

Begin here: The Forgotten Conditions of Teaching and Learning

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Middlemarch Is ----- ?

(a military exercise-a Victorian novel-an English holiday-March 15 at midnight)

INTRODUCTORY

Because the modern world lives by machine industry, it favors the mechanical in all things, whether all things benefit from it or not. We judge of the known and the unknown by numbers and make do even with indirect clues to them-so-called indicators. We choose employees by getting applicants to answer printed questions about their tastes, and we hope to cure mental illness by a like survey of attitudes in imaginary scenarios. The answers are totted up according to a code, and on the basis of it the hiring is done or the prescription written.

That numerical remote control has invaded the school in the form of multiple-choice tests, and their obvious convenience has concealed a series of harmful side-effects. Those on the minds of the learners and on the meaning of the things taught are detailed in the essay that follows, but there are equally bad consequences for other prime elements of schooling.

With printed tests, students do not write as often as they once did. This self-evident remark holds the solution to the "writing problem" that schools vainly struggle with. Good writing, done without groans at the injustice of the demand, comes only with frequent practice. Short pieces must be called for regularly, carefully corrected by the teacher, and rewritten until acceptable. How often does that take place today? The answer is implied in the announcement of yet another hopeful program offered at the Bread Loaf School of English: "Making Johnny a Better Writer By Getting Teachers to Write."

Essay examinations provide a second opportunity for writing, just as good readings provide the models. The printed test affords neither. Read the multiple-choice questions or the sentences to be dealt with in some prescribed way: their tone and shape are repetitious, colorless, uninspiring. Again, when- it is so easy to "check off what's right," composition-the setting down of one word after another-comes to seem an unnecessary chore. This lazy view of writing begins in kindergarten with the "workbooks"-silly questions, ugly paper, crude pencilled check marks.

Older students who are not compelled to think up sentences of their own, who feel that the really serious problem is in which little box to put the x, never develop the habit of trimming and putting order among the ideas that come to their minds helter-skelter, in spurts, as ideas do to most people most of the time. Result: the inarticulate young whom one meets on every hand. Self-expression? They long for it, but too often it consists of fragments of thought jerked out with *like* and *y'know* as connectives and assembled for the listener only after several attempts.

It cannot be too often repeated that reading, writing, speaking, and thinking are not four distinct powers but four modes of one power. That last word is diagnostic: it means able to do at will. If instead of always using the jargon word "skills," school people used the word power, they might judge the result of their teaching more concretely. They would see that passing a fill-in test in English composition means nothing if the passer is power-*less* -not able-to write ten clear lines of prose. They would see further that something ought to be done for the student whose score on the test, again, was passing, but who cannot put together and utter the right words to make himself understood orally.

That is not the only complaint. Some students with a gift for writing are badly served too. They often find it difficult to do well on the fill-in writing tests, because their very ability to frame a sentence of their own runs counter to the trick of guessing what somebody else wrote in the printed test sentence that shows gaps within. A good writer is usually not one of those talkers who finish your sentence for you. His individuality is too strong and his mind too clear to himself to fall in with somebody else's intentions.

Finally, with scores in numbers comes the abdication of human judgment. It takes none to see that 520 is greater than 400. Very comforting. If the admissions officer follows his own impressions of the candidate he may make a mistake; with the score he is safe-safe in any later argument. Scholarship committees are notorious for this sort of cowardice: "Yes, I believe the recommendation, but the figures . . ."

Does this mean that there should be no school grades? On the contrary. Letter grades are indispensable; they record a direct judgment by a human mind using a variety of evidences. They are not infallible, but they convey no fallacious exactitude; and when coming from several judges over a period of time they tend to balance and confirm each other. They are also much sounder than the verbiage of psychological descriptions and they distinguish degrees of merit far better than standardized scores.

