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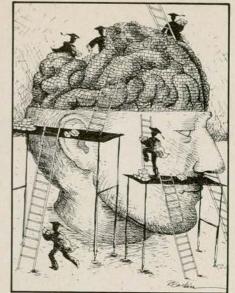
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Education

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Notebook

RELATIVE SUPPLY/DEMAND BY TEACHING AREA AND YEAR

CONTINENTAL UNITED STATES

	1985	1983	1980	1976
Teaching fields with considerable teacher shortage		(5.00	-4.25):	
Mathematics	4.71	4.75		3.86
Science-Physics	4.57	4.46	4.28	4.04
Science-Chemistry	4.42			3.72
Computer Programming	4.37			
Data Processing	4.30	4.36	-	-
Teaching fields with slight teacher shortage	fields with slight teacher shortage (4.24-3.45):			
Bilingual Education	4.12			
Special Education (emotionally disturbed)	4.02	4.08	4.36	3.42
Speech Path./Audiology	4.01	3.62	4.17	3.68
Special Learning Education (learning disabled)	3.95	4.09	4.48	4.00
Special Education—Multi. Handicapped	3.94	3.82	3.87	-
Special Education—Gifted	3.85	3.80	4.33	3.85
Science—Earth	3.79	3.80	3.64	3.44
Special Education (mentally retarded)	3.76	3.71	4.23	2.87
Industrial Arts	3.65	3.96	4.77	4.22
Psychologist (School)	3.65	3.19	3.87	3.09
Science General	3.65	_	_	_
Science—Biology	3.58	4.10	3.50	2.97
Library Science	3.49	3.09	3.58	1
Teaching fields with balanced supply and demand		(3.44	1-2.65):	
Language, Modern—Spanish	3.43			2.47
Special Education—Reading	3.39	3.39	4.23	3.96
Business	3.32	3.24	3.80	3.10
Language, Modern—French	3.31	2.59	2.68	2.15
Music—Instrumental	3.29	2.97	3.65	3.03
Music—Vocal	3.19	2.89	3.32	3.00
English	3.14	2.90	3.51	2.05
Vocational Agriculture	3.11	4.02		4.06
Language, Modern—German	3.11			2.03
Counselor—Secondary	3.08	2.83		
Counselor—Elementary	3.05	3.03		3.15
Speech	2.91	2.51		2.46
Social Worker (School)	2.81	2.27	_	_
Home Economics	2.79	2.44	2.85	2.62
Journalism	2.74		2.98	200000000000000000000000000000000000000
Driver's Education	2.65	2.94	2.98	2.44
Teaching fields with slight surplus of teachers				V WE
Elementary—Primary	2.57	2.11		1.78
Elementary—Intermediate	2.53	2.11		1.90
Social Science	2.17	1.75		1.51
Health Education	2.08	1.76		
Art	2.04	1.92	2.45	2.14
Teaching field with considerable surplus of teachers				
Physical Education	1.75	1.54	1.82	1.74

Key: 5 = Greatest Demand, 1 = Least Demand — indicates data were not available

Based upon a survey of teacher placement officers
Source: Association for School, College and University Staffing — James N. Akin

Taking the Measure Of Freedom

Of the world's 167 sovereign nations and fifty-four related territories, how many enjoy a relatively full range of political rights and civil liberties? Not nearly enough, according to the 1985 survey conducted by the widely respected human rights watchdog organization Freedom House. The Comparative Survey of Freedom, which has been issued each year since 1973, categorizes fifty-three nations and thirty-two territories, representing 34.85 percent of the world's population, as "free": fiftynine nations and nineteen territories, representing 23.3 percent of the world's population, as "partly free"; and fifty-five countries and three territories, representing 41.85 percent of the world's population, as "not free."

The checklist for political rights include such questions as: Are there multiple political parties that can organize different points of view for the voters? Do elections show a significant, or any, opposition vote? Do military leaders play an important or an overwhelming role in the political process?

One of the purposes of the Freedom House survey is to "offer a perspective on the day-to-day flow of news about denials of political or civil liberties" by calling attention to "the often-forgotten fact that the countries most often accused of repression are generally not the most repressive. There is simply too little news from the most repressive states — such as North Korea and Albania - for the world to give them the sustained attention received by states with a more moderate level of repression, such as Chile or Nicaragua."

The full survey results are contained in the January/February Freedom at Issue magazine and can be ordered for \$5 from Freedom House, 20 West 40th Street, New York, New York 10018. A 20" x 30" wall map of the world, shaded to show different degrees of freedom, is available from Freedom House for \$5 each.

THE JAPANESE MOTHER: TEXTBOOKS FOR TWO

Japanese mothers are active teachers as well and have a real curriculum for their preschool children: Games, teaching aids, ordinary activities are all focused on the child's development. There are counting games for very small babies, songs to help children learn new words, devices to focus the child's concentration. Parents buy an average of two or three new books every month for their preschoolers, and there are about forty monthly activity magazines for preschoolers, very highly subscribed. The result is that most, at least most urban children, can read and write the phonetic syllabary before they enter school and can do simple computations.

Maternal involvement becomes much more extensive and "serious" once she and the child enter the elementary school community. In addition to formal involvement in frequent ceremonies and school events, PTA meetings and visiting days, the mother spends much time each day helping the child with homework (sometimes to the point at which the teachers joke that they are really grading mothers by proxy). There are classes for mothers, called mamajuku, that prepare mothers in subjects their children are studying. Homework is considered above all a means for developing a sense of responsibility in the child, and like much in early childhood education, it is seen as a device to train character.

The Japanese phenomenon of maternal involvement recently surfaced in Riverdale, New York, where many Japanese families have settled. School teachers and princi-



pals there noted that each Japanese family was purchasing two sets of textbooks. On inquiring, they found that the second set was for the mother, who could better coach her child if she worked during the day to keep up with his lessons. These teachers said that children entering in September with no English ability finished in June at the top of their classes in every subject.

The effort mothers put into their children's examinations has been given a high profile by the press. This is called the *kyoiku mama* syndrome — the mother invested in her children's progress. In contrast to Western theories of achievement, which emphasize individual effort and ability, the Japanese consider academic achievement to be an outgrowth of an interdependent network of cooperative effort and planning. The caricature of the mother's over-

investment, however, portrays a woman who has totally identified with her child's success or failure and who has no separate identity of her own. The press emphasizes the negative aspects of this involvement with accounts of maternal nervous breakdowns, reporting a murder by a mother of the child next door, who made too much noise while her child was studying. But the press also feeds the mother's investment by exhorting her to prepare a good work environment for the studying child, to subscribe to special exampreparation magazines, to hire tutors, and to prepare a nutritious and exam-appropriate diet.

High schoolers from outlying areas taking entrance exams in Tokyo come with their mothers to stay in special rooms put aside by hotels. They are provided with special food, study rooms, counselors, and tension-release rooms, all meant to supply home care away from home. The home study desk bought by most parents for their smaller children symbolizes the hovering care and intensity of the mother's involvement: All models have a high front and half-sides, cutting out distractions and enclosing the workspace in womb-like protection. There is a built-in study light, shelves, a clock, electric pencil sharpener, and built-in calculator. The most popular model includes a push-button connecting to a buzzer in the kitchen to summon mother for help or for a snack.

Excerpted from "Japanese Education: How Do They Do It?" by Merry I. White, The Public Interest, Summer 1984. Reprinted with permission.

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Approximately three hundred teachers from France, Germany, Denmark, Switzerland, Italy, Canada, and the United Kingdom will trade places with their American counterparts for the 1986-87 school year as part of the Fulbright International Teacher Exchange Program. Sponsored by the U.S. Information Agency, the program is open to teachers at the elementary, secondary, and postsecondary levels who have a minimum of three years' teaching experience. Language requirements vary.

In addition, summer study seminars from three to eight weeks in length will be held in Italy and the Netherlands. Two years of teaching experience are required.

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CULTURAL LITERACY AND THE SCHOOLS

By E. D. HIRSCH, JR.

ET ME begin with a picture of what I mean by true literacy. It is good to start with our national educational goals, because unless we can agree upon our goals, we cannot deal forthrightly with the political and ideological issues that public education must always entail. Let me depict our educational goal as a social one, using the unforgettable vision of Martin Luther King, Jr. in his speech "I Have a Dream." Those of you who heard that speech or teach it will know what I am thinking. King had a vision in which the children of former slave owners sit down at the table of equality with the children of former slaves, a vision of an America where men and women deal with each other as equals and judge each other on their character rather than their origins. King had a dream of a classless society. To help us share his dream, he quoted from our most traditional texts, from Jefferson, the Bible, and patriotic and religious songs. We all know those traditional passages and songs. King reminded us that his dream has been shared and cherished by all Americans of good will.

The dream of Thomas Jefferson and Martin Luther King, Jr. carries a very specific educational implication in the modern world: No modern society can think of becoming a classless society except on the basis of universal literacy. Never mind for the moment the various utilitarian and humanistic arguments in favor of literacy. I am considering now an even more basic principle that sponsored our Jeffersonian system of public education in the first place. It is the principle that

E. D. Hirsch, Jr., is professor of English at the University of Virginia and the author of several books, including The Aims of Interpretation and The Philosophy of Composition.

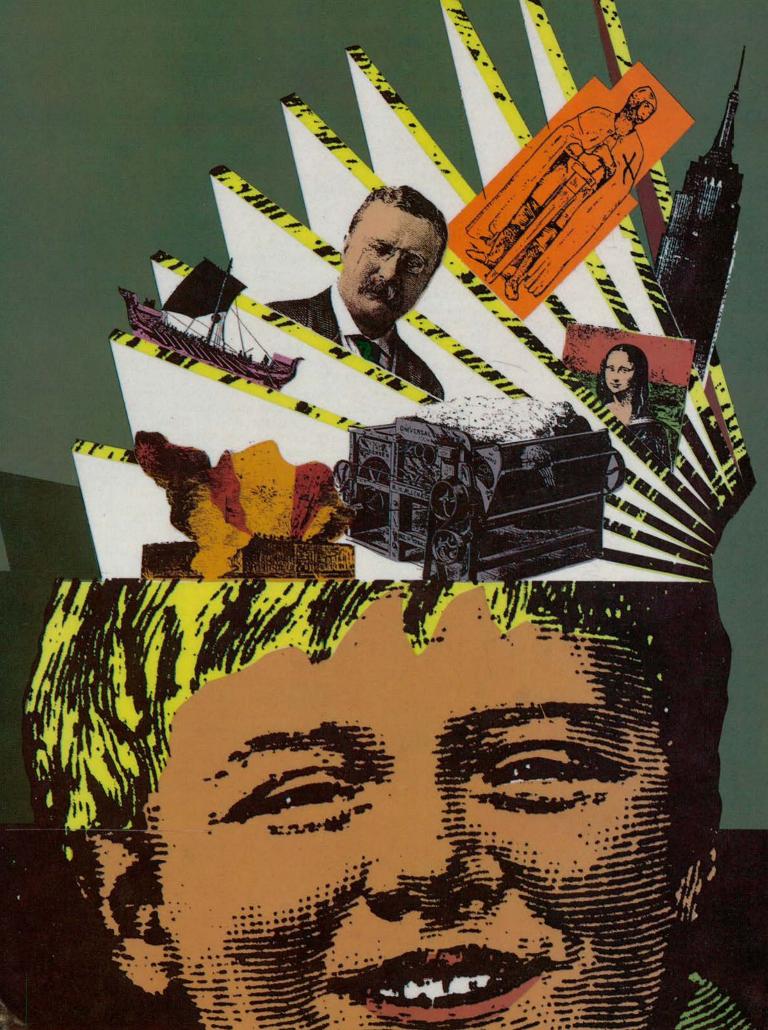
people in a democracy can be left free to think and decide things for themselves because they can all communicate with each other. Universal communication is the canvas for King's vision as well as Jefferson's. And universal communication is possible in our modern world only on the basis of universal literacy. Americans must be able to talk to each other not just in person or by telephone but across time and space through reading and writing. We can add to that traditional democratic imperative to literacy the well-known economic imperative that has been brought by the technological age. Today, only someone who reads well can adjust to changes in technology and the job market or can participate in our cultural and political life. From these very elementary considerations, it is obvious that genuine literacy must be a paramount and minimal goal of a high school education.

But what, more specifically, does that goal mean for the curriculum? That depends on what we mean by literacy. I would define literacy in this way: To be truly literate, a high school graduate must be able to grasp the meaning of written materials in any field or subject, provided that those materials are addressed to a general reader. High school graduates should be able to read serious newspapers, for instance. Remember what Jefferson said about reading newspapers:

Were it left to me to decide whether we should have a government without newspapers, or newspapers without a government, I should not hesitate a moment to prefer the latter. But I should mean that every man should receive those papers and be capable of reading them.

That last comment of Jefferson's is often omitted. But it is the crucial one. Every American should be able to read serious books, newspapers, and articles addressed

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to the general reader. And our high school graduates should also be able to convey information in writing to a general readership. Universal literacy means that every citizen must be able to give as well as receive written information.

Literacy IN this fundamental sense requires not just technical proficiency but also "cultural literacy." What I mean by this term may become clear in a provisional way as I describe a recent experience.

A few years ago, I was conducting some experiments at the University of Virginia to measure the effectiveness of a piece of writing when it is read by ordinary audiences. We were measuring the actual effects of writing rather than mere opinions of its quality. Our readers in the experiment (who were mainly university students) performed just as we expected them to as long as we kept the topics simple and familiar. Then, one memorable day we transferred our experiments from the university to a community college, and my complacency about adult literacy was forever shattered. This community college was located in Richmond, Virginia, and the irony of the location will appear in a moment. Our first experiments went well, because we began by giving the students a paper to read on the topic of friendship. When reading about friendship, these young men and women showed themselves to be, on the average, just as literate as university students. The evidence showed that, based on the usual criteria of speed and accurate recall, the community college and university groups were equally skilled readers. But that evidence changed with the next piece of writing we asked them to read. It was a comparison of the characters of Ulysses S. Grant and Robert E. Lee, and the students' performance on that task was, to be blunt, illiterate. Our results showed that Grant and Lee were simply not familiar names to these young adults in the capital of the Confederacy. The students' speed and recall declined because they had to continually backtrack through the unfamiliar material to test out different hypotheses about what was meant or referred to.

Shortly after that disorienting experience, I discovered that Professor Richard Anderson of the Center for Reading Research at the University of Illinois and other researchers in psycholinguistics had reached firm conclusions about the importance of background knowledge in reading. For instance, in one experiment, Anderson and his colleagues discovered that an otherwise literate audience in India could not properly read a simple text about an American wedding. But, by the same token, an otherwise literate audience in America could not properly read a simple text about an Indian wedding. Why not? Structurally speaking, the texts were similar and the audiences were similar. It wasn't a matter of vocabulary or phonics or word recognition; it was a matter of cultural literacy. Anderson and others showed that to read a text with understanding one needs to have the background knowledge that the author has tacitly assumed the reader to have. This tacit knowledge is fundamental to literacy.

What these experiments demonstrate is that the idea that reading is a general, transferable skill unrelated to subject matter is essentially wrong, containing only the following grain of truth. Reading is a general skill only with regard to its rather elementary aspects, those involving phonics, parsing strategies, guessing strategies, eye habits, and so on. While these elementary skills are important, normally endowed students, once they acquire the rudiments, need not be continually drilled in them. Such skills are always being used, and every reading task will automatically exercise, improve, and automate them. With that single elementary exception, then, the usual picture of reading as a general skill is wrong. Reading skill varies from task to task, because reading skill depends on specific background knowledge.

