Virtual Students, Digital Classroom

NEIL POSTMAN

If one has a trusting relationship with one's students (let us say, graduate students), it is not altogether gauche to ask them if they believe in God (with a capital G). I have done this three or four times and most students say they do. Their answer is preliminary to the next question: If someone you love were desperately ill, and you had to choose between praying to God for his or her recovery or administering an antibiotic (as prescribed by a competent physician), which would you choose?

Most say the question is silly since the alternatives are not mutually exclusive. Of course. But suppose they were—which would you choose? God helps those who help themselves, some say in choosing the antibiotic, therefore getting the best of two possible belief systems. But if pushed to the wall (e.g., God does not always help those who help themselves; God helps those who pray and who believe), most choose the antibiotic, after noting that the question is asinine and proves nothing. Of course, the question was not asked, in the first place, to prove anything but to begin a discussion of the nature of belief. And I do not fail to inform the students, by the way, that there has recently emerged evidence of a "scientific" nature that when sick people are prayed for they do better than those who aren't.

As the discussion proceeds, important distinctions are made among the different meanings of "belief," but at some point it becomes far from asinine to speak of the god of Technology—in the sense that people believe technology works, that they rely on it, that it makes promises, that they are belief when denied access to it, that they are delighted when they are in its presence, that for most people it works in mysterious ways, that they condemn people who speak against it, that they stand in awe of it and that, in the "born again" mode, they will alter their lifestyles, their schedules, their habits and their relationships to accommodate it. If this be not a form of religious belief, what is?

In all strands of American cultural life, you can find so many examples of technological adoration that it is possible to write a book about it. And I would if it had not already been done so well. But nowhere do you find more enthusiasm for the god of Technology than among educators. In fact, there are those, like Lewis Perelman, who argue (for example, in his book, School's Out) that modern information technologies have rendered schools entirely irrelevant since there is now much more information available outside the classroom than inside it. This is by no means considered an outlandish idea. Dr. Diane Ravitch, former Assistant Secretary of Education, envisions, with considerable relish, the challenge that technology presents to the tradition that "children (and adults) should be educated in a specific place, for a certain number of hours, and a certain number of days during the week and year." In other words, that children should be educated in school. Imagining the possibilities of an information superhighway offering perhaps a thousand channels, Dr. Ravitch assures us that:

In this new world of pedagogical plenty, children and adults will be able to dial up a program on their home television to learn whatever they want to know, at their own convenience. If Little Eva cannot sleep, she can learn algebra instead. At her home-learning station, she will tune in to a series of interesting problems that are presented in an interactive medium, much like video games.

Young John may decide that he wants to learn the history of modern Japan, which he can do by dialing up the greatest authorities and teachers on the subject, who will not only use dazzling graphs and illustrations, but will narrate a historical video that excites his curiosity and imagination.

In this vision there is, it seems to me, a confident and typical sense of unreality. Little Eva can't sleep, so she decides to learn a little algebra. Where does Little Eva come from? Mars? If not, it is more likely she will tune in to a good movie. Young John decides that he wants to learn the history of modern Japan? How did young John come to this point? How is it that he never visited a library up to now? Or is it that he, too, couldn't sleep and decided that a little modern Japanese history was just what he needed?

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What Ravitch is talking about here is not a new technology but a new species of child, one who, in any case, no one has seen up to now. Of course, new technologies do make new kinds of people, which leads to a second objection to Ravitch's conception of the future. There is a kind of forthright determinism about the imagined world described in it. The technology is here or will be; we must use it because it is there; we will become the kind of people the technology requires us to be, and whether we like it or not, we will remake our institutions to accommodate technology. All of this must happen because it is good for us, but in any case, we have no choice. This point of view is present in very nearly every statement about the future relationship of learning to technology. And, as in Ravitch's scenario, there is always a cheery, gee-whiz tone to the prophecies. Here is one produced by the National Academy of Sciences, written by Hugh McIntosh.

School for children of the Information Age will be vastly different than it was for Mom and Dad.

Interested in biology? Design your own life forms with computer simulation.

Having trouble with a science project? Teleconference about it with a research scientist.

Bored with the real world? Go into a virtual physics lab and rewrite the laws of gravity.

These are the kinds of hands-on learning experiences schools could be providing right now. The technologies that make them possible are already here, and today's youngsters, regardless of economic status, know how to use them. They spend hours with them every week—not in the classroom, but in their own homes and in video game centers at every shopping mall.

