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The Futility of Trying to Teach Everything of Importance

Students cannot possibly learn everything of value by the time they leave school, but we can instill in them the desire to keep questioning throughout their lives.

The aim of precollegiate education is not to eliminate ignorance. The view that everything of importance can be thoughtfully learned by the 12th grade—notice I did not say “taught”—is a delusion. Those who would treat schooling as designed to educate students on all important subjects are doomed to encounter the futility that faced Sisyphus: the boulder of “essential content” can only come thundering down the (growing) hill of knowledge.

By now, you may have read the articles in this issue describing the many things students should know but do not know. I, too, have been dismayed to discover that some students don't know where Mexico is or how to read a timetable, never mind solve an algebra problem with two variables. But, oh, how we forget our earlier and current ignorance!¹ How easy it is to feel indignant when some student doesn't know what *we* know. But somewhere out there, in this highly specialized world, is a well-educated adult who also neither knows it nor deems it essential.

From a Medieval View of Curriculum

The irony of the fuss about student ignorance is that the *causes* of such ignorance are never adequately explored. To gain one insight into the causes, we need only look at any text-



Developing in students a love of discovery—whether alone observing a radiometer or in a group following the flight of a hawk—should be our aim. To do so, however, teachers and students must have the intellectual freedom to follow the lead of their own questions.



Photographs by Betty Buchignani

book. Teaching has been reduced to the written equivalent of TV news sound bites—in part, because so many groups lobby hard for inclusion of *their* pet ideas. Moreover, much of what they wish to be taught is now taught; the problem is that it isn't learned—and can't easily be, given the inert and glib quality of the text. Content is reducible to sound bites only when curricular lobbyists (and an alarming number of educators) believe that learning occurs merely by hearing or seeing the "truth." The problem of student ignorance is thus really about *adult* ignorance as to how thoughtful and long-lasting understanding is achieved.

The inescapable dilemma at the heart of curriculum and instruction must, once and for all, be made clear: either teaching everything of importance reduces it to trivial, forgettable verbalisms or lists; or schooling is a *necessarily* inadequate apprenticeship, where "preparation" means something quite humble: learning to know and do a few important things well and leaving out much of importance. The negotiation of the dilemma hinges on enabling students to learn about their ignorance, to gain control over the resources available for making modest dents in it, and to take pleasure in learning so that the quest is lifelong.

An authentic education will therefore consist of developing the *habits of mind and high standards of craftsmanship* necessary in the face of one's (inevitable) ignorance. Until we accept the sometimes tragic, sometimes comic, view that students, *by definition*, are ill-equipped at the end of their tutelage for all that their professions and intellectual lives will require, we will keep miseducating them. Curriculum design could then finally be liberated from the sham of typical scope and sequence whereby it is assumed that a logical outline of all adult knowledge is translatable into complete lessons, and where a fact or theory encountered once in the 8th grade as a spoken truism is somehow to be recalled and intelligently used in the 11th.

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Our attempts to avoid the dilemma reveal our naiveté or *hubris*—so much at the heart of Greek myths like that of Sisyphus. Given the pain of necessary curricular deletion, critics retreat to rigid ideology to ensure someone *else's* canon is cut. The traditionalists demand complete cultural literacy; the progressives deify "thinking" and multiple points of view. The former see themselves as the guardians of rigor, standards, and disciplinary knowledge; the latter see such views as elitist, narrowly pedantic, unmindful of nontraditional knowledge and modern epistemology. Alas, "literacy" somehow always gets reduced to memorized lists or cultural hegemony, and "perspective" ends up being *my* perspective, that is, egocentrism.

Both views end up making the same mistake. In trying to "cover content" or in treating facts as equivalent fodder for some vague set of skills called "critical thinking," both sides ironically reduce essential knowledge to Trivial Pursuit. In *neither* case do students understand that some ideas are indeed more important than others. In *neither* case are students equipped to

see for themselves, as a direct outgrowth of schoolwork, that some skills and ideas offer touchstones of such power that our own worldviews must change as a result of encountering them. On the contrary, the typical lesson becomes important only because the teacher says so. (Worse, "This is important" often reduces to "Take notes because this is going to be on the test.")