TO ILLUSTRATE the dependency of literacy on cultural literacy, I shall quote a recent snippet from *The Washington Post:*

A federal appeals panel today upheld an order barring foreclosure on a Missouri farm, saying that U.S. Agriculture Secretary John R. Block has reneged on his responsibilities to some debt-ridden farmers. The appeals panel directed the USDA to create a system of processing loan deferments and of publicizing them as it said Congress had intended. The panel said that it is the responsibility of the agriculture secretary to carry out this intent "not as a private banker, but as a public broker."

Imagine that item being read by persons who have been trained to read but are as culturally illiterate as were my community college students. They might possibly know words like foreclosure, but they would surely not understand the text as a whole. Who gave the order that the federal panel upheld? What is a federal appeals panel? Even if culturally illiterate readers bothered to look up individual words, they would not have much idea of the reality being referred to. Nor, in reading other texts, would they understand references to such things as, say, the equal protection clause or Robert E. Lee, no matter how well they could read a text on friendship. But a truly literate American does understand references to the equal protection of the laws and Robert E. Lee and newspaper reports like the one I just quoted. As a practical matter, newspaper reporters and writers of books cannot possibly provide detailed background information on every occasion. Think, if they did, how much added information would be needed even in the short item that I quoted from The Washington Post. Every sentence would need a dozen sentences of explanation! And each of those sentences would need a dozen more.

Writers work with an idea of what their audiences can be expected to know. They assume, they must assume, a "common reader" who knows the things that are known by other literate persons in the culture.

When I say that these writers must assume such background knowledge, I am affirming a fact about language use that sociolinguists and psycholinguists have known for twenty years: The explicit words of a text are just the tip of the iceberg in a linguistic transaction. In order to understand even the surface of a text, a reader must have the sort of background knowledge that was assumed, for example, in *The Washington Post* report that I quoted.

To understand that paragraph, literate readers would know in the backs of their minds that the American legal system allows a judgment at a lower level to be reversed at a higher level. They would know that a judge can tell The idea that reading is a general, transferable skill unrelated to subject matter is essentially wrong.



the executive branch what it can or cannot do to farmers and other citizens, and they would know a lot more that is relevant. But none of their knowledge would have to be highly detailed. They wouldn't need to know, for instance, whether an appeals panel is the final level before the Supreme Court. In general, readers need to share a cloudy but still accurate sense of the *realities* that are being referred to in a piece of writing. This allows them to make the necessary associations.

Besides this topic-determined knowledge, the reader needs to know less explicit and less topic-defined matters, such as culturally shared attitudes, values, conventions, and connotations that the writer assumes the reader to have. The writer cannot start from ground zero, even in a children's reader designed for the first grade. The subtlety and complexity of written communication is directly dependent upon a shared background.

To AN ill-informed adult who is unaware of what literate persons are expected to know, the assumption by writers that their readers possess cultural literacy could be regarded as a conspiracy of the literate against the illiterate for the purpose of keeping them out of the club. Although newspaper reporters, writers of books, and the framers of the verbal SAT necessarily make assumptions about the things literate persons know, no one ever announces what that body of information is. So, although we Americans object to pronouncements about what we all should know, there is a body of information that literate people do know. And this creates a kind of silent, de facto dictating from on high about the things adults should know in order to be truly literate.

Our silence about the explicit contents of cultural literacy leads to the following result, observable in the sociology of the verbal SAT. This exam is chiefly a vocabulary test, which, except for its omission of proper names and other concrete information, constitutes a test of cultural literacy. Hence, when young people from deprived backgrounds ask how they can acquire the abilities tested on the verbal SAT, they are told, quite correctly under present circumstances, that the only way to acquire that knowledge is through wide reading in many domains over many years. That is advice that deprived students already in high school are not in a position to take. Thus there remains a strong correlation between the verbal SAT score and socioeconomic status. Students from middle-class and upper-middle-class backgrounds get their knowledge for the verbal SAT not just from reading, but through the pores, from talk at home and social chitchat.

WHAT FOLLOWS from this situation goes to the heart of the school curriculum. It means nothing less than that the whole conceptual basis of the curriculum as inculcating skills independently of specific content has been wrong — and not just a little wrong, but fundamentally so. The influence of this mistaken educational formalism upon our policies has been, in my opinion, a chief cause of our educational failures in the domain of literacy.

The skills orientation to education has assumed that the particular contents of the curriculum can be arbitrary. Any good content will develop the skill of reading. But, on the contrary, the information that is taken for granted between literate people is not arbitrary. Although quite fuzzy at the edges, this information is known to be central by every truly literate person in our culture. I stress *our* literate culture, because the information shared by literate Americans is different from the information shared by literate Germans or Russians. Literacy in every nation depends on a specifically national literate culture.

Of course, no literate national culture makes absolute sense. Although Shakespeare might be better than Racine in absolute terms, we don't tell the French that they should abandon Racine for Shakespeare. For purposes of national education in America or France, neither Shakespeare nor Racine could be replaced in their respective cultures as necessary background knowledge for literacy and communication. Although we may admire our traditional culture for its own sake, it is mainly for these instrumental reasons (that is, to achieve true literacy and widescale communication) that our central traditional materials must continue to be taught and learned.

If our high school graduates are to be literate, our school curriculum must ensure, at a minimum, that students acquire those facts of cultural literacy that are requisite to true literacy. To accomplish this, the school curriculum needs significant improvement, particularly in grades K through ten. By improvement, I do not suggest that it must be completely overhauled. And I do not say that we need what is usually meant by the term "core curriculum." The proposal to introduce a substantial core curriculum in literature whereby every child reads Silas Marner, Julius Caesar, and A Tale of Two Cities is, I think, lacking in appropriate subtlety. A core of shared information must indeed be learned. But the means by which it is conveyed may vary a good deal. The destination is one, but the routes are many. No educational reform can succeed if it fails to keep students and teachers motivated and interested. Different pupils require different materials, and so do different teachers. For that reason alone, we need to keep diversity and local judgment at the heart of the curriculum. But we also need to be sure that our students get the ABCs of knowledge in the earlier grades. How, then, can we keep a desirable flexibility in the curriculum and also ensure that our students get the core knowledge they need in order to become literate Americans?

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I am the very model of a modern Major General, I've information vegetable, animal, and mineral, I know the kings of England, and I quote the fights historical,

Although Shakespeare might be better than Racine in absolute terms, we don't tell the French that they should abandon Racine for Shakespeare.



From Marathon to Waterloo in order categorical;
I'm very well acquainted too with matters mathematical,
I understand equations, both the simple and quadradical,
About binomial theorem I'm teeming with a lot o' news—
With many cheerful facts about the square of the
hypotenuse.

This was comic because these cheerful facts were *all* the Major General knew, and they offered him no help in military strategy. Everybody in his audience also knew those same facts, which were part of the intellectual baggage that every schoolboy acquired in nineteenth-century Britain. It was clear to Gilbert and Sullivan's audience that this knowledge was just a lot of isolated, schoolboy facts that the Major General couldn't put together in any useful way.

Understanding how to put things together is the contribution of *intensive* study. Suppose that instead of just being able to list the fights historical, the Major General wanted to learn something about war and strategy. To gain that knowledge, he would have to study at least a battle or two in some detail. Yet it might not greatly matter which battle he studied carefully. It could be the battle of Austerlitz or the battle of Waterloo. But in order to gain a coherent idea of nineteenth-century warfare, General Stanley would have needed to study specific examples of warfare. Thereafter, any new fact about it that he encountered could be grafted upon or accommodated to the model-idea that he had gained from, say, the battle of Austerlitz. To generalize from this illustration, if we want to make isolated facts fit together in some coherent way, we must acquire models of how they do so from detailed, intensive study and experience.

The school curriculum should foster this intensive learning as much as possible. Indeed, it should be the chief substance of the school curriculum, particularly in the later grades. At the same time, intensive study is also the most flexible part of the school curriculum. For building mental models, it doesn't greatly matter whether the Shakespeare play read in ninth grade is Macbeth or Julius Caesar. What does matter is whether our idea of Shakespeare is formed on an actual, concrete experience of a Shakespearian play. Such intensive learning is necessary, because the mental model we get from the detailed study of an example lets us connect our atomic facts together and build a coherent picture of reality. On the other hand, since the chief function of intensive study is to get examples for such models, our choice of examples can vary with circumstances and should depend on students' knowledge and interest. That is why a lock-step core curriculum is both unnecessary and undesirable for the intensive part of the curriculum. On the other hand, there is a limit to the flexibility of the intensive curriculum. A play by Neil Simon or George Chapman is no effective substitute for a play by Shakespeare.

A LTHOUGH WE must gain intensive knowledge to make coherent sense out of facts, we must also gain a store of particular, widely shared background facts in order to make sense of what we read. This extensive part of the curriculum, the part that is crucial to shared knowledge and literacy, has been neglected.

The best time to get this extensive background in-

formation is before tenth grade, and the earlier the better. In early grades, children are fascinated by straightforward information. Our official modern distaste for old-fashioned memorization and rote learning seems more pious than realistic. Young children are eager to master the materials essential for adult life, and if they believe in the materials they will proudly soak them up like sponges and never forget them. There is a tremendous weight of human tradition across many cultures to support this view. At about age thirteen, young Catholics get confirmed, having memorized the materials they must know in adult life. At the same age, young Jews get bar mitzvahed. At around the same age, young tribal boys and girls must show that they have mastered the rites of passage into the tribe.

There are good reasons why these universal traditions of early acculturation should have come into being. They correspond to something that seems almost biological in its appropriateness and necessity. Human beings function in the world only by becoming members of a culture. The human species survives through social and cultural organizations, not through instinct. Young children have an urge to become acculturated into the adult world by learning the facts of the tribe long before they can make sense out of them.

But in neglecting the extensive part of the school curriculum, we have forsaken the responsibility that rests with the adult members of any tribe. For many decades, we have followed educational theories and ideologies that have now turned out to be inadequate. We have forgotten the acculturative responsibilities of the earlier grades. In a larger historical perspective, we can see that we lost touch with our earlier educational traditions, and, as a consequence, whole generations of schoolchildren lost touch with earlier traditions of our national culture. But those decades did not and could not signal a permanent change in American education, because the failure to include schoolchildren in our literate traditions is in conflict with some of the root purposes of national education.

A lot of us are beginning to recognize our earlier mistakes. That is one of the meanings of the current educational reform movement. We are beginning to see that educational formalism—the idea that we can teach reading and writing as formal skills only—is not sound and has not worked. We have also seen the superficiality of believing that a literate nation can abandon its traditions and remake its literate culture from scratch according to some new ideology. That is a mistake not in moral terms, but in practical terms. When the national languages were fixed in the eighteenth century, some of the cultural baggage that went with each language also became fixed. The two elements, language and cultural baggage, cannot be disentangled. If one believes in literacy, one must also believe in *cultural* literacy.

A great deal is at stake in understanding and acting on these truths as soon as possible. For most children, the opportunity of acquiring cultural literacy, once lost in the early grades, is lost for good. That is most likely to be true with children of parents who have not themselves mastered the literate national culture. To deprive these children of cultural literacy in the early grades is to deprive most of them forever. By contrast, children from literate families may get at home what the schools

have failed to provide. It is the neediest, therefore, who suffer most from our failure to live up to our educational responsibility to teach the traditional extensive curriculum.

7 HAT ARE the specific contents of that extensive curriculum? Let me be quite specific about goals, even if not about the contents of each grade level. I said that the extensive curriculum consists of broad, often superficial information that is taken for granted in writings directed to a mature general reader. Let me now list some of that information under appropriate categories. American readers are assumed to know vaguely who the following pre-1865 people were (I give just the briefest beginning of an alphabetical list, stopping with H.): John Adams, Benedict Arnold, Daniel Boone, John Brown, Aaron Burr, John C. Calhoun, Henry Clay, James Fenimore Cooper, Lord Cornwallis, Davy Crockett, Emily Dickinson, Stephen A. Douglas, Frederick Douglass, Jonathan Edwards, Ralph Waldo Emerson, Benjamin Franklin, Robert Fulton, Ulysses S. Grant, Alexander Hamilton, and Nathaniel Hawthorne. Most of us know rather little about most of these names, but that little is of crucial importance because it enables writers to assume a foundation from which they can treat in detail whatever they wish to focus upon.

Here is another alphabetical list: Antarctic Ocean, Arctic Ocean, Atlantic Ocean, Baltic Sea, Black Sea, Caribbean Sea, Gulf of Mexico, North Sea, Pacific Ocean, Red Sea. It has a companion list: Alps, Appalachians, Himalayas, Rocky Mountains, Mt. Everest, Mt. Vesuvius, the Matterhorn. Because writers mention these things without explanation, readers need to have them as part

of their intellectual baggage.

Another category is the large realm of allusion that belongs to our literary and mythic heritage. These traditional myths enable writers to say complex things compactly and to use the emotive and ironic values of allusion. Here is a sampling of such taken-for-granted materials from the literature that one often gets in childhood: Adam and Eve, Cain and Abel, Noah and the Flood, David and Goliath, the 23rd Psalm, Humpty Dumpty, Jack Sprat, Jack and Jill, Little Jack Horner, Cinderella, Jack and the Beanstalk, Mary Had a Little Lamb, The Night Before Christmas, Peter Pan, Pinocchio, The Princess and the Pea.

Here are some patriotic songs that are generally known: The Battle Hymn of the Republic; Columbia, the Gem of the Ocean; My Country, 'Tis of Thee; America the Beautiful; The Star-Spangled Banner; This Land Is Your Land; Yankee Doodle.

At random I will add (alphabetically) such personages as Achilles, Adonis, Aeneas, Agamemnon, Antigone, and Apollo. Not to mention Robin Hood, Paul Bunyan, Satan, Sleeping Beauty, Sodom and Gomorrah, the Ten Commandments, and Tweedledum and Tweedledee.

Obviously you don't expect me to give the whole list of cultural literacy here. But perhaps it would surprise you to learn that I could do so if I had the time and you had the patience. In fact, such a list was compiled, after much consultation, by a historian, a natural scientist, and myself. It represents background knowledge that people need to have by the time they graduate from



high school. Although the list is 131 pages long, it could be cut down by about a third for the pre-tenth-grade age group. Perhaps its most important feature is its limited character. It represents a specific, finite body of superficial knowledge, which, if taught to youngsters in the context of a good *intensive* curriculum, would enable them to understand serious materials directed to a general reader.

A NY SUCH list is of course open to objections like the following: Why aren't there more women on the list? Why isn't there more representation of Chicano culture? Doesn't your list simply certify and perpetuate the existing WASP, establishment culture? Must this status quo, traditional material be the only method of achieving universal literacy? Won't this return to traditional materials make our culture even more static, dull and monolithic than it already is?

My reply is that the various movements that have been resisting such cultural dominance have been working reasonably effectively and will continue to do so. Also, as Catherine Stimpson, the well-known feminist literary critic and former editor of the feminist journal *Signs*, recently observed, we must distinguish between people who are actively trying to change our literate culture and those who are trying to make a useful dictionary of its current structure. Unless the two functions are kept separate, the dictionary makers like me, who are trying to make a serviceable list, will lose their credibility and usefulness.

Stimpson's shrewd observation describes a situation that teachers always find themselves in. Although we are citizens who want to work for social and political ends, such as a more pluralistic culture, we are also professionals whose personal politics must stop at the

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classroom door. In our roles as teachers, we have an obligation to be descriptive lexicographers, to tell our students what they currently need in order to be literate. If we disapprove of the current literate culture and want to change some of its elements, we should pursue outside the classroom the sort of cultural politics that Catherine Stimpson pursues. But until we succeed in changing the literate culture, we must not misinform our students by pretending that its contents are just what we wish them to be. Of course, we also have an obligation to explain to our students why it is, for example, that a pre-1865 list of Americans whom a culturally literate person might be expected to know of would not include many blacks. The content of a society's cultural literacy bears witness to its sins as well as its successes.