It is always interesting to attend to the examples of learning, and the motivations that ignite them, in the songs of love that technophiles perform for us. It is, for example, not easy to imagine research scientists all over the world teleconferencing with thousands of students who are having difficulty with their science projects. I can't help thinking that most research scientists would put a stop to this rather quickly. But I find it especially revealing that in the scenario above we have an example of a technological solution to a psychological problem that would seem to be exceedingly serious. We are presented with a student who is "bored with the real world." What does it mean to say someone is bored with the real world, especially one so young? Can a journey into virtual reality cure such a problem? And if it can, will our troubled youngster want to return to the real world? Confronted with a student who is bored with the real world, I don't think we can solve the problem so easily by making available a virtual reality physics lab.

The role that new technology should play in schools or anywhere else is something that needs to be discussed without the hyperactive fantasies of cheerleaders. In particular, the computer and its associated technologies are awesome additions to a culture, and are quite capable of altering the psychic, not to mention the sleeping, habits of our young. But like all important technologies of the past, they are Faustian bargains, giving and taking away, sometimes in equal measure, sometimes more in one way than the other. It is strange—indeed, shocking—that with the twenty-first century so close, we can still talk of new technologies as if they were unmixed blessings—gifts, as it were, from the gods. Don't we all know what the combustion engine has done for us and against us? What television is doing for us and against us? At the very least, what we need to discuss about Little Eva, Young John and McIntosh's trio is what they will lose, and what we will lose, if they enter a world in which computer technology is their chief source of motivation, authority and, apparently, psychological sustenance. Will they become, as Joseph Weizenbaum warns, more impressed by calculation than human judgment? Will speed of response become, more than ever, a defining quality of intelligence? If, indeed, the idea of a school will be dramatically altered, what kinds of learning will be neglected, perhaps made impossible? Is virtual reality a new form of therapy? If it is, what are its dangers?

New technology needs to be discussed without the hyperactive fantasies of cheerleaders.

These are serious matters, and they need to be discussed by those who know something about children from the planet Earth, and whose vision of children's needs, and the needs of society, go beyond thinking of school mainly as a place for the convenient distribution of information. Schools are not now and have never been largely about getting information to children. That has been on the schools' agenda, of course, but has always been way down on the list. For technological utopians, the computer vaults information-access to the top. This reshuffling of priorities comes at a most inopportune time. The goal of giving people greater access to more information faster, more conveniently and in more diverse forms was the main technological thrust of the nineteenth century. Some folks haven't noticed it but that problem was largely solved, so that for almost a hundred years there has been more information available to the young outside the school than inside. That fact did not make the schools obsolete, nor does it now make them obsolete. Yes, it is true that Little Eva, the insomniac from Mars, could turn on an algebra lesson, thanks to the computer, in the wee hours of the morning. She could also, if she wished, read a book or magazine, watch television, turn on the radio or listen to music. All of this she could have done before the computer. The computer does not solve any problem she has but does exacerbate one. For Little Eva's problem is not how to get access to a well-structured algebra lesson but what to do with all the information available to her during the day, as well as during sleepless nights. Perhaps this is why she couldn't sleep in the first place. Little Eva, like the rest of us, is overwhelmed by information. She lives in a culture that has 260,000 billboards, 17,000 newspapers, 12,000 periodicals, 27,000 video outlets for renting tapes, 400 million television sets and well over 500 million radios, not including those in automobiles.
There are 40,000 new book titles published every year, and each day 41 million photographs are taken. And thanks to the computer, more than 60 billion pieces of advertising junk come into our mailboxes every year. Everything from telegraphy and photography in the nineteenth century to the silicon chip in the twentieth has amplified the din of information intruding on Little Eva’s consciousness. From millions of sources all over the globe, through every possible channel and medium—light waves, air waves, ticker tape, computer banks, telephone wires, television cables, satellites and printing presses—information pours in. Behind it in every imaginable form of storage—on paper, on video, on audiotape, on disks, film and silicon chips—is an even greater volume of information waiting to be retrieved. In the face of this we might ask, What can schools do for Little Eva besides making still more information available? If there is nothing, then new technologies will indeed make schools obsolete. But in fact, there is plenty.

One thing that comes to mind is that schools can provide her with a serious form of technology-education. Something quite different from instruction in using computers to process information, which, it strikes me, is a trivial thing to do, for two reasons. In the first place, approximately 35 million people have already learned how to use computers without the benefit of school instruction. If the schools do nothing, most of the population will know how to use computers in the next ten years, just as most of the population learns how to drive a car without school instruction. In the second place, what we needed to know about cars—as we need to know about computers, television and other important technologies—is not how to use them but how they use us. In the case of cars, what we needed to think about in the early twentieth century was how to drive them but what they would do to our air, our landscape, our social relations, our family life and our cities. Suppose in 1946 we had started to address similar questions about television: What will be its effects on our political institutions, our psychic habits, our children, our religious conceptions, our economy? Would we be better positioned today to control TV’s massive assault on American culture? I am talking here about making technology itself an object of inquiry so that Little Eva and Young John are more interested in asking questions about the computer than getting answers from it.