To subscribe to the myth that everything of importance can be learned through didactic teaching amounts to a pre-modern view of learning. The pejorative simile of the school as factory could only have taken hold in a culture which already believed that knowledge is facts passively received. The view that learning is nonproblematic and inactive reflecting upon knowledge is the persistent residue of a medieval, static, and sectarian tradition. The substance of education is "truth"; the number of essential truths is limited; there is a catechism and a sacred text providing sanctioned, effective ways of explaining all phenomena; the means of knowing are nonempirical: understanding is essentially passive, dependent upon the self-evident truth of doctrine or through contemplation of it. The lecture—once necessary in a world without ready access to books—survives as a dominant methodology despite our technological advances and recognition of diverse learning styles.

Toward a Modern View of Curriculum

We will not escape our essentially medieval view of curriculum, premised on the finite and static quality of knowledge, until education learns the lessons of modern intellectual inquiry. Today's curriculum design should thus have as its motto that of the 17th-century Royal Society: *Nullius in Verba*. The best translation, as Boorstin (1985) has noted, is "Take nobody's word for it; see for yourself." Only by apprenticing in the hands-on work of knowledge production can students learn to turn inchoate feeling and received opinions into unforgettable, vibrant, and systematized knowledge.²

Photograph by Dipak Panigrahi



Given the Sisyphean task of teaching so that all important ideas are thoughtfully learned, the only wise goal is to reframe the problem. Our aim should be to develop in students a thirst for inquiry and a disgust for thoughtless, superficial, and shoddy academic work, irrespective of how "little" they know. Students must be educated to feel what all wise people know: the more you learn, the more you are aware of your ignorance. They must be shown that there is a perpetual *need* to think and that *all* "official" knowledge (including that in the textbook) is thinking fashioned into facts by rigorous, sustained but personalized work.

Such epiphanies are possible only when we treat every "fact" as the result of inquiry and not as a given, finished thing produced *ex nihilo*. Conventional curriculums reinforce the idea that knowledge is uncontroversial or self-evident, when the opposite is often true. The test for a modern curriculum is whether it enables students, at

any level, to see how knowledge grows out of, resolves, and produces questions. Rather than the TV-view that by the end of a class or school career all the "answers" have been "taught" and tied together in a happy ending, closure would consist of taking stock of the current state of the boundary between one's knowledge and ignorance, and gauging the depth of one's grasp of the questions.

In short, the aim of curriculum is to awaken, not "stock" or "train" the mind. That goal makes the basic unit of a modern curriculum the *question*. Given the intimidating, easily trivialized mass of knowledge, what the modern student needs is the ability to see how questions both produce and point beyond knowledge (whether one's own or the expert's). Educational progress would thus be measured as the ability to deepen and broaden one's command of essential questions by marshaling knowledge and arguments to address them.

Note, therefore, that questioning is

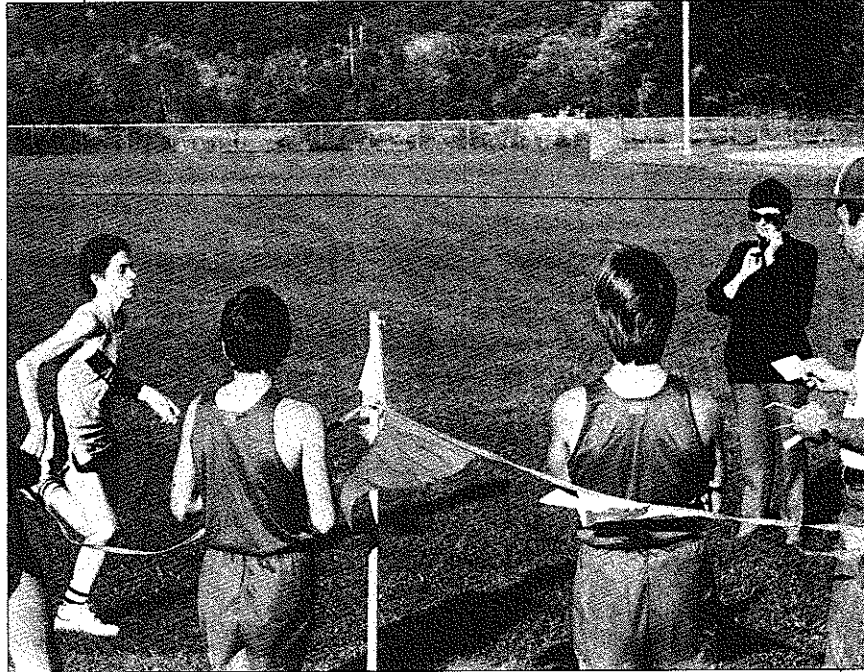
not a context-less skill any more than knowledge is inert content. One learns the power of the question only by seeing, for oneself, that important "facts" were once myths, arguments, and questions. And one therefore learns self-confidence as a student only by seeing that one's questions, not one's current store of knowledge, always determine whether one becomes truly educated.