MENTIONED feminism as an example of cultural change because it has succeeded in altering our collective usages. It has made us self-conscious about gender words and gender attitudes. Similarly, the civil rights movement succeeded in changing our usages in such ways as effectively removing the word "nigger" from the English language — a beneficent change, indeed! This kind of change goes on all the time, for both good and ill. As a result, the content of cultural literacy is always changing, as is obvious to everyone in the case of such words as *DNA* and *software*.

What may not be obvious is that the *central* content of cultural literacy has not changed very much in the last hundred years. What changes is at the periphery, not at the center. These days, writers can assume their readers know who Gerald Ford is, but thirty years from now they probably won't make that assumption. On the other hand, thirty years from now writers will continue

to assume that George Washington could not tell a lie and that Scrooge hated Christmas. Of course, no single item of cultural literacy has any importance by itself. But the bulk of such items, taken together, are as important as anything we teach.

In the technological age, Washington and the Cherry Tree, and Scrooge and Christmas, the fights historical, the oceans geographical, the beings animalculus, and all the other shared materials of literate culture have become more, not less, important. The more we become computerized, the more we need not just shared scientific knowledge but also shared fairy tales, Greek myths, historical images, and so on. Let me explain this paradox. The more specialized and technical our civilization becomes, the harder it is for nonspecialists to participate in the decisions that deeply affect their lives. The growing power of the technological class will create. according to experts, more and more distance between the rest of us and the ruling cadre of technicians who control the systems. The technicians with their arcane specialties will not be able to communicate with us, nor we with them. This contradicts the basic principles of democracy and must not be allowed to happen.

The only antidote to this problem of specialization was put forward many centuries ago by Cicero. He said that each of us should be trained to communicate our special knowledge to the rest of our society in the language of ordinary people. That this Ciceronian ideal *can* be achieved is proven by those literate scientists who are able to write for a general literate public. But such a literate culture can only be achieved if all of us, including technicians, share enough traditional background material to enable complex communication to occur.

I N CONCLUSION, I want to stress again that the only skills that train for life are those knowledge-based activities that continue specifically to be used in life. Reading and writing, of course, continue to be used. Everyone knows they are absolutely central to productive membership in our society and to the ability to acquire new knowledge-based skills when needed. Reading and writing at the high levels required for such future flexibility are skills that are based on a large, complex system of world knowledge that I have called cultural literacy. Imparting this knowledge to our students, through the study of the humanities and the sciences, is the chief responsibility of our educational system.

Our schools have not imparted these essential facts and words, because in recent times we have not been willing as a nation to decide what the essential facts and words are. Despite our national virtues of diversity and pluralism, our failure to decide upon the core content of cultural literacy has created a positive barrier to adult literacy in this country, and thus to full citizenship and full acculturation into our society. We Americans need to be decisive and explicit about the background information that a citizen should know in order to be literate in the 1980s. Access to this democratic literate culture is not only a proper goal of our curriculum but is also the only possible way of realizing the dream of Jefferson and King.

LUNTRATED BY BORBY TITL

MINORITY REPRESENTATION IN THE TEACHING PROFESSION: AN AFFIRMATIVE PROGRAM

BY BERNARD R. GIFFORD

A S THE use of standardized tests to screen prospective teachers spreads across the country, minority applicants are failing at a disproportionately high rate. Critics argue that the increased use of testing is inherently racist and counterproductive. But I disagree. If we devalue standardized tests, we are evading the serious issues raised by high minority failing rates — and that will only perpetuate the problems all of us are seeking to solve.

California has recently increased its reliance on testing, and the state's story is instructive, reflecting the national experience. Since 1983, prospective teachers in California have been required to take the California Basic Educational Skills Test (CBEST), which evaluates basic skills in mathematics, reading, and writing. Candidates take the CBEST for diagnostic purposes before they can be admitted to a teacher education program, and they must pass the exam before receiving certifica-

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tion. Prospective teachers who have not successfully completed an approved sequence of academic courses are also required to score above a minimum cutoff on the National Teacher Examination (NTE) in order to enter the profession.

California's testing program, like that of other states, has received some rather harsh criticisms. Among those most reluctant to endorse the growing reliance on standardized examinations are groups sensitive to the unique problems confronting prospective teachers from minority backgrounds.

The reluctance of these groups is understandable, given the tests' effects on minorities nationwide. In California, of the 6,644 minority candidates who took the first CBEST in 1983, 3,854, or 58 percent, failed. The highest failure rate was among blacks. Of the 2,040 blacks who took the exam, only 530 were able to proceed with their plans to be teachers, a paltry 26 percent. For other minority groups, the test results were not much better: Only 834 (39 percent) of 2,133 Mexican-Americans and 637 (50 percent) of 1,259 Asian-Americans passed. In comparison, the passing rate for whites was 76 percent, with 18,856 of the 24,540 whites who took the exam passing.

The rates of failure on these examinations reflect two ominous trends: the decline in interest in teaching on

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the part of many well-educated students, especially talented minority students, and the failure of the colleges and universities to guarantee that their graduates, including many minority graduates, can read with comprehension, write literately, and perform routine mathematical computations.

The problems associated with these high minority failure rates are made all the more serious by our increasing need for qualified black, Hispanic, and Asian-American teachers at a time of rapid demographic change. A large and increasing proportion of public school students in California and a number of other states are minority youngsters, and demographers expect this picture to continue into the next century.

If present trends continue, the supply of minority teachers will nose dive, a result that is as disturbing as it is unacceptable. Equally serious is the prospect that when minority group pupils, especially those contemplating teaching careers, learn that many prospective minority teachers are judged not good enough to teach, they may lose confidence in their own abilities and conclude that the teaching profession is "off limits" to minorities. Also, minority students, who desperately need to see successful role models, would be denied access, yet again, to exemplars of success.

THE FIRST reaction of many to these test results is to cry "racism." They insist that "alternative" certification standards be adopted for minority group teaching candidates in order to take into account their different experiences and qualifications. Otherwise, the argument goes, the promises of democracy and equality will once again be placed in great jeopardy. I disagree with such a view. We must support minimum competency standards. We must insist that *all* prospective teachers demonstrate mastery of basic skills in reading, writing, and mathematics.

Many have argued that exams like CBEST are culturally biased, heavily skewed in favor of pupils from middle-class homes. This may well be the case. But the solution is not to throw out standard examinations. We must insist instead that every attempt be made to rid these exams of their invalid features.

We must also insist that public officials, in and out of the educational establishment, develop, fund, vigorously monitor, and evaluate school improvement programs designed to help minority pupils become more competitive on examinations such as the Scholastic Aptitude Test and the CBEST. Here again, targeted programs make more sense as a means to close the performance gap between low-income and middle-income students than proposals to discontinue the SAT or CBEST. We must not accept and thereby institutionalize dual standards for minority and nonminority students.

W E CAN gain many insights into the need for proficiency testing from an examination by analogy of the situation facing minority teaching candidates through an argument advanced by sociology professor Harry Edwards of the University of California at Berkeley regarding the passage of the National Collegiate Athletic Association's "Rule 48." This rule sparked "what is probably the most heated race-related controversy within the NCAA since the onset of widespread

racial integration in major college sports programs during the 1950s and 1960s."* The new regulation stipulated that "beginning in 1986, freshman athletes who want to participate in sports in any of the nation's 277 Division I colleges and universities must have attained a minimum score of seven hundred (combined) on the SAT or a score of fifteen (composite score) on the American College Test (ACT) and must have achieved a 'C' average in eleven designated high school courses, including English, mathematics, social studies, and physical sciences."

The concern voiced by many black leaders was intense and immediate. Some were angered because they were not consulted in the formulation of Rule 48; others claimed that the setting of the SAT minimum score was arbitrary; still others stated that the SAT and ACT are racist diagnostic tests, biased in favor of whites and that the proposed cutoffs imposed unfair penalties on black athletes. Edwards took a stand supporting the enforcement of Rule 48. He agreed that the cut-off scores may well have been arbitrary, but found them so arbitrarily low as to constitute no standard at all. Edwards stated:

Further, were I not to support Rule 48, I would risk communicating to black youth in particular that I, a nationally known black educator, do not believe that they have the capacity to achieve a seven hundred score on the SAT, with three years to prepare for the test, when they are given a total of four hundred points simply for answering a single question in each of the two sections of the test and when they have a significant chance of scoring 460 by a purely random marking of the test. Finally, I support the NCAA's action because I believe that black parents, black educators, and the black community must insist that black children be taught and that they learn whatever subject matter is necessary to excel on diagnostic and all other skills tests.

We need to couple support of such rules for minimum competency with the insistence that we work together to indeed ensure that minority children be taught in order that they are competitive on examinations from SAT to NTE to CBEST.

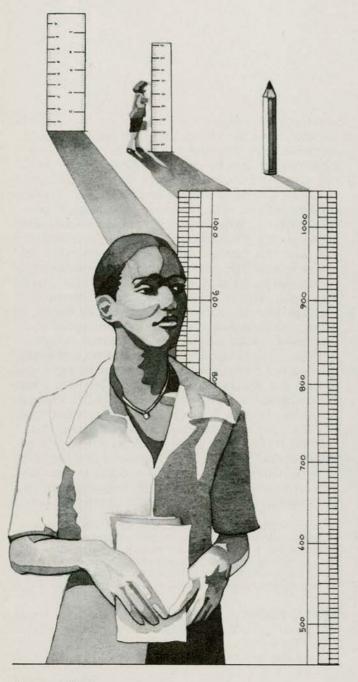
Capacita Raspberry, "measure patience, love of children and learning, the ability to maintain order, and a hundred other things that make up teacher competency. But the tests can measure whether a teacher has learned the basics of pedagogic techniques (which we consider important, or else why would we mandate education courses for teachers?) and whether a teacher has a solid grasp of the material to be taught.... I assume that the reason minority applicants fare worse on the tests than whites is that they themselves are victims of inferior schooling."

I fully agree with this view and would add that, whereas I would not rely on a test to tell me who had the personal warmth and caring required of a good teacher, and whereas I would *not* expect a test to tell me who from among a pool of applicants has ambition, drive, or dedication, I *would* expect a test to give me some reliable information about the basic competencies of a pool of applicants. I would *not* want such a competency test to generate a list of prospective students in a rank

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^{*}Edwards, Harry, "Educating Black Athletes," The Atlantic Monthly, August 1983, pp. 31-38.

We need to take steps to ensure a larger pool of qualified minority teachers, while also maintaining and improving standards of teacher quality.



order, because we do not know enough about individual differences to do that. Further, I believe that, as much as measuring potential aptitude, perhaps even more so, tests such as the SAT and well-constructed, appropriately used tests such as the CBEST measure both what students have learned *and* show how well students are able to apply their learning to what the test asks of them.

What all of the test results we have discussed thus far indicate is that we are still neglecting the children of low-income families. The test results show that those who enter our system with the most at their disposal are the ones who will get the most out of our system. The system continues to be "theirs." If we were to do as Dean Arnold M. Gallegos of the College of Education at Northern Arizona University suggests and set apart alternative methods for certifying minority group members who want to teach, we would be perpetuating the cycle, however benign our intent.

If we are to interrupt the cycle of failure, we must take direct action to provide all students in our public schools with high quality education that is responsive to their real needs. We cannot begin this effort without well-qualified teachers, including well-qualified minority teachers. To meet the challenge we face, we need to take steps to ensure a larger pool of qualified minority teachers, while also maintaining and improving standards of teacher quality.

H OW CAN we achieve this goal? The following comprehensive program, which is currently under consideration by the California state legislature, comprises my three-step plan to address this imbalance. It includes proposals for identifying early in their education minority and low-income students who have a commitment to teaching, providing these students with intensive university and postgraduate training, and instituting programs and rewards for outstanding effective teachers—nonminority as well as minority—once they are in the classroom.

As early as high school, students who have expressed interest in teaching as a career would be selected to participate in a special university-level preprofessional program. Admission considerations would include students' potential for growth and eagerness to learn in addition to the traditional criteria of grades and past achievements. Special efforts would be made to recruit students with a background or interest in areas of particular need, such as mathematics, science, or language and literacy. The program would require a five-year university course of study leading to the bachelor's degree and would provide a series of paid school year and summer teaching internships. Interns could work for, and learn from, master or mentor teachers to the mutual benefit of both.

Upon selection, students would take a series of diagnostic tests to identify subject area strengths and weaknesses. In conjunction with regular studies, they would then enroll in a series of tutorials to work on skill development in their weakest areas. These tutorials would be an integrated part of an undergraduate liberal arts program leading to the bachelor's degree and would cover reading and basic mathematics, with heavy

(Continued on page 43)

LUSTRATED BY SUSAN DAVIS

SOCRATES IN THE CLASSROOM

Strategies for Enhancing Critical Thinking Skills

BY DEBBIE WALSH

■A major study of 100,000 U.S. schoolchildren found that, although students at each age level had little difficulty making judgments about what they read, most lacked the problem-solving and critical thinking skills necessary to explain and defend their judgments.

■On the New Jersey Test of Reasoning, the mean scores of college freshmen are less than one point above the mean scores of sixth graders; the basic repertoire of adult reasoning skills is relatively unchanged from that of sixth graders.

■ Many high school students do not possess the higher order intellectual skills we would expect of them: 40 percent cannot draw simple inferences, 80 percent cannot write a persuasive essay, 66 percent cannot solve a math problem requiring several steps.

THESE AND other startling statistics are sounding alarms throughout the country and giving rise to a movement to emphasize critical thinking skills in the elementary and secondary curricula. There is a growing recognition that our children are not adequately prepared for the demands of an increasingly complex and rapidly changing world. The amount and nature of the information, misinformation and disinformation that constantly bombard us, coupled with the continuous demand for new skills in an increasingly technological age and the magnitude of the social issues of the day, suggest that never before have skills in rational thought and reasoned judgment been so urgently needed.

An implicit ideal of the schools is to prepare students to meet the challenges of their world, to ready them for productive and satisfying lives and effective participation in a democratic society. To make this ideal a reality

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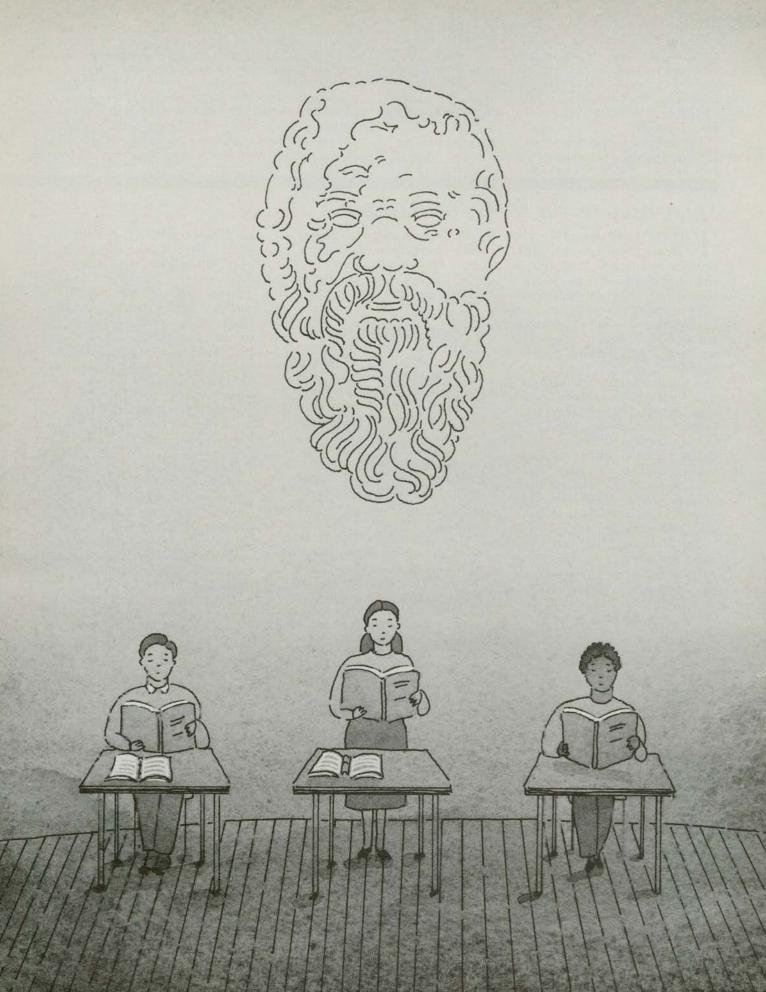
requires a movement away from the "one-right-answer paradigm" and the overemphasis on what curriculum specialist Hilda Taba has described as "factual knowledge that burdens the student's memory with an unorganized, perishable, and obsolescent assemblage of facts." Of course, without a knowledge base, critical thinking skills exist in a meaningless vacuum, if indeed they exist at all. What is needed is a synthesis of the two, an integration of factual knowledge with those intellectual skills that process and organize knowledge, that enable us to weigh, reconcile, and assess reasons, arguments, and points of view, and to analyze conclusions. To accomplish this, our classrooms must become what Matthew Lipman, author of Philosophy in the Classroom, calls "communities of inquiry," committed to the process of intellectual inquiry and rational thought.