Since these, as pointed out above, are an attempt to imitate the rigor of the machine, the topic next in order is the mechanized schoolroom. The push in that direction has been strong and persistent. Big business wants to sell the expensive machines developed for office use, and businessmen on schoolboards grasp the utility of these labor-saving devices better than they do the nature of teaching and learning. Thus in the sixties many came to think the "teaching machine" the cure-all. It would incite the young to teach themselves by giving answers to adroit questions on the screen and to learn their mistakes by its firm refusal to budge until the answer was right. Any coldness in this dreary intercourse was mitigated by flashed greetings and urgings of the friendliest kind. But drill without a drill-master is stupefying, and more interesting exercises were too difficult for most teachers to devise or administer. Most of the machines are now gathering dust in the basement storerooms.

Next came the audio-visual panoply of the seventies—the tape player and recorder, the slide-and-movie projector, the overhead reflector that threw on the screen whatever the teacher wrote or drew at his desk—quite "exciting" the first couple of days. All machinery is exciting when new; it soon loses its charm, for the mechanical does not stimulate thought, and as a wise man said: "Most important ideas aren't exciting. Most exciting ideas aren't important. Not every problem has a good solution." Of all the school gadgets, the film-strip projector is the chief survivor, and not because it teaches well, but because looking at a movie gives the class and the operator a break from real work.

The futility of these "aids" brings to memory the first of all the resorts to machinery: the typewriter—a special model for the small child. It was expected to relieve teacher and taught of the drudgery that goes with handwriting—so hard to teach, so dull to learn. Current commercial handwriting is a testimonial to the triumph achieved. Sizable losses in money, confusion and irritation in dealings are the product of, first, by-passing the human hand, and then refusing to restore the practice of loops and letters.

Today, the counterpart of the typewriter is the hand calculator, the substitute for arithmetic, and with it the introduction of the metric system. According to one of the many advocates of this joint improvement, "Such monstrosities as proper and improper fractions, numerators, least common denominators, and mixed numbers could be laid to rest." No doubt, and it would take a special talent to count a two-thirds majority of the Senate.

Next in line is the computer, whose applications are said to be endless. It is argued that since many children learn to use it at home to play games, it will be eagerly taken up at school. "Many" may be right, but surely not the children of poor parents, who are also many. This difference in home opportunity is doubly deplorable, being more crudely visible than any other, such as having books and parental help.

But that is not the only objection. First, a computerized classroom is very expensive; for a class of 25, it costs at present about \$40,000. Money ought to go, now and in the future, to schoolteachers and school libraries. The computer, moreover, does not teach, does not show a human being thinking and meeting intellectual difficulties; it does not impart knowledge but turns up information pre-arranged and pre-cooked. For example, an actual demonstration of "referencing" shows the student encountering the name Mozart in the course of reading a story on the screen. By creating a "window" and without losing his story, he can summon up a portrait of the composer and a brief biography, while the opening bars of *Eine Heine Nachtmusik* resound through his earphones. Wonderful, isn't it? Wonderful for creating the cliché-ridden mind.

In other applications, such as spelling and grammar, the same rigidity obtains. The measure of good writing in the programs is sentence length. Only short sentences are deemed good, which is the negation of variety in prose and versatility in the writer. As for spell-check, it is a crutch that weakens the wish to know and can badly mislead, since it accepts any word correctly spelled, whether it is the intended word or not: if the subject is potatoes, peel is as good to the computer as peel.

So far, all the attempts at mechanization have failed—failed, that is, for the purposes of schooling. Industrial sales alone have benefited. Let us wish well to IBM and Macintosh and all their rivals, but urge that they keep out of the classroom. What goes on there should remain a live show.

Reasons to De-Test the Schools

Original Text Excerpted for Op-Ed Article in the New York Times, October 11, 1988

Many things have been urged upon the beleaguered public schools: install computers; reduce class size; pay teachers better and respect them more; give them bodyguards; reform teacher training; re-establish the principal's authority; create a rank of master teacher; let volunteers take on the chores; recruit liberal arts majors from the colleges; purge the bureaucracy and cut down paperwork; lengthen the school year; increase homework; stick to the basics; stop "social promotion;" set up remedial clinics; kill social studies and bring back history; wheel infants to the blackboard in their cradles; and-latest plan-pay the kids not to drop out or play truant.

