the second case, the student is confronted with a deliberately ambiguous set of phenomena that make the postulate of inertia and the account of "friction" more appropriately problematic. The aim is to engage students in the intrinsically interesting experience of posing hypotheses and to recapture the properly controversial nature of many of the "laws" of science, including such ideas as "action at a distance" or why molecules can move in a so-called "solid" object.

Here is a sample entry point for history: An American history course built around the larger question about democracy could begin with the simple question "Who invented time zones and why?" Ask students to speculate, then investigate. They will likely be surprised to discover that the railroad companies proposed them to facilitate their scheduling. A crude first thesis (and Essential Question) thus emerges: Law and policy have been historically influenced by business interests. Then the student is faced with another question: Does this first thesis account for all the essential events of our history, such as the Civil War, the framing of the Declaration of Independence and the Constitution, tax laws? What then about antitrust and civil rights laws? What other thesis might we want to construct in response to other major trends of American history? For students armed with such questions, the textbook (and occasional teacher lectures) truly becomes a resource for unfolding inquiry, a useful reference work.

Because the first experiment involves an "obvious" fact with no clear explanation, the student must enter physics to solve it.

IN MATHEMATICS, it may seem more difficult to find this kind of provocative entry point. But that has less to do with the discipline than with how it is conventionally taught. One could begin by asking geometry students to consider the rules that govern sports and other games. When were the rules invented? When have they been changed and why? What, then, about geometry's rules? Were they invented or discovered? Are they self-evident? Have they been changed, and why? Such questions go to the heart of the problems that have historically interested geometers and philosophers, making the theorems answers to questions. Thus, early in a geometry course, one might consider alternative geometries, such as spherical and projective geometry.

Once students have made sense of one problem—

whether in history or geometry—they will paradoxically find themselves faced with a new problem. The obvious will become not-so-obvious. As important ideas are explored, students will find new reasons to explore them further—making the "essential" ideas more obviously so because they provoke us to think things anew.⁵ Students will thus re-encounter the same idea many times and in many guises. The metaphor of the "spiral" (invoked by Dewey, then Bruner) or talk of making curricula "recursive" or "dialectic" all make the same point: In a thought-provoking curriculum, the "content" is not covered once, in logical order. As Bruner once said, we must allow students to "discover the power and pleasures of retrospection."

In exactly contrary fashion, most textbooks promote thoughtlessness by merely stating an essential idea as if it were self-evident and going immediately into its myriad factual implications. Students rarely get to see a concept or a theory as a response to a problem, and they are thus unable to grasp the vitality of ideas.⁶ They are left thinking that academic knowledge was plucked out of the air, whole and complete, by geniuses.

KNOWLEDGE-IN-USE

Can you imagine forcing an athlete to sit and listen to unending lectures on the rules, criteria, history, and language of their activity before allowing them to perform?

In sports, music, and theater—where performance is the end goal—we get students under way with some basic information. The students' first crude efforts are refined over time through constant practice and feedback from coaches. Computer software manufacturers understand this also. Think about how they organize their instructional material: In addition to a comprehensive manual, the basic knowledge—how to cut and paste, how to save documents, etc.—is usually provided in a simplified, immediately useful manual that allows the user to get quickly under way. The learner then practices the basic knowledge—and learns the more sophisticated material—in context, by "solving" a larger problem: writing a paper, for example. The writer need not wait to be "taught" all the software "facts" contained in the comprehensive reference manual before "performing." Knowledge is learned as knowledge-in-use.

One final example: Think of the vocational education class, in which teams of students are presented with automobile engines with the same unknown defect. The students consult with each other, pose hypotheses, ask questions, pore through manuals, and experiment until they find the solution.

In all three cases, students are motivated to learn because they need new knowledge to proceed with their task. "Knowledge" and skills become needed means to reach a desired end.

STUDENT-AS-PERFORMER, TEACHER-AS-COACH

THOUGHTFUL UNDERSTANDING cannot be "taught," insofar as that means handing out information. It must be constructed by the thinker. The development of thoughtfulness thus depends less on the

content taught and more on whether the student plays an active, inquiring role in putting ideas together to form a personally meaningful version of an important idea. When the teacher (or the textbook) provides a finished version of refined knowledge, the student is necessarily put in a passive role, detached from the process of messy inquiry and initiative that produces meaningful insight.

The Coalition aphorism "Student as Worker, Teacher as Coach" is an attempt to describe an education in which the classroom's principal performers are the students, not the teachers, as is the case on school athletic fields and in band practice rooms. If we want students to be the performers, how should we design courses?

First of all, students, like athletes and actors, have to have a final, known-in-advance performance goal. For students, the performance might be a piece of authentic academic research that answers an Essential Question. By authentic, we mean that it draws on the students' knowledge and skills and requires them to demonstrate "knowledge-in-use." It is not a contrived drill, designed for easy grading.

If the final exercise demands only fact retention and drill-like manipulation of formulae or ideas, if it tests knowledge of arbitrarily selected bits of content from among a sea of isolated facts, or if the final performance is a mystery—to be guessed at in one's cramming—then we are not dealing with an authentic intellectual performance. (Think, for example, of how students prepare for a game, a musical recital, or a play. They know the end goal. They're not left to try out random approaches in an effort to solve a mysterious puzzle.)

In the Coalition of Essential Schools, we speak of such a final challenge as an "exhibition." It is a "test" in the sense that the big game on opening night is a "test." Unlike the conventional "final," the exhibition—like a piano recital or a play—lets a performer show off or "exhibit" what he or she knows. It asks students to demonstrate what they are able to do with their knowledge, not just whether they can remember facts and use an isolated skill in a drill. Just as a performance demands a personal interpretation of known material and skills, the exhibition allows for personal initiative and creativity; it honors different "learning styles" in the richest sense.

SECOND, IF the goal is a performance, everything leading up to it is preparation and practice (scrimmages and rehearsals) of some sort. Every class period then becomes an opportunity for students to gain knowledge and skill that can be put to use in the final "exhibition." *Knowledge and skills are learned as a means to an end.*

The role of the teacher changes accordingly. He or she must see that habits are learned, not merely that content is taught and tested. New habits are not learned from "teaching" or exhortation and admonishment but through practice, incentives, feedback, and more practice. (Consider how you train a pet, a task Dewey hoped all would-be teachers would try first.) Rather than using class time to drill students on skills or to lecture on material that can be found in the book, the teacher-as-coach designs intellectual problems that require students to practice more and more sophisticated thinking.

As students work toward solving these problems, the teacher, like all coaches, provides diagnostic and prescriptive feedback about the students' performance.

Coaches should help performers to know and internalize the standards of good performance. While it is very unusual for teachers to show samples of "A" papers from previous final exams, the teacher-as-coach regularly models expectations by showing videotapes of great athletic plays or by taking students to concerts or plays. There is nothing inherently more ambiguous about the standards of "good" writing or research than those of good defensive work in basketball. But coaches know that the abstract teaching and learning of criteria has little effect on the athlete's performance; they must show their players what "good" defense feels and looks like in concrete terms.

If we want students to be the performers, how should we design courses?

TO BE a successful researcher or analyst, students must learn to ask good questions. But question asking is rarely taught or made a significant component of a student's grade (another important sign of our failure to make the student, not the teacher, the chief classroom performer).

Too often, we assume that question asking is a natural habit. When students ask no questions, we are tempted to believe that students are either fully on top of things or, at the other extreme, uninterested or ignorant. In fact, most important questions are inchoate and, hence, not easily volunteered in their unrefined form. Most good questions in my class have been prefaced by "I know this sounds stupid, but..."

Students need help and practice in forming and refining questions—practice, that is, in taking on the typical teacher's role. But if the curriculum itself is not built upon Essential Questions, the skill ends up being peripheral and out of context.

To learn to be good questioners, students need:

- **Problematic concepts, facts, or theories.** Students tend to believe that "knowledge" is fixed and complete, and that their job is merely to take in the definitive "answers" provided by teacher and text. With all but the most-able students, there is a need for incomplete, confused, or controversial ideas that compel students to question.

- **Practice in guided questioning.** Teachers rarely provide exercises in questioning or require students to make progress in their questioning. Teachers could make student questions central to a lesson by grading them or by requiring students to keep a detailed written record of their questions (whether those questions are aired publicly or not).

- **Practice in framing exploratory questions,** not just technical or matter-of-fact questions that lead to simple and complete answers. Control over difficult

material begins by knowing how to get under way with simple but essential questions. But to ask exploratory questions, students need material that is rich and thought provoking—not predigested, already organized “answers” that obviate the need for questions.

● **An ability to establish an intellectual agenda** with their own questions. Where feasible, student questions ought to be allowed to influence and determine the “course” of the course. Courses that value questions begin class by considering student questions, leaving any planned lectures or demonstrations to the second half of the class.

● **An ability to change the course of a discussion through questions that shift perspective.** If students are to escape their passivity, this role, normally the teacher’s, must gradually be given to students in the form of incentives and roles (see accompanying sidebar).

● **Practice in refining questions.** Students need to recognize that inquiry unfolds—that the original questions we ask and answer may appropriately evolve into other questions. This requires a curriculum whose primary aim is the refinement of “answers” achieved by asking questions, posing theories, and collecting and organizing “facts.”

(For more on “question asking,” see the related sidebar.)

CULTIVATING THOUGHTFUL HABITS

When we talk about educating “thoughtful” students, we are talking about inculcating a habit, not teaching a skill. A thoughtful student has developed the habits of the scholar, not just the ability to mouth a scholar’s

results on cue. “Critical thinking”—now so much the rage—is not furthered by moving students through nifty, unproblematic exercise sequences. Students may learn critical thinking skills from such exercises, but nothing says they will be inclined to use those skills once they are out from under the teacher’s gaze. Common sense tells us that the deep-seated, natural habit of, for example, jumping to conclusions, will not be broken merely by having students fill out worksheets on logic.⁷ (Or consider this analogy: Upon completing a nutrition course, will dedicated consumers of red meat, dairy products, and saturated fats do what it takes to be healthy now that they have learned the facts?)

As any coach knows, skill acquired in drill does not translate directly into skill-in-use; habits—i.e., the regular use of good skills—are developed only over the long haul as they are practiced in the context of authentic performance. Thus our goal should not be to “train” students through isolated thinking skills courses, but to induce them, with repeated tasks *at the heart* of their academic work, to overcome their natural resistance to developing critical habits. Thoughtfulness is a disposition—developed when one is regularly confronted with genuine intellectual problems that demand thought. (The Outward Bound program may be a model to study. There, because students are unrelentingly confronted with situations that demand good habits, they come to appreciate—and to internalize—habits that are necessary and useful.)

Assessment: Since a mature habit is a proneness called forth at appropriate, not test-cued, times, we will need new forms of assessment: “Comment on and critique the following argument” may verge on too strong

HOW TO GET STUDENTS TO ASK GOOD QUESTIONS

● Require students to keep notes around their questions. In addition, have them write down at least three questions for each lesson or reading. The rule of thumb for all questions should be: “What questions, if answered, would give you a better understanding of this material?” Students should be required to ask different kinds of questions. Students should also be graded on the clarity of their questions and for their progress in asking more penetrating and thorough sets of questions.

● Ensure that student questions are always solicited and taken seriously. Begin as many class discussions as possible by asking groups of three or four students to share among themselves what they regard to be their “best” written questions. Have them discuss each question for a few minutes and agree on which question would be best to bring to the whole class,

stressing that a new, refined question growing out of their discussion would be fine. Have each group write its question on the blackboard. Then lead a discussion based on the “agenda” set by students’ questions.

● If your course ends with a final exam, allow room for student-generated exam questions.

● Toward the end of a class discussion, have students reach a consensus on the few questions that get at the heart of a day’s work.

● Design a lesson that puts you in the role of “oracle” as opposed to “teacher” (or defendant in response to a prosecutor) — namely, you will answer only those questions put to you, and you will answer them in a way that reflects on the way in which they were asked. Make it a real challenge, a sophisticated form of “Twenty Questions,” so that groups of students are rewarded by getting

answers in proportion to the quality of the question.

● An experiment is, of course, a controlled question. Usually, science teachers set up highly structured demonstrations (to answer a predetermined question), in which students go through the motions of verifying a result. A real experiment is an attempt to answer our own question. “De-construct” a lesson or lab experiment that you normally introduce in a form ready to be undertaken. Provide students with a vague formulation of the problem, requiring them to ask questions about possible ways to design experiments for addressing the problem.

● Do something (a demonstration, a simple experiment) that goes wrong, and ask students to trouble-shoot, speculate, and determine what went wrong and why.

—G.W.

It is tacitly assumed that the only rigorous education is one that is conventionally organized and taught.

a cue if we wish to determine whether a student is inclined to carefully examine an argument.

To find better ways to measure intelligence-in-action we should look at Outward Bound, at community service, and at the education of athletes and spies who, untrained, too easily fall for "feints" or traps.⁸ The traditional teaching literature of Eastern religions is also filled with such "negative" tests of would-be disciples. And the role-plays designed to help police resist the taunts of riotous crowds suggest the kind of simulations or case studies that teachers might use in judging student progress in thoughtfulness. Simply, we don't want tests that assess the quality of stimulus-response training but that indicate whether students have internalized the standards of good thinking.

I BEGAN by arguing that much of the debate growing out of Hirsch's *Cultural Literacy* and the NAEP results is misdirected. But my curricular ideas will likely be misconstrued if my argument is seen as valuing "process" more than "product" or as downplaying the significance of these test results. To make "less" genuinely "more," content must be both essential and intellectually engaging, not merely more narrowly focused for "thinking." The Coalition advocates teaching essential content, but in a way that maximizes student judgment and perspective, which, in turn, limits how much content can be effectively taught and learned.

As teachers, we often talk of "motivation"—which is normally associated with external rewards and punishments—but rarely do we take the next step to discuss how to transform the curriculum so that coursework becomes intrinsically interesting. Even when modern critics lament the absence of student "engagement," the problem is rarely seen as one of reconceptualizing the academic program. It is tacitly assumed that the only rigorous education is one that is conventionally organized and taught. The subtle message is that only students who have already internalized the habits of "delayed gratification" are expected to succeed. But need we organize and treat knowledge the way college teachers do?

High school students are not willing scholars' apprentices. They are young shoppers—curious, naive, and skeptical. They properly seek reasons for being diligent, thoughtful, and interested in scholarship. What if the high school redefined its mission so that its essential aim was to interest and initiate students into some of the more provocative problems and activities of scholarship? What if making coursework an interesting introduction to future study was seen as the primary task of the high school curriculum designer and teacher? High schools, like lower schools, would then use course con-

tent to encourage the development of the right habits of mind—and would thus provide an education "in the students' interest" in both senses of that phrase.

I have suggested that the hold on students of mystery movies, vocational education competitions, athletics, and other performing arts is no accident. These activities "get the incentives right"—they are intrinsically engaging. They provide a challenge, a sense of efficacy, and a balance between individual work and collaboration—all hallmark characteristics of engaging activities. It's time we transformed the high school curriculum so that it, too, was built around interesting questions and performances. □

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¹Diane Ravitch and Chester Finn, *What Do Our 17-Year-Olds Know?* New York, Harper & Row, 1987.

²E.D. Hirsch, *Cultural Literacy: What Every American Needs To Know*, Boston, Houghton-Mifflin, 1987.

³*The New York Times*, 9/12/87.

END NOTES

¹Notably Finn and Ravitch themselves warn against settling for familiarity: "Critics have complained that the concept of cultural literacy encourages superficiality, since it places emphasis on 'knowing about' rather than on knowing. This assessment, readers will find, is occasionally guilty of the same charge. We too would prefer an essay examination that determined the depth of students' understanding of historical issues and literary works. . . . We are not content with some of the items in the literature assessment that ask only for simple recognition of authors and titles.