There is hard evidence to indicate that emphasizing thinking not only encourages children to be rigorously critical and imaginatively speculative but also correlates with success in basic academic skills. Although most school systems espouse the goals of critical thinking, few have any practical or systematic programs.

In his recent study of life inside American schools, John Goodlad found that only 5 percent of school time is spent on direct questioning of students, and less than 1 percent is devoted to the kind of open questioning that calls for skills other than simple memory. He notes:

It becomes apparent that the range of pedagogical procedures employed in academic subjects is very narrow... the teaching observed in our current study was characteristically telling or questioning students, reading textbooks, completing workbooks and worksheets, and giving quizzes. This pattern became increasingly dominant with the progression upward from primary to secondary classes.

THE PAIDEIA Group, authors of the educational manifesto entitled *The Paideia Proposal*, have also called for a radical restructuring of the schools to emphasize the development of more rigorous intellectual



skills. Schools make two major errors, say these reformers: first, in relying almost exclusively on the didactic approach to teaching and, second, in believing that teachers are the sole or principal cause of learning, when the primary source is the activity in the learner's own mind. The teacher is an instrumental aid, assisting the process by occasioning and guiding the students' mental activity.

The Paideia Group and other critics urge that the didactic approach be supplemented by two other types

of teaching: coaching and Socratic discussion. Whereas didactic teaching has as its goal the acquisition of organized knowledge, coaching develops intellectual skills and habits, while Socratic teaching — questioning and active participation in discussion — enlarges understanding of ideas and concepts. The knowledge acquired in didactic learning is thus made more secure and long lasting.

There are many obstacles to be overcome if our schools are to truly foster Socratic teaching and learn-

SEARCHING FOR THE SECRET OF HAMLET

THE PRIMARY goal of Socratic teaching, whether in a formal seminar or not, is to bring out and then clarify the ideas and issues that are raised by something that has been read or otherwise experienced jointly by the leader and the students. A secondary goal of such teaching is to make clear the book or work of art itself.

A seminar leader who wants only to reveal his superior knowledge by telling the students what is in a particular book or play or other work is not a Socratic teacher. He is only a disguised didactic teacher and whoever does this does not need the time and the paraphernalia of a seminar. He might as well stand up in front of the class and lecture.

The ideas and issues raised by good books are more permanent and more interesting than those that are raised by inferior books. In fact, the best books — great books, as they are called — raise the most fundamental and lively issues of all.

The best seminars occur when a leader or leaders join with students in examining the issues and questions raised by great books. In the upshot the issues should become clear; but it should also become clear that each participant, leader or student, has a responsibility to face those issues as they affect himself or herself.

Excerpted from The Paideia Program, by Mortimer J. Adler, the last book of a trilogy that sets forth both the theory and practice of the Paideia program for basic school reform. Copyright ©1984 by the Institute for Philosophical Research. Used with permission of Macmillan Publishing Company.

In such a seminar the leader is not a teacher in the ordinary sense. He or she is merely the first among equals in a joint effort to reach a goal that is shared by all.

B OOKS DIFFER, and so do seminars that deal with them. Imaginative literature — fiction, drama, poetry — constitutes one main type of book. Expository literature — science, history, philosophy — constitutes the other main type.

A seminar about Shakespeare's *Hamlet*, for example, is different from a seminar about Aristotle's *Ethics*. An able seminar leader conducts the two seminars in different ways.

With both books, the first task is to understand what has been read. In the *Ethics*, the first step is to examine the statements that Aristotle makes, the conclusions that he draws, and the advice he gives, more or less explicitly, about how to live our lives. In *Hamlet* the first step is to make sure that all the participants understand what happens in the play and why it happens when it does.

In the *Ethics*, only after the points that Aristotle makes are well understood is it appropriate to begin discussing whether his conclusions are true, or whether his advice is good. Similarly, in *Hamlet*, only when the language and plot of the play are well understood is it appropriate to consider what relevance the story has, if any, to our own lives.

The goal is the same in both cases: to bring out the basic ideas or issues that Aristotle, on the one hand, and Shakespeare, on the other hand, force us to face if we read their books well. But the conduct of the discussion — the kind of questions asked — is bound to differ.

In the *Ethics*, or any other expository book, the questions asked by the leader tend to be linear, forming a sequence with an established aim in view. *Hamlet*, however, like other works of imaginative literature, cannot be approached in that fashion without missing much that is essential.

The "secret" of *Hamlet* really is a secret, and there is no one line of questioning that will arrive at it. Rather, the seminar leader must circle round and round the play, seeking for an opening here, for an opportunity there, for a point that it would be helpful to make at this stage of the conversation.

For this reason, seminar discussions of imaginative works often seem more chaotic, less orderly, than discussions of expository works. At the same time, the discussions of imaginative works are often more moving and affecting for all concerned.

THE IMPORTANT questions I that arise in a seminar, it cannot be repeated too often, are the questions to which there is no "right" answer. Many other kinds of questions must be asked, of course. In the Ethics, to take that example again, there are questions of fact that a good leader will ask. What, in Aristotle's view, is the definition of virtue? Why is courage a virtue, foolhardiness not? What are the characteristics of a happy life? Is happiness the same as pleasure or contentment? If not, why not? These are questions to which there are right and wrong

ing. Ninety-five percent of standardized test questions are devoted to recall and memorization and neglect the higher-level thinking processes. Textbooks have been notably deficient in their attention to thinking, and teachers indicate that their teacher education programs do not adequately prepare them for appraising and encouraging the process of thought. A theory of thinking in teacher preparation programs has been noted to be "conspicuous by its absence."

Despite these constraints, the critical thinking move-

ment is emerging on the educational horizon. A recent survey of state departments of education identified fifteen states that have launched some type of "thinking skills" initiative, from California (where the revision of the statewide student assessment program to integrate critical thinking skills into 30 to 60 percent of the test items is said to be only the beginning of a series of reforms in curriculum, teacher education, and staff development), to draft legislation in Connecticut, South Carolina and Wisconsin, to state mandates or guidelines

answers, because Aristotle says one definite thing on each of these subjects.

Similarly for *Hamlet*, there are questions to which there are right answers, and it will be useful to ask them. Why does Polonius warn his daughter Ophelia against Prince Hamlet? When Hamlet comes upon Ophelia in the gallery, has he overheard Polonius and King Claudius plotting to enable the younger pair to meet and talk? When they meet, does he know they are being overheard? And so with scores of other factual matters.

Those questions are very different from such others as the following. Does Hamlet love Ophelia, or only desire her? Does he believe what the Ghost of his father tells him? Why does he pretend to be mad? Is it, as Polonius suggests, because he is in love? Why is Hamlet so concerned about his mother's marriage to the king?

These are questions to which there are no definitive answers, and for that very reason they are important questions.

Turn back once more to the Ethics. Are there any rules of conduct that, if followed, will lead to moral virtue - in other words, how does one become virtuous? How does one teach someone else - for example, how should a father teach his son — to be so? Can virtue be taught at all? Is it ever appropriate to say, "I am happy"? And what of your own answer to that question? Is it the same as Aristotle's? Who is right? Such questions should be asked toward the end of the seminar, at the point where it is fairly clear that all the participants understand the

book, but are puzzling about its meaning and relevance to human life.

N A PAIDEIA school, Socratic Leaching starts in kindergarten and continues throughout all twelve years of basic schooling. The main change, aside from the increasing maturity of the conversation, is in the frequency of seminars and the amount of time devoted to each. Even so, the questions, ideas, and issues themselves do not greatly change as the years pass. It is wrong to think that young children are only capable of considering and talking about "simple" ideas and issues. Justice, for example, is not a simple idea, and yet it is one that very young children are even more interested in than older ones. What is fair? Why is fairness important and desirable? Is it fair to punish someone who has done wrong?

Such profound questions may arise at any moment in the lives of young children and can properly come up in the course of a discussion with them. The good teacher will take advantage of such moments to lead the conversation a little farther than it would naturally go without being too demanding. But if he or she fosters a concern with such matters in young children, those same youngsters will turn out to be excellent participants in seminars in the upper grades.

OT ALL seminars are, strictly speaking, discussions, just as not all materials are books. Although it is generally true that the inability to state one's ideas or beliefs is a sign that one's ideas or

beliefs are vague and ill understood, that is not so of all ideas and beliefs. What ideas are being considered or treated in Mozart's G minor symphony? Would it ever be appropriate to say *in words* what those ideas are? Is there not some other form of response to Mozart that is more appropriate than speaking?

Looking at a painting by Cézanne, one can describe what one sees, but is this the most appropriate response? Which is more important, the painting itself or the feelings evoked by it in a viewer? Or is the relation and tension between those two things what is important? And is this fruitfully discussable? If the goal in discussing Hamlet is to understand both the play and its meaning for us, would it be more fruitful to put a production of the play on the stage than to talk about it? And does not something happen, when a group of people dance together, that is totally beyond any statement in words?

In a Paideia school many kinds of seminars will take place during the twelve years of basic schooling. Teachers will lead them in different ways, and striking innovations will be made from time to time. But all seminars will have one thing in common. They will always be joint searches. The very best seminars, the ones that both leaders and students will remember for years, perhaps for a lifetime, will be those in which something new and unexpected was discovered. This is true for the leaders as well as the students. It would be a very unsuccessful seminar leader who was never surprised.

for integrating these skills into the curriculum in Vermont, Pennsylvania, and New York.

WHAT IS critical thinking and how can it best be developed? Robert Ennis of the Illinois Thinking Project at the University of Illinois-Champaign — who has been researching the issue since the fifties — defines critical thinking as "reasonably going about deciding what to do or believe." Edward Glaser, whose 1941 book An Experiment in the Development of Critical Thinking was one of the earliest works in the field, identifies three principal elements of the critically reflective mind:

- an *attitude* of being disposed to consider in a thoughtful, perceptive manner the problems and subjects that come into one's range of experiences;
- knowledge of the methods of logical inquiry and reasoning; and
 - skill in applying these methods.

Socratic questioning is one of the most effective teaching methods for developing skills in intellectual inquiry and critical habits of thought. The deepest intellectual roots of the critical thinking movement have been traced to the teaching practice and vision of Socrates, who, 2,400 years ago, discovered by a probing method of questioning that many of the authorities of his day could not justify on rational grounds their confident claims to knowlege. Through the use of penetrating questions and perceptive and probing guiding of thought, his students were able to achieve deeper insight and understanding and to develop coherent lines of reasoning on which to base their thoughts and beliefs.

Richard Paul, director of the Center for Critical Thinking and Moral Critique at Sonoma State University in California, emphasizes the difference between memorization and understanding. It is difficult to remember what you do not understand, but if knowledge

Research suggests that teachers should extend the time allowed for student responses.

is placed in some context, if it has been organized to give it meaning, learning is more durable. To illustrate. Paul uses the examples of learning to count and of understanding the concept of democracy. To count, one must learn facts about numbers. Then one learns concepts whose proper use is a skill: counting ad infinitum. This concept enables us to determine what number comes after 10,341 without having to memorize them all. The same is true for the concept of democracy: Knowledge of the concept (and much essential knowledge is in large part conceptual) and the ability to use the word are much more important than some given facts about democracy. A student understands what democracy means not by memorizing the words "government of, by, and for the people" but when she begins to appreciate to what extent it makes sense to apply it and where. When a student is asked to reflect on situations in her own life in which she is a part of a group that democratically decides what happens or when situations are given in which the arrangement is only partially democratic and she has to figure out which part, she gains not only knowledge but a long-lasting skill in the use of the concept.

WHILE MANY might argue that emphasizing Socratic learning and critical thinking will take too much time away from content mastery, the counter argument is that using critical thinking skills with content enables students to understand the content more fully, thereby reducing the amount of time devoted to rote memorization. Students will also retain the information longer if they have a deeper understanding of it in context rather than memorizing discrete, segmented bits of information.

Lipman believes that the value of classroom discussion has often been underestimated:

... from dialogue, we learn ways in which people draw inferences, identify assumptions, challenge one another for reasons and engage in critical intellectual interactions with one another ... critical attitudes toward what other people say are developed in the participants of a discussion. These critical attitudes are turned upon one's own reflections. One considers carefully what others might say about one's contribution, once one has learned the techniques of critical examination of others' thinking processes and modes of expression ... thinking is the internalization of dialogue

Mortimer Adler, the leader of the Paideia Group, says that Socratic teaching should start in kindergarten and continue thoughout schooling and that it is simply wrong to think that young children are incapable of considering and talking about ideas. Through discussion, a teacher can help students think about their thinking in an organized way. The essence of effectiveness is in the questions that a teacher asks, yet it is important to focus on student questioning also, as the ability to ask significant questions is as important for students as it is for teachers. Teachers can begin by encouraging students to search out underlying assumptions, guiding reasons, possible implications, and alternative criteria. This approach focuses not merely on learning historical or scientific facts but on getting children to think historically or scientifically.

Teacher listening is as important as teacher questioning. Good teacher modeling is the first step in helping children develop good questions themselves. Research

Socratic questioning requires time and a class size small enough for a teacher to learn bow each child's mind works.

also suggests that teachers should extend the time allowed for student responses. Students need to decipher the meaning of a question and to think of an answer before they put it into words. But classroom-based studies show that most teachers wait only one second before repeating the question or calling on someone else. By extending this time for several seconds, teachers can heighten student engagement and get longer and more substantive responses. Research on effective questioning strategies conducted prior to 1970 provided few answers for practitioners, but more recent studies have found that the predominant use of higher-level questions during instruction has a positive effect on student achievement. Research on reading comprehension

AFT RESOURCES

The AFT is developing materials and support services to assist teachers in their efforts to develop and integrate critical thinking skills in their classrooms. The Critical Thinking Project features:

- a series of five booklets highlighting the issues relating to teaching critical thinking;
- a special "Inside Your Schools" TV feature devoted to critical thinking skills;
- a series of videotapes with accompanying teacher guides for staff development (with graduate credit) on critical thinking instruction in the K through 12 curriculum; and
- an information clearinghouse and dissemination network on critical thinking.

An announcement will be made through AFT publications when these materials are available. For further information, write the AFT Educational Issues Department, 555 New Jersey Avenue, NW, Washington, DC 20001.

shows undisputed benefits from asking questions: Questions help students understand content, and students who use questions learn more subject matter than students who do not.

Thoughtful questions can help develop skills such as the following:

- Testing for inferences. Example: Since the election was a landslide, what does that tell you about public attitudes?
- *Identifying assumptions.* Example: What can be assumed in the following statement? "Middletown is the city to live in because it has the lowest crime rate."
- Seeking evidence. Example: If this is your proposition, tell us how you might go about testing it? Where would you look for information to support it?
- Analyzing arguments. Example: What is the major issue raised in this editorial? What is the conclusion? Does it follow from the premise? Is it a valid argument?
- Formulating conclusions. Example: Was the ostracism of Hester Prynne in *The Scarlet Letter* appropriate and justifiable by the society of her time? Why or why not?