Freedom to Go Where Questions Lead

Curriculums should therefore be organized around essential questions to which content selection would represent (necessarily incomplete and always provocative) "answers."³ What is an adequate proof? What is a "great" book? Does art imitate life or vice versa? Are there really heroes and villains? Can one medium of discourse or art adequately translate into others? Is there a fixed and universal human nature? Is "history" the same as "progress"? These more general questions

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Photograph by Jay Thompson



would have subsets of specific questions under which content would be organized.

The task is to *reorganize* curriculums more than to add or subtract from them. The aim is to establish clear inquiry priorities within a course, around which facts are learned—the method of athletics and the technical and performing arts, by the way. To demonstrate that such a curriculum is feasible, let us look at the essential concepts of science cited in the AAAS report, *Project 2061: Science for All Americans*.⁴ The following "Common Themes" are stressed: systems, models, constancy, patterns of change, evolution. Now, turn them into questions under which content would be organized: Is nature "systematic"? In what senses is the body a "system"? What are the strengths and weaknesses of the "model" of light as a wave or of atoms as planetary systems? Does scientific knowledge change by gradual evolution or by revolution? All student inquiry, spe-

cific labs and assignments, and final exams would be used to ascertain *the degree to which the student understands the question*.

The modern educational task is thus to put students in the habit of thoughtful inquiry, mimicking the work of professionals. That naturally implies that essential questions must also derive from students: the best questions in my classes invariably came from engaged students. Sometimes all a teacher need do is ask students to design the questions and tasks composing the final exam, based on their knowledge of the "essentials." (In theory, one should assess students on their ability to anticipate the essential questions. In fact, in my teaching and that of many others, the students' growth in question-asking over the course of the class is assessed.)

The implication for curriculum design in all of this is profound: if the students' questions partially determine the direction of the course, it will no longer be possible to write

scope and sequence lesson plans in advance. The teacher and the students must have the intellectual freedom to go where essential questions lead, within bounds set by the general questions, themes, and concepts of the syllabus. The teacher must have access to material that offers a variety of specific inquiries to pursue, with suggestions on how to deepen student responses and to use the text as a more effective resource. *The textbook, instead of being the syllabus outline and content, would be a reference book for student and teacher questions as they naturally arise.* Like the music or athletic coach and the vocational education teacher, the classroom teacher's job is to help the student "play the game" of the expert, *using content-knowledge, as contextually appropriate, to recognize, pose, and solve authentic knowledge problems.* Most important, the teacher-as-coach would use the curriculum to help students develop the habits and high standards of the expert (as opposed to thinking

of content mastery as a superficial and desiccated version of all professional knowledge). We have learned this lesson in the arts and in writing, thanks to the work of the national and regional Writing Projects in the latter case. But we have yet to translate it into the learning of history, mathematics, foreign language, and literature.

The reference to "high standards" may well be lost or misconstrued here. The "standard" was originally the flag that soldiers rallied around, the source of self-orientation and loyalty; it represented what mattered, what one was willing to fight for. To speak of high standards is to invoke images of pride in one's work, a loving attention to detail, an infusion of thoughtfulness, whether one is learned or not. What is sadly visible in so many American classrooms, even in the "best" schools, is that there is so little evident student craftsmanship in academic work—a far cry from what one witnesses on the athletic field, on stages, and in vocational wings, by the way. The cause? Seeing facts as the remedy of ignorance and accurate recall as the only sign of knowledge.