²To ask "Is Joe's view being heard?" is to act "thoughtfully" — in a way that furthers (intellectual) relationships as well as one's own thinking. That requires a curriculum designed to make collaborative learning and the careful exploration of differing judgments a regular classroom experience. See Elbow on "playing the believing game" as well as the "doubting" game in *Embracing Contraries*, 1986.

³The usual metaphor—"watering down"—is therefore inappropriate and degrading. The task is to find the appropriate "training wheels" so that the student can ride the bicycle of intellectual inquiry. A simple device, observed in a Coalition high school class: Ask all freshmen to read *The Odyssey* and answer some challenging questions about the epic's characters, but use four different reading-level versions of the text.

⁴See Elbow, op. cit. and Grant, Elbow, et al., *On Competence* (1983) for similar insights from competency-based higher education.

⁵"We think in order to grasp meaning, but nonetheless every extension of knowledge makes us aware of blind and opaque spots, where with less knowledge all had seemed obvious and natural." John Dewey, *How We Think* (1933), p. 227.

⁶Euclid's postulates, for example, were criticized from the day they were written and improved by Gauss, Bolyai, Hilbert, and others — not taken as the "obvious" givens that far too many texts teach them to be.

⁷See, for example, Ennis (1961) and (1985), a pioneer in the "critical thinking" field. Ennis now lists "thirteen essential dispositions" [Ennis, in Baron and Sternberg (1987)]. After an extensive analysis of the requisite thinking skills, he devotes only a short paragraph, however, to the topic of dispositions (p. 24). Baron notes that "program goals for teaching thinking too rarely include references to changes in students attitudes and dispositions. . . . This area is ripe for creativity and invention." (op cit, p. 242.)

⁸Baron notes Ennis's claim on this point: "I don't know of any paper and pencil way to evaluate dispositions." [Ennis, quoted by Baron, in Baron & Sternberg (1987), p. 242.]

⁹Watching young basketball, football, or soccer players reveals how easy it is to fall for one simple feint and how long it takes to resist it. A good fictional example of the use of such "tests" in spy work occurred at the end of the movie *The Great Escape*. The two leaders of the breakout, travelling under German aliases and with false papers, are questioned by a Gestapo agent as they board a bus. After talk between them in flawless German, the agent says, "Have a nice trip!" and one of the two men unwittingly responds in English.

A REPORT FROM THE FIELD

The Coalition of Essential Schools

BY LINDA CHION-KENNEY

RELUCTANT FOLKS make poor adventurers." So reads the prospectus of the Coalition of Essential Schools, a project designed to redesign the nature of secondary schooling. To some extent, it might seem to be *The Gospel According to Ted Sizer*, who authored the book *Horace's Compromise: The Dilemma of the American High School*, from which the project's "common principles" have been formed. But that would be misleading. For while Theodore R. Sizer, chairman of the education department at Brown University and chairman of the Coalition, is indisputably the inspirational leader of this coalition of experimenting schools and educators, he is the first to say the project belongs to the educators in each school.

"We're not designing a model, which, like a Ford Escort, could be produced over and over and over again," Sizer says. "What we share is a set of ideas. That's what's common."

The ideas coalition members share are often expressed through a series of catchwords and phrases:

- Student-as-worker; teacher-as-coach; parent-as-essential-collaborator.
- Diploma by exhibition, not "credits earned" by

"time spent."

- Less is More. An intellectual focus on "essential skills and questions," not "content coverage" of a mandated curriculum.

- Personalized instruction and collegial collaboration.

Pick apart the project, and you'll find some old chestnuts, among them team teaching and planning, remnants of the open classroom philosophy and the coaching model of instruction.

"Old ideas? Yes," Sizer says. "Some of them two thousand years old. But if taken seriously, they imply an ambitious change." The project, he says, is not merely an attempt to restructure how teachers and students spend their time, but to have "an effect on the attitudes and commitments of the people in those schools."

Committed to the project are teacher-adventurers in forty-nine schools in twenty states and one Canadian province.

Their mission is to create an intellectual atmosphere in which instruction is personalized and students are provoked to take charge of their own learning. The goal is that each student leaves high school with the ability to think, question, and reason.

With no blueprint to go by, Coalition members are building their schools through trial and error, a process

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Humanities teacher Michael Goldman of Central Park East Secondary School coaches one student while another leads a small-group discussion in the background.

some critics attack as needless experimentation. But for educators in essential schools, the high number of drop-outs and troubled students indicate that the conventional way of doing things is not working.

"For sixteen years I taught traditionally and I could see that it wasn't working," says Florence Davis, a twenty-year veteran now working at Walbrook Essential High School in Baltimore. "In September I could count on seeing youngsters in the hall and saying, 'Where's so-and-so?' And they would say, 'Oh, he dropped out.' Or, 'He's in jail.' Or, 'She's in jail.' And I could see ninth graders that I had worked with very hard from September to June returning as ninth graders. So I don't see myself as experimenting. I see myself as trying something different in the hopes of doing a better job and winding up with youngsters who like to learn, who enjoy school, or who at least see the relevance of school."

The essential question is: "How are Coalition members doing things differently?" For insight, it helps to examine some random snapshots—grouped under the Coalition's guiding principles—of the nuts-and-bolts activities taking place at three inner-city schools: Walbrook, Hope Essential High School in Providence, Rhode Island; and Central Park East Secondary School in New York. At Walbrook and Hope, the essential school program operates as a school-within-a-school. At Central Park East, all students and staff are part of the essential school.

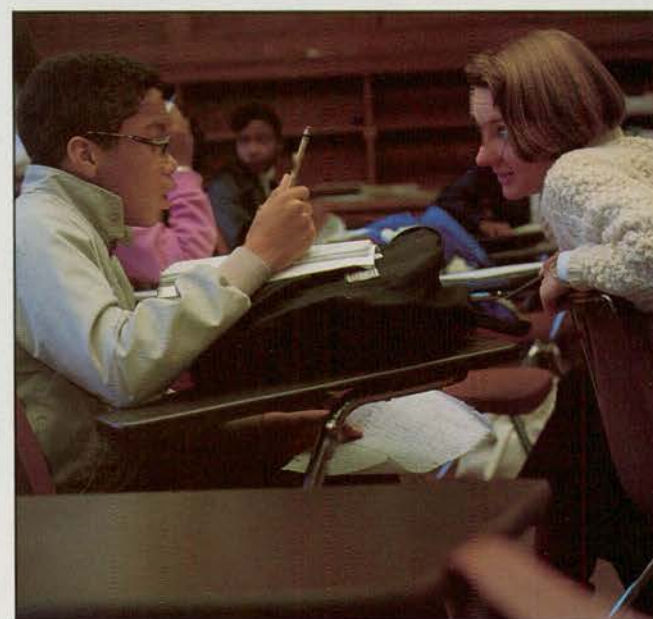
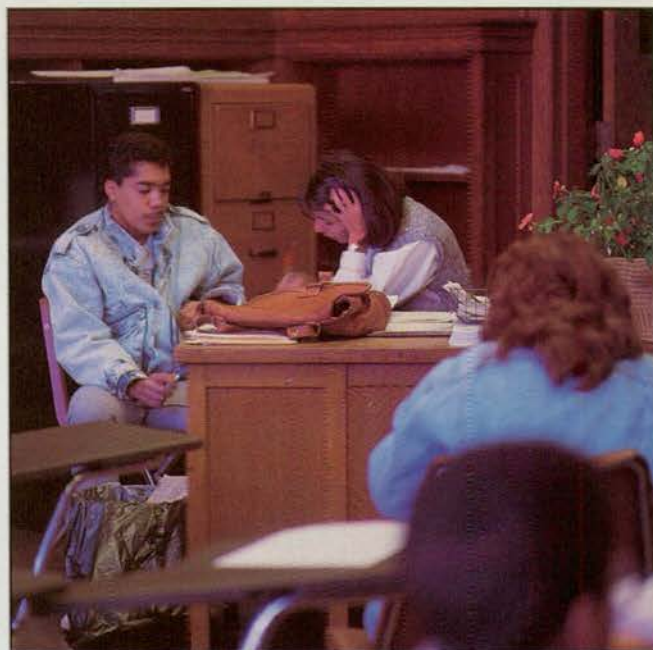
These snapshots provide a clearer picture of what teachers are doing, when given the right to build their own schools, to change the way they go about their business.

● **Principle 1: Teaching and learning should be personalized, with teachers and principals "unreservedly" responsible for what is studied, how time is spent, and what materials and pedagogies are used. No teacher should have a class load of more than eighty students.**

In most traditional secondary schools, a teacher is directly responsible for 150 or more students. As a result, there is little opportunity to understand how each mind learns and makes its errors; there is neither time, nor structural flexibility, to tailor instruction to the strengths and weaknesses of each child.

With control over how time is spent, teachers and principals in Coalition schools have, for the most part, restructured the school day so they can teach many fewer students for much longer periods of time. In some cases, this is accomplished by having teachers teach two subjects each so they can see half the number of students for twice the amount of time. At both Central Park East and Hope, for example, the English and social studies teachers each teach two double periods of humanities. (To understand how the arithmetic works, think about a first-grade class: Because the teacher is responsible for teaching many subjects, he or she sees the same students all day.) This, teachers say, enables them to know better how each student works and to intervene early if a student is having difficulty.

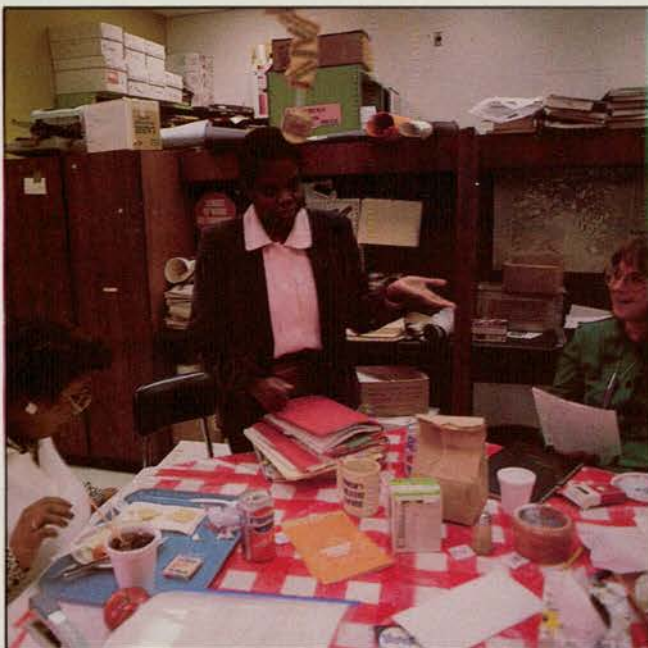
And because they spend more time in joint meetings discussing what happens in each classroom, teachers



say they can compare notes about students and tailor instruction to their particular needs. Sue Susman, an attorney-turned-teacher in her second year at Central Park East says, "We discuss kids together: 'I'm having a problem with Bobby. Does anyone have any ideas?' And another teacher will say, 'Well, in my class, here's what worked.' So you're not alone. You're in a whole support system."

At Central Park East, collective planning takes place throughout the day—informally in the hallways and during a shared, duty-free lunch; and formally when the students are at recreation, art, and music and when they attend their mandatory two hours of community service each week.

To strengthen the personal tie between students and faculty, each staff member meets daily to discuss school and personal concerns during an advisory period with a group of fifteen students—a number kept low because



Top right, teachers at Walbrook talk shop during their shared one-and-a-half hour lunch period. Clockwise from bottom right, the emphasis is on personalization and one-on-one coaching. Bottom right, Margaret Batista of Hope gets help from head teacher Al Moser. Bottom left, student Martin Wesley gets help from teacher Nancy Topalian during Hope's EHS period. Top left, Tacuma Dupont of Hope gets help from student teacher Patricia Russell.

every professional staff person takes a group, including the school director and the librarian. The advisor coordinates each child's academic program and is responsible for establishing a strong school-home relationship.

AT HOPE, the teachers are split into two groups—the "Alpha" team for tenth graders, and the "Beta" team for ninth graders. Two periods a week are set aside during the school day so each teaching team can meet as a group. Problems are addressed that otherwise might get ignored or pushed aside because of a lack of time. At a recent session, the Beta team discussed the potential danger of "cracking." The teachers decided to consider asking a consultant from Brown University for advice on how to encourage students to be more respectful of each other.

Also at Hope, each team of four teachers instructs the same ninety students, and the essential school classrooms are clustered together. As a result, teachers say they can keep closer tabs on their students.

"If I need to speak to one of my students about an assignment, I can find them on the third floor, not run throughout this entire building up and down three flights of stairs," says biology teacher Nancy Topalian. "I can take a minute to say, 'This isn't due until tomorrow. Do you need to talk about it?'" Topalian says she can also find her students during the EHS period, a sort of study hall, when each teacher sees a small group of students for tutorial work.

At Walbrook, teachers share the same planning and lunch periods, during which they also hold "no-fault" conferences to discuss personal or school-related issues with individual students. (In addition, tutorial sessions are held each morning.) The teachers also meet at least once a week after regular school hours. Among often-discussed issues is the class schedule. Because they have the freedom to regularly rearrange it—and are not restricted to the traditional structure of one fifty- to fifty-five minute period per class—they often change it to meet the needs of their students. For instance, in mid-October, the teachers were using a schedule, the third variation this fall, that allowed the English teacher more time to prepare students for a state writing test.

Although other student loads are lighter (usually about fifty or eighty students), the math and foreign language teachers at Walbrook instruct all 140 essential school students. But that's still far fewer than the 190 or so students they would be directly responsible for in the traditional school.

Teachers at all three essential schools say the constant contact with their peers and a smaller student load make it difficult for a child to hide, or get lost, behind a cloak of anonymity.

"Even [with] kids who are academically successful," says Neil Jaffee, a science teacher at Central Park East, "You don't really know if they understand. And here, within a short period of time at the beginning of the school year, you know every kid by name and you have a pretty good notion of how that kid is thinking."

● **Principle 2: The governing metaphor of the school should be student-as-worker, rather than**

the more familiar metaphor, teacher-as-deliverer-of-instructional-services.

According to Grant Wiggins, director of research for the Coalition of Essential Schools, students don't learn

well when they are "passive spectators" in the classroom. They need a clear goal that they are expected to reach by actively asking questions, finding answers, and demonstrating their knowledge. (See accompanying

THE VIEW FROM THE COALITION CLASSROOM

By WENDY ARONOFF AND MIRIAM TOLOUDIS

As teachers in the Hope Essential High School, we discover every day that we have opportunities to help students in ways that would have been impossible in a more traditional setting. This is due to new freedoms we assigned to ourselves as we designed our school. Hope Essential High School, a "school within a school," was not established by an edict from above. Rather, a planning team of five teachers was given a semester without teaching duties to develop all aspects of the school, from the curriculum to the grading system to the shape of the report card.

WE PLAN THE CURRICULUM

We have had freedom to develop our own curricula in the various subject areas. Our goal is that each student master a limited number of essential skills and areas of knowledge. Each teacher has developed a list of competencies for his or her area, always asking the question: "What is essential?" Dominating our decisions is the maxim "Less is More."

To ensure that a student who graduates from our high school has learned to express himself with the written word, we agreed to make writing an important part of every course — not only in English and social studies, but also in science and math classes. We also try to have students write regularly in journals.

WE HAVE FLEXIBLE SCHEDULES

Scheduling is another area in which we have freedom to react to the needs of the moment. We have chosen to meet the students in double time blocks; each student has four academic subjects taught alternately, two each day for ninety-six minutes each. This allows us to be task oriented rather than time

oriented. There is time to undertake larger projects and finish them without interruption. The double time block also provides greater scheduling flexibility. Toward the end of a quarter, or before a long weekend or holiday recess from school, when we feel the students will benefit from meeting with all four classes on a single day, we may change the schedule to single periods. Or, for example, if a teacher needs an extended period of time for a project, the possibility exists for teachers to switch their classes or time blocks for a day or two.