Except for the last, these recommendations all have merit and some are being tried. But to the best of my knowledge, the central feature of modern schooling has never been singled out for critical discussion. I mean the use of multiple-choice tests (*Since this article, debate has developed and the SAT has been revised, but mainly on the ground of unfairness to ethnic groups. Ed.*).

This type of test and its variants-filling in words, rearranging items, matching diagrams, choosing summary statements, and so on-dominates every mind in the classroom, the teacher's as well as the student's. Passing and failing, ratings of teachers and schools, national and state rankings, the rise and fall of literacy, admission to college and other institutions-all hang upon this instrument peculiar to our century.

I think its use harmful to teaching and learning, both. I know all the arguments in favor of these so-called objective tests. They are easy to grade. Uniformity and unmistakable answers secure fairness. With such tests one can compare performance over time and space and gauge the results of programs and devices. The questions and answers themselves are tested by the statistics of scores achieved and these again matched against later academic success.

If the tests do test what is supposed, these advantages look overwhelming and it must seem perverse to call the scheme harmful. But certainly, since its adoption the result of the huge outlay and effort of public schooling has been less and less satisfactory. The innumerable studies and reforms, federal reports and local anecdotes show failure on a scale way above the norm for human institutions. High school graduates cannot read or write acceptably, hardly know any history or geography, and are unable to cope with mathematics, science, and foreign languages.

What has this to do with mechanical testing? What does the practice contribute to the failure? Simply this: the device tests nothing but recognition knowledge. This is knowledge at the far side of the memory, where shapes are dim. Take a practical situation. A friend plans to drive to a town where you spent a month several years ago. Can you help him with some precise indications? Well, you remember a few landmarks-city hall, big church on main street, post office on one of the side roads. Your knowledge, distressingly vague, stops there.

Yet if you join him and drive through that main street, it all comes back-things look familiar, including the names of shops and streets; you even notice changes. But-and this is the point you did not *know* until you *saw*. You are glad to find that your memory is not a sieve, but when it was called on to perform without the renewed experience it was useless. It had only passive recognition-knowledge, not active usable-knowledge.

The application to schoolwork is obvious. Knowing something -really knowing it- means being able to summon it up out of the blue; the facts must be produced in their right relations and with their correct significance. When you know something, you can tell it to somebody else. It is these profound platitudes that condemn mechanical testing and its influence on the learning mind. Imagine the two different actions: it is one thing to pick out Valley Forge and not Albany or Little Rock as the place where Washington made his winter quarters; it is another, first, to think of Valley Forge and then to say why he chose it instead of Philadelphia, where it was warmer. (The pivotal fact here is that Philadelphia was in the hands of the British.)

In subjects that require something other than information, namely the development of skill, as in reading, writing, and arithmetic, the effort to find a plausible answer among the four choices vouchsafed from on high is even less instructional. Nobody ever learned to write better by filling in blanks with proffered verbs and adjectives. To write is to fill a totally blank sheet with words of your own.

Nor is this all. The tests, whether of fact or skill, confuse the mind by thrusting into it irrelevant ideas-and why four, not three or five? With any number must come perpetual doubts, which is not the right mood for showing what one knows. The doubts are reinforced by the wording of the questions. They must be scanned in lawyer-like fashion, because by their nature they cannot be framed in a simple, candid way, like essay questions; they are catch questions.

The worst feature of this game of choosing the ready-made instead of producing the fresh idea is that it breaks up the unity of what has been learned and isolates the pieces. In going through the 50 or 100 questions nothing follows on anything else. It is the negation of the normal pattern-making of the mind. True testing issues a call for patterns, and this is the virtue of the essay examination. Both preparing for it and taking it reinforce the pattern originally formed, and degrees of ability show themselves not in the number of lucky hits, but in the scope, coherence, and verbal accuracy of each whole answer.

