from [illegible] (Arts + Ideas Section)

George Zimbel

One approach to teaching students is to give them a thorough grasp of a few disciplines to show them how to think critically. Another is to give them a broad grounding in society's common information and skills.

Opposing Approaches So Johnny Can Read

Analysis on One Side, Facts on the Other

Schools opened this week for most students, and so has another round of debate over how they should be run.

So Arts & Ideas asked two education gurus what students should be taught and how to teach it.

Howard Gardner, a Harvard professor and the author of the new book "The Disciplined Mind: What All Students Should Understand" (Simon & Schuster), argues that critical thinking and analytical skills in various disciplines should be the backbone of any educational approach, and that these do not depend on studying a particular subject matter or using a core curriculum. Mr. Gardner, who is perhaps best known for his theory of multiple intelligence, which posits a broader kind definition of intelligence than can be measured by I.Q. scores, proposes a focus on a limited number of subjects. Such case studies — like the theory of evolution, Mozart's "Marriage of Figaro" and the Holocaust — would teach students how to think, respectively, like a scientist, an artist or a historian.

E. D. Hirsch Jr., the author of "Cultural Literacy," (Houghton Mifflin, 1987), is a professor of education and humanities at the University of Virginia and president of the Core Knowledge Foundation. Mr. Hirsch, whose book "The Schools We Need and Why We Don't Have Them" was published by Anchor in paperback last month, argues that to function well, people need a vocabulary of common information, of facts, stories and skills that make up a shared literacy. His approach is being used in some of New York City's newest charter schools. He argues that the progressive tradition in education, which Mr. Gardner represents, has miserably failed students, particularly disadvantaged ones, and that a school combining drills and practice where needed with a demanding core curriculum will continue to produce the most successes.

Toward Good Thinking On Essential Questions

By HOWARD GARDNER

As one concerned with precollege education, I'm gratified by the attention paid to this topic over the last two decades. At the same time I have to signal my uneasiness that so much of the discussion centers on means: should we have charters, vouchers, teachers' unions, national tests, etc. I think it is essential that we step back, at least periodically, and ask about the ends or aims of education.

My own answer can be stated succinctly. A dozen or more years of education should yield students who can think well about the essential questions of human life: who are we, where do we come from, what's the world made of, what have humans achieved and what can we achieve, how does one lead a good life? Many people, institutions and experiences can contribute to formulating these questions and the answers. The distinct contribution of formal education is to equip students with the ways of thinking, the scholarly disciplines, that have been constructed over the years to allow individuals to think well and deeply about these questions and some viable answers.

In speaking of disciplines, I have something specific in mind. Disciplines did not always exist; they are human-created methods and structures for approaching long-standing puzzles. Historians evaluate documents and testimony to reconstruct plausible accounts of past events. Scientists generate hypotheses about how the world works, collect data relevant to those hypotheses, analyze the data objectively and then revise or endorse the original hypotheses or theories. The arts are also disciplines: they involve clear procedures for production (how does one write a fugue, stage a ballet, render a portrait) and for interpreting

Continued on Page A17

Finding the Answers In Drills and Rigor

By E. D. HIRSCH Jr.

The most interesting debate about American education concerns why the United States has not fulfilled the egalitarian aims of schooling as well as other democracies have. The main cause of inequality in American schools, I have argued, has been the dominance of the progressive-education tradition, which has seriously misconceived itself as the guardian of social progress and democratic ideals.

In this regard, I hope Howard Gardner is right that my work poses a threat to the assumptions of the progressivist tradition.

If we are lucky, the end of the 1990's will mark the end of spurious connections between educational ideas and political affiliations.