Recently a local television station aired a special program on high school dropouts. When interviewed, all the former students said basically the same thing: that they did not feel in step with the pulse of the school and that they sat there doing nothing.

Our students could never say they do nothing. This is not because we are better teachers; it is because we have control over the schedules, the curriculum, and the grading system. In the conventional classroom, there is little time to do anything. Teachers do not need clocks; they are governed by bells. The bell rings. By the time everyone is seated, attendance taken, homework collected, homework returned, comments interpreted, errors explained, pencils sharpened, gym bags rummaged through, books and notebooks miraculously found, late students signed in, emergency passes written, a pressing personal problem solved, an unanticipated form filled out, how many minutes are left for learning before the bell rings again? That is the \$64,000 question to which we all know the answer.

We quickly learn that to discuss a concept, answer a question, and give directions takes time. Therefore, the simulated trial in social studies, the experiment in science,

the student-led discussion in English, and the small-group problem-solving session in mathematics is put on hold. The next day will do just fine, but the students who were in school yesterday for the directions are not the same ones in school today. We have all been there. Under those conditions, the student-as-worker becomes a theory, and we revert to merely covering pages in the text.

In our program, we no longer feel pressured to spoon-feed information or to answer our own questions. We have reinvented time. The double period has been a tool to successfully carry out the curriculum. All teachers have had creative ideas that could transform students from passive notetakers to involved thinkers; at Hope Essential School we have the time and freedom to implement everything that, as graduate students, we swore we would.

WE HAVE COMMON PLANNING TIME

The teachers on our team are able to meet together twice a week for one period. (This is in addition to the daily free period all teachers get.) In these meetings we discuss general administrative issues, curriculum matters such as what each teacher is emphasizing, and matters of student progress. We try to perceive ourselves first as teachers and scholars in general education (generalists who are able to coach students across subject matter), and second, as experts in one field (specialists). Joint planning time can help us reach this first goal. (Certainly, we have taken other steps toward being generalists when we act as teachers, advisors, and administrators of programs.)

Through these joint meetings, it became clear that students approaching their junior year needed more college guidance than that traditionally available. As a

article, "Creating a Thought-Provoking Curriculum.")

But as Wendy Aronoff, an English teacher at Hope, has found, giving students more responsibility for learning requires teachers to give up some control as classroom

leader. "I used to be a real 'rule person,'" she says. "When the bell rang, you're in your seat, no excuses; you're either on time or you're not. Homework's due the next day or forget it. Some people said my classroom

result, all teachers now discuss college entrance at advisory group meetings, encouraging students to become more aware of the possibility of college. When an advisory group leader said, "You probably hadn't begun to think about going to college until this year," a student responded, "You mean 'until this week.'" Had our teaching team not begun to raise the issue of college, many of these students never would have considered taking the PSAT's or attending a local College Fair. Also, we have set up test-taking practice sessions and strategy sessions for students considering the PSAT. With all this talk of college, students have, of their own volition, begun using new vocabulary in their speech and their writing.

WE ACT AS ADVISORS TO STUDENTS

To make personalization possible, we have chosen to continue teaching the same team of students for a second year. That way, we know the students and can simply continue from where we left off the previous year.

Because we have common planning time and all teach the same students, we can better advise them. We have been able to identify students with problems and have taken steps to alleviate them. For instance, when we identified certain students as having low self-esteem or as being overly withdrawn, we contacted a professional counselor who volunteered his time to come to Hope regularly and work with these students.

To further increase personalization, we have divided the students into small "advisory" groups. In these groups, topics of concern to the students are discussed freely and openly; whatever the concerns of the students, they are again discussed by the teaching team during one of our biweekly planning meetings.

WE CHOOSE OUR OWN GRADING SYSTEM

To emphasize the need for mastery of subject matter rather than merely coverage, we chose to have an A-B-I grading system. Students must achieve a grade of 80 or better, or the work must be repeated. This is one area in which student views were expressed effectively and students' arguments acted upon. Last spring, when the leadership committee surveyed students about virtually every aspect of the program, the grading system received poor marks; student comments supported their position. In response, we changed our grading system to A-B-C-I, where C is 75 to 79. Because students are used to being expected to achieve a B, most express the view that they will still aim for A or B and will not settle for C work.

WE PROMOTE THE IDEAL OF STUDENT-AS-WORKER

The pivotal concept governing a Coalition school is "student-as-worker." Most students have come to understand that learning comes through hard work. As more work is expected of the students, they do more. And the work is not "busy" work. The students learn techniques of problem solving; they are not simply memorizing facts. Coaching and small-group work are

common teaching methods. Three clinical professors from Brown University, a number of student teachers from Brown, and a number of undergraduate interns help us to reach out to every student during class time, to coach students, and to help them improve.

At the end of each quarter, students must exhibit mastery of the material. They understand and anticipate that. One day Theodore Sizer, architect of the theoretical model on which our Essential School is based, visited our English classroom and asked, "What should you be able to do after this unit?" Proving they knew the goals they were working toward, the class answered in unison, "Write a short story."

We have seen students come alive during group work. Shy students, limited-English-speaking students, newly arrived students, students who previously never spoke or smiled in class—all our students perform in skits, in simulations, and as discussion leaders. Once the class applauded an E.S.L. student prematurely, partly because they thought that she was about to embarrass herself and they wanted to spare her. Over their applause, in perfect English, she said, "Wait. I'm not finished." And she proceeded to her conclusion.

We feel our students have been empowered because we have been empowered. The student who said "Wait" is an important example for us. Through the framework of our program we have empowered her with courage. She knows the other students who travel with her all day. All her academic teachers are aware of her progress in all areas. The double time periods give her time to finish a task. With our grading system, she is free from the fear of an irrevocable F grade, and she knows that her teachers have common planning time to discuss her needs.



Wendy Aronoff with her humanities class.

was like a jail, but that I was fair. And I was fair. I was just strict."

Then Aronoff joined the essential school staff where "we told kids they could have some power, they could make decisions. I really had to learn to ease up." For example, says Aronoff, "because of the 'incomplete' system [under which students don't fail, they just don't advance until they complete their work satisfactorily], we accept work any time, not just the day it's due. And because we work in groups so much, I don't mind the chaos."

Wiggins says working in Coalition schools "requires a radical change in the way teachers think of themselves. They usually think of themselves as intellectual authorities and leaders paid to stand up in front of a class and explain and clarify and help students to understand what they [the teachers] know."

Essential school teachers, he says, must think of themselves as coaches who guide and prod their students, who in turn are primarily responsible for coming to grips with a problem. "Just as the coach doesn't go out and perform for the player," Wiggins says, "the teacher can't perform for the student."

ENTER MICHAEL Goldman's humanities class at Central Park East to see this principle in action. The students arrive, look at the blackboard to see what they should focus on that day, and, without waiting to be told what to do, they get to work.

One group goes to a corner and sits on a couch that faces a blackboard on which several questions have been scrawled about latitude, longitude, and hemispheres. The other students, sitting at a large rectangle of desks facing each other, open their notebooks and begin to write.

Goldman is coaching some of them individually because they have problems constructing paragraphs and with relating their answers to the questions asked. They write such things as: "Yes, you can do that," instead of: "Yes, you can sail around the world . . ."

Semeka Smith, a twelve-year-old seventh grader, is leading the group in the corner following an instructional model Goldman demonstrated earlier in the year. She hands out map books and asks the first question: "What is the purpose of latitude and longitude?" The question leads to a discussion, which sometimes gets off track, but the group quickly reminds itself what needs to be accomplished. When a consensus is reached, Semeka summarizes the group's answer so that another group member, the notetaker, can write it down. At one point, Semeka surmises that a student, who hasn't said a word, is having trouble. So she works with him one on one until he answers the question—in his own words.

Ten minutes before the end of the period, the group joins the other students at the rectangle of tables.

"What did you learn today?" asks Danny, the student leader of the wrap-up session.

"I learned to make corrections in my work and how to write paragraphs," answers one student.

Danny calls on another student, but Goldman interrupts and prods Danny to ask a more focused question.

"He said he learned about paragraphs, Danny. So what would the question be?"

"Oh," Danny answers. "What about paragraphs?"



"I learned if I write a sentence I have to back it up and then start another paragraph," answers the second student.

And that, Goldman says when his class is over, is student-as-worker: A student who isn't "talked to" all the time; a student who takes charge of his learning in a highly focused activity.

• **Principle 3: The school should focus on helping adolescents to learn to use their minds well.**

This should be a common goal for all schools, but in too many traditional schools, especially in the lower tracks, where high priority is given to vocational and life-skills training, too little time and energy is devoted to ensuring its achievement. Moreover, this goal reminds teachers that all courses for all students should be designed to force the maximum use of higher-order thinking skills. The idea, Sizer says, is to get a student to function effectively in an atmosphere that requires an intellectual rigor, imagination, and freshness.

And that atmosphere exists at Central Park East when seventh- and eighth-grade humanities students meet daily for "In the News." Michael Goldman and his colleagues, who together teach social studies and language arts in one "core" curriculum, find that with the longer class period, they have time to turn a typical current events discussion into a rigorous work session for students: They are expected to research and analyze news events in-depth—and to explore in a weekly idea composition how one such event affects their lives.

Each day "In the News" is led by a different student, who suggests a topic to discuss. But before the students



were given charge, they were asked to analyze some sample sessions modeled by teachers. The students observed that the teacher began by asking a general question, such as: "What is Wall Street?" They also saw that the teacher had researched the topic, was prepared with facts and figures and asked a lot of questions to elicit a host of opinions. The students were told to run the sessions in a similar manner.

Seeing students in two-hour blocks of time "allows for this activity," Goldman says. "If this was a forty-two minute class, you'd never get this done."

● **Principle 4: Each student should master a limited number of essential skills and areas of knowledge.**

When a school offers too many electives, essential courses can get short-changed or crowded out. When a single course is overstuffed, material tends to be covered, not learned. And if teachers are expected to teach across subjects, as the Coalition recommends, offering a smorgasboard of courses would turn into a logistical and pedagogical nightmare. In short, Sizer says, the more complicated a school's program, the less likely it is that serious intellectual education will take place.

"If there is one aphorism that drives this project more than any other," he says, "it is: 'Less is More.' Better to really understand a few things well, a few essential things, the most fundamental things we can find, than to have a passing, superficial, and, indeed, trivializing, knowledge of a lot of things."

This calls for a drastic change in conventional curriculum design. Central Park East is the furthest along in revamping the status quo. There, teachers agree on a series of essential questions around which they build an interdisciplinary curriculum. For example, "Whose country is it anyway?" is the essential question the combined seventh- and eighth-grade humanities classes must answer at the end of this year's work on "the peopling of America." En route to the answer, they'll explore immigration waves to determine who came here, when, and why; what did they find when they got here and how did they influence the society they joined. In so doing, they'll learn about U.S. history, politics, and labor sociology. They'll write about what they're learning and they'll sharpen their study and research skills by planning for their final exhibitions, in which each student must respond, and defend his answer, to the essential question.

Next year, the incoming seventh graders and the new eighth graders will focus on the question of empowerment. In studying who has power, how they got it, and what they do with it, they'll learn about the U.S. Constitution, the American and French revolutions and the civil rights, labor and womens' movements. This year's ninth and tenth graders are learning about "justice" as they study how different governments, including their own, define and enforce it. Next year, the combined ninth- and tenth-grade classes will study Third World development.

Upon demonstrating mastery of their tenth-grade work, students will apply to the "Senior Institute." The plan is for Institute students to study the classics, serve as apprentices in their chosen fields of study, and work individually with teachers to design a program that will



Top, Herb Rosenfeld, the assistant director of Central Park East, meets with his advisory group. Bottom, student Semeka Smith discusses the intricacies of latitude and longitude with fellow student Ethan Silin.

lead to successful final exhibitions and preparation for the work or study that will follow graduation.

TEACHERS are also working to connect what happens in one class with what happens in the others. "The most difficult thing we ask children to do is synthesize," Sizer says. "Yet most high schools make absolutely no effort to connect intellectually the ideas in each of these subjects."

At Central Park East, the students aren't left to fend for themselves. To wit: Students in all grade levels and disciplines began the school year by studying mapping as a way to improve geography skills. In humanities classes, the students learned how to read maps. Some students wrote stories in which they showed what maps they would use to arrive at the scene of a catastrophe or to find a lost friend. Other students drew maps of places detailed in the novels they were reading. In math, the students studied degrees, angles, and bearings. In science, they learned about the earth's surface and how to map a molecule in random motion.

"If you can make a map of how a molecule moves in a solution, you can then calculate the probability of certain chemical reactions," says science teacher Neil Jaffee. "So I'm trying to generalize that mapping is not just for geography. It's something that scientists do all the time."

● **Principle 5: The principal and teachers should perceive themselves as generalists first and specialists second.**

Because teachers at Coalition schools are committed to integrating curricula across disciplines and to combining classes as often as possible, they say they must think of themselves as generalists who can tackle a broad range of subjects—and not just as experts in a given field.

And that means teachers must be prepared to get an intellectual education themselves, says Pat Walter, a Central Park East English teacher with fifteen years' experience, who works with social studies teachers to design humanities curricula.

"Because I'm a generalist, I'm forced to learn new areas," she says. "Last year when we were talking about empowerment, we taught the French Revolution. What did I know about the French Revolution but from what I learned twenty-five years ago in college? But now, since we taught the French Revolution, and since I know we'll do it again next year, I'm more tuned in to seeking out materials. I'm learning myself, and that's my favorite part [of this job]."

The Coalition's staff says that English and social studies teachers have generally welcomed the integration of their courses and feel comfortable teaching both disciplines. It's been tougher, though, on the math and science teachers, many of whom do not find it as natural to integrate the two subjects and do not yet feel comfortable doing so.

Grant Wiggins adds that when Coalition members talk about being "generalists," "we mean not only that teachers should teach across disciplines, but that they should approach their disciplines as generalists—that they should find interesting ways to introduce specialized material to a general audience."

● **Principle 6: The diploma should be awarded upon a successful demonstration of mastery.**

Getting the right answer is not all that's important, especially if that means memorizing a certain number of facts and repeating them correctly in a paper-and-pencil test. The important thing is that students can show how they arrive at an answer; that they can articulate the understanding and reasoning it took to reach a conclusion. And that, Coalition members say, is best demonstrated through an exhibition, which can take various forms: a skit, an oral presentation, a written report, a rap song, or a year-long body of work.

Of the three schools, Central Park East is the furthest along in defining and developing an alternative way to determine mastery. The plan is to award a diploma based on a vote of the faculty, which in turn is to be based upon the recommendation of the student's "committee." The committee is to consist of the student's faculty advisor, the student, and one other person—an employer, relative, adult friend, fellow student, or another faculty member. The committee members are to be selected by the advisor in consultation with the student and his or her family.

In making its recommendation, the committee will review such things as the student's portfolio of selected and representative work in all disciplines; record of school/community service; competence demonstrated through exhibitions and paper-and-pencil tests; and evidence of an appropriate postgraduation plan developed in the Senior Institute.

Central Park East's first graduate candidates will be considered in the 1990-91 school year. Meanwhile, the school has developed a system of regular exhibitions for all of its students, a strategy that is constantly under review. But the basic premise, says Herb Rosenfeld, assistant director of the program, "is that every day is an exam."

Besides these daily "mini-exhibitions," students prepare for their final exhibitions throughout the year. When you're a graduate student, Rosenfeld says, "you have someone work with you on your thesis all along. It isn't when you hand it in that they tell you they reject it. The end of the year is nothing special."