**I am not arguing against using computers in school. I am arguing against our sleepwalking attitudes toward it, against allowing it to distract us from important things, against making a god of it. This is what Theodore Roszak warned against in *The Cult of Information*: “Like all cults,” he wrote, “this one also has the intention of enlisting mindless allegiance and acquiescence. People who have no clear idea of what they mean by information or why they should want so much of it are nonetheless prepared to believe that we live in an Information Age, which makes every computer around us what the relics of the True Cross were in the Age of Faith: emblems of salvation.” To this, I would add the sage observation of Alan Kay of Apple Computer. Kay is widely associated with the invention of the personal computer, and certainly has an interest in schools using them. Nonetheless, he has repeatedly said that any problems the schools cannot solve without computers, they cannot solve with them. What are some of those problems? There is, for example, the traditional task of teaching children how to behave in groups. One might even say that schools have never been essentially about individualized learning. It is true, of course, that groups do not learn, individuals do. But the idea of a school is that individuals must learn in a setting in which individual needs are subordinated to group interests. Unlike other media of mass communication, which celebrate individual response and are experienced in private, the classroom is intended to tame the ego, to connect the individual with others, to demonstrate the value and necessity of group cohesion. At present, most scenarios describing the uses of computers have children solving problems alone; Little Eva, Young John and the others are doing just that. The presence of other children may, indeed, be an annoyance.

Like the printing press before it, the computer has a powerful bias toward amplifying personal autonomy and individual problem-solving. That is why educators must guard against computer technology’s undermining some of the important reasons for having the young assemble (to quote Ravitch) “in a specific place, for a certain number of hours, and a certain number of days during the week and year.”

Although Ravitch is not exactly against what she calls “state schools,” she imagines them as something of a relic of a pre-technological age. She believes that the new technologies will offer all children equal access to information. Conjuring up a hypothetical Little Mary who is presumably from a poorer home than Little Eva, Ravitch imagines that Mary will have the same opportunities as Eva “to learn any subject, and to learn it from the same master teachers as children in the richest neighbourhood.” For all of its liberalizing spirit, this scenario makes some important omissions. One is that though new technologies may be a solution to the learning of “subjects,” they work against the learning of what are called “social values,” including an understanding of democratic processes. If one reads the first chapter of Robert Fulghum’s *All I Really Need to Know I Learned in Kindergarten*, one will find an elegant summary of a few things Ravitch’s scenario has left out. They include learning the following lessons: Share everything, play fair, don’t hit people, put things back where you found them, clean up your own mess, wash your hands...
before you eat and, of course, flush. The only thing wrong with Fulghum's book is that no one has learned all these things at kindergarten's end. We have ample evidence that it takes many years of teaching these values in school before they have been accepted and internalized. That is why it won't do for children to learn in "settings of their own choosing." That is also why schools require children to be in a certain place at a certain time and to follow certain rules, like raising their hands when they wish to speak, not talking when others are talking, not chewing gum, not leaving until the bell rings, exhibiting patience toward slower learners, etc. This process is called making civilized people. The god of Technology does not appear chewing gum, not leaving until the bell rings, exhibiting patience toward slower learners, etc. This process is called making civilized people. The god of Technology does not appear interested in this function of schools. At least, it does not come up much when technology's virtues are enumerated.

The god of Technology may also have a trick or two up its sleeve about something else. It is often asserted that new technologies will equalize learning opportunities for the rich and poor. It is devoutly to be wished for, but I doubt it will happen. In the first place, it is generally understood by those who have studied the history of technology that technological change always produces winners and losers. There are many reasons for this, among them economic differences. Even in the case of the automobile, which is a commodity most people can buy (although not all), there are wide differences between the rich and poor in the quality of what is available to them. It would be quite astonishing if computer technology equalized all learning opportunities, irrespective of economic differences. One may be delighted that Little Eva's parents could afford the technology and software to make it possible for her to learn algebra at midnight. But Little Mary's parents may not be able to, may not even know such things are available. And if we say that the school could make the technology available to Little Mary (at least during the day), there may something else Little Mary is lacking.

It turns out, for example, that Little Mary may be having sleepless nights as frequently as Little Eva but not because she wants to get a leg up on her algebra. Maybe because she doesn't know who her father is, or, if she does, where he is. Maybe we can understand why McIntosh's kid is bored with the real world. Or is the child confused about it? Or terrified? Are there educators who seriously believe that these problems can be addressed by new technologies?