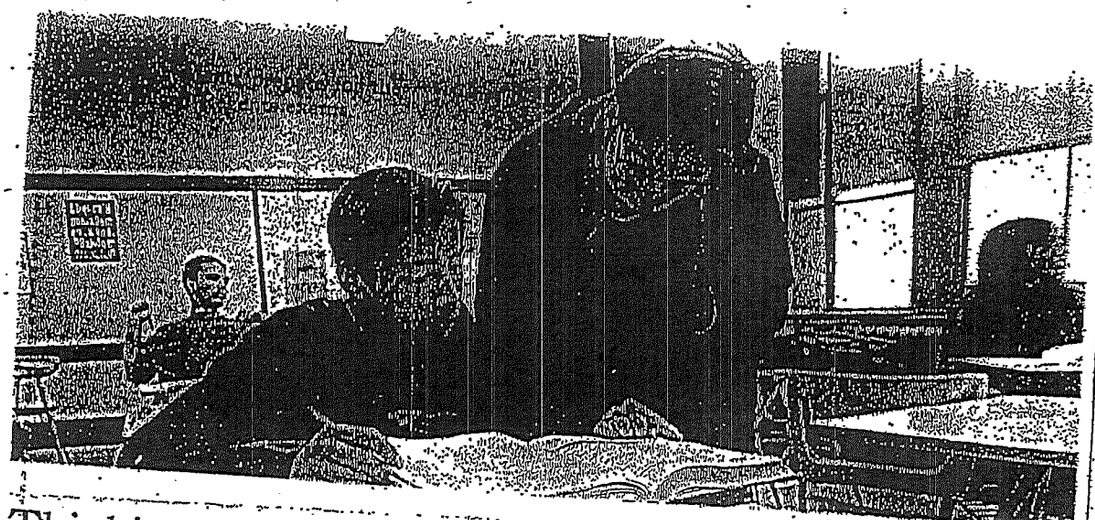
During the last two decades, when Democrats have controlled a school board, the district has tended to favor the whole-language method of teaching reading, to encourage the use of calculators for "math understanding" (instead of memorizing the multiplication table) and to disparage multiple-choice tests, all positions connected with progressive education but not logically with the platform of the Democratic Party.

By contrast, when a majority of school-board members have been Republican, the district has tended to favor the explicit teaching of phonics, the memorization of the multiplication table and the use of standardized tests, positions properly associated with educational conservatism but not necessarily with political conservatism.

On the contrary, political conservatism, understood as the preservation of the social status quo, is best achieved by progressive educational methods.

There have been recent signs that the politics of

Continued on Page A17



Chris Maynard for The New York Times

Thinking Well on the Essential Questions of Life

Continued From Page A15

the productions of others. For those inclined to dismiss the disciplines, imagine a world without such mental furniture.

By a convenient pun, the attainment of disciplines requires discipline. This is because our natural, common-sense ways of making sense of the world are non- or even anti-disciplinary. Only through years of asking questions and following well-honed strategies can we replace common-sense accounts (e.g., human beings have always existed, a highly civilized nation would never engage in genocide, the best portraits are photographs) with more nuanced and grounded disciplinary accounts.

The disciplines are arguably the most important human inventions of the last two millenniums. Yet their importance tends to be obscured, especially in the rhetoric-filled discourse of education. Instead, we hear a lot about facts, skills, tests and subject matter. None of these terms should be dismissed, but they attain fresh significance when they are considered in a disciplinary context.

First, skills. I know no one who opposes the acquisition of basic skills: reading, writing, calculation. Indeed, one cannot even enter the disciplinary worlds unless one has mastered the three R's. Basic skills are the means for acquiring the disciplines, just as the disciplines (and ultimately interdisciplinary amalgams) provide the means for thinking well about important issues.

Next, facts. You cannot think well about a topic or question unless you have information, data, facts. However, that information should be acquired not for its own sake but as a means of finding a better answer to a consequential question. And facts can only be well used if they relate to one another in a meaningful way: otherwise, to use Alfred North Whitehead's term, they are simply "inert knowledge." Facts need the connective tissue of disciplines, or they are undisciplined, rote information.

Subject matter is typically collapsed with disciplines, but it is important to honor a distinction. One can have lots of facts in a subject without having any disciplinary understanding. Too often a person is considered a master because she or he has taken a certain number of courses, often called Carnegie units. A person understands to the extent that he or she can apply knowledge appropriately in a new situation.

Tom Herde

Howard Gardner, who developed a theory of multiple intelligence.