The flip side of the Exhibition principle is this: There is no such thing as a failing mark. Students either complete or don't complete their work satisfactorily. If they don't, they must try again.

"You don't take a driver's test, fail it, and get an offensive letter from the Department of Motor Vehicles that says: 'No! You can't drive, ever!'" says Hope's head teacher, Albin Moser. "You figure out what you need to know and do it again. That's basically what we're doing."

Essential school teachers, however, struggle constantly with how to get students to finish their incompletes—while simultaneously working with other students who have moved on to other topics.

Hope's ninth-grade teachers formed a subcommittee of two students, a teacher, a parent, a professor from Brown, and Aronoff as chair to discuss why some students have so many incompletes and how they can be encouraged to successfully complete their work. One strategy used at Walbrook was to give students—who can't advance to level three (tenth grade) until they



Janice Owes of Walbrook works with one of three small groups—each pursuing its own project—into which her class is divided.

Sam Billups, the principal of Walbrook High School, and Coalition leader Ted Sizer outside of Walbrook.

complete the work at level four (ninth grade)—make-up folders of unfinished assignments to be completed over the summer. To ensure a strong home-school partnership, the folders were given to students in the presence of their parents.

“By and large, the parents were extremely grateful,” says teacher Florence Davis. “Their reply was: ‘I’m so glad that the students are finally responsible for what they are doing and aren’t just passed along.’”

● **Principle 7: The school’s goals should apply to all students.**

At Coalition schools, there are no “college-bound,” “general,” and “vocational” tracks. All students are expected to reach for the same goals in the same courses of study.

Thus, at Central Park East, students are never segregated according to ability; they’re grouped “vertically” so that in every work group there are students of varying abilities. To illustrate, humanities teacher Sue Susman recalls a group of students who were studying the civil rights movement. Within the group was a student reading at the fourth-grade level and a student with college-level reading skills. What each child did within the group was based upon the availability of materials. For instance, the slow reader was reporting to the group on Martin Luther King Jr., a topic for which materials are available at all grade levels. The advanced reader was reporting on the Student Nonviolent Coordinating Committee and its history in the South, an issue that requires more difficult reading.

According to Susman, vertical grouping is effective because “kids who are not so sure of themselves benefit from having to teach somebody else.” In her classes, she says, students who have less ability than others are told to watch out for their peers who have even more difficulty learning. As a result, the lowest-ability students get extra help and the middle- and upper-ability students feel better about themselves and are more motivated to do a good job.

WENDY ARONOFF of Hope relates how she was able to reach a student who would have been classified as a “slow learner” in the traditional school system. “He used to write in very simple sentences: ‘He went to the store. He did this. He did that,’” she says. “But his autobiography [written later in the year] began: ‘On a sunny afternoon, on the way back from my junior high school graduation, I thought about my future.’ And now all of a sudden, he’s got the spirit of competition. He comes up and bothers you all the time: ‘Do I have any assignments missing?’ He knows that he doesn’t, but he never got good grades before.”

Aronoff says she attributes his success to the Coalition’s philosophy that all students must write constantly in all their classes. And, because class loads are lighter and schedules are more flexible, teachers are better able to correct several drafts of the same assignment, spot students’ weaknesses, and offer individualized attention.

What you’ll find in the essential school, says Bessina Williams, a biology/health teacher at Walbrook, “is a

(Continued on page 47)

CLOSING THE DIVIDE

*What Teachers and Administrators
Can Do To Help Black
Students Reach Their Reading Potential*

BY ROBERT DREEBEN

Our schools have often been criticized for providing a particularly inadequate education for black students. Questions have been raised as to whether schools as institutions or teachers themselves were racists. Teachers, in particular, have been called on to raise their expectations of what black students can achieve.

In this very important piece of research, Robert Dreeben finds that, indeed, the schools, and even teachers themselves, are implicated in the poor performance of black students—but not in the ways that are popularly thought.

What he finds is that when black and white first graders of similar aptitude receive reading instruction of similar quality, they attain nearly equal levels of reading achievement—neither race nor socioeconomic background is a significant factor. In other words, at least in the early grades, the debilitating effect of being from a poor family can be offset almost entirely by excellent instruction.

Robert Dreeben is a sociologist in the University of Chicago's department of education. He has done extensive research on the social organization of schools and its impact on students. This article is based on a presentation made at AFT's biennial QuEST professional issues conference held this summer. The original research on school organization and instruction and learning was conducted by Dreeben and Rebecca Barr and funded by the Spencer Foundation. Information on related articles can be found in the box at the end of this article.

We've all heard this before—that teachers and schools are to blame. What sets this article apart is that Dreeben pinpoints the kinds of school and district policies and teacher practices that harm—and help—black (and white) students and that, if changed, can close the learning gap. He tells us, in other words, how we can “raise our expectations.” It is thus a very hopeful article with profound implications for both teachers and administrators.

In short, Dreeben finds that providing a great deal of instructional time and using high-quality, challenging materials (instead of low-track basal readers that move students through dull material at a snail's pace) are critical to student success in reading; that tracking low-ability students into a single class hurts achievement; that grouping students by ability, within a class, and then matching the pace of instruction to students' ability bolsters achievement.

Teachers who would like more information on Dreeben's findings should refer to the box at the end of this article. For more general information on teaching reading, order A Nation of Readers: Implications for Teachers. Write: A Nation of Readers, AFT, 555 New Jersey Avenue, N.W., Washington, D.C. 20001.

—Editor

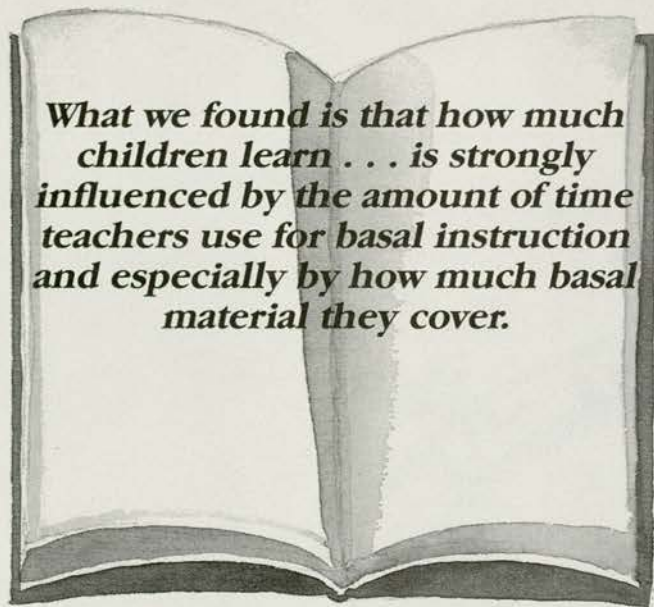
A GAIN AND again, research has documented that, on average, the academic performance of white students exceeds that of blacks. In a nation dedicated to the principle of social equality, this fact causes dismay. It does so because it suggests that a social good—in this case quality public education—is, by design or inadver-



tence, distributed unequally according to race.

Several arguments have been put forth to explain why racial differences in learning arise. One of them, that they have a genetic origin, has been so discredited in recent years that it no longer merits serious consideration. Two others are more plausible and have won fairly widespread acceptance.

The first draws attention to the students, and especially to the socioeconomic background of their families. Poor black families have been described by a number of observers as providing insufficient supervision and support for the school-related activities of their children; they are said to be less able to nourish the linguistic, conceptual, and educational survival skills that good academic performance requires than are parents from less-straitened economic circumstances. This view places substantial responsibility on poor and working-class families and the difficulties they experience: under- and unemployment, urban poverty, unstable households, and the migration of good jobs from the inner city to outlying areas.



A second explanation fastens upon the schools' contribution. The school is said to be a middle-class institution that imposes on poor and minority children a hostile culture under which it is difficult for them to flourish and where they are often assigned to low-ability groups and tracks that provide inferior instruction, limit future life chances, and foster social dependence and docility in the workplace.

Some truth resides in both lines of explanation, but both have serious shortcomings that became apparent in a study carried out by Rebecca Barr and myself in Chicago-area public schools on how instruction influences learning to read in the first grade. In the course of the study, we found that white students, after accounting for socioeconomic status and aptitude, learned an average of 108 more words than their black counterparts.

The purpose of this article is to explore this matter and shed light on what caused this racial differential in learning achievement and on what might be done to

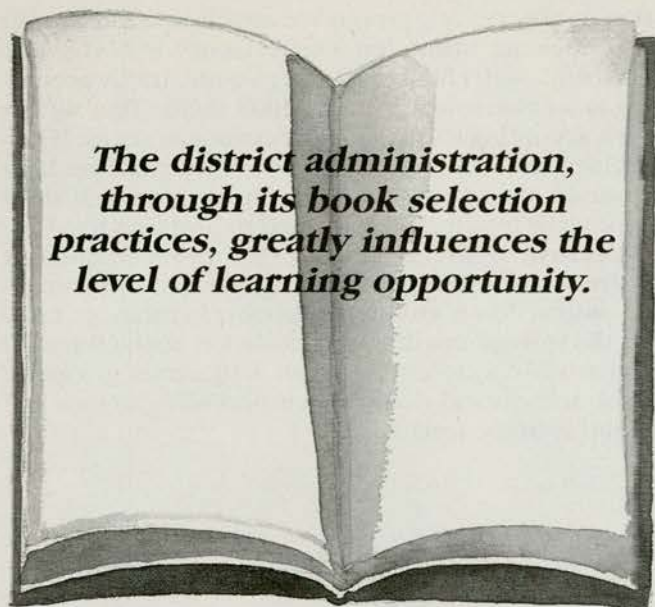
reduce or eliminate it. I will show the importance of three major factors: districtwide policies that govern textbook selection and that influence time spent on basal instruction; the impact of classroom instruction; and, contrary to conventional wisdom, the racially equalizing effect of ability grouping (when done properly) on learning. Moreover, it will show that racial differences in learning among first graders cannot be understood as mainly stemming from the socioeconomic or racial background of children or from school practices that disproportionately hurt poor and minority students. Neither do the results support the view that the racial learning differential can be attributed to outright discrimination based on social class or race.

METHODOLOGY

In our study, we investigated three school districts in the Chicago area, and within them seven schools, thirteen classes, fifty reading groups, and about three hundred first graders. We selected the districts to reflect a variety of socioeconomic populations. District I is located in a racially diverse inner-city area; it is residentially partly integrated and partly segregated. It contains a wide socioeconomic range of households, from well-to-do professionals, black and white, to families on welfare, black and white. One school (A) is racially integrated and economically diverse; two others (B and G) are black and serve economically disadvantaged populations. District II is a white, predominantly working-class suburb. The population of one of its schools (C) bears close socioeconomic resemblance to the black School B in District I: both are poor, the only difference between them is their race. A second school (D) in District II serves a lower middle-class white population. District III is an affluent, white suburb, much of whose population resembles the upper socioeconomic segment of integrated School A in District I.

The presence of all-black and all-white schools serving a similar low socioeconomic population (for example, School B in District I and C in District II) makes it possible to compare the educational experiences and learning of children who themselves differ only according to race but whose educational programs differ because they are in different districts, schools, and classes. Through this comparison, we can see how certain district policies serve to widen the racial differential. In racially integrated School A, we can compare the educational experiences and learning of black and white children within and between two classes in the same school where the resources available to teachers were identical; only their use in instruction differed. With this comparison, we can see how different teaching practices can widen or reduce the gap between black and white learning.

WHAT WE FOUND is that how much children learn, both the number of words they come to recognize and their level of general reading achievement (the measure of which includes oral and silent reading, vocabulary, and comprehension) is strongly influenced by the amount of time teachers use for basal instruction and especially by how much basal material



they cover (i.e., the number of stories read and through them basal words introduced). Reading aptitude, determined at the beginning of first grade, turns out to influence learning, but largely indirectly: It serves, we found, as the primary basis on which teachers form reading groups, and it is to these groups that teachers apply instruction, covering more material with the higher aptitude groups, and vice versa. Within each class, teachers tend to spend about the same amount of time instructing each group, but from class to class, across schools and even in the same school, teachers use varying amounts of time and differing qualities of basal readers for group instruction. Depending on the teacher, therefore, children of similar aptitude can receive instruction of highly varying quality, and those of differing aptitude can receive similar instruction. It is in these differences, themselves influenced in part by the district, that we found the origins of racial differences in learning.

If the actual use of instructional resources exerts such a powerful influence on student learning, it becomes important to discover how these resources get provided and whether they are applied differently to black and white children.

In what follows, I will not present the exhaustive evidence that led to our conclusions. Rather, I will present our general findings, along with some illustrative examples. (The complete research can be found in the papers identified at the end of this article.)

THE DISTRICT'S INFLUENCE

The Basal Readers: In the three districts we observed, we found substantial differences in the difficulty of the basal curriculum used in first-grade reading instruction, as Table 1 shows. District III, whose students have rather high average aptitude, required the use of a basal reader that introduced 716 new words, contained in stories sustained by a rich vocabulary. District II, where the average student aptitude was much lower, mandated a reader that introduced 444

new words, only 62 percent as many as in the District III reader. District I did not mandate a single text but allowed teachers to choose from an approved list. The result was the selection of several different texts varying in difficulty. In School A—the racially and economically mixed school that has many students with aptitudes similar to those in District III—the selected basal introduced only 457 new words. In racial terms, blacks were exposed only to a weak, undemanding curriculum because they all attended school in District I; whites were exposed to a weak curriculum in Districts I and II and to a strong curriculum in District III.

Table 1. Resources and Learning by District in Selected Schools and Classes

District	I	I	I	I	I	II	II	III	III
School	A	A	G	B	B	C	C	F	F
Class	1	2	13	3	4	5	6	11	12
Race	i	i	b	b	b	w	w	w	w
Status	7	7	5	2	2	3	4	6	7
Aptitude	27	30	19	12	22	12	16	30	28
Time/Group	32	48	49	30	30	44	40	61	76
Difficulty	457	457	387	568	601	444	444	716	716
Learning	312	457	236	141	183	237	190	676	719
Achievement	18	23	14	10	13	12	10	23	23

Race: i = racially integrated
b = black
w = white

Status: Class mean socioeconomic status, ranging from 9 (high) to 1 (low).

Aptitude: Class mean level of readiness, based on combined scores derived from the *Barr-Kirby Word Learning Task* and the *Wide-Range Achievement Test*.

Time Group: Mean minutes per day spent on basal reading by each group.

Difficulty: Number of new words contained in basal readers.

Learning: Class mean number of words learned over the year.

Achievement: Class mean achievement score, based on results from the *Calfee and Calfee Interactive Reading Assessment System*.

Since primary grade teachers usually try to complete the curriculum in their high- and middle-level reading groups no matter how demanding the materials, but will rarely go beyond it, the selected basal normally sets a ceiling on how much material will be covered during the school year. When the materials are extensive, rich, and challenging, they provide greater opportunity for learning than when they are more limited. This means that the district administration, through its book selection practices, greatly influences the level of learning opportunity and, as I will show later, the level of learning itself.

Time Allocation: We found differences in the time used for reading instruction not only among districts but among schools within the same district and among classes within the same school. But by and large, even after considering time variations from school to school and from class to class, the district that allocated the most time also used the most. (See Table 1.) As with the basal, when time allocations were small, students' learning opportunities were limited.

Again, in racial terms, all the black children in our

sample were located in District I, where time allocations were small. Time allocations were also small in School C in District II, putting the white children from that school at a similar disadvantage to both the black and white children in District I. Time allocations were highest in District III, where only white students attended.