Standards are intellectual virtues—habits of mind. In workshops I ask teachers, "What 'bad habit' gets in the way of students' learning what is essential?" They quickly offer many good ones: inability to delay gratification, inability to listen, no concern for thoroughness or discipline in proofreading, and so on. When one then asks them to imagine the solving of each problem as the changing of a habit, there is a noticeable set of sobered faces. Didactic lessons obviously cannot work. Days of reinforcing actions are required. What then often follows is the more painful realization that *teacher* habits unwittingly reinforce the student habits deemed undesirable, especially the teacher habit of "coverage" and short-answer tests.

But it is not only that skills are habits. An *idea* is a habit of mind. Only with repeated use, and by investigating it from various points of view, do we learn to understand a new idea—whether it be $F=ma$ or irony in literature. To imagine that one verbal exposure to such

ideas or a few mindless uses of them (as if they were plug-in algorithms not requiring judgment) is sufficient for students to understand them is as naive as Sisyphus' thinking that *this* time he has the tools to make it.

The Ability to Keep Questioning

What students need to experience, firsthand, is what *makes* an idea or book "great"—something hard to do well, but possible with students of all ages if teachers grasp the need for cycles of Question-Answer-Question instead of merely Question-Answer. The issue is ultimately not which great book you read but whether any book or idea is taught in a way that deadens or awakens the mind, whether the student is habituated to reading books thoughtfully, and whether the student comes to appreciate the value of warranted knowledge (as opposed to mere beliefs called "facts" by someone else).

One therefore learns self-confidence as a student only by seeing that one's questions, not one's current store of knowledge, always determine whether one becomes truly educated.

One irony in the fuss over *Cultural Literacy* is that Hirsch has written a classic liberal argument: the point of cultural literacy is to enter the Great Conversation as a coequal. But Hirsch made a fatal (and revealing) error in his prescription of a shared base of essential information.⁵ The capacity to understand is only partially dependent on facts; rarely do we need to know the same things that our fellow conversants know. It is far more important for a novice to possess intellectual virtues (moral habits of mind, if you will); one must:

- know how to listen to someone who knows something one does not know,
- perceive which questions to ask for clarifying an idea's meaning or value,
- be open and respectful enough to imagine that a new and strange idea is worth attending to,
- be *inclined* to ask questions about pat statements hiding assumptions or confusions.

So-called "liberals" in education have been myopic in thinking that one can evade the question about what facts, ideas, or books are worth spending *limited* time on. There is no "critical thinking" without substantive ideas and criteria for distinguishing between exemplary and slipshod work, no matter what the age or experience of students. But didactically teaching sanctioned bits of knowledge from a silly list will promote only thoughtless mastery and the very ignorance we decry. "Knowledge" remains a forgettable patchwork of adult sayings in the absence of our own questioning and verifying. "Knowledge" must solve a problem or provoke inquiry for it to seem important.

Since it is impossible to teach everything we know to be of value, we must equip students with the ability to *keep* questioning. The value of an idea, when time is limited, stems from its ability to pass this test: does it sufficiently illuminate student experience and provoke new thought? If not, it clutters up the curriculum.

A truly liberal education is one that liberates us from the oppression of

unexamined opinion and feeling—a far cry from letting students encounter only what they think relevant or fun. As the philosopher Gadamer put it, the enemy of the question is dominant opinion, be it the loud voice of a textbook or one's student peers. The aim of the modern curriculum ought to be to use selected content as a vehicle for developing in students an unwillingness to accept glib, unwarranted answers from any source. They must leave school with the passion to question, without the fear of looking foolish, and with the knowledge to learn where and how the facts can be found.

The sign of a poor education, in short, is not ignorance. It is rationalization, the thoughtless habit of believing that one's unexamined, superficial, or parochial opinions and feelings *are* the truth; or the habit of timid silence when one does not understand what someone else is talking about. Most first-rate questions or comments I have heard from my high school students were inevitably preceded with "I know this sounds stupid, but . . ." The principal sign of the failure of curriculum-as-content is that admitting ignorance becomes increasingly rare as students age: many of our best high school students will not openly express their ignorance, while younger students happily inquire regularly.