Only an individual in possession of disciplinary moves can do this.

Which brings us to tests, or assessments. There may be some who oppose assessments, but I am not in their ranks. Not in the least! At the same time, I reject as inadequate most of the short-answer instruments now being adopted at the state level. These instruments may probe factual or subject-matter knowledge, but they typically fall short of probing disciplinary mastery and understanding. In life no one presents us with four choices, the last of which reads "none of the above."

I favor instruments that actually determine whether a person can think in a disciplined way. And so rather than ask students to name nine Civil War battles, I would ask them to assess two historical accounts based on the same primary documents (or create their own). Rather than asking students to recall a chemical formula, I would provide them with data from an experiment and ask them to extract the regularities (and perhaps indicate which other data need to be collected next). Rather than asking students to memorize authors or lines from a poem, I would ask them to edit or complete an unfinished poem.

Every educational philosophy reflects a certain knowledge base and a certain value system. My educational regimen builds on findings from cognitive science. These findings indicate that, when young, individuals develop intuitive theories that are very powerful and difficult to eradicate. While some are on the mark, most are remote from the disciplines. Only a concerted effort over years to establish disciplinary ways of thinking can eradicate or educate the unschooled mind. My own belief is that this goal is best achieved by focusing in depth on certain important topics; not only does one come to understand those topics well, but in the process one gains incipient mastery for what it is like to use the methods of a discipline.

This incipient mastery can be built upon for the rest of one's life. Indeed, I am idealistic enough to believe that once individuals have genuinely understood a theory like evolution, a historical period like the Holocaust, a work of art like "The Marriage of Figaro," they will insist on commensurate understanding of other topics in the future.

Pursuing this line of reasoning, I find myself out of sympathy with a preordained canon. One can acquire disciplinary ways of thinking from a variety of topics, and it simply does not matter that much which ones happen to be used. It is more important, in my view, to use examples that are valued by the community and that come alive for students than to insist that everyone read the same play or master the same theorem or learn the same topics in science. I don't care that much if one can name the planets; one can always request that information from a Palm Pilot. I care mightily that half of the American population (and perhaps some of our recent Presidents) can't distinguish astronomical from astrological ways of thinking and that two-thirds of Americans don't see the disciplinary difference between evolutionary and creationist accounts of the origins of human beings.

In putting forth these views, I find myself at odds with much of the program put forth by E. D. Hirsch Jr. Perhaps it is possible to reconcile our work to some extent — for example, by emphasizing his "Core Knowledge" in early grades and my disciplinary focus for the later grades. I have admiration for his democratic vision, his belief in public education and his sponsoring of programs in our schools. Still, I think it is valuable to put forth these quite different educational visions: one focusing on questions and on ways of thinking, the other on factual answers and on shared knowledge. The value is in part epistemological, different views of the mind's use; in part cultural, different views of an educated society.

Continued From Page A15

education is belatedly becoming more sophisticated. As long ago as the 1930's, Antonio Gramsci, a brilliant Communist opponent of Mussolini, denounced the new "progressive" ideas that were being introduced into Italy from the United States. He argued that social justice required educational conservatism because only if the poor worked hard in school to accumulate the "intellectual baggage" of the rich could they earn money and wield the levers of power. Gramsci, the Communist, serving on a modern American school board, might surprise fellow board members by voting with Republicans.

So might James S. Coleman. Progressive methods failed disadvantaged students, he concluded after a decade of inquiries into the implications of his famous 1966 report, "Equality of Educational Opportunity." What people remember about his 1966 report is that schools appear to count for little in determining educational achievement, whereas family background matters a great deal. This statistical fact upset many people, including Coleman, because it dashes the democratic hope of giving all students an equal chance by simply putting rich and poor together in the same common school. If the common school does not in fact reduce the advantages of wealth and privilege, then the premises of democratic education must be re-examined.

After the Coleman report, one had a choice of two positions; one could become an advocate of compensatory education to narrow the achievement gap between groups, or one could adopt the determinist view that the schools can do little to rectify the ills of the wider society. The deterministic position, which excuses the schools for failing to reduce the test-score gap between groups, is widely held in the American educational world. But after further research, Coleman adopted the compensatory position.