THE RESEARCH on teaching effectiveness also tends to support the use of questioning and discussion as methods to increase student achievement. More effective teachers have more interaction with students. In addition to lecture and drill, the effective teacher leads discussions, solicits student responses to questions, and provides feedback to students. Learning occurs when students read aloud, ask questions and receive feedback, and hear others ask questions and receive responses.

Teachers who can model an endless quest for meaning, for more comprehensive answers in life's important issues, are the most important ingredient, says Lipman: "The proper role of the teacher," he notes, "is to encourage intellectual creativity as well as intellectual rigor... to listen scrupulously to what children actually say and are trying to say, to recognize the logical pattern of childrens' discourse, to orchestrate discussions, and to encourage children to think for themselves."

Many teachers, burdened by the bureaucratic constraints of the system, state that they do not have the time to employ Socratic teaching methods. And they are right. A true commitment to critical thinking will require major organizational change to ultimately create environments where both students and teachers are valued as critical thinkers. Socratic questioning requires time and a class size small enough for a teacher to learn how each child's mind works. It requires an environment in which students feel free to take risks with their thinking, where asking the right questions is as important as giving the right answers. Lipman reminds us that "our culture characteristically defines intelligence in terms of the ability to answer questions rather than the ability to ask them, and in terms of competence in solving problems rather than competency in reorganizing and formulating them" That definition simply will not work for us anymore. Our schools hold the key to unlocking new possibilities for old problems, new opportunities for existing challenges. Never before has it been so imperative that we try to move critical thinking from educational ideal to educational reality.

ILLUSTRATED BY DAY SHERBO

WHEN MORE IS LESS: THE MENTIONING' PROBLEM IN TEXTBOOKS

By HARRIET TYSON BERNSTEIN

■ ENTIONING," a term coined by researcher Dolores Durkin at the University of Illinois, has come to signify one of the most pervasive problems found in contemporary textbooks. Books prepared for nearly every grade level and subject matter introduce too many topics and cover them too superficially. Authors and publishers are bombarded with demands to include more and more material, and critics of textbooks more often complain about the exclusion, rather than the inclusion, of topics. University professors, curriculum directors, minority group leaders, feminist spokespersons, environmentalists, advocates for the elderly and handicapped, champions of capitalism, patriotism, and a seemingly endless list of pleaders want kids to straighten up, wise up, and wake up. According to most publishers, the pressures are increasing. Stuffing more and more information into the rather fixed confines of a hardcover schoolbook, usually about five hundred pages long, has forced publishers to "mention" all the legislated and mandated items on the scope and

sequence charts of the big adoption states and tuck in tidbits about whales, grandmothers, redwoods, achieving women, solid waste disposal, or microbiology so that their books will please the decision makers.

The paragraph below, taken from a fifth-grade social studies book, tricks the reader into thinking he's going to get some exciting stuff about what Americans did after the Civil War. But without logic or warning, the text darts eighty years backwards to a discussion of the first national census. It then meanders into a present-day statistic. Ultimately, it fails to meet even the most rudimentary standards for a paragraph.

People worked hard to rebuild and unify America after the Civil War. It was time to move ahead. In 1790, the first census of the United States was taken. A census is an official count of people. Every ten years, a census is taken in the United States. In 1790, there were 4 million Americans. Most of them were living in small settlements or on farms. Today, the United States has 220 million people. Most of these people live and work in or near cities.

This overly compressed paragraph reads as though it were a dumping ground for facts, each included solely to meet the requirements of one or more states. It demonstrates what can happen when textbook authors and publishers have to serve too many masters. State and school district adoption committees develop long lists of learning objectives that publishers are required to include in any book to be adopted by that jurisdic-

Harriet Tyson Bernstein is director of the Project on Textbooks and Instructional Materials, sponsored jointly by the Council of Chief State School Officers and the National Association of State Boards of Education and funded by the Department of Education.



tion. Professors called together to decide on the knowledge requirements for a high school textbook tend to defer to one another's favorite topics and have difficulty limiting the scope of the book. Special interest groups demand that various — and often conflicting — ideals, persons, or concepts be mentioned; often, states have institutionalized these social pressures by including them in the adoption code. According to publishers, the pressures to include more material are increasing.

D ESPITE MOUNTING evidence from the scholarly community that students don't learn very much from books that fail to treat important concepts in depth, the mentioning problem continues to haunt textbooks in nearly every category. In her study of content area textbooks, especially social studies books, Jeanne Chall of Harvard University found that the coherent, in-depth treatment of several decades ago has slowly yielded to the encyclopedic approach of today.

In history and social studies books, the practice of mentioning is a frequent accomplice to the evasion of information that, even if sensitive, is crucial to a student's comprehension of the topic discussed. In a recent study of elementary social studies books, Arthur Woodward of the Educational Products Information Exchange found that information about recent American presidents is usually limited to a sentence or two. The impossibility of making sense out of a presidency in so short a space is painfully illustrated by one book's treatment of former president Richard M. Nixon. In a chapter entitled "Conflict and Compromise," which might have provided an opportunity to deal with the concept of abused power, the book says, "President Nixon tried to help his friends." Later in the text, the student learns that "laws were passed to increase honesty in government." Even if the two sentences had been together, it would have been hard for a fifth grader to make the connection between helping friends and laws about honesty in government.

Frances FitzGerald, historian and author of America Revised: History Schoolbooks in the Twentieth Century, has also monitored the practice of mentioning in social studies textbooks. She writes: "Some of the inquiry texts, and some chapters within them, take up subjects they don't have the space to treat properly and then ask questions that cannot be answered, or can be answered only improperly, because of the paucity of information." She found that texts frequently mention important individuals or groups (the Puritans, for example) without saying what they thought or did. The struggles of nonwhite peoples are mentioned, "but in order to sell books to a majority, they sometimes refrain from mentioning what these groups are struggling against," FitzGerald observes. "The Chicano farmworkers are struggling, but some texts fail to mention the growers." Publishers have responded to minority and feminist requests for the inclusion of particular topics, but at the same time, have sought to avoid the wrath of mainstream interests by omitting any discussion of embarrassing power struggles. With an impoverished text as a result, students end up being victims of the national debate over the definition of American society.

The importance of clear presentation and adequate

explanation is underscored by the research of Thomas H. Anderson and Bonnie B. Armbruster, both of the Center for the Study of Reading at the University of Illinois. Their study of current social studies and science books led them to develop guidelines for textbooks. One guideline, which speaks directly to the above examples, advises books to take into account the prior knowledge of the reader and to include enough relevant ideas in the text to form a complete answer to the author's purpose or question.

THE PROBLEM of mentioning is as acute in science as it is in social studies books. Here the source is not social and political pressures but academic logrolling when experts defer to one another on the inclusion of their pet topics (often their own areas of specialization) in textbooks. The density of new concepts, as reflected by new and unfamiliar words, is a good measure of the modern problem of mentioning. R.E. Yager, a researcher at the Science Education Center of the University of Iowa, found that "more new vocabulary was introduced in high school science books than in even a high school French book." In his recent study of current chemistry books, Nobel Laureate Linus Pauling found them to be longer, heavier, and more theoretical than the first-year chemistry book he authored in 1947, General Chemistry. In these newer books, Pauling feels that "there is far more information than any student could be expected to learn and to understand in one year. Moreover, much of it is presented at so advanced a level - yet at the same time so superficially - that I think it could hardly be understood by a beginning student."

James Rutherford, chief education officer for the American Association for the Advancement of Science, is a veteran of the war to reduce topics in physics books. Along with Gerald Holton and Fletcher Watson, Rutherford was a director of Harvard Project Physics, a well-funded effort in the late 1960s to produce an excellent physics course.

"We carefully selected people who were committed to the notion that a physics book can't be encyclopedic. But when we got the group together in a working session, there were difficulties." When any topic was considered for exclusion, someone would rise to make a persuasive case that the topic was important and could be well taught. "We lacked principles for what to put in

When any topic was considered for exclusion, someone would rise to make a persuasive case that the topic was important...

Today's overstuffed textbooks often fail to consider the student's need to reinforce class work with solitary review.

and what to leave out, or a way to consider topics apart from personal experience," says Rutherford. Despite their best efforts, the textbook contained too many topics, he says. In order to give teachers some flexibility, the publisher, Holt, Rinehart & Winston, put out the first edition in two formats - one hardback that contained everything and six separate paperback books containing four chapters each. A survey of students showed that they liked the paperbacks better. "It seemed to students that they weren't getting such a large dose. There was a sense that you could accomplish something," says Rutherford. He adds, however, that after the first edition, there were pressures from both the publisher and the users in favor of the hardback versions, and in subsequent editions, the paperback books were discontinued.

In writing his book *General Chemistry*, Pauling was willing to come to grips with the finite limits of the book and the realities of school time. It was six hundred pages long, contained 225,000 words, and weighed one kilogram. "I strove to make my textbook . . . short enough, limited enough in scope, and clear enough in its presentation of the materials to permit a student to learn and to understand essentially all of it in the year devoted to the course," writes Pauling. He advocates books of three hundred thousand words or less, that weigh half as much as current books, that cost \$15 or \$20 instead of \$30 and that omit confusing aspects of chemistry.

The experiences of these science experts points to the solution. Subject matter experts need to do more than dream of delicious topics. They need to be forced to rank topics according to their importance and to devise principles on which to base decisions about what is most worth knowing at particular ages and stages of students' lives.

THE NEGATIVE reaction by instructors to Rutherford's experiment, noted above, suggests how the problem of mentioning is compounded by the way teachers use textbooks. According to several studies, most elementary teachers feel compelled to cover all the material in the book. Connie Muther, a consultant on textbook adoption, echoes these research findings. "Teachers, like most people, are insecure. They believe that textbooks are based on scientific truth. Teachers

using basal readers are afraid to omit anything for fear the child will miss out on some essential skill," says Muther. When publishers' representatives train teachers in the use of a newly adopted book, they sometimes recommend using every page, or at least refrain from saying that any part is more important than another. Furthermore, says Muther, some large cities order teachers to use every page even when the book in question has been designed for individualized teaching and reliance on supplemental materials.

Secondary teachers are more varied in their response to the problem of too many topics. According to Michael O'Keefe, former member of the team that studied high schools for the Carnegie Corporation's report, teachers either feel driven to cover everything or else they decide for themselves what material to skip. "The decisions about what to teach are made at the lowest level, and they are idiosyncratic," says O'Keefe.

Marilyn Binkley, a textbook scholar and former teacher, says teachers are often afraid to tell anyone they are skipping material. She recalls asking a department chair what to do about Chapter Five, since "every sentence seemed to contradict the one before." "He said he always skipped that chapter," says Binkley, "but there had been no discussion in the department about the deficiencies in the book or how to deal with them."

Teachers know better than anyone that students can be mystified and lose interest when a learning task lacks context or when a collection of facts has no apparent significance. Teachers usually struggle to provide context and meaning, but students also need to teach themselves through reading. Today's overstuffed textbooks often fail to consider the student's need to reinforce classwork with solitary review. Instead, today's textbooks seem to adjudicate among the demands of influential adults in the society.

F PUBLISHERS only had to conform to the list of topics required in one state, the problem of topic development might be manageable. But there are several large, statewide markets, each representing millions of dollars in potential sales, as well as several cities and counties that exercise both financial and curricular clout. According to one leading publisher who asked to remain anonymous, publishers look first to the topic requirements of Texas, then California, then Florida, and also pay attention to North Carolina, which has a strong curricular emphasis, the city of Detroit, and two wealthy suburban districts around Washington, D.C. Montgomery County, Maryland, and Fairfax County, Virginia. Publishers merely add up all the topics and include everything - however superficially - in order to sell to all the most important markets.

But lesser markets also contribute to the problem of information glut. For its kindergarten through grade twelve language arts curriculum, the state of Indiana lists about 750 objectives; Michigan's curriculum framework for social studies requires between 750 and one thousand objectives; Wisconsin's guidelines for general mathematics, a one-book course for pre-algebra high school students, includes about six hundred objectives. States and localities generally take great pride in their curricular frameworks, and those who con-

(Continued on page 44)

TANDON MANAGEMENT

FOLKTALES: THE ENCHANTED LESSON

BY CHARLES H. FLATTER

WHEN ONE thinks about folktales, two images frequently come to mind. One is of a child and mother or father reading together happily, each as much interested in the special time together as in the story being read; the other common image evoked is one of monsters, frightful acts, children in danger: the stuff of many a nightmarish dream.

These contrasting images — the often-frightening tale and the comfort and safety of the parental lap — provide a telling clue to the appropriate use of folktales. Most people, it should be noted, had these stories read or told to them by a caring person, usually a family member, who was available to answer questions, calm fears, and offer help and support to obtain meaning from the story. Even if the tale's rough edges had been significantly polished, the family setting provided a needed reassurance.

In the relatively recent past, however, there has been increasing interest in folktales by many professionals concerned with the growth and development of children. The psychologist Bruno Bettleheim has not only heightened our awareness of the significance of folktales as an important fantasy experience but has also increased our interest in using folktales to help people deal with significant life issues. Thus the folktale has moved outside the family setting and come to the psy-

Charles H. Flatter is professor of human development at the Institute for Child Study at the University of Maryland. His most recent book is Half a Childhood: Time for Schoolage Childcare. chologist, social worker, and teacher as an aid both to understanding people and facilitating self-understanding and growth.

Educators have always sought ways to make content usable for promoting personal and moral development. Folktales are being incorporated into curricula of language arts and social studies to provide this enrichment. But what are these folktales all about? Do they belong in the classroom? If so, what must the teacher know in order to utilize them appropriately and successfully?

Folktales began as an oral history of mankind dealing with major life issues. When this oral history was gathered and written down, there obviously was some editing and rewriting, but basically the tales remained as a picture for all time of human beings attempting to explore, understand, and explain their needs, concerns, and motivations. Thus, folktales in the classroom provide both an early history of how people lived, their problems, hardships and joys, as well as a fairly comprehensive look at how they dealt with certain "imponderables" of life - truth, beauty, justice, the meaning of life and death, etc. It would seem, therefore, that folktales are a wonderful classroom addition. Yet, as with many such additions, the teacher needs to understand their potential and be well prepared in order to use them effectively.

Folktales have many of the elements needed for lessons in social studies. They are exhaustive in their description of clothing, housing, food, and customs, thus providing the student with a readable history and social studies lesson. Folktales are richly poetic, laced



with beautiful metaphorical imagery that provides numerous lessons and possibilities for language arts activities. But the richness of the folktale can be mined even deeper, and the student can be helped to discover its philosophical core.

OLKTALES CAN provide us with a way of addressing the imponderables of life and help us to clarify what we believe and why, but first we must know something about how this process works. Folktales were intended to be told again and again with feeling and to be responded to in kind. If there was a scary aspect of a tale, the repeating of it allowed the hearer to process it in such a way that it would be possible to understand what made it scary and what one could do to handle the fears induced. For instance, in Hansel and Gretel, when Hansel is threatened to be killed and eaten as a "fatted calf," the children trick the wicked witch and save Hansel. That particular part of the tale provides the listener with a way of confronting both a fear and a person who makes them fearful. But this would not happen easily or readily on a one-time hearing without planned effort toward that end. Hansel and Gretel, a tale that has been polished to make it palatable to even very young people, can be more than a nice story of two children outwitting a nasty witch only if it is told and retold in all of its glorified imagery. But folktales do not get told and retold in the classroom. What, then, can and should teachers do to make using them worthwhile?