Not surprisingly, these district and school differences in the difficulty of the curriculum and in the allocation and use of time are reflected in school and class levels of word learning and general reading achievement. Moreover, because of the practices of their districts, it is the black children who on average are put at a disadvantage; but as I will show later, black children do very well when felicitous instructional conditions prevail. White children attend school in all three districts, receiving instruction of substantially different quality. *This means that learning deficits found in black as compared to white children can be attributed in part to the actions of district and school administrators before classroom instruction ever takes place.*

THE TEACHER'S ROLE

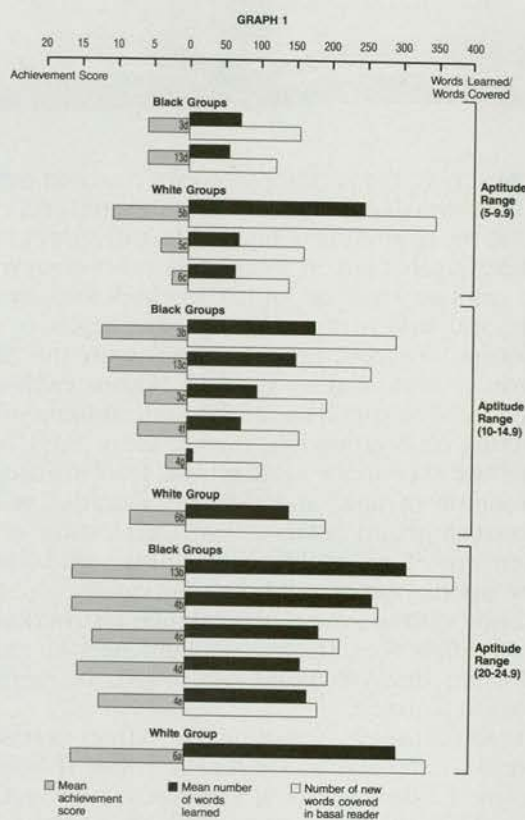
The decisions that district and school administrators make in selecting and distributing educational resources set limits on educational possibilities, but they do not directly determine how teachers organize and instruct their classes. The questions I will now address concern how teachers organize classes for reading instruction, how they carry out instruction, how much children learn, and whether race plays a role. To pursue the race question, I will first compare what happens in all-black and all-white classes when children's average level of aptitude is taken into account. I will then compare two racially integrated classes where, despite similarity in the quality of resources as well as in children's average level of aptitude, the instructional regimes of two teachers differed markedly and produced very different results among black and white children.

INSTRUCTION IN BLACK AND WHITE CLASSES

Since ability grouping is a common practice despite the controversy surrounding it, we must first pay atten-

tion to how reading groups are established and then to how they are instructed. Our evidence indicates that teachers assign children to groups quite strictly according to an assessment of each child's ability. They do not do it according to race or socioeconomic status. If low socioeconomic status children of either race have high aptitude, they get assigned to higher groups; if their aptitude is low, they get assigned to lower groups.¹

Because ability groups are the primary units of instruction in first-grade reading, we had to compare the instruction of groups comparable in mean aptitude. We did so in groups drawn from black schools (B and G) and a white school (C). Graph 1 identifies groups in these schools and clusters them according to race and group aptitude level.

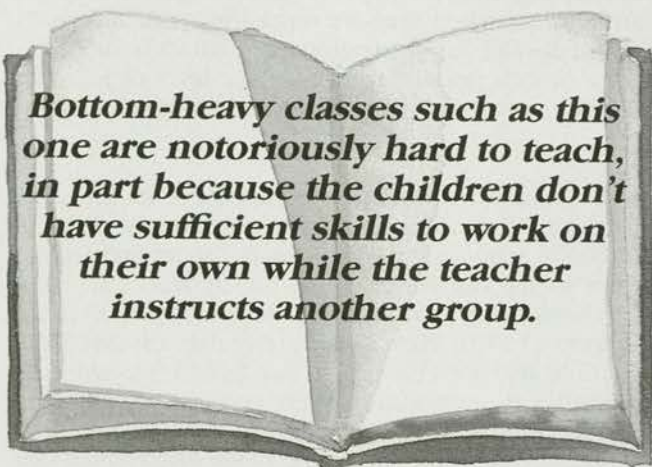


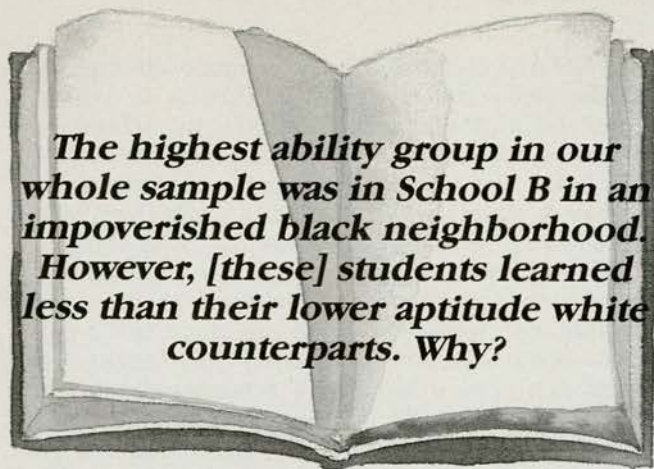
The strong relationship between word coverage and learning holds across race and aptitudes.

Graph prepared by Howard Nelson, Associate Director, AFT Research Dept.

On this graph, you can see that among the low-aptitude groups, 3d, 13d, 5c, and 6c covered a similar number of words and attained very similar levels of word learning and achievement, without racial distinction. Group 5b received much richer instruction, with proportionately better results. Likewise, among the middle and upper aptitude groups, you can see a clear correlation between number of words taught and both number of words learned and student achievement.

¹Note that the teachers we observed made their assessment of aptitude on their own, by whatever methods they customarily employ. They had no test scores available to them. We tested children's aptitude in our study but did not make our results available to the teachers.





The pattern is clear: *When groups of children of similar ability, regardless of their other characteristics, receive similar instruction, they learn on average about the same amount.*

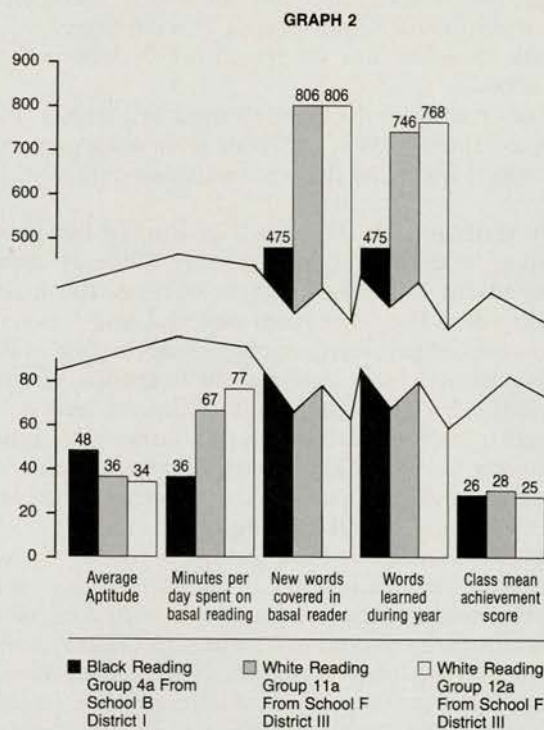
Streaming: But this generalization obscures a subplot to the story. In black school B, more groups in Class 4 had high aptitude levels than in Class 3; consequently, they learned more words and scored higher in achievement than those in Class 3. But why was the average aptitude in the two classes so different? The reason: The principal streamed the two classes. One contained children with a range of ability that ran from low to high. The other contained a heavy concentration of low-aptitude children and none of high aptitude. Bottom-heavy classes such as this one are notoriously hard to teach, in part because the children don't have sufficient skills to work on their own while the teacher instructs another group. They require help that they often cannot get when needed; as a result, they frequently fail to complete their independent work and some become attracted to the pleasures of disruptiveness.

The poor performance of the children in the low-stream black Class 3 is then partly the responsibility of the school administration, which established an almost unteachable class when it was not necessary to do so. *Had it not been for the streaming, the children in this class could have done better; had they done so, the racial learning differential would not have been as great.*

Overly Slow Pace: Why did the students in Class 4 perform so poorly? The teacher created several groups of almost identical average aptitude and then instructed them at very different paces. Although the groups spent about the same amount of time on basal instruction, the amount of material they covered varied with group rank (see Graph 1, highest aptitude groups.): that is, even though the groups were alike in average aptitude, the teacher covered less with the lower groups than with the higher ones. While the low-ranked groups could have learned as much as those with higher rankings, they actually learned much less, contributing to the overall poorer showing of black children as compared to white.

It is interesting to note that the highest ability group in our whole sample (4a) was in School B in an impoverished black neighborhood. However, group 4a students learned less than their lower aptitude white

counterparts. Why? Because their teacher allocated relatively little time to basal reading and covered far less curricular material than what such a highly talented group could manage (Graph 2).



Black students with higher aptitudes learned less than their white counterparts because they received poorer instruction both in terms of quantity of time and quality of materials.

Graph prepared by Howard Nelson, Associate Director, AFT Research Dept.

THE COMPARISON of these three groups is interesting in another way. Note that achievement levels are about the same despite the disparity in word learning. What we see here are the compensating effects of aptitude and instructional conditions. High reading achievement can result from high aptitude combined with weak instruction (as in group 4a) or from much lower aptitude combined with strong instruction.

In comparing instruction and learning in these black and white schools, the race of children simply does not figure into the picture. Differences in word learning within the racially distinct school populations were as large as the differences between them; and the quality of group instruction influenced the learning level of children of both races: In comparing groups of similar aptitude from Districts I and II with their counterparts in the affluent white district (not shown), it is clear that District III's superior instruction benefitted all its students, even those with low aptitude. Conversely, the interests of children attending District I and II schools—black and white—were, on average, badly served.

INSTRUCTION IN RACIALLY INTEGRATED CLASSES

Classes 1 and 2 in School A (District I) were racially integrated. Just as in the racially homogeneous classes,

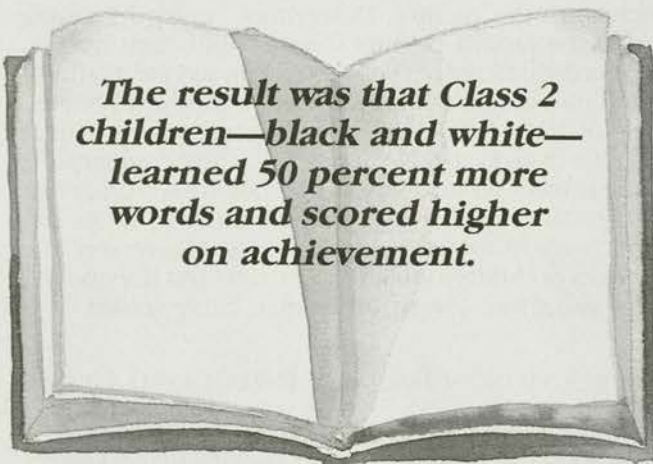
the teachers in these integrated classes formed reading groups strictly according to aptitude. Though teachers had an opportunity to establish groups on a racially discriminatory basis, an opportunity they did not have in single-race classes, they did not do so. Undoubtedly, some teachers in some places discriminate against minority students, but we found no evidence of it in these schools.

But once the groups were formed, teachers 1 and 2 instructed them in very different ways with important implications for racial differences in learning.

Overly Quick Pace: Teacher 2 instructed her groups according to their average aptitude. While all groups met for about the same amount of time, the highest group covered the most basal material, and remaining groups covered proportionately less, according to their average aptitude. Most importantly, all groups, save one, contained both black and white children, and within each group all experienced the same instruction; accordingly, the black and white cohorts in each group learned very similar numbers of words and attained similar levels of general reading achievement.

Teacher 1 arrayed her five groups according to average aptitude, as did teacher 2; but then she covered about the *same* amount of material with four of the groups (the fifth covered less). Thus, *in Class 1, groups of rather low-aptitude students were pushed through the curriculum as rapidly as the most able. In addition, these Class 1 groups spent only two-thirds as much time on basal instruction as did those in Class 2. As a result, children in Class 1's lower groups learned substantially fewer words than their counterparts of equal aptitude in Class 2 and also learned an unacceptably small proportion of the total number of words covered.* Again, there were black and white cohorts in all groups except one, and their performance was about equal (though whites did better in some groups and blacks in others).

Instruction in Class 1 was inappropriate for the lower-aptitude children, more of whom happened to be black than white. Too much was covered in too little time. It was also inappropriate for the high-aptitude children; they covered too little relative to their ability. The learning deficits produced by poor instruction, however, were the same for black and white children in each group.



The result was that Class 2 children—black and white—learned 50 percent more words and scored higher on achievement.

ANOTHER INTERESTING difference distinguished the instruction of these two classes. As indicated earlier, the curricular materials used in this school were far too easy for the substantial numbers of able children, both black and white. Apparently recognizing this, *Teacher 2, on completing the first-grade curriculum, started using second-grade materials. In so doing, she increased curricular coverage in the top group by 50 percent over what Teacher 1 covered with a comparably able top group.* The result was that Class 2 children—black and white—learned 50 percent more words and scored higher on achievement. Equally important is that, again, within each group, blacks and whites performed about equally: both benefited from good and were harmed by poor instruction. Indeed, when one thinks about what happened in this integrated school, one sees that ability grouping, when combined with appropriate instruction, has an equalizing effect on the learning of black and white children—a result exactly contrary to the conventional wisdom that holds ability grouping to be discriminatory.

SUMMARY

If one looks at the quality of instruction and at the levels of word learning and achievement, it appears that whites have received better instruction and learned more than blacks. Such disturbing results usually call forth the conventional explanations: that blacks are handicapped by their background and that the schools are incapable of providing an adequate education for racial minorities and the socioeconomically disadvantaged. I have tried to show here that these explanations do not adequately account for what happened.

It turns out that the schools, or more correctly, whole school systems, are deeply implicated in the creation of a racial learning differential—but not in ways that suggest the singling out of racially and economically disadvantaged populations for substandard treatment. Even in places like Chicago and its nearby suburbs, not known for their enlightenment on racial issues, our evidence does not indicate that differences in instruction and learning stem from conscious racism, at least not in the schools we examined. Accordingly, other explanations must account for the differential in racial learning.

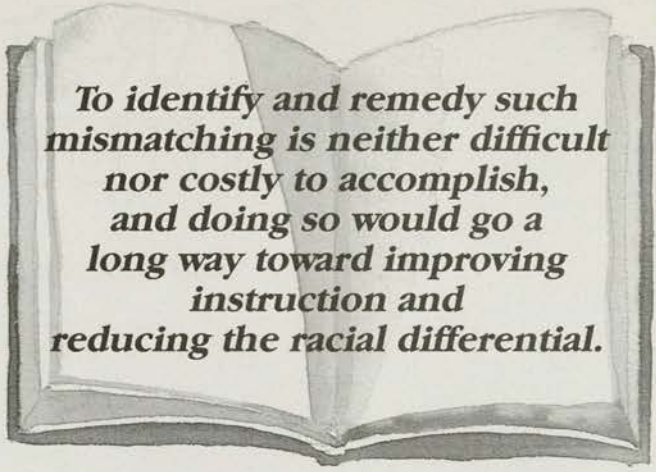
Our evidence shows that the level of learning responds strongly to the quality of instruction: having and using enough time, covering a substantial amount of rich curricular material, and matching instruction appropriately to the ability levels of groups. Our results indicate that even groups of very low-aptitude students do exceedingly well under these conditions. The evidence also shows that socioeconomic circumstances and race hardly affect reading achievement in the primary grades. When black and white children of comparable ability experience the same instruction, they do about equally well, and this is true when the instruction is excellent in quality and when it is inadequate. *In fact, when we took district resource allocation and classroom instruction into account, the word learning and achievement of black and white children of equal aptitude were just about equal.*

IMPLICATIONS

The black first graders we studied did poorly because they attended schools in a district that failed to provide an excellent reading program. That program, moreover, did no better by white children. In addition, the black children who did very well did so because they had a teacher who mounted an excellent instructional program in an otherwise bleak educational environment. The whites in her class did as well as the blacks. In an important sense, then, the remedies that equalize the learning of black and white children are not race specific; they have to do with the ordinary activities and policies of school districts, schools, and classrooms.