Published in the 80's, that research showed that most Roman Catholic schools were better at achieving equity than most public schools. Catholic schools followed a rich and demanding curriculum, required a lot of drill and practice, and expected every child to reach minimal goals in each subject during the year. As a result disadvantaged children prospered academically, as did their advantaged peers, and the schools narrowed the gap between races and social classes.

This deeper inquiry of Coleman's started a controversy almost as fierce as the one surrounding his 1966 report. It was seen as an attack on public schools, but, as Coleman unanswerably pointed out, his findings were not limited to Catholic schools; the very same democratic results were being achieved by the few public schools that defied progressivist doctrine. Consistent with that finding is the fact that recent improvements in equity have been achieved only by school reforms that use conservative methods like drill and practice (e.g., the Success for All program at Johns Hopkins) and a demanding curriculum (e.g., the "Core Knowledge" series of books).

After so many practical failures, few educational experts overtly label themselves progressivists, but one can detect de facto progressivists by

Timothy Greenfield-Sanders

E. D. Hirsch Jr., president of the Core Knowledge Foundation.

certain distinctive traits. First, there is their belief that knowledge and skill will be gained incidentally from intensive study of a few subjects. This incidental method claims, against all evidence, to achieve greater depth, as if there were a simple trade-off between depth and breadth. A claim is made under various labels and slogans such as "the project method" and "less is more" that exposure to a few complex experiences will cause understanding to occur naturally; an idea that first gained currency during the Romantic movement.

A path that helps disadvantaged children prosper instead of languish.

The persistent attractions of this "natural" method may possibly be explained by the vestigial Romanticism of American culture, but as Lisa Delpit observes in her book "Other People's Children," the progressivist mode of teaching has consistently failed to benefit African-American children (and many advantaged children as well).

Another mark of progressivism (and another vestige of the Romantic movement) is its criticism of an "overemphasis" on language. Emerson said: "We are shut up in schools and college recitation rooms for 10 or 15 years and come out at last with a bellyful of words and do not know a thing." But as Ms. Delpit points out, these antiverbal ideas have done the most harm to the most disadvantaged students. Their greatest deficits are in vocabulary and the conventions of literate language; they make up math deficits much more readily than language deficits.

Keith Stanovich and his colleagues have shown that a score on a standardized reading test in first grade is the best predictor of 11th-grade academic achievement, a shocking indictment of present-day schools and a powerful illustration of the accuracy of standardized tests and of the centrality of verbal training for determining life chances.

Disparagement of objective tests is a third way to detect progressivists. Their hostility to tests is not surprising, given that progressive methods fail to improve test scores. Yet standardized reading tests are among the most valid and reliable assessments that exist and among the most important instruments for measuring excellence and fairness in education. To take a reading test, a student has to perform the very skill being assessed. These tests, even in their much-maligned multiple-choice forms, are highly correlated with each other and with real-world reading skills.

Competence in reading (that is in comprehension) is central to academic achievement and to participation in economic and political life. High school graduates who read well enough to get into top colleges know about 100,000 words, which means an average learning rate of more than 15 new words a day, an astonishing number attainable only by wide reading and by psychological mechanisms that are only beginning to be understood.

A broad vocabulary is an index to broad knowledge, and broad knowledge, extended over time, is the key to depth of knowledge and to a general ability to learn new things.

Since the late 60's it has been known that high literacy entails prior background knowledge over many different domains. Within a given literate culture, the most literacy-enhancing background knowledge can be identified and taught to all students. Theory predicts that teaching such a high-octane curriculum will raise everyone's reading and learning levels and narrow the achievement gap between social groups. This prediction has now been confirmed by independent researchers.

Teaching a curriculum that produces high literacy for all is a potent way of fostering the egalitarian goal of democratic education. But before we can advance toward that goal on a broad front, many progressivist ideas will have to be discarded.

THINK TANK

Sandra Blakeslee