Science and mathematics consist of similar clusters of truths; in every subject, to show a grasp of any portion means making organized statements or constructing logical demonstrations, and to do this calls for full-blown thinking. Objective tests ask only for sorting. What has been the upshot of glorifying that particular exercise? Many teachers, entire schools, schedule practice sessions in test-taking to get more students through. Then, finding that the victims are cripples in consecutive thought, they set up "courses in thinking." As if thinking could be taught apart from the subject-matter-the subjects already in the curriculum, now fragmented by the multiple-choice tests.

Of course, teachers in most schools today would be appalled at the idea of giving only, or mainly, essay examinations. Large classes and the load of extraneous paperwork make it impossible to read and *correct* several batches of papers each time a test is appropriate. This obstacle cannot, indeed, be got over. But what it means is not that objective tests are good; it means that present school arrangements are bad. Judge by comparison: a good hospital is one where physicians have the skill, the time, and the equipment to give patients adequate care. Any scamping, all short cuts are excusable only during emergencies, after some great disaster. From which it follows that schools, which shortcut an important function of teaching, have been run for decades on a disaster basis, a perpetual emergency.

Essay examinations do not help only the learner but also the teacher, for only by reading what the pupil says can the teacher get to know the individual young mind and intelligently help its development. This one needs to sharpen thought and expression, that one needs loosening up in feeling and imagination, a third must acquire a better sense of fact.

The truth is, when all is said and done, one does not *teach a subject*, one teaches a student how to learn it. Teaching may look like administering a dose, but even a dose must be worked on by the body if it is to cure. Each individual must cure his or her own ignorance. Accordingly, all sound educational theory enjoins individual attention. But where is the individual in a numerical score?

Can nothing be said, then, in favor of multiple-choice as indicators of some part of school performance? Yes, they are serviceable and convenient as quizzes. When the teacher wants to know whether some reading assignment has been done, a mechanical test of any sort-true-false, multiple choice, or the simple identification of names and terms-gives an indication; and the knowledge that such a test will be given also inspires the eager and rouses the laggards. But passing this exercise gives no measure of the student's understanding, only of his recent memory, and the test should count for little if anything in the final grade.

To bring back essay examinations would call for reviving the lost art of framing and grading questions. Every question ought to elicit knowledge of a unified portion of the subject covered and bring out what the teaching has aimed at over and above the factual underpinnings. To frame such questions and make them fair, precise, fully relevant is not an art the unpracticed teacher can improvise. Good teachers *learn* how to compose an examination by recalling their own best experience in college and by consulting and imitating their elders in the department.

These same aspects of question-making enter into the case against multiple-choice testing. Thirty years ago, the late physicist and mathematician, Banesh Hoffmann, wrote a book entitled *The Tyranny of Testing* [*Crowell-Collier, New York, 1962; Foreword by Jacques Barzun*], which was attacked by the test-making industry and ignored by the educationists. What it showed by examples over a wide range of subjects was how the multiple-choice questions in use, by their form and contents, worked against the aims of good teaching. Leaving to one side the errors of fact and misleading wordings that he came across in sample tests, he found that this mode of testing suppresses the natural diversity of minds, penalizes the more imaginative, and perpetuates conventional opinions. The students who handle multiple choices best are not opinions. best, but the second-best.

It follows that the many kinds of test scores that the nation relies on for a great many decisions about individuals, young and old, mislead the users. Some college admission officers have by now gone so far as to say that the dreaded Student Aptitude Test (SAT)- that rite of passage which the young not only cannot escape, but which they must go through more than once-is "no better" than the high school record as a predictor of success.

This is progress, but not enough. The country is still enslaved to the practice of pushing and coaching the young in the art of how to pass with scatter-knowledge. Parents, administrators, pundits, and editorialists judging schools,

teachers, systems, and students are still content to substitute the mark of an indefinite performance for the assessment of genuine ability.

In matters of learning and teaching that assessment can only be done, however fallibly on occasion, by competent minds examining directly the work of other, prentice minds. Instead of forcing these last (some still in kindergarten) to concentrate their lives on endless form-filling exercises till it seems natural to equate knowledge with "Take a chance and choose," the schools would be well advised to stop and heed Emerson's advice: "Tell us what you know."