Above all else, the use of folktales in the classroom requires preparation, follow-through and follow-up. Since folktales deal with life's imponderables, children need to be prepared for the serious issues raised. In the tale Bearskin, The Man Who Didn't Wash for Seven Years, the idea of judging a man by his appearance, of beauty being more than skin deep, is a significant part of the story. But without some preparation for the question of how we choose to judge others, that aspect of the story might be dealt with only tangentially or missed altogether. Follow-through in this case requires activities that will extend and expand the concept of judgment of others and bring it to the here and now. Followup will necessitate finding out where the students are with the issues at another time several days or weeks later

Some issues that folktales deal with cannot be handled so easily. In the *Goose Girl*, for example, the girl promises not to tell that she is the princess and that her maid tricked her into changing identities. Her promise was a solemn vow that cannot be broken. How does



one decide to break a promise or vow when others are being hurt by your not doing so? What does a promise really mean? Do you tell what you know to be true even if others might get in trouble because of your broken promise? All of these complex questions need time and space to develop — time for children to think about them, to talk about them, to come back to them yet once again for further resolution.

In both the *Frog Prince* and *Bristlelip*, the main character is haughty and obnoxious and takes advantage of others. This behavior is not liked, and others in the story attempt to take her down a peg or two. When and how to make the haughty humble is a sure topic for classroom discussion, but with some thoughtful preparation it can be used as a lead-in to the larger issue of how to relate to others without using or abusing them or being used and abused by them.

Some imponderables that folktales deal with can easily get lost. In many stories, for example, punishment of wrongdoers seems extreme, is grotesque, or does not appear to fit the crime. The problem for the teacher is not to let the nature and severity of the punishment overwhelm the message and its meaning about justice. In the Goose Girl, the maid pronounces her own punishment for the crime she believes no one knows she committed — impersonating the princess. The punishment of being rolled through the streets in a barrel full of spikes until dead seems grotesque and extreme indeed. It would be easy to lose sight of the issue of justice if only this cruel punishment is considered. However, teachers can provide perspectives for students and thus ensure that the issue of justice is the focal point. In a historical context, it can be recalled that punishments were often more harsh and severe than they are now. The concept of "cruel and unusual punishment" was not yet a guide for determining if a punishment was too severe. Also, attention can be given to why certain acts were considered to be particularly heinous. When contracts were often verbal and not written, when morality was more religiously than socially determined, and when forms of communication were very rudimentary, broken promises, telling falsehoods, not completing agreed-upon tasks were considered extreme violations of acceptable behavior and, therefore, justice had to be accordingly extreme.

SSUES THAT have a new timeliness or are increasingly a part of children's lives also need to be treated carefully. Step-parents, especially step-mothers, do not fare well in folktales. They are often depicted as nasty and vindictive toward their step-children. They are not to be trusted and, in fact, are to be feared. Today, many children live with a step-parent. Teachers need to be sensitive to this and to focus on the positive and unselfish parenting done by an increasing number of stepparents everywhere today. While some attention should be given to the difficulties that might arise in a step-parent/step-child relationship, most of the attention should be directed at how many children and stepparents are living together in happy, healthy relationships because each cares about the growth and comfort of the other. Folktales may be a perfect vehicle for sharing the apprehension as well as the success of a relationship with a step-parent.

THE BETTALANN ARCHIVE

Topics that have been considered taboo, such as the ways of love, lust, and sex, are often dealt with in folktales. Sexual issues may not be presented as blatantly as they are on television, yet when they are there in the classroom, their impact needs to be carefully handled. In Rapunzel, the sexual imagery is throughout. The likelihood of a sexual relationship between Rapunzel and her boyfriend is strongly indicated. Sex between Rapunzel and the step-mother is only suggested, but the possibility leaves a need to be prepared to help students deal with issues such as sexual abuse, incest, and child abuse, since the imagery may cause them to begin to think about a topic otherwise hidden. Later follow-up is particularly critical when students have completed follow-through activities or there has been time to apply the tale's meaning to their personal lives.



Since all folktales address questions of right and wrong, they frequently employ the religious beliefs and symbols of the age in which they were written. God figures and devil figures are often pitted against each other to symbolize the struggle between right and wrong, good and evil. In many respects, the religious ideas presented are quite fundamentalist in nature, with the devil seducing and the God-figure beckoning, and with vivid images of temptation and fall, punishment and despair, salvation and reward. Students struggle with these religious issues in their own lives but often within a religious context very different from that in the tales. Indeed, they may not understand the religious symbolism used. In Bearskin, The Man Who Didn't Wash for Seven Years, the devil appears in dark green with a cloven hoof. The devil in early times was dressed in dark green, not the bright red we often see utilized today. The cloven hoof is another devil symbol. Bearskin's seven-year struggle not to give in to the devil represents mankind's struggle against material temptations of all kind, the ongoing effort to remain "right with God" and thus ready to receive a heavenly reward. The endless circle of the ring is used symbolically in this tale to represent eternity. Obviously, the preparation needed here will include a discussion of the meaning of the religious symbols. Follow-through activities may even have some comparative religious component.

FOLKTALES PROVIDE wonderful learning opportunities. They are not, however, without risk or potential problems. When they are used in language arts or social studies, they should not be viewed as filler material. They are much too profound and much too educationally rich for that. To capture their full value, they need careful, thoughtful teacher and student

preparation with follow-through learning activities and follow-up assessment and evaluation.

Once a decision has been made to have folktales as a part of a curriculum, teachers need to be aware of certain things. First, folktales work best as learning tools for both content and self-awareness learning if they are left intact, read in the original, and not altered to make them more comfortable to present. Second, the preparation, follow-through, and follow-up described above requires thorough teacher knowledge of the tales being used. This necessarily requires reading and processing a story sufficiently before presenting it in the classroom. Reading more than one version may be helpful. Recalling how it felt to read or hear the tale earlier in one's life may also be important preparation. Third, the teacher should know what she/he will do with the tales in terms of discussion, student reactions, followthrough, and follow-up activities before using them at all. The content is often so powerful that a quick inclusion of a folktale into a day as a filler activity may not be so easily or quickly completed once the student becomes involved in the questions and emotions the story arouses. Fourth, teachers should recognize that folktales are certainly not just for young children. The same tales can be used at different grade levels, achieving very different results. Adolescents can be just as intrigued and learn just as much from folktales as can younger children. Lastly, use folktales confidently, knowing that they not only represent one of the richest aspects of our past but also give us continuity with that past by reminding us that some questions strike at the heart of human nature and will always remain with us.

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A PORTRAIT OF NORMAL ADOLESCENTS

BY DANIEL OFFER, M.D.

"I would there were no age between ten and three and twenty, or that youth would sleep out the rest; for there is nothing in between but getting wenches with child, wronging the ancientry, stealing, fighting."

William Shakespeare's The Winter's Tale

A DULTS IN our Western world have learned to expect nothing good from their adolescent children. They look with fear and apprehension to the consequences of puberty on their children. The literature on the psychological development of adolescents forewarns us that adolescence is the most stressful period in the life cycle. Hence, if a high schooler is not moody, rebellious, and antagonistic, adults in general, and parents in particular, believe that they have an abnormal child on their hands.

There is no question but that a significant minority of adolescents in our culture are psychiatrically disturbed. In studies conducted by my colleagues and myself, we found 20 percent of all adolescents who attend high school to be in need of mental health care. This figure is a general one that cuts across gender, ethnic, and social class factors. Viewed nationally, though, that minority represents a very large number of teenagers. At this point, there are approximately 17 million adolescents in U.S. high schools, and if 20 percent of those adolescents are disturbed, the implication is that nearly 3.4 million may require some kind of help or intervention.

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This is a monumental task for mental health professionals. No wonder that our concerns, interests, and joint efforts are more often than not directed to this group of adolescents who so desperately need our help.

However, 80 percent of our young people do not fall into this category, and it is the purpose of this article to focus our attention on them. We will share with the readers our experiences with studies conducted over the past twenty years of the psychology of normal adolescents.* Our methods included: (1) the use of a self-administered "Offer Self-Image Questionnaire," which has been administered to over thirty thousand high school students; (2) in-depth personal interviews with hundreds of normal adolescents; (3) interviews with hundreds of parents of normal teenagers; (4) behavioral ratings of the students by their teachers.

In our studies of normal, well-functioning adolescents, it was our purpose to see what kinds of problems teenagers have during the high school years, how they cope with them, and how they relate to important persons in their lives (i.e., parents, peers). In short, do normal adolescents experience "adolescent turmoil" as has been so consistently described in the literature ranging from the professional to the fictional?

The term "adolescent turmoil" has been used freely by psychiatrists, psychoanalysts, and other mental health professionals both for describing disturbed

^{*}We will not focus on the design and methodology of these studies. The interested reader is referred to the references at the end of this article.



adolescents and in discussing the developmental process of normal adolescence. It is defined as an emotional condition that represents significant disruption in psychological equilibrium leading to fluctuation in moods, confusion in thought, rebellion against one's parents, and changeable and unpredictable behavior. Typical, or normal adolescents, it has been thought, need to experience "adolescent turmoil." If they do not, they remain overly dependent on their parents, have trouble developing their own sense of identity and have difficulties relating well to male and female peers.

A DOLESCENCE DOES present the individual with a special burden, a challenge, and an opportunity. He or she has to individuate, establish self-confidence, make important decisions concerning the future, and free himself or herself from earlier attachments to parents. The majority of the teenagers we studied coped with these tasks successfully. They lacked the turmoil of the disturbed adolescent precisely because their egos were strong enough to withhold the pressures.

In their growing-up task, well-adjusted adolescents are greatly helped by parents who offer support when it is needed but allow the child enough independence when necessary. This stance helps the adolescent to reorganize the ties with his or her parents in order to become a mature and independent adult. Healthy teenagers go through this process gradually so that the change for them is not dramatic. We hasten to add that these subjects, with their low level of turmoil, are not cases of arrested development. They were not only well adjusted, they were in touch with their feelings and developed meaningful relationships with significant others. Obviously, they did not always get on well with all adults in their lives. If they had an argument or a fight with one parent, they were usually able to turn to the other parent (or another important adult) for support and encouragement.

The normal adolescents surveyed did not perceive any major problems between themselves and their parents. They did not present any evidence of major intergenerational conflict. The generation gap so often written about was not in evidence among the vast majority of subjects we studied. Moreover, these feelings seem to extend through time. Not only did these teenagers have positive feelings toward their parents in the present, but they felt that these good feelings had been true in the past. In addition, they expected them to persist into the future. Indeed, the most impressive finding concerning the relationship between the generations was that both adolescents and their parents confirmed its positive nature.

TURNING NOW to the emotional constellation of the adolescents, we found that, when comparing the sexes, girls reported that they were more empathic than adolescent boys. Similarly, adolescent girls felt more attached to their relatives and friends than boys did. In general, the girls' faith in their coping abilities was strong, but not as strong as that of the adolescent boys.

Normal adolescent subjects reported themselves to be relaxed under everyday circumstances. They believed that they could control their day-to-day trials and The generation gap so often written about was not in evidence among the vast majority of subjects we studied.

tribulations without undue concern. They had confidence in their ability to cope with stress. We did not see any evidence of extreme mood swings, unpredictability of behavior, or deep-rooted cultural pessimism.

The normal adolescents denied that they had psychopathological symptoms. As stated above, however, that does not mean that everybody in our normal group was free from emotional problems or conflicts. But the symptoms that we observed were mild in nature. They consisted of situational anxiety, e.g., before a test or a sporting event, in 50 percent of all our subjects; mild depression in 30 percent; and loneliness in 20 percent. These symptoms were easily handled by the adolescent and only on rare occasions reached the point at which psychiatric treatment was needed.

The normal adolescents were hopeful about their future and they believed that they could actively participate in activities that would lead to their success. They seemed to have the skills and confidence for carrying through their plans. They were optimistic and enjoyed challenges, and they tried to learn in advance about new situations. These healthy teenagers had the willingness to do the work necessary to achieve. They liked to put things in order. Moreover, even if they failed, they believed that they could learn from the experience.

In the area of adolescent sexuality, our data encompass only the range of the middle class. Our research shows that normal adolescents were not afraid of their emerging sexuality. Seventy percent stated that they liked the recent changes in their bodies, although boys were considerably more satisfied with their bodies than girls. A large group of the adolescents (40 percent) said that they wanted to learn how to cope more effectively with their sexual feelings. By their seventeenth birthday, 54 percent of the boys and 37 percent of the girls reported that they had had sexual intercourse.

Sexual activity in adolescence is strongly related to aspects of the teenager's home life and scholastic status. Teenagers who lived with both natural parents were less likely to have had sexual intercourse (43 percent) than were teenagers who did not (64 percent). This is especially true for girls. Teenagers who grew up with



both natural parents were more likely to look to their family for gratification and support than were other teenagers. They were more likely to have internalized the values of their parents with respect to their own behavior and were less likely to try to obtain gratification outside the family in possible contravention to parental values. Findings with regard to perceived parental harmony reinforced this impression. Of the teenagers who perceived their parents as getting along very well, 47 percent had had intercourse; while among those perceiving their parents as not getting along well, 68 percent had had intercourse. It is evident that adolescents' home environment has an important effect on their sexual behavior.

The data show that only about one-third of the teenagers who performed at an above-average level in school had had sexual intercourse. In contrast, 60 percent of the teenagers who performed at an average level or below reported having had sexual intercourse. It seems that teenagers who are invested and do well in school were less likely to have had sexual intercourse than were other teenagers. There are several plausible explanations for this association. One possibility is that doing well in school requires a substantial commitment of time. Consequently, achieving students may have less available time to engage in the amount and kind of social activity that would be required to develop a sexual relationship. It may also be that more scholastically achieving teenagers are more reluctant to engage in behavior that might result in adverse social consequences, such as pregnancy or the contraction of a venereal disease.

In N A recent study, we showed that mental health professionals who work with adolescents tend to think that normal teenagers are as disturbed and unhappy as hospitalized, psychiatrically ill teenagers. We also wanted to determine what the perceptions of high school teachers were about the self-image of normal adolescents. In order to begin to explore this, we obtained the cooperation of twenty teachers from a local midwestern high school. The data are not presented here as a valid statement concerning all or even a

significant number of teachers' views of a normal adolescent self-image. Rather, our findings should be viewed as an example of what we believe to be a problem that teachers may have in understanding the self-image of normal high school students.

Our data allowed us to compare the normal adolescents' self-image and the teachers' concept of adolescent self-image as measured by the psychological questionnaire we had developed. In none of the eleven categories that we measured did the teachers view adolescents as having a better self-image than the teenagers viewed themselves. In six areas, the average teacher's view was similar to that of the average teenager's: impulse control, body and self-image, morals, sexual attitudes, psychopathology (i.e., psychiatric symptoms) and superior adjustment (i.e., coping). In five areas, the average teacher had a significantly different and poorer perception of the adolescents than the average young person himself reported. These areas are emotional tone (i.e., mood), social relationship, vocational and educational goals, family relations, and mastery of the external world.

Interestingly, the two areas in which teachers (like mental health professionals) misjudged the self-perception of adolescents the most were in the adolescents' relationships with their families and in their commitment to a future profession.

This data suggest that normal adolescents have a better sense of who they are and who they want to be than teachers give them credit for. This pattern of misconceptions held by teachers about normal adolescents is strongly convergent with the "turmoil theory" of adolescence so widely accepted in our culture. Teachers and other adults who work with teenagers need to guard against this tendency to see problems and psychopathology among normal high school students.

Adolescents can be the perfect projective object for adults. Our own fears and urges may interfere with our ability to perceive correctly what teenagers are really like. Leftover, unfulfilled dreams and fantasies are easily projected onto adolescents and may interfere with adults' understanding of adolescents. Many adults hold on to the hope that their adolescent children will achieve what they have not be able to achieve. Others fear that their children will surpass them. The vigor, strength, beauty, and sexual attractiveness of the growing adolescent may also threaten some adults. Adolescents are no more or less than who we are. They are us.