I have tried to show that the provision of just two educational resources lie at the heart of the matter—time for instruction and challenging curricular materials. Both must be provided and both must be employed. The responsibility for *providing* such resources lies mainly with the district and school administration, for if they do not provide satisfactory underpinnings for strong education, it will not usually occur. Children should not have to depend on the extraordinary and perhaps idiosyncratic efforts of teachers like Teacher 2.

The responsibility for *using* the resources appropriately lies with the school administration and teachers. Principals must, to the extent possible, establish each class so that it contains as many able children as possible. They must also assure that teachers use their resources well. For teachers, appropriate resource use means providing enough time for reading instruction and matching instruction to the abilities of students so that they are challenged to the limits of their capabilities. We found several kinds of mismatching: groups of very able children who did not cover nearly enough curricular material and achieved much less than they could have; low-aptitude groups that covered too much



To identify and remedy such mismatching is neither difficult nor costly to accomplish, and doing so would go a long way toward improving instruction and reducing the racial differential.

in too little time; groups of similar aptitude children that received different amounts of instruction because of their rank in the class; and low-aptitude groups that covered too little, that could have done much better with both more time and more coverage. To identify and remedy such mismatching is neither difficult nor costly to accomplish, and doing so would go a long way toward improving instruction and reducing the racial differential.

ONE LIMITATION of our study is its restriction to first-grade reading, a skill subject that lends itself to continuous textbook-driven instruction. The skill is critical because it lays the groundwork for everything that comes later. Its mastery, however, does not guarantee a student's later success in such abstract subjects as literature, social studies, and science, which require more interpretive reading.

Recent research suggests that this phenomenon may stem from the relative infrequency of conceptual teaching in the primary years, something that works particular hardship on students from families in which reading and the discussion of ideas are not important parts of household life. If this is true, then lower-grade instruction must cover more than basic skills. Two main implications follow: First, basic skill instruction must be excellent, with rich curricular materials, sufficient time, and an appropriate instructional pace. Second, this basic skills instruction must be combined with conceptual instruction that fosters the development of vocabulary and the interpretation of ideas so that students will be prepared for the intellectual demands of the upper-grade curriculum.

I have moved from a discussion of the racial learning gap to a more general discussion of curriculum and instruction. That is because, according to our evidence, the racial learning gap arises from three nonracial conditions: how school districts select classroom resources, how principals form classes, and how teachers organize and instruct their classes. This article does not try to explain why districts differ in the quality of the curricular resources they select or in their curricular priorities. *What it does is identify the source of learning deficiencies and point to ways in which these deficiencies can be identified and remedied—the result of which will be improved learning for both black and white students and a closing of the learning gap that now exists between them.* □

FOR MORE INFORMATION

This article does not present evidence to support every contention made, but it is available elsewhere: Systematic evidence on the exceedingly small influence of socioeconomic status on learning to read in first grade and on the importance of aptitude (but not race or socioeconomic status) in assignment to ability groups can be found in Rebecca Barr and Robert Dreeben, *How Schools Work*, University of Chicago Press, 1983, and in Robert Dreeben and Adam Gamoran, "Race, Instruction and Learning," *American Sociological Review*, vol. 51 No. 5, 1986. Evidence on curricular and time priorities and use can be found in Robert Dreeben and Rebecca Barr, "An Organizational Analysis of Curriculum and Instruction," in Maureen T. Hallinan (ed.), *The Social Organization of Schools*, Plenum Press, 1987. More complete evidence on different instructional treatments of similar groups can be found in Robert Dreeben and Rebecca Barr, "Class Composition and the Design of Instruction," a paper presented to the American Educational Research Association, Washington, D.C., 1987.

STAR-SPANGLED BATHTUB TOYS . . .

And Other Ingenious Inventions

BY KARIN CHENOWETH

GRIM STATISTICS on the decline in thinking abilities of today's schoolchildren are now being linked to another statistic: 45 percent of all U.S. patents issued in 1986 were issued to foreigners, with the biggest chunk going to Japanese companies and citizens. In comparison, only 20 percent of U.S. patents issued in 1965 went to foreigners.

Put together, those two trends exemplify a loss of what used to be called American ingenuity and Yankee know-how. To combat those trends, and to enliven their classrooms, teachers around the country have begun teaching elementary school students to invent things. A renewed interest in problem solving and sharper analytical skills are the fruit of invention projects, says Commissioner of Patents and Trademarks Donald Quigg, a supporter of such programs. "It is a very long-range program," he says. "But if we can get our schools to teach analytical thinking on a daily basis, it should go a long way not only in inventing but even in the running of our corporations."

The most popular national program is Invent America, sponsored by the nonprofit National Patent Model Foundation and based on a program developed by Buffalo school administrator Marion Canedo. The foundation estimates that about 10,000 elementary

Karin Chenoweth is a Washington D.C.-area freelance writer.



Michael Bysiek, a kindergartener from Olean, New York, made getting toilet paper just a bit quicker with an electric toilet paper dispenser, thereby winning himself a national Invent America prize.

schools have an Invent America program.

Unlike more traditional science fairs, the Invent America program focuses less on the inventions and more on the analytical processes needed to create inventions. It does hold local, regional, and national contests, however, with cash prizes awarded to child inventors.

Success stories abound, telling of the enthusiastic participation of handicapped children and other children traditionally hard to motivate. Invent America representative Audrey Benson tells of one boy in Buffalo with cerebral palsy who was always embarrassed when his silverware dropped off the tray in the cafeteria. He invented specially weighted silverware that can't be jostled as easily.

Commissioner Quigg tells of a boy in Richardson, Texas, who was about to drop out of school when his teacher began teaching an invention program. The student is now an enthusiastic inventor planning to attend college.

Teachers and principals interested in beginning a program can write to the Invent America program at 1331 Pennsylvania Avenue, N.W., Suite 903, Washington, DC 20004 or to another national program, sponsored by the *Weekly Reader Magazine*, Field Publications, 245 Long Hill Road, Middletown, CN 06457.

Teachers can also write to Marion Canedo in care of the Commissioner of Patents and Trademarks, Washington, DC 20231.

Dena Gutowski, nine, from Buffalo, invented a way for winter cold sufferers to get some relief with a "Nose Wipe Glove" that carries its own supply of tissues.



Maurice A. Scales, a first-grader from Suitland, Maryland, won a regional prize from Invent America for his "Baby No Mash," which prevents doors from closing on little fingers. He is shown here with the little fingers he doesn't want to mash.



Roman Lapp, twelve, from Buffalo, invented a solar-powered electric fan.

Philip William Schulz, a seventh grader from Rumson, New Jersey, evidently doesn't relish the job of cleaning the bird cage. He invented the "Easy-Klean Bird Cage," which pulls paper towels through a slot in the bottom of the cage, making it easy to change the paper. He won a national Invent America prize.



Hanna Grol-Prokopczyk, eleven, from Buffalo, painted the last few sheets of a roll of toilet paper red to signal the end of a roll.

David Ott, nine, from Bryn Mawr, Pennsylvania, kept his bicycle from banging into his mother's car with a "Wheel Alignment Stopper," a tuning fork-shaped invention that won him a national Invent America prize.



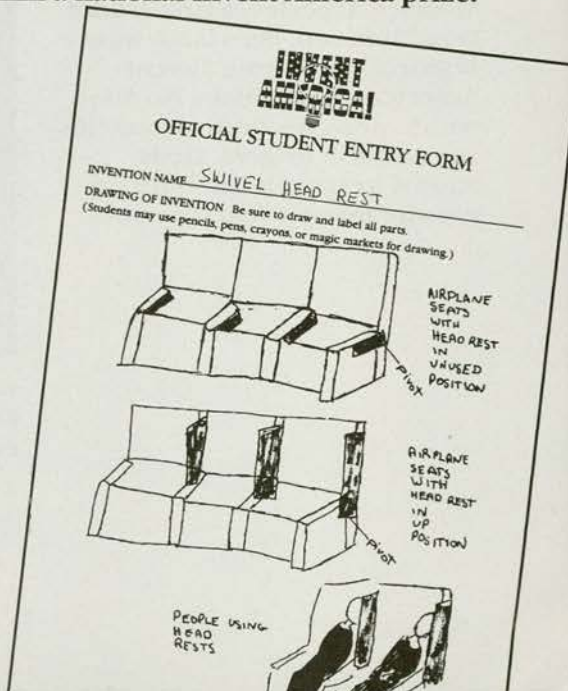
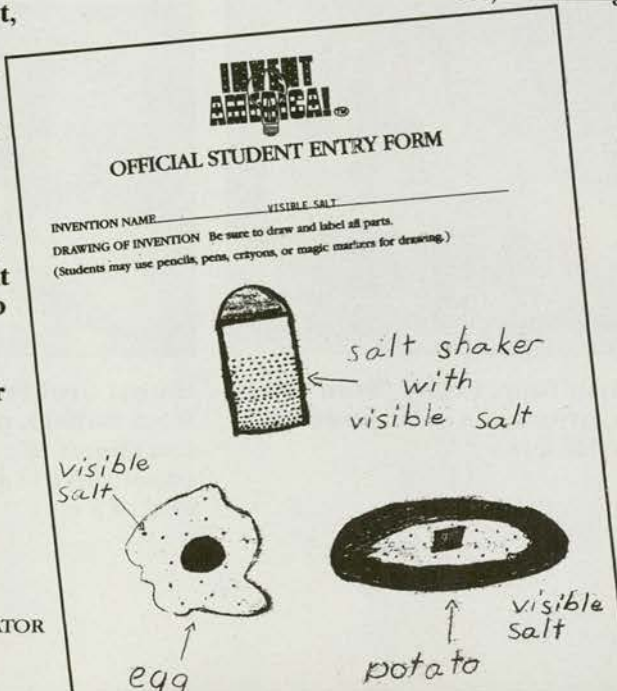
Tammy Jordan, thirteen, from Buffalo, keeps babies from invading litter boxes with a "No Kid Kitty Litter Box."

Chad Corp, eight, from Buffalo, provides bathtub entertainment with a puzzle that floats.



Michael Oliveras, eleven, from Brooklyn, New York, solved the problem of sleepy airplane passengers toppling onto their neighbors with a "Swivel Head Rest," winning him a national Invent America prize.

Lisa Labadie, eight, from Tulsa, Oklahoma, won a national Invent America prize for her "Visible Salt," which, as the diagram shows, makes it easier to tell how much salt has been added to light-colored foods. Lisa's suggestion is to color the salt with red food dye, but as her entry form says, "You may choose any bright color."

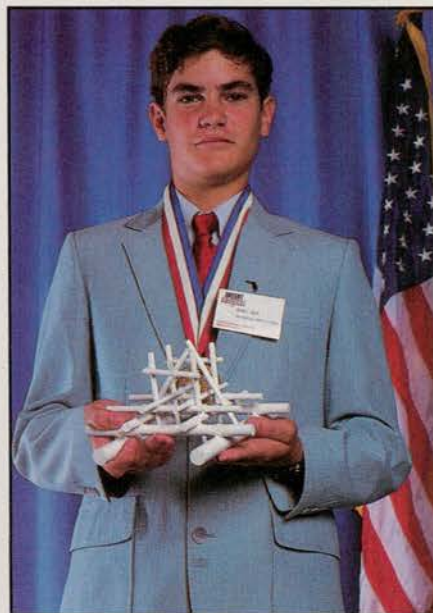




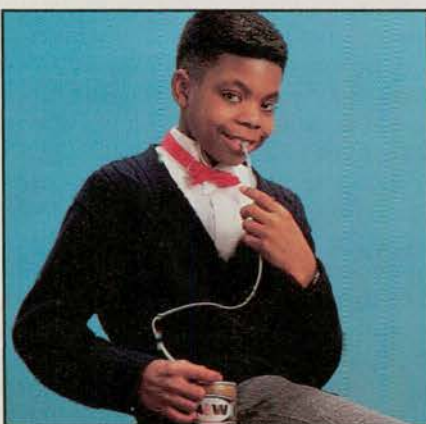
Thomas J. Burgio, eleven, from Buffalo, invented an outdoor smoke alarm.



Collin Dauria, seven, from Buffalo, solves the problem of fumbling in the dark with an automatic switch that lets him turn on a light from bed.



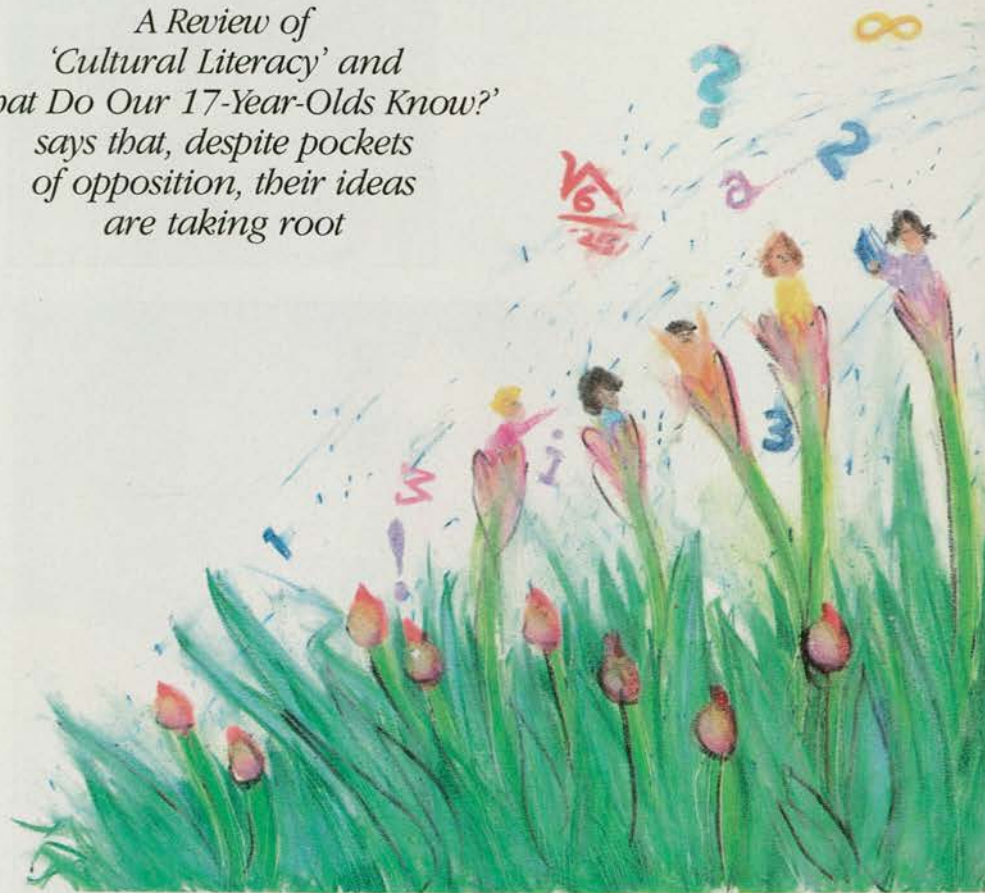
Brian Lloyd, fourteen, from Jacksonville Beach, Florida, was the oldest of Invent America's national prize winners. He invented an artificial reef made of polyvinyl chloride. He was inspired by the decline of snapper and grouper fishing in his area of northeastern Florida, where his father is a commercial fisherman.