Toward a Thoughtful Education

Curriculum must develop in students the habits of mind required for a lifetime of recognizing and exploring one's ignorance. The modern curriculum should thus: (1) equip students with the ability to further their superficial knowledge through careful questioning, (2) enable them to turn those questions into warranted, systematic knowledge, (3) develop in students high standards of craftsmanship in their work irrespective of how much or how little they "know," and (4) engage students so thoroughly in important questions that they learn to take pleasure in seeking important knowledge.

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To enable students to be more thoughtful about what they do and do not know, the following aphorisms should be kept in mind in curriculum design:

1. *The most essential habit of mind we can provide students is the ability to suspend disbelief or belief as the situation may warrant.* Experts are so called not because they know everything of importance in their field but because they have developed the habits required to avoid believing the first thing they see, think, or hear from other so-called experts.⁶

Ask yourself, then: how would we teach the same content from the perspective that students should feel the need and desire to be critical or empathic when most people, when encountering a would-be problem, are inclined in the opposite direction? At Central Park East Secondary School in East Harlem, for example, all courses are designed around the following five sets of questions:

- Whose voice am I hearing? From where is the statement or image coming? What's the point of view?
- What is the evidence? How do we or they know? How credible is the evidence?

- How do things fit together? What else do I know that fits with this?

- What if? Could it have been otherwise? Are there alternatives?

- What difference does it make? Who cares? Why should I care?

As these questions reveal, the criteria of good answers become more important than merely whether one possesses a seemingly-adequate-but-really-superficial "right answer." When content is organized to address such questions, the student's (limited but growing) knowledge becomes a means to the end of mastering the *standards*—the discipline—of scholarship. Second, when the questions are continually asked, the students get *in the habit* of asking good questions unapologetically. (While visiting the school last year, I heard an 8th grader ask, after the teacher gave a history lecture, "From whose point of view were the facts in the talk from?"—leading to an exemplary inquiry of the *teacher's* sources.)

2. The deep acceptance of the painful realization that there are far more important ideas than we can ever know leads to a liberating curricular postulate: *all students need not learn the same things.* Why do we persist in requiring all students to take mathematics courses that are designed only for would-be professionals? Why do we require all students in an English class to read the same books? High standards matter, not whether we have all marched through the same "content."

The teacher should be an intellectual librarian, constantly making it possible for students to be challenged anew to pique their curiosity and raise their standards and expectations. Just as there are different learning styles, there are different equivalent books and tasks that will serve such purposes. And if different "essential questions" are tackled by groups of students drawing upon different books and experiences, the possibilities for *genuinely* cooperative learning are heightened.

3. *If everything taught is said by teachers to be important, then nothing will seem important to students.* Of all

the "important" things students are learning, some are more important than others. This concept is one that few students are ever helped to grasp through their schooling experience. How do we help students grasp priorities within a course? "Importance" is only "learnable," not "teachable"; the student must be helped to *directly* perceive and astutely judge an idea, fact, skill, model (or whatever) to be essential for understanding or uniting the other elements of a course. (The ultimate test: the student's ability to say "This is important," when the teacher is silent on the matter.)

The only practical cure for our bloated curriculum, in which everything is important, is to stop thinking in terms of adult logic and specialized priorities. Rather than asking, "What will my course cover?" or "What are the important outcomes of this course?" teachers should ask:

- "What must my students actually demonstrate to reveal whether they have a thoughtful as opposed to thoughtless grasp of the essentials?"

- "What will 'successful' student understanding (with limited experience and background) actually look like?"

The only realistic way to deemphasize or reduce content to stress priorities in teaching is to align one's curriculum in the true sense: design final tests and scoring rubrics that reflect thoughtfulness as a curricular priority, and then teach to them. (And, as I have argued elsewhere, the operational sign of a school's priorities can be found in those things we take points off for on assignments and tests.⁷) A sign of successful curriculum and instruction, where priorities are clear, can be found in the students' ability to anticipate the final examination in its entirety and provide accurate self-assessments of their finished work.