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ILUSTRATED BY ROBERT BARKIN

MEMORY RESEARCH AND ITS IMPLICATIONS FOR LEARNING

BY ROBERT SYLWESTER

M EMORY AND its handmaiden, learning, have always been central to education, but we have never really understood their underlying cognitive mechanisms — and neither have the people who investigated them. Indeed, in 1950, after thirty years of study, the noted memory researcher Karl Lashley wrote somewhat wryly, "In reviewing the evidence on the localization of the memory trace, I sometimes feel that the necessary conclusion is that learning is just not possible." More recently, Ulrich Neisser concluded that years of extensive psychological research studies have led to major generalizations about memory that the average middle-class American third-grader already knows through personal experience.

That situation is changing dramatically. New research technologies have vastly increased our understanding of brain functions, and scientists are moving closer to an understanding of memory, perhaps the most complex cognitive system. Their discoveries probably won't immediately affect educational practice, however, because of the great distance that has unfortunately always existed between laboratory research and classroom practice. Further, knowing that cognitive processes function basically through the manufacture and release of neural chemicals that affect the permeability of the membranes of other neurons is a far cry from knowing why most of the students in a class missed a given item

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on a recall test — or why I can remember a trivial childhood event but not where I left an important file yesterday.

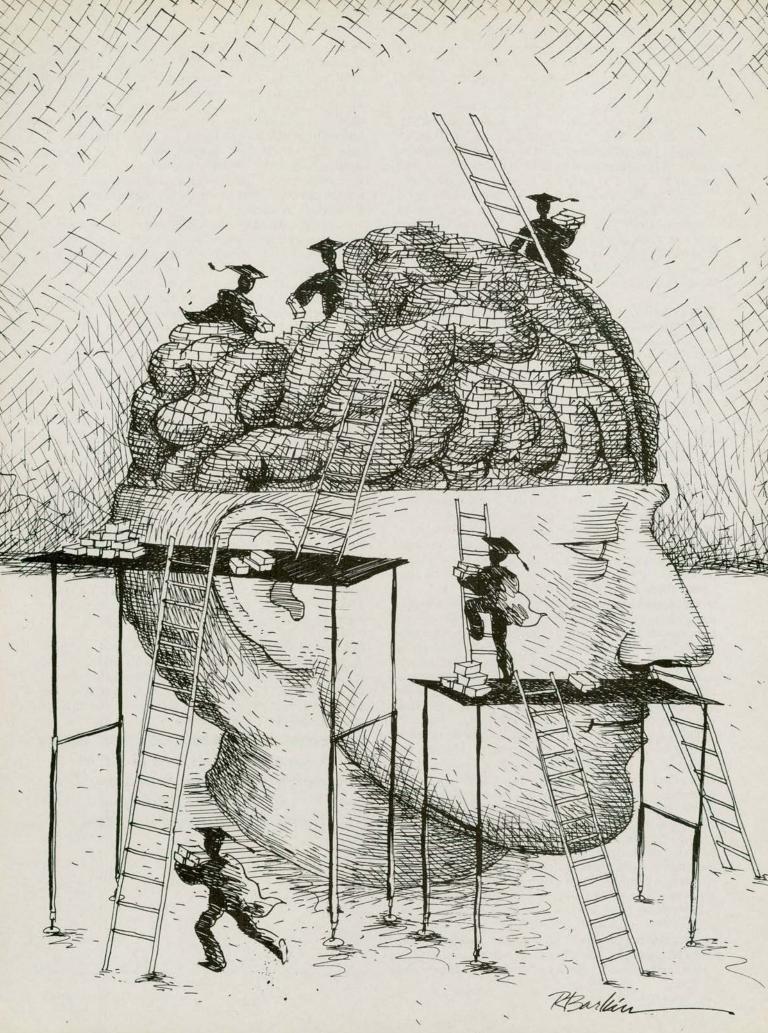
Still, memory is so important that educators ought to begin to monitor current theory and research for new developments that could affect the teaching and learning process. This article provides a nontechnical introduction to current memory theory and research, identifies potential curricular issues and challenges, and suggests general study resources.

M EMORY MECHANISMS appear to be more localized and specialized than previously thought and probably involve physical changes in the neural network.

The process of remembering begins within our limited-capacity sensory and short-term memory systems, which briefly hold incoming sensory information that captures our attention. It's possible to hold such information longer within memory feedback loops that require continued conscious attention or verbalization, but almost any distraction will erase it. For example, the memory trace of an unfamiliar phone number undergoes electrochemical disintegration within seconds if we don't dial it or consciously retain it.

When such transitory information is no longer needed, we fortunately forget it — in this case, to be replaced immediately with the sensory input that now competes for our attention, the voice answering the phone.

Important and emotion-laden information that



should be retained longer is entered and consolidated within two separate but interrelated long-term, educationally significant memory systems that probably develop some type of physical manifestation of memories. The *declarative* system processes explicit who/what/where/when/why facts and symbols that are relatively easy to learn and to forget — a car's license number. The *procedural* system processes automatic motor and problem-solving skills that are relatively difficult to learn and to forget — how to drive the car.

Think of *short-term memory* (or the working brain) as the collection of things that arrive on your desk and compete briefly for your attention. Consider *long-term memory* to be everything you've organized for later use within your desk and files, and *forgetting* as all the things you processed and then threw in the wastebasket — or as information hopelessly lost in your files.

DECLARATIVE MEMORY. The fingersize hippocampus, located within the temporal lobes, plays a major role in consolidating the factual declarative memories that are probably stored in the neocortex, the large, deeply folded top layer of the human brain that occupies about 85 percent of its mass. The hippocampus has been compared to a telephone switchboard—connecting new phones to the existing network, locating, and coordinating messages (but not storing them). The nearby interconnected amygdala appears to process the important emotional overtones of declarative memory.

Since the declarative memory storage area is vast, efficient storage and retrieval strategies are crucial to an effective memory of all the labels and locations that keep us in touch with our environment. This suggests that we should store declarative material at multiple sensory and logical levels, much as a business that depends on phone contacts would list its phone number under several phone book classifications.

Researchers have discovered that we can enhance the potential for retrieval of an important item we want to remember by consciously examining it to determine all the ways we could describe it, define it, and use it. This conscious effort will help to create rich, logical, and emotional interconnections with easily retrieved, related items already stored in our memory. When we want to locate and retrieve the item later, these connections will help lead us to it.

The hippocampus and amygdala appear to work together to continually compare incoming sensory data with our memory's vast store of related prior experience. They then efficiently direct the limited-capacity working brain to ignore things that occur within normal predictable limits and to attend to unusual, intense, and emotional stimuli — potential problem areas that will require conscious attention. Mass media capitalize on this mental tendency by focusing on the uncommon, the bizarre. Conversely, schools try to provide students with a rich complex of experiences, formulas, and algorithms that give them the sense of factual normality and predictability they will need to recognize abnormality and error when they experience it. This focus on normality might explain why maintaining student interest is such a constant challenge to teachers.

We seem to know what we know and don't know. Ask

someone what George Washington's telephone number was and you'll get an immediate, surprised laugh — and no effort to recall it. On the other hand, people will make agonizing searches through their declarative memory labyrinth in search of a trivial bit of information they can't immediately recall that they know is in there somewhere. *Metamemory* is the knowledge people have about their own memory storage and retrieval strategies. Michael Pressley and others report on the type of research that educators ought to examine to design curricula that develop this significant form of knowledge in students.

Novelty and multiple storage are important factors in most mnemonic devices and memory improvement programs. Such programs ask people to visualize and locate the item to be remembered and to peg it to some (even artificially) related but easily remembered item — linking everything together into a memory chunk. Recalling any segment of the chunk will then generally lead the mind through the related information to the specific item sought.

Visualization and mapping (mentally locating objects in space) seem to be especially effective as memory strategies — not surprising since over 10 percent of the human brain is devoted to processing visual data. It's much easier to recognize something than it is to recall it

We tend to lose our memory of *specific* examples of recurring information (holidays, students) as we incorporate earlier information into the more recent. Thus, over time we develop a *general* memory of former Christmas celebrations, students, and so on and tend to remember only the first, the last, the norm, and those that deviated significantly. This important consolidation process reduces and simplifies the information held in our memory. Unfortunately, it can also lead to oversimplifying complex issues, bigotry, forgetting the names of people we're supposed to know, and other assorted memory lapses. So it goes. The declarative memory system is excellent, but it's not perfect.

PROCEDURAL MEMORY. The cerebellum, the large bump at the lower back of the head, appears to be the place where important procedural skill sequences are processed. The cerebellum could be considered the brain's automatic pilot, in that routine actions such as walking, talking, typing, and bicycling are carried out

Neuroscientists are close to understanding the biochemistry of memory and of memory-related maladies.

almost unconsciously — thus freeing the limited capacity working brain to focus on novel and complex things

that require conscious attention.

Mastery of a procedure or skill often begins at the declarative memory level. We begin by consciously learning and executing the appropriate rules, sequences, and terminology. Continued successful practice moves the process into the procedural memory and automatic proficiency that often includes a clear, overall mental representation of the skill. This expert level permits successful improvisation within the basic skill patterns and sequences — the smooth and imaginative transitions between conscious and automatic actions that are so interesting to observe in creative people.

Sequence is a significant component of many mastered skills. Try to whistle a tune or write a memorized poem backwards. It appears that the assemblies of neurons that process such skills develop sequential firing patterns that habituate in only one direction. Language is an example of a skill that requires proficiency at several levels of sequential rigidity — from rigid spelling sequences to less rigid syntax to the quite flexible design of a unit of conversation or exposition.

Researchers recommend that people who are learning a skill frequently observe experts performing it, practice it often, receive continual constructive feedback followed by immediate further practice, gradually increase the number of actions they view as a single behavioral unit, and integrate mastered prerequisite skills into the mastery of the more advanced skill. Many instructional programs already follow these recommended procedures — and more should.

It's difficult to recall a skill except through its execution. It's also difficult to explain or discuss a skill. Skilled performers often so internalize their skills that they can't effectively verbalize them or teach them to others. The best athletes don't necessarily become the most successful coaches. Effective teaching may well arise out of a teacher's ability to make smooth and effective transitions between the declarative and procedural thought processes — to create clear explanations and powerful metaphors, to model effectively.

The declarative and procedural systems combine marvelously to enhance human life. Our ability to consciously analyze and label skill sequences permits us to develop valued skills at the expert level. Our ability to execute most skill behaviors automatically frees our conscious brain to explore and remember much of the complex social environment in which we live.

Psychologists have done much to enhance memory skills; and neuroscientists are close to understanding the biochemistry of memory and of memory-related maladies, such as learning disabilities, amnesia, and Alzheimer's Disease. Memory research is truly at the edge of exciting developments that will profoundly affect our profession.

R ECENT DEVELOPMENTS in memory suggest four major areas of educational challenge.

1. What knowledge and skills should students commit to memory? The first challenge arises out of the recent development of memory technologies that store information outside the human brain (print and electronic reference and schedule materials, audio and video

The mind functions best when it has created rich connecting patterns among related units of useful information.

recorders, calculators, and computers). These technologies exponentially expand human long-term memory and free our brains from actively remembering much of the large quantity of data they must continually process.

Educational issues abound. Most educators are already aware of the inevitable curricular impact that the increased availability of calculators will have on the memorization of arithmetic facts and skills. Much more is waiting in the wings. Developments such as software that corrects spelling and grammatical errors are readily available. When today's students are adults, they will probably use word processors with such programs for any writing that requires an extensive spelling vocabulary. What impact should that probability have on the size and composition of the spelling list students memorize today? What impact should such memory and information-processing technology have right now on the education of students with dyslexia and other learning disabilities? Further, what instruction in external memory technologies should schools provide now (understanding, creating, and using electronic data banks)?

The general curricular principle might be that students should continue to memorize anything that they could normally process entirely in their minds (such as basic multiplication facts) but that they should learn to use the *most efficient available* external memory technology for anything they can't easily process mentally (such as complex multiplication problems). Unfortunately, it's easier to state such a principle than it is to implement it — in a system currently oriented to working with paper, pencil, and printed reference sources.

2. How can we help students move from memorizing random facts to creating useful concepts? Our society is fascinated by relatively useless random facts — TV game shows, crossword puzzles, trivia games, gossip magazines, sports statistics. The mind functions best when it has created rich connecting patterns (semantic networks, schema) among related units of useful information. The continuous barrage of diverse facts in isolation that can characterize classroom activity diminishes the effectiveness of memory in conscious thought.

Memory research suggests that a major curricular

challenge ought to be to help students develop patterns that create and connect concepts in the materials they study and memory search strategies that can effectively locate factual information, examine mental images, and draw inferences from limited information within their memory.

3. How can we teach students to use memory effectively in problem solving? The great increase in the amount and nature of information available to the human mind and the complexity of contemporary life suggest an increased emphasis on the development of problem-solving skills. Our working brain's limited capacity requires us to solve complex problems by breaking them into subproblems that we can solve through the interaction of conscious and automatic mental processes — and by farming out difficult segments to paper and electronic technologies and to other people's brains. Inserting memorized routines, formulas, algorithms, and computer software (that don't require conscious attention) into the problemsolving process permits the working brain to focus on those factors that require conscious attention.

Norman Fredericksen's extensive analysis of cognitive and curricular issues inherent in the development of memory and problem-solving skills provides a thought-provoking and useful introduction to the area and to available problem-solving programs.

4. How can we use neuroscience research to enhance the effectiveness of students' memory? We can anticipate that neuroscience research will continue to move closer to an understanding of the learning and memory disabilities that affect students. But it's one thing to diagnose a malady and another to know how to remedy the situation. For example, memory problems associated with an over- or under-production of certain neurotransmitters might be solved one day through dietary adaptations, chemical therapy, or neural transplants — but such solutions are fraught with numerous technical and ethical issues and don't appear to be on the immediate horizon.

We do know that continual intellectual stimulation enhances the development of physical connections among related brain areas and that this is positively related to mental development. Thus, it's worth the effort to maintain a stimulating classroom environment. Further, psychologists have learned much about the development of effective memory and problem-solving strategies over the years, even though they didn't com-

Students need to know what to attend to in a very busy environment.

pletely understand the neural organization of the system.

Schools can draw on this knowledge to create curricula that teach effective memory skills but that also teach students how to effectively use the many external memory technologies being developed. Students need to know what to attend to in a very busy environment, how to tie that information to their past experiences, and how to retrieve and use that integrated knowledge to enhance their present and future lives.

So we've gone beyond Lashley's lament that maybe "learning is just not possible," but we're a long way from simple solutions. All this suggests a dynamic memory mechanism that undergoes continual modification through experience. It's an important time for educators to get into the rapidly developing literature and to begin to think about the curricular challenges that will most certainly emerge.

SUGGESTED RESOURCES

Campbell, Jeremy. *Grammatical Man: Information, Entropy, Language, and Life.* New York: Simon and Schuster, 1982. Fascinating, soaring, mind-expanding.

Frederiksen, Norman. "Implications of Cognitive Theory for Instruction in Problem Solving." *Review of Educational Research* 54, 3 (Fall 1984): 363-407. An excellent survey, analysis, and discussion; describes and discusses current programs; extensive bibliography.

Gallant, Roy. *Memory: How It Works and How To Improve It.* New York: Four Winds Press, 1980. Good junior high level book.

Gardner, Howard. Frames of Mind: The Theory of Multiple Intelligences. New York: Basic Books, 1983. Fascinating, controversial theory — memory implications.

Kent, Ernest. *The Brains of Men and Machines.* New York: McGraw-Hill, 1981. An interesting, challenging book; extensive comparison of human and computer memory.

Lashley, Karl. "In Search of the Engram." In Society for Experimental Biology Symposium #4: Mechanisms in Animal Behavior. New York: Cambridge University Press, 1950.