Darryl Counts, thirteen, from Buffalo, provides a way to successfully sip soda surreptitiously, with his "Bendaflex Straw."

CONTENT COUNTS

A Review of
'Cultural Literacy' and
'What Do Our 17-Year-Olds Know?'
says that, despite pockets
of opposition, their ideas
are taking root



BY PAUL GAGNON

WHAT ARE the chances for improving education in America? After so many failed, or misguided, attempts at reform in the past, is it reasonable to expect very much good to come out of the latest? One source of hope is the duration of our current attempt. Four years have passed since *A Nation at Risk* opened the debate, which shows no signs of letting up. Contrary to expectations, public interest seems to be higher than ever. But the better, deeper reasons for optimism are to be found in the substance of the educational debate of the 1980s, which has reached a higher level of common sense and pedagogical sophistication than any other in this century. The debate over what to teach, to whom, and how to teach it has finally been sprung free from the dreary old quarrels between "traditionalists" and "innovators," between "content people" and "methods people," between substance and skills.

Every major reform report since 1983 has said what

good teachers have known all along: that these are silly dichotomies and that one has to take something from all sides to succeed in the classroom. *Cultural Literacy** and *What Do Our 17-Year-Olds Know?*** typify the best of the reports in their insistence that all children in a democracy, regardless of their backgrounds or social prospects, should be brought together in a common, academic core curriculum. And because our students are vastly diverse, they should be taught by the most varied, flexible, and innovative methods. Not either/or, but both: tradition and innovation, content and methods, substance and skills.

We are free of the old clichés, the simple, single answers. Keeping several imperatives in our heads at once, we are ready to debate what is most worth learning and how to teach it, at different levels, to different kinds of students, in different sorts of schools. But are we? The news is not all good, if one judges by the knee-jerk hostility of certain academicians to the works of Hirsch, Finn and Ravitch. Whereas the general run of reviews in newspapers and weeklies has been favorable,

*E.D. Hirsch, Jr.: *Cultural Literacy: What Every American Needs To Know*. Boston, Houghton-Mifflin, 1987.

**Diane Ravitch and Chester Finn: *What Do Our 17-Year-Olds Know?* New York, Harper & Row, 1987.

Paul Gagnon is the chairman of the history department of the University of Massachusetts/Boston and the staff director of the Bradley Commission on History in Schools. He is also an advisor to "Education for Democracy," a joint project of the AFT, the Educational Excellence Network and Freedom House.



ILLUSTRATED BY ROBERT BARKIN

with reviewers willing to deal seriously with the authors' main ideas and recommendations, the commentaries by academicians have ranged from evasive to vitriolic. In letters to the editor, in campus forums, at professional meetings, and in prestigious journals—many have savaged both books, seeing little use or virtue in them. I'm going to deal here with two representative critiques—one from *The Chronicle of Higher Education* and one from *The New York Times*.

Granted, academicians and university educationists are like most people. They hate to be told that they have not been doing their jobs, a message delivered by both books. Still, one expects them as professionals to read books fairly and to refute them, if need be, on their own grounds. When they do not, when they ignore the authors' central arguments, when they denounce things the books do not say and, in several instances, directly contradict, reviewers are pulling us backward to those dialogues of the deaf that held back educational progress so often in the past.

Item. In an Op-Ed article of the *Times* of October 1, one academic critic of *What Do Our 17-Year-Olds Know?* maintains that Finn and Ravitch advocate "rote learning" to "resolve" all of America's educational prob-

lems by drilling facts into passive learners. In fact, Finn and Ravitch say something quite different:

Concepts or facts? . . . What is false about this dichotomy is the assumption that a choice must be made between concepts, on the one hand, and facts, on the other . . . To study concepts without knowing specific situations in which to test the validity of those concepts is barren. It is also deadly boring. . . . [Our] working assumption was that any fact worth knowing illumines at least one important concept: knowing what Magna Carta is helps to explain the evolution of the concept of limitations on the power of the sovereign and the origins of political democracy. Knowing the essence of the *Brown* decision is fundamental to understanding the modern history of race relations and constitutional law in the United States . . . It is fatuous to believe that students can think critically or conceptually when they are ignorant of the most basic facts of American history. In order for history to make sense, concepts and facts must be blended.

And they conclude, most explicitly, on the inadequacy of mere rote learning of facts:

We do not suggest that these facts (or any others) should be taught in isolation. That may be the very *worst* way to teach history . . . History should be taught in context, and emphasis should be placed on the significance of major events, people, trends, and turning points in the past . . . In order to care about history, students have to understand

that real people were involved, that they took risks, acted nobly or were cowardly or just survived; and that they never knew how things would turn out.

This is no plea for "rote learning." Nor is it a simple-minded notion on the part of Finn and Ravitch, as the writer charges, that serious study of literature and history can be "defined mechanically."

Item. Finn and Ravitch are also charged, as are many educational reformers, with looking back to some Golden Age, a "glorious era before 1945" (as *The New York Times* Op-Ed page critic puts it) and prescribing "a quick return to a mythical yesterday that exists mostly in the fertile imagination of traders in nostalgia." Apart from citing the well-documented decline in the study of literature and history in recent decades, they say no such thing:

We do not assert that American youth know less about the past than their predecessors. This may be true, but one cannot verify it from the data presented in this book. This assessment was administered once, and there are no previous test results with which it can be compared. . . . We do not contend that the "younger generation is going to the dogs." We merely conclude that it is ignorant of important things that it should know, and that it and generations to follow are at risk of being gravely handicapped by that ignorance upon entry into adulthood, citizenship, and parenthood.

Item. The same critic beats Finn and Ravitch with the stick used on others who seek to improve the schools: namely, that they ignore the many other forces at work creating America's educational problems: the changing nature of the family, of the communities we live in, of our values, and the impact of mass media. But *What Do Our 17-Year-Olds Know?* is, to the contrary, very clear about the limited power of the schools to transform matters by themselves. Finn and Ravitch say only that whatever schools are able to do should be done as effectively as possible. Moreover, they add a ten-page section, apparently unread, on the role of the family, of the media, and of other agencies.

Item. Utterly inexplicable is the closing attack on Finn and Ravitch for their "nostalgia for a past learning that cannot be recaptured and that would, if reinvented, render most Americans unfit for the world they are required to live in." Aside from the book's finding that about half of our seventeen-year-olds have, in fact, "recaptured" that "past learning" despite the many forces supposedly working against it, one wonders what was taught in the past that would render students "unfit" for their world among such test items (meant to be *understood*, not merely memorized) as the United Nations, the *Brown* decision, the Holocaust, women's rights, Vietnam, the energy crisis, constitutional checks and balances, the internment of Japanese-Americans, labor history, immigration, black writers, and contemporary science and technology.

ONLY BY leaving out the most important messages of Finn and Ravitch, and by distorting the rest, could such a critique be contrived. Of several significant themes not mentioned on the *Times* Op-Ed page, a few

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must be "recaptured" here. The first, perhaps partly explaining the bad temper of some academicians, is the Finn/Ravitch view that higher education has refused to assume its obligations to K-12 education.

Other than the schools themselves, no institutions bear greater responsibility for the condition of history and literature than colleges and universities. Not only do they train teachers, but they also set standards of admission for entering students that signal to students, teachers, and school authorities whether the study of history and literature is necessary to enter or succeed in higher education Nearly all of America's teachers are educated and professionally trained in our colleges and universities. Yet teacher training has been allowed to become the pariah of higher education. Teacher-education programs have low standards of admission, low standards of graduation, and low status on campus. Seldom are their students required to study history and literature; seldom do departments of history and literature become actively engaged in preparing those who will teach their subjects in the schools. In particular, those who will teach elementary school are not expected to know much of either subject, even though they deal with critical years of children's intellectual and emotional development Many professors enjoy deriding their student's abysmal ignorance of history and literature, but few of them have been willing to work collaboratively with school teachers in their fields or even to interest themselves in the challenges of teaching their subject to young children and adolescents We hope that professors of history and literature will stop turning their backs on the needs of the schools, where the foundations for general literacy must be built. Ignoring John Donne's famous admonition, professors of history and literature have acted as if higher education were an island, detached from the problems of the schools.

Such talk may be doubly annoying for being so wonderfully on target.

One of the most striking features of *What Do Our 17-Year-Olds Know?* is Chapter 3, "Behind the Scores," which describes students' answers to questions about their out-of-school activities, their reading and study habits, their family backgrounds, and what they see as going on in their classrooms. Some of the findings merely confirm what we have assumed from common sense or anecdotal evidence: There is a direct relation between time spent on homework and achievement on this test and between regular school attendance and achievement; students who watch a limited amount of television do better than those who watch a lot of it; students who work a few hours a week do better than those who do not work at all and better than those who work many hours.

That family background shapes these and other habits and affects school performance is clear, say Finn and

Ravitch. But there are also "sizable exceptions, reminding us that no students can be written off." Among those students scoring in the top quartile, 44 percent were not children of college graduates, 22 percent had neither parent with formal education beyond high school, and a good number of low scorers had highly educated parents. And among the top scorers, 25 percent were enrolled in *non*-academic tracks, where they were "not likely to encounter much academic challenge."

Clearly, their presence in the top quartile demonstrates that the good fortune of parents does not necessarily predetermine the school performance of children and is a stunning reminder that the tracking system may be shunting some talented youngsters into educational and career paths less challenging than they are capable of.

THE DEMOCRATIC VISION

A central message of *What Do Our 17-Year-Olds Know?* is the need for, and the elemental justice of, equality of educational opportunity, a point wholly ignored by the *Times* commentator, so eager to prove the authors' "nostalgia" for the past that he left out their challenge to the future: that it is time for American educators to recognize that a decisively higher level of political and cultural literacy is both the birthright of every child and indispensable to the health of our democratic society.

History and literature are the essential studies of the humanities because they interpret for us the human experience. "To the extent that we are knowledgeable about these subjects, we are better able to communicate with one another. And the more knowledgeable we are, the more complicated are the discussions that we can have together. Paradoxically, the broader our shared background knowledge, the better able we are to argue, debate, and disagree with one another." But will we all possess a sufficiency of that shared knowledge, or will it become the near-exclusive property of the more fortunate among us?

It is not a matter of freezing in place a particular canon of selected works. Finn and Ravitch admit that the canon of a generation ago was too narrow:

What the high school literature curriculum needed, in order to correct its limitations, was a thoroughgoing revision, a reconstruction of the mix of classics and contemporary works and authors. But this did not occur. Instead, the scholars and educators judged the very idea of the traditional curriculum to be irrelevant, claiming that it had lost its power to touch the lives of students and their teachers, to speak to them in a universal voice or even the intensely particular voice that good literature must have. In retrospect, however, it is clear that the real problem lay not in the idea of a coherent literature curriculum, but in the failure of those who could not or would not make the effort to show how traditional and modern literature together can speak to our condition, explain us to ourselves and help us better understand ourselves and our society. . . . The canon of the past no longer provided a sufficient mirror to show us what we had become; but in its stead we did not get the larger, newer, and better mirror that we needed.

Near the end of their book, Finn and Ravitch set forth the next task of educators with force and eloquence:

The challenge is to enable students of all backgrounds to understand the relevance of history and literature to the

world today and to their own lives; to help them recognize universal themes and dilemmas in literary works written in other ages and other societies; to encourage them to see the significance of historical decisions that were made a hundred or a thousand years ago. You don't have to be Jewish to weep for the men, women, and children who were shepherded into gas chambers during the Holocaust; you don't have to be black to share the despair of the men, women, and children who were crammed into slave ships, bound for a lifetime of slavery in an unknown land. Not only history, but great literature has the capacity to carry us beyond our own ancestry, our immediate sphere, to mourn with the family of Hector, to cry with Janie (in *Their Eyes Were Watching God*), to feel devastated by the death of Mrs. Ramsay (in *To the Lighthouse*), to experience the terror in novels like *Darkness at Noon, 1984*, and *The Painted Bird*.

Thus Finn and Ravitch warn educators against a too-simple application of "relevance" in choosing what to teach. Its importance in engaging students with learning is undeniable, but it must not be construed too narrowly in time, place, race, sex, age, or "problem."

The best literature is always relevant in the sense that it makes us aware of our common humanity. Even when it deals with people who are from a distinctive race, religion, or culture, it has the power to touch the lives of whoever reads it, to make them understand themselves better because of what they have read, to make them sensitive to the joys and sufferings of others, to awaken them to knowledge and emotions that are both particular and universal.

Of this broad vision, and its concern for the quality and equality of students' education, there is not a hint from the commentary in the *Times* of October 1.

Of this broad vision, and its concern for the quality and equality of students' education, there is not a hint from the commentary in the Times.

FOR WRITING the best-selling *Cultural Literacy: What Every American Needs To Know*, E. D. Hirsch, Jr. suffers a like fate at the hands of his academic reviewer in *The Chronicle of Higher Education* (September 16, 1987). Straw men—what Hirsch does not say—are zestfully demolished. His central ideas and recommendations are either caricatured or ignored. This critic, too, takes the author-as-simpleton approach, suggesting throughout that Hirsch offers his five thousand terms, names, places, and literary allusions as everything anybody would ever have to know to win success, happiness, and adulthood:

Perhaps the greatest flaw in Mr. Hirsch's thesis is the idea that learning a body of culturally approved information will enable students to live successfully as adults. The presumption that digesting bits of sanctioned knowledge will prepare them to deal with the ambiguity, contradiction and complexity of adult life is astoundingly ill conceived. What one needs as an adult is a critically adept cast of mind, not a list of names and phrases. . . . How will learning Mr. Hirsch's list enable women to decide whether or not to

have an abortion, or help two people build trust into their relationship, or tell us how to make sense out of death?

Nor will it help one hit a golf ball or mix an acceptable martini. Hirsch is not, of course, talking about either education or maturation, but about the background information, best acquired in the early grades, that everyone needs in order to take the next steps, to secondary and higher education and to whatever professional, public, or personal life may be possible, given the "ambiguity, contradiction, and complexity of adult life." He sees the great, unrecognized problem of American education as the vogue of "educational formalism," an overemphasis on skills and methods coupled with a drastic underemphasis on imparting the particular information that constitutes our literate national culture. The problem is at its worst in the elementary grades (although he also deplors the "shopping mall high school") and has its most devastating effects on the children of the disadvantaged:

That children from poor and illiterate homes tend to remain poor and illiterate is an unacceptable failure of our schools, one which has occurred not because our teachers are inept but chiefly because they are compelled to teach a fragmented curriculum based on faulty educational theories.

Hirsch finds support in the work of Harvard reading specialist Jeanne Chall, who calls "world knowledge" (his "cultural literacy") essential to the development of reading and writing skills. The technical skills of disadvantaged children at age six are on a par with those of children from advantaged classes, she says, yet less than two years later their reading skills diverge according to social and economic status, chiefly because low-income pupils lack elementary cultural knowledge. Hirsch draws the lesson for educators:

If in the early grades our children were taught texts with cultural content rather than "developmental texts" that develop abstract skills, much of the specific knowledge deficit of disadvantaged children could be overcome Around grade four, those who lack the initial knowledge required for significant reading begin to be left behind permanently. Having all too slowly built up their cultural knowledge, they find reading and learning increasingly toilsome, unproductive and humiliating. It follows that teaching cultural information in the early grades would do more than just improve the reading performance of all our children. By removing one of the causes of failure, it would especially enhance the motivation, self-esteem, and performance of disadvantaged children.

Like Chester Finn and Diane Ravitch, Hirsch declares that a common and substantial curriculum is a prerequisite to equal educational opportunity and to a healthy democratic system of self-government. The aim of universal literacy, he says, has never been socially neutral. In his "I Have a Dream" speech, Martin Luther King, Jr. saw a country

where the children of former slaves sit down at the table of equality with the children of former slave owners, where men and women deal with each other as equals and judge each other on their characters and achievements rather than their origins.