I do not say, of course, that schools can solve the problems of poverty, alienation and family disintegration, but schools can respond to them. And they can do this because there are people in them, because these people are concerned with more than algebra lessons or modern Japanese history, and because these people can identify not only one's level of competence in math but one's level of rage and confusion and depression. I am talking here about children as they really come to us, not children who are invented to show us how computers may enrich their lives. Of course, I suppose it is possible that there are children who, waking at night, want to study algebra or who are so interested in their world that they yearn to know about Japan. If there be such children, and one hopes there are, they do not require expensive computers to satisfy their
hunger for learning. They are on their way, with or without computers. Unless, of course, they do not care about others or have no friends, or little respect for democracy or are filled with suspicion about those who are not like them. When we have machines that know how to do something about these problems, that is the time to rid ourselves of the expensive burden of schools or to reduce the function of teachers to “coaches” in the uses of machines (as Ravitch envisions). Until then, we must be more modest about this god of Technology and certainly not pin our hopes on it.

We must also, I suppose, be empathetic toward those who search with good intentions for technological panaceas. I am a teacher myself and know how hard it is to contribute to the making of a civilized person. Can we blame those who want to find an easy way, through the agency of technology? Perhaps not. After all, it is an old quest. As early as 1918, H.L. Mencken (although completely devoid of empathy) wrote, “There is no sure-cure so idiotic that some superintendent of schools will not swallow it. The aim seems to be to reduce the whole teaching process to a sort of automatic reaction, to discover some master formula that will not only take the place of competence and resourcefulness in the teacher but that will also create an artificial receptivity in the child.”

Mencken was not necessarily speaking of technological panaceas but he may well have been. In the early 1920s a teacher wrote the following poem:

Mr. Edison says  
That the radio will supplant the teacher.  
Already one may learn languages by means of Victrola records.  
The moving picture will visualize  
What the radio fails to get across.  
Teachers will be relegated to the backwoods,  
With fire-horses,  
And long-haired women;  
Or, perhaps shown in museums.  
Education will become a matter  
Of pressing the button.  
Perhaps I can get a position at the switchboard.

I do not go as far back as the radio and Victrola, but I am old enough to remember when 16-millimeter film was to be the sure-cure. Then closed-circuit television. Then 8-millimeter film. Then teacher-proof textbooks. Now computers.

I know a false god when I see one.

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**ANDREOTTI AND THE MAFIA**

**Mob Rule**

**On Trial in Italy**

**ALEXANDER STILLE**

Former Italian prime minister Giulio Andreotti was in New York in September on a trip to drum up support for his upcoming trial for collusion with the Mafia. Prosecutors have accused Andreotti of lending assistance to the Sicilian Mafia, helping to fix cases on the Italian Supreme Court and ordering, or consenting to, two murders.

Andreotti flew to Houston, where he had lunch with former President George Bush, who agreed to travel to Palermo to testify as a character witness at the trial. In New York, Andreotti had breakfast with Maxwell Raab, former United States ambassador to Italy, one of at least three U.S. ambassadors who may be called as witnesses. Indeed, the trial could well feature a parade of world leaders.

Along with these private meetings, in order to shore up his tarnished image Andreotti retained the services of a New York public relations firm that also does work for the Vatican. In the course of this P.R. blitz, he asked to meet with *The Nation*. And so *Nation* editor Katrina vanden Heuvel and I went to the U.N. Plaza Hotel for an hourlong conversation with the man who has been at the center of Italian politics for the past fifty years.

As we waited outside the hotel, Andreotti suddenly pulled up in a limousine driven by a full-bearded, black-hatted Hasidic chauffeur. While this is a common enough sight in New York, it seemed a humorous exclamation mark at the end of Andreotti’s strange American pilgrimage. Andreotti went out of his way to meet with Jewish groups during his U.S. visit. He spoke with a Jewish weekly magazine, with the leaders of the Anti-Defamation League and with a group of Libyan Jews eager to regain the Italian citizenship they lost during the Fascist period. (Libya, at the time, was an Italian colony, and the Jews there were deprived of citizenship under the racial laws passed in 1938.)

Since the case is set to be tried in Palermo and virtually all the witnesses against Andreotti are Italian, it seemed extremely curious that he should make a rather substantial United States tour (and that Jewish groups should be such a focus) on the eve of the trial, scheduled to begin at the end of September.

From the beginning, Andreotti appears to have been convinced that his troubles had their origin in the United States. Two years ago, when *The New York Times* published a story suggesting that he might be the subject of a criminal investigation, he claimed to discern a trap. “I am going to have to call my friends in the United States to see if this is just a journalistic mishap or something more.” Because he has worked in a country where politicians have been able to control their

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