4. *Curriculum is inseparable from assessment*: the tests set standards of exemplary performance, as point number 3 implies. But as the notion of intellectual performance implies, competence can be shown in various, sometimes idiosyncratic ways. Why

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must all students show what they know and can do in the same standardized way? *Craftsmanship and pride in one's work depend on "tests" that enable us to confront and personalize authentic tasks.*

School-given tests, whether bought from vendors or designed by teachers, are typically *inauthentic*, designed as they are to shake out a grade rather than allowing students to exhibit mastery of knowledge in a manner that suits their styles and interests and does justice to the complexity of knowledge. We must once again return to the idea of the public "exhibition" of knowledge, where the student's incentive to reveal high standards and competence is greatly increased through personalized "performance."⁸

5. *The "essentials" are not the "basics."* The laws of physics, the rules of grammar, the postulates of geometry, the difference between fact and opinion, or the shades of meaning and usage with respect to words are not unproblematic givens. They represent embedded and persistent problems within organized knowledge. Students are rarely taught to appreciate the fact that the logical foundations were typically discovered or invented *last* in the history of a discipline: they are the least obvious facts or truths and often represent stunning triumphs in problem resolution.

Put in terms of the classroom, essential ideas, like essential questions,

should recur in different guises and levels of difficulty within each course.⁹

That is the only way for students to perceive knowledge to be essential. Also implicit in such a view is that to enable students to understand the essentials of a discipline, we need not teach the basics first and proceed in "logical" order. Only experts have the discipline and perspective to grasp the importance of studying the basics, whether it be van Gogh learning about color for eight years or professional writers laboring over a few word-choice problems in a manuscript. We should teach the minimum basic content necessary to get right to essential questions, problems, and work—within and across disciplines. Pride in one's work leads to greater care for the basics; pride depends on authentic and engaging work, and a product "owned" by the student.

What Socrates Knew

The dilemmas of curriculum and instruction are real, the problems increasingly intractable. There is simply too much for any one of us to know, never mind teach to dozens of students in a crowded day. Such a tragic fact leads to a liberating realization: wisdom matters more than knowledge. However, as a wise Greek curriculum-basher pointed out 2,200 years ago, and who was killed for his trouble, few people know or admit this essential lesson about our own ignorance—none of us readily imagine ourselves to be unaware of things worth knowing. This was the one thing Socrates knew deeply and unequivocally. The ideal curriculum would use knowledge judiciously to further that insight. Maybe, therefore, the myth of Sisyphus *is* appropriate for curriculum work. As Camus suggested at the end of his essay on Sisyphus, given a deep awareness of the "absurd" plight of his task, "One can imagine Sisyphus as happy."□

¹ A personal example: having never had a history course that went beyond World War I, it wasn't until I was 28, watching "The World at War" on PBS, that I discov-

ered that Russia had been our ally in the second World War.

² Readers of Dewey will hear an echo here of *How We Think* (1910/1933). There, Dewey argues that neither conservatives nor liberals understand the mind's native interest in thinking and the need to culminate, not begin with, one's work in a "logical" organization of subject matter.

³ See Wiggins (1987) for a further account of "essential questions." For examples of curriculums designed around such questions, see the June 1989 issue of *Horace*, the newsletter of the Coalition of Essential Schools, based at Brown University.

⁴ American Association for the Advancement of Science (1989), pp. 123-131.

⁵ He has also erred in his portrayal of Dewey's thinking. The caricature he presents of what he calls Dewey's "formalism" overlooks a massive corpus of writings that provide substantive guidelines on how to ensure that students truly understand academic ideas of value and substance.

⁶ Note, for example, the recent "cold fusion" controversy and how careful some

scholars have been about *testing* the initial claims by Pons and Fleischman before responding one way or the other. Note, too, that many experienced chemists may have been (necessarily) ignorant of all they needed to know about nuclear physics to settle the matter.

⁷ See Wiggins (1988).

⁸ See Wiggins (1989a) and (1989b) for more on authentic forms of assessment.

⁹ Echoes, of course, of Bruner's (1960/1977) "spiral curriculum" in *The Process of Education* (which borrowed the phrase from Dewey's *Experience and Education*). But the point here is that students need to see knowledge "spiral" within each course, not just over the K-12 years.

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