In the present day, Hirsch continues, that dream depends upon mature literacy:

No modern society can hope to become a just society without a high level of universal literacy. Putting aside for the moment the practical arguments about the economic uses of literacy, we can contemplate the even more basic principle that underlies our national system of education in the first place—that people in a democracy can be entrusted to decide all important matters for themselves because they can deliberate and communicate with one another. Universal literacy is inseparable from democracy and is the canvas for Martin Luther King's picture as well as for Thomas Jefferson's.

The civic importance of cultural literacy, Hirsch concludes, is clear: "True enfranchisement depends upon knowledge, knowledge upon literacy, and literacy upon cultural literacy."

Beginning with A, we find acid rain, AFL-CIO, affirmative action, agribusiness, air pollution, alienation, anti-Semitism, anarchy, aphrodisiac, apartheid

The *Chronicle's* critic says nothing of the book's concern for democracy, either in schooling or in the larger society. Instead, he charges elitism. *Cultural Literacy's* now-famous list of what Americans need to know, he says, "reflects only the values, beliefs, and knowledge of the dominant cultural group in our society." Reading the list gives a sharply different impression. Beginning with A, we find acid rain, AFL-CIO, affirmative action, agribusiness, air pollution, alienation, anti-Semitism, anarchy, aphrodisiac, apartheid, atheism, Aristophanes, Allah, and anal personality—to pick only a few of our safe, elitist subjects. Under K, we meet Kafka, *Das Kapital*, Kent State, Keynesian economics, Dr. King, the Koran, and the KKK, and we run on to Rousseau, Steinem, Taoism, UNESCO, Vietnam, and the WPA.

That any set body of subject matter is elitist and oppressive is a familiar refrain from the self-appointed defenders of the powerless. The powerless do not necessarily see it the same way. Hirsch cites the revolutionary newspaper *The Black Panther* as "highly conservative" in its language and cultural assumptions, "as it had to be in order to communicate effectively." The Black Panther party platform of 1972 quoted several "traditional" sources, indicating, said Hirsch, that

The writers for *The Black Panther* had clearly received a rigorous traditional education in American history, in the Declaration of Independence, the Pledge of Allegiance to the Flag, the Gettysburg Address, and the Bible, to mention only some of the direct quotations and allusions in these passages. They also received rigorous traditional instruction in reading, writing and spelling. . . . Radicalism in politics, but conservatism in literate knowledge and spelling: to be a conservative in the *means* of communication is the road to effectiveness in modern life, in whatever direction one wishes to be effective. To withhold traditional culture from the school curriculum, and therefore from students, in the name of the school curriculum, and therefore from students, in the name of progressive ideas is in fact an unprogressive action that helps preserve the political and economic status quo.

COMMON GOALS, DIFFERENT METHODS

The *Chronicle's* reviewer finds Hirsch's approach to schooling narrow and bureaucratic, assuming that students can be turned into good workers and citizens "by drilling certain facts into them":

Teachers would be relieved of the need to emphasize context, to develop programs that relate to their students' experiences, and to involve students in the exploration of their culture. Instead, they would simply be guardians of the sacred 5,000 pieces of knowledge without which one cannot hope to "get ahead."

Hirsch, of course, believes nothing of the kind. Schools across the nation, he says, should have common goals, but their ways of achieving them should be varied and adaptive:

One can think of the school curriculum as consisting of two complementary parts, which might be called the extensive curriculum and the intensive curriculum. The content of the extensive curriculum is traditional literate knowledge, the information, attitudes, and assumptions that literate Americans share—cultural literacy. Of course, this curriculum should be taught not just as a series of terms, or lists of words, but as a vivid system of shared associations. But the extensive curriculum is not a sufficient base for education by itself. It is simply a minimal description of elements that should be included in every child's schooling, no matter what form the schooling takes. The extensive curriculum can be taught in a highly formal traditional school or in a more informal progressive school. Any sort of school can find ways of incorporating these minimal contents in its courses, given a determination to

do so and coordination among grade levels in deciding on the appropriate times for introducing particular aspects of particular subjects.

The intensive curriculum, Hirsch says, is different but just as essential, because it is aimed at a fully developed understanding of a subject, integrated and coherent:

It coincides with Dewey's recommendation that children should be deeply engaged with a small number of typical concrete experiences. It is also that part of the total curriculum in which great flexibility in contents and methods can prevail. The intensive curriculum is the more pluralistic element of my proposal, because it ensures that individual students, teachers, and schools can work intensively with materials that are appropriate for their diverse temperaments and aims.

Such flexibility is also vital for preserving what Hirsch calls "life-enhancing localism" and for the protection and nurture of minority cultures, coexisting with and helping to shape the national:

It is for the Amish to decide what Amish traditions are, but it is for all of us to decide collectively what our American traditions are, to decide what "American" means on the other side of the hyphen in Italo-American or Asian-American. What national values and traditions really belong to national cultural literacy?

Hirsch's proffered list is neither static nor "sacred." We need to teach current mainstream culture, and that is always changing. Today the "Brown decision" is cultural literacy; in 1945 it did not exist. Nor is the list

"Education about AIDS should start early... Those of us who are parents, educators and community leaders, indeed all adults, cannot disregard this responsibility to educate our young. The need is critical and the price of neglect is high. The lives of our young people depend on our fulfilling our responsibility."

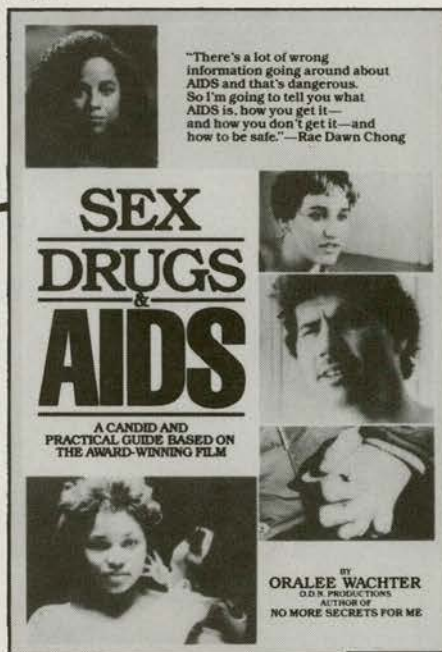
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sacred in the sense of superiority to other people's cultures:

It is cultural chauvinism and provincialism to believe that the content of our vocabulary is something either to recommend or deplore by virtue of its inherent merit. Think how well the French or Chinese have done without Shakespeare or George Washington, and how well we have done without Racine or Lao-tse. No doubt it benefits the French and Chinese to learn about Shakespeare and Washington, just as it benefits us to learn about Racine and Lao-tse. But the benefit we derive is to come to the tolerant understanding that no single national vocabulary is inherently superior or privileged above all others.

But ours is ours, and we must master it in common in order to prepare ourselves for the complexities of the modern world, so that the social and moral implications of the "most arcane specialty" may be explained to informed and educated citizens. Otherwise, says Hirsch, "we are in danger of falling victims to technological intimidation."

Hirsch sees hope in a new middle ground among educators, rejecting the old dichotomies between progressives and traditionalists, between "skills people" and "facts people." People of good will should be able to compromise on a curriculum that is "traditional in content but diverse in its emphasis, that is pluralistic in its materials and modes of teaching but nonetheless provides our children with a common core of cultural information." His aim, he concludes, is not to force an either/or choice between his list and the currently fragmented curriculum but to offer a broad challenge:

to bring the currently hidden curriculum out in the open where it belongs and make its contents the subject of democratic discussion. Those who might consider our specific recommendations to be defective are being challenged to improve upon them, but not to perpetuate the illusion that we can continue, in honesty, to avoid a discussion of the specific contents of the extensive curriculum.

"Let's not pretend that what kids are getting now is not a list," Hirsch has remarked elsewhere. "It is, and we all agree it's a very crummy list."

WILL ACADEMICIANS and university educationists find the good will to honestly seek that middle ground upon which Hirsch's hoped-for discussion and compromise can take place? The signs are not good when reviewers in influential places are unwilling to consider, even to mention, the central ideas and major recommendations of Finn, Ravitch and Hirsch. Nor was it hopeful to read in *The Chronicle of Higher Education* (August 5th, 1987) that eminent professors at a conference of English teachers derided *Cultural Literacy* as "out of touch with the multicultural American classroom" that called for "student-centered learning"—comments revealing that they had not bothered to read what Hirsch has to say.

We must hope that this first round of academic commentary will not prove typical of what is to follow, because the willingness of university people to join openly in debate over the problems and opportunities of improving our schools will be crucial to our chances for success.

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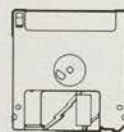
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REPORT FROM THE FIELD

(Continued from page 27)

group of average and below-average kids getting the kind of attention that's usually reserved for the gifted and talented or the mildly retarded."

● Principle 8: The tone of the school should stress unanxious expectation, trust, and decency.

At age sixteen, Adam Fishman has been around: He's been to private school—to what is considered one of the top public academic schools in Providence—and now to Hope's essential school program. "Before, I didn't try," Fishman says, because "I don't like to be told what to do. Here you're told what to do, you're given assignments, but in a different way . . . They [the teachers] give you respect and we give them respect. We talk on the same wavelength."

This sense of camaraderie, that students and teachers are colleagues, not on separate sides of the fence, leads to a sense of responsibility and commitment around a certain set of goals.

"There is a sense of urgency here that we all have, that we all share," says Albin Moser. "For example, students who are still incomplete in different subjects need to make up their work; we have got to move on. And 'we' is a real big 'we'; it's not 'you, the kids.' It's all of us."

A strong sense of purpose affects more than the students: Walbrook's Florence Davis, who has been teaching for twenty years, echoes the sentiments of other teachers when she says she has had a professional rebirth. At the heart of her renaissance is the belief that she can better reach her students because of the opportunity to experiment with different teaching methods and compare notes with her colleagues.

"I have behind me this philosophy that says it's all right to try what works and discard what doesn't," she says. "This atmosphere allows me to try Socratic questioning, even though I know that's not one of my strong points. It gives me the incentive to try to use the team-learning approach, even though I know it's messy. I can say, 'Sure this is messy, noisy, seemingly chaotic. But in this way the youngsters do make the facts their own. I've seen it happen.'"

● Principle 9: Ultimate administrative and budget targets should allow for student loads per teacher of eighty or fewer students; time for collective planning; and competitive salaries. The ultimate per-pupil cost should not exceed traditional schools by more than 10 percent.

Because the essential schools are meant to be realistic models for what all schools could be, it's important for Coalition members to show that they can achieve the common principles within a reasonable budget. Although the goal is to run an essential school on a budget of just 10 percent over the norm, start-up costs are actually higher, says Grant Wiggins, a Coalition staff member. This is because of the enormous investment of time necessary to research and develop an essential curriculum and to find the most appropriate way to restructure the school day, he says. The extra money—10 percent or more—comes either from money appropriated by the district or, more often than not, from grants raised by individual Essential schools, sometimes with the help of the Coalition.

* * *

WHILE THERE'S some evidence that test scores are improving and the program is holding students who otherwise would have dropped out, either physically or in spirit, the adventurers are not satisfied. "We've got to get bigger for me to know it works," says Sam Billups, principal of Walbrook. "I know it works with 140 students. I need to know if it works with one thousand."

Sizer says that for the project to substantially affect the nature of schooling, several thousand schools need to get involved. There are about fifty now, and some of those, since the project started in 1984, have lost district support as changing school administrations bring with them different priorities.

Building a school from the bottom up, Sizer says, is a lot more difficult than he envisioned—and he believed it would be a very tough job. The process requires teachers to spend a grueling amount of time developing new relationships, teaching styles, and curricula, he says. And because they are doing so within a

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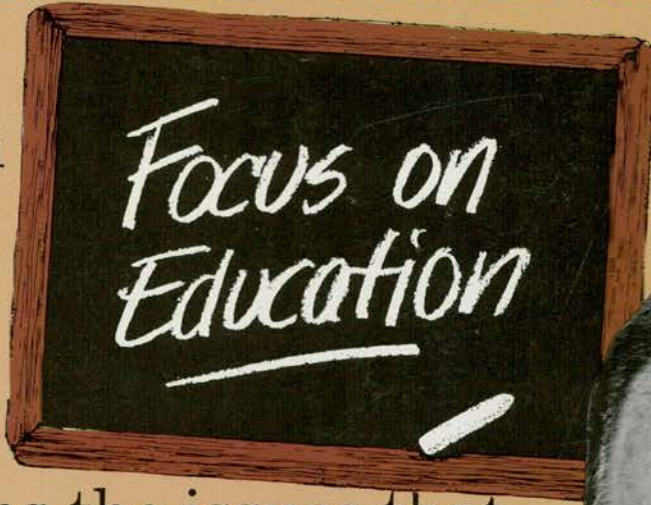
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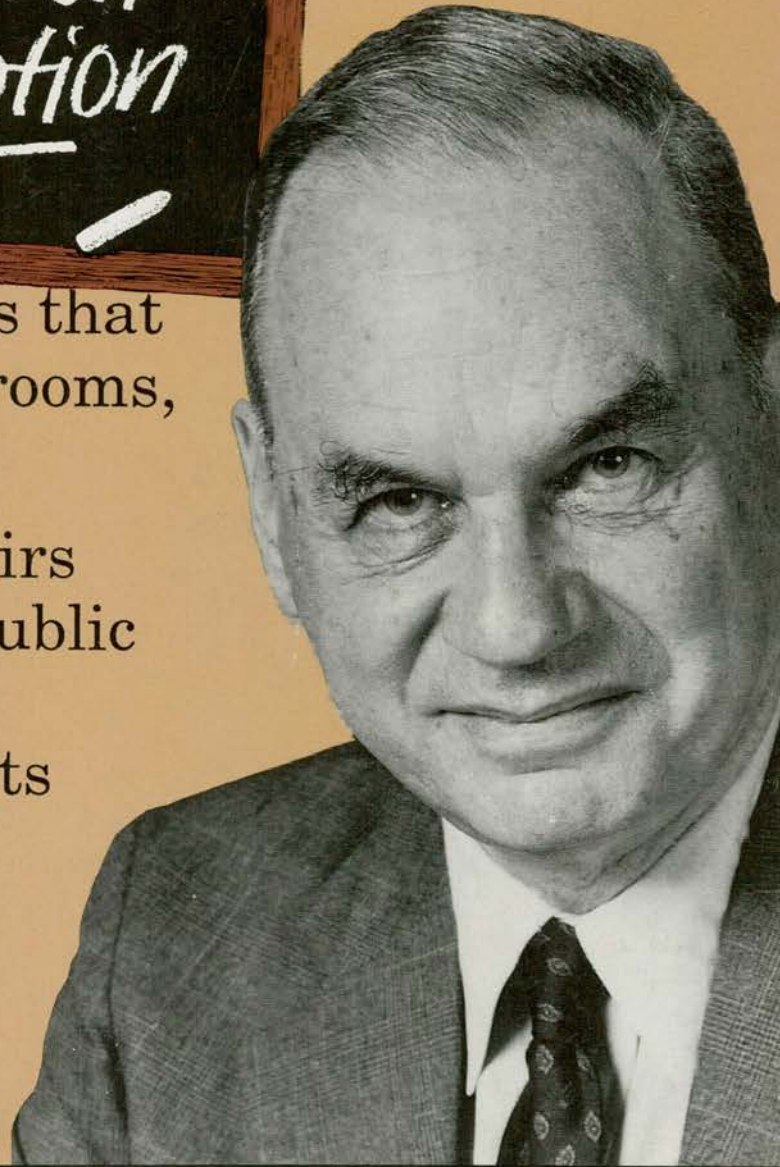
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