

Point

Saying "NO" to Computers in the Classroom

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Abstract: Computer-based school instruction moulds students to unliberating, professionalized bureaucratic routines and it should be resisted. Differences between electronic and print culture are emphasized. In order to examine schooling within a hidden curriculum encouraged by the main technological drift of cultural homogenization. It is argued that the widespread introduction and use of computers in the classroom will not counter the dangers, and change the direction, of this drift; rather, classroom computer use, as is the case outside schools, will foster a technocratic mentality, a machine-as-master mind set, among school participants who are supportively reformulating status-quo arrangements. Schools, which as institutions are still behind the electronic times, offer us a sort of last chance to begin resisting the main technological drift by beginning to develop individualized voices, grounded in community and regional uniqueness, that would further actualize local autonomy and control.

For perhaps the tenth time over the past eighteen months I am seated at my study desk triangled by three large piles of notes. I am ready to write about technology and human liberation, specifically about the use of computers in our schools, but I am blocked and the sheets of paper before me remain blank. I teach courses entitled "Technology and Society", "Computers and Society", and "Sociology of Education"; I usually have plenty to discuss with my students but I just can't seem to get what is important to me onto paper. Then I realize that what moved me in these often-heated discussions is the general feeling that much of what I hold dear, as well as much of what gives me personal satisfaction, seems threatened by widespread implementation of the latest technology. Ah, finally, a place to start -perhaps if I begin with the people and things I love most, I'll be able to write.

FROM A CORNER OF MY ROOM: MUSINGS ON TECHNOLOGY, CREATIVITY, AND CONTROL

My gaze focuses upon that corner of the room which is special to me. On the wide shelf next to the old portable television are a basketball and some

momentos from various city league seasons; next to these is a stereo with a stack of my favorite records alongside; finally my gaze moves over to several photographs of my friends and family- including one of my youngest daughter taken only a few hours after she was born.

The basketball near the T.V. reminds me that I have been watching less televised basketball these days. I still love the game but what really irks me are the "television time-outs" -those breaks that no longer come from the ebb and flow of the emergent human interaction as it develops among the players and coaches of the game, but rather from the networks' financial commitments to serve the game's corporate sponsors. Something of value to me as a fan and a player has been lost and neither I nor the televised participants seem to be able to recover it and control it. I suppose one could argue, in the professional ranks at least, that the players have opted for the progressively higher salaries which got the big money sports-snowball rolling and so they have chosen to forfeit control, although this line of argument is just about as invalid and unsatisfying an explanation as blaming workers and unions for rapid cost of living increases and inflation. In brief, such an explanation leaves out more than it tell us about the ways each of us is personally affected by the interactive workings and arrangements of the larger socio-economic structure.

More directly relevant to the control which emanates, in large measure, from the technology itself, is the manner whereby the camera narrowly dictates which part of the live action the **televised** fan will follow. Since the "live action" camera almost always follows the interaction around the ball the T.V. spectator is **forced**, at least until the instant replay using another camera, to miss much of the play off the ball as well as, and most importantly, the gestalt of seeing both the on-ball and off-ball interaction live or together as one moment. This is why being a T.V. spectator is something other and more than simply another step removed from actually playing the game-why being a T.V. spectator is a qualitatively different experience than being an on-site spectator, a part of the live performance.

My eyes and mind move to my records, some of which date back to the early 1950s. Missing many nuances and the gestalt of a basketball game through the narrowed perspective of the television camera brings to mind a recent analysis by Mark Hunter (1987) concerning the impact of new technology in recording rock music over the past thirty years. Hunter chronicles the movement from monophonic taping to stereo multitracking, showing how the song and sound content of rock has become almost exclusively a product of the recording techniques dictated by implementation of the latest technology. In brief, stereo multitracking means that composition is unlocked or untied from -that is, it doesn't depend upon live performance together as a group.

Glancing up from these pages to gaze again for a long moment at the photograph of my youngest daughter, I realize that the new technology surrounding human conception and birth, like the latest record-making technology, is changing the cast of players and the emergent interactive processes among them. As with multitracking musicians, the new technology

of embryo transfer eliminates the necessity for all the participants to be present at, or in this case even contribute to, conception. Thus, it might be argued that the latest technology may give both prospective parents and musicians the joy of a freedom unknown to earlier generations. This argument should not be used, however, to suggest that the artist or creator enjoys a growing measure of artistic control. Rather, on the contrary, with these cases and to a more limited extent with basketball players who are televised, a ***measure of control formerly in the artist's possession passes from the artist to the technology. Artist or creator becomes technologist*** and as the work of the late Marshall McLuhan (1964;1967), among others, emphasizes, form shapes and becomes content as the medium becomes not only the message but the message.

COMPUTERS AND CULTURAL HOMOGENIZATION: TECHNOLOGIZING STUDENTS AND ROCKERS