Loftus, Elizabeth. *Memory*. Reading, Mass.: Addison-Wesley, 1980. Excellent, readable introduction to memory and memory improvement.

Luria, A. R. *The Mind of a Mnemonist*. New York: Basic Books, 1968. A classic study in memory research — of a man who remembered everything.

McKean, Kevin. "Memory." *Discover Magazine* (November 1983): 19-28. Good description of current neuroscience theory and research.

Pressley, Michael; Borkowsky, J.; and O'Sullivan, J. "Memory Strategy Instruction Is Made of This: Metamemory and Durable Strategy Use." *Educational Psychologist* 19, 2 (Spring 1984): 94-107.

Reason, James, and Mycielska, K. *Absent-Minded? The Psychology of Mental Lapses and Everyday Errors.* Englewood Cliffs, N.J.: Prentice-Hall, 1982. Interesting, informative book on a common problem.

Restak, Richard. *The Brain.* New York: Bantam, 1984. Based on the recent PBS TV series; an excellent introduction to the brain, with a good chapter on memory and learning.

Neisser, Ulrich. Memory Observed: Remembering in Natural Contexts. New York: Freeman, 1982, p. 6. A fascinating collection of readings about the ecological and cultural aspects of memory.

MINORITY REPRESENTATION IN TEACHING (Continued from page 19)

emphasis on reasoning skills and good, clear writing. At the end of two years, the students would be tested to measure their growth. A second individualized study program, again based on skill levels, would then be developed and the process intensified over the next three years.

After receiving their bachelor's degrees, students would be guaranteed admission to participating California State University or University of California Graduate School of Education programs, where they would enroll as regular students. Graduate scholarships covering student fees would be provided to all of these students with an undergraduate grade-point average of "B" or better. Partial tuition scholarships would be available to high achievement students. Again, as in the first phase of this program, paid internships would be provided to all qualified students for the duration of their postgraduate teacher training studies.

Any such effort to increase the pool of qualified minority teachers must be followed up with an equally vigorous effort to improve the placement and retention of teachers in schools with large minority populations. This means that we must work to end those "alternative teacher selection processes" in which teachers with less experience, no advanced degrees, and lower salaries are assigned to schools with high proportions of minority and low-income pupils. To put it more bluntly, these "alternative" efforts have often resulted in pupils with the greatest needs being relegated to classes taught by inexperienced teachers who are themselves in great need of support and guidance from more experienced

Alternative selection programs bave in too many instances operated as restricted racial conduits. teachers. Moreover, while successful in increasing minority employment opportunities, alternative selection programs have in too many instances operated as restricted racial conduits, steering newly hired minority teachers whose qualifications have been earned through alternative means into almost exclusively minority schools. We cannot allow this situation to continue; it is to the detriment of all.

THE THIRD step of my program addresses the need to identify and reward good teachers after they have been in the classroom for a few years and to provide incentives for them to remain. I propose a new test as the basis for certifying outstanding individuals as "master teachers." To be taken after at least five years of full-time public school teaching, the test would measure not only subject matter competency but also knowledge and application of learning theory and an ability to implement effective teaching strategies in the classroom.

The test would evaluate a teacher's professional judgment and ability to diagnose needs of students, match instruction and use of materials to those needs, and evaluate pupil progress. It would not be solely a pencil-and-paper exercise; applicants would also be required to demonstrate their instructional skills in a natural setting.

This test would be to teaching what the Certified Public Accountant's examination is to accounting. It would be voluntary, leading to certification as a master-level teacher — and, therefore, to new opportunities for professional advancement. As in the case of CPA-level accountants, these master-level teachers would be compensated accordingly. The test should be available on a nationwide basis, thereby expanding the job market for master-level teachers and helping those outstanding educators who saw themselves in "dead-end" positions seek advancement beyond both district and state. Moreover, school districts using the test would be able to allocate teaching talent on a more equitable basis within their districts.

I N ALL fairness, I must acknowledge the pain and suffering experienced by those not now armed with the knowledge and skills required to pass present minimum-competency exams. Certainly, we need to increase the number of minority teachers. But we must keep in mind that the effectiveness of our schools cannot be measured simply by statistics on the racial composition of teaching staffs. School effectiveness must be measured by statistics reflecting the mastery of basic skills in reading, writing, and arithmetic by all of our students.

What I have proposed here may bring a short transitional period of disappointment for some who will be locked out of teacher-training programs or certification. But the benefits will outweigh the costs; it will finally put a stop to "victim-blaming" measures that have created more problems each time they have been applied. What education needs now is not more exceptions to standards but more flexible and imaginative programs to ensure that, in more and more cases, the standards themselves can be met. Our children, our teachers, and our society deserve at least that.

WHEN MORE IS LESS

(Continued from page 29)

tributed to the decisions, usually numbered in the hundreds, have a stake in the results. It is clear, however, that list makers rarely know or care what items appear on the lists of other states or realize their own contribution to the trivialization of textbook topics.

Why do states buy overloaded, watered-down books? Adoption committees and review panels typically have little time to spend on the evaluation of new books. Reviewers may only have enough time to scan the table of contents and the index and check off the required topics. "Adequacy of treatment" might be one of the items on the reviewer's criteria sheet, but it is usually one of hundreds of items on the list. Operating in a jungle of political, social, and academic criteria, usually unranked in importance, today's adoption committees are an inadequate filter for superficiality in textbooks.

States and districts often require textbook publishers to supply a "correlational analysis," a time-consuming and expensive activity for the industry. Publishers take the list of topics required by a state or district, search through the book, the workbook, and the teacher's guide to find evidence of coverage and report the reference even when the topic is barely mentioned. "Nobody has ever complained that there are inaccuracies or deficiencies in the analysis," says Al Bursma, senior vice president of D.C. Heath's school publishing division. Once it is handed over to the district, he notes, the document seems to end up on the shelf. According to Bursma, a correlational analysis is "basically an assignment to be completed."

THUS THE education community itself seems to be the major contributor to the mentioning problem, followed closely by narrow special interest groups and by publishers all too willing to please everyone. The solution seems to lie in the assertion of leadership. Leaders of curriculum committees need to make realistic assessments of what can be taught during the course or school year. They need to reckon with the number of topics that can be treated respectfully in a book that students can still carry around and that the district can afford to buy. They need to make careful distinctions between course content and book content and look to

Publishers are willing to change if the market signals a desire for change. supplemental materials to supply some parts of the knowledge base. Most of all, they need to set limits on the bid specifications for textbooks and to consider the impact of their jurisdiction on the national market.

Special interest groups, whose representatives were slowly incorporated into the selection and adoption process over the last two decades, need to take stock of the cumulative effect of their separate pressures on textbooks. However worthwhile it may be to banish racial, ethnic, and gender stereotypes, and however desirable it may be to present positive images of the elderly, the handicapped, the environment, and the heroes of the American past, the confluence of demands from so many sources has magnified the mentioning problem. While publishers have become more than willing to toss in a photograph of Jane Addams or a plug for free enterprise for the sake of selling a book, such cosmetic strategies not only fail to satisfy the often legitimate aspirations of lobbying groups but also hold their causes up to easy ridicule. Interest group leaders need to understand the consequences of the checklist approach to fairness in textbooks and to devise more integral and qualitative methods of evaluation. State boards of education and local adoption committees need to work cooperatively with special interest groups to review their criteria in light of evidence about the negative educational effects of mentioning.

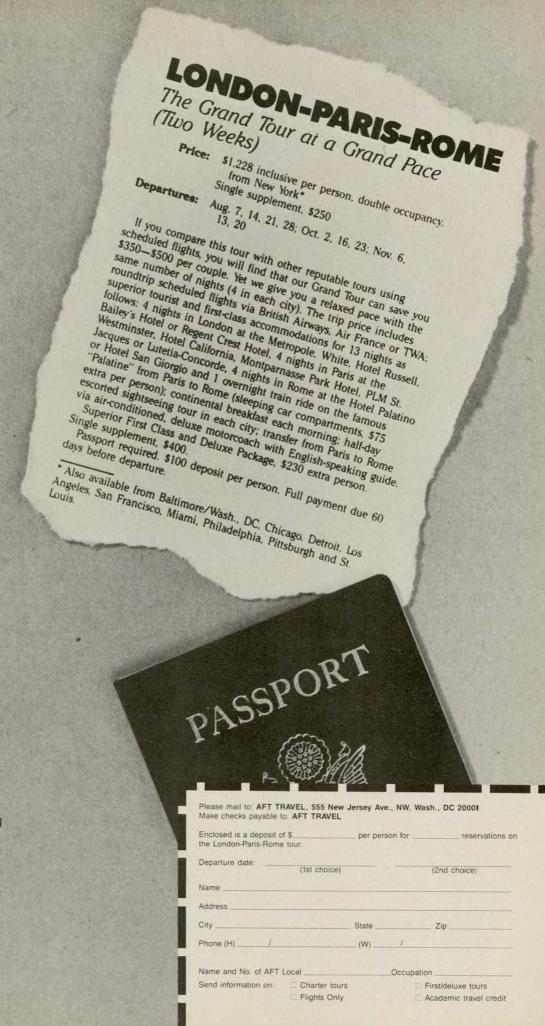
THE JAZZY, magazine-style textbook that touches all the social pressure points and homogenizes the academic goals of many states and cities parallels the compression of TV news and the general speed-up of American life. The problem may be so deeply embedded in the culture that its solution will be extremely difficult. Publishers, however, are willing to change if the market signals a desire for change. When curriculum leaders, adoption committees, and teacher groups demand more considerate and educative books, the industry will provide them.

Caroline Cody, project associate to the Textbook Project of the Council of Chief State School Officers and the National Association of State Boards of Education, sees some hope. "We've already done a shortening of the educational agenda in basic skills. Elementary reading and math are easier to teach now because teachers understand which areas are more or less important. If teachers learned one thing from the basic skills movement, it was that once you decide what students need to learn, you must provide time to learn, and in that time, you must come at a topic from several perspectives. You need to provide multiple experiences with new terms and concepts — and the text that doesn't provide depth of resources on important topics is only making good teaching more difficult." Cody's analysis points to a solution within the grasp of teachers themselves. Teachers who serve on adoption committees can work to increase their knowledge of what constitutes a good text, press to define what is most important in each subject, and then insist that publishers treat important matters seriously. Teachers who currently have neither voice nor choice in the selection of textbooks need to work through their teacher organizations to win more professional control over these essential tools of their trade.

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Letters

THE STUDY OF HISTORY

Diane Ravitch's "The Precarious State of History" (Spring 1985) was indeed on target.

New York state will require a new course in American history soon; it will be taught in grade eleven for one year; in the first three weeks, the teacher must zip though U.S. history to 1865 so that the remainder of the year the students study U.S. history from 1865 to the present.

This insanity presumes that the children in the state were taught pre1865 history in the seventh or eighth grade, so that re-doing it would not be necessary. The board of regents in Albany forgets an elementary tenet: If you study something often enough, you will remember it. It's obvious that they do not want the children of New York state to know American history too well.

Albany proved Ms. Ravitch's point.

—Louis A. Carrubba

Brooklyn, NY

"The Precarious State of History" is essentially understated by Diane Ravitch when she places the blame for history's decline on the rise of utilitarianism during and after World War I. No doubt, the trends established by the utilitarians have had an enormous and largely deleterious effect. But the reason the schools have been powerless to restore history have, over the last twenty years, had more to do with politics than with educational philosophy. Imagine what would happen today if the high schools proposed a battery of history exams covering (a) the Americas, (b) Africa, (c) Asia and the Pacific, (d) Europe, and (e) Classical Greece and Rome. One can hear the howls of ethnic and cultural bias echoing from Bangor to San Diego. Meanwhile, requiring a generation of Americans to go through life innocent of their history is like asking an individual to function without a personal memory.

—W.S. MARKS University of California, Santa Barbara

We are writing to object to many of the unfounded and sweeping assertions about history teaching and social studies made by Diane Ravitch in her recent article, "The Precarious State of History."

The tone of the piece suggests that

American youth once received a proper historical education (which "peaked" in 1915!) covering mythology, biography, ancient, medieval, European, and American history and that this education has been eroded over the past five decades by utilitarian views of the curriculum and largely replaced by an amorphous and fragmented body of knowledge called the social studies.

We applaud Ravitch's plea for quality history teaching. However, her advocacy of history teaching would be more persuasive if she had made a clear statment of desirable goals and methods in the teaching of history. She suggests that the essence of history is the search for truth, but she dismisses the practice of the historical method as less interesting than learning the "stuff of history" and maintains that research involves knowing more history than young people could possibly possess. She cites with approval the claim that the study of history cultivates judgment and stimulates right conduct, but she does not want to teach values clarification or decision making as part of history. She advocates teaching children how to think, how to reach judgments, how



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to see their own lives and contemporary issues in context but is jealous of the time given to current events, citizenship education, values education, law and economics, and other "nonhistorical studies."

We are forced to conclude that it is the "knowledge of history," "the transmission of knowledge," "the study of history for its own sake," "the stuff of history," putting "furniture in the minds" that Ravitch really favors. In our observations, we see far too many "history" lessons that are the direct descendants of the mental disciplines school of thought in which students exercise their memories on either outlines or text-books that resemble shopping lists and pabulum, respectively.

Ravitch blames the decline of history teaching on the Progressives' emphasis on education for social efficiency. She seems to believe that the reports of the Committees of Ten and of Seven had ushered in the golden age of history instruction. "If the story of the history curriculum ended in 1915," she writes, "there would now be good news about the status of history." Certainly, the status of history would be firm, but would the narrative, chronological history be interesting, vital, and dare we use the word - useful to students?

Furthermore, we cannot accept Ravitch's notion that history is constantly suffering because of inroads made by the social sciences. In New York City and state and many other locales across the nation, social studies requirements have actually increased over the last decade to three and one-half or four years in high school, and the dominant proportion of these years is given over to historical subjects rather than to the social sciences. Our first-hand experiences and the Gross survey conducted in 1977 and reported in Social Education show that virtually every junior and senior high school student takes at least a year apiece of some type of U.S. and some type of world, European, or non-Western history, and history electives are usually available.

The social studies represents an attempt, albeit not terribly well organized, to fuse history, the social sciences, and the practical concerns of daily life. The social sciences have

had a healthy leavening effect on the field as a whole and it is impossible to diminish their importance. They share many of their concepts and methods with history and have helped to make us conscious of the biases, distortions, and ethnocentrism deeply embedded in much of history, issues that should not be avoided in the search for truth. In fact, Dr. Ravitch's concluding paragraph about history "properly taught" describes concepts and ideas that a social scientist or educator would find almost entirely acceptable for a wide range of related subjects, i.e., "knowledge of other times, other cultures, other places," "universality of human experience," "development of intelligence, civility, and a sense of perspective." History still has a "rightful place" in the schools and, in our view, is still the dominant subject within the social studies. That it should be autonomous is highly questionable. History itself and our experiences in the schools would suggest that the more distinct, the more tightly defined, the more "autonomous" the subject, the greater its rigidity and staleness, the narrower its vision of life and human intelligence.

Ravitch's call is for form, not substance. With very little but a strong bias in favor of a murky notion of what the goals and methods of history teaching should be, she impugns the hated social studies, which to its credit is trying through healthy experimentation to shape curricula to meet the complex needs of students and their society in the late twentieth century. Ravitch would have us ignore many social goals and return to a golden past that never existed.

In conclusion, then: What is the "stuff of history?" How should it best be taught to children and youth? How can it be integrated within the social studies and the humanities? How can teachers' knowledge and instructional methods be improved? These are the serious issues we would like to see addressed by scholars and leaders in the field. Our area of study doesn't need any more polemics or polemicists than it already possesses.

—Jack Zevin, Professor Arthur H. Rice, Asst. Professor Secondary Education Department Queens College City University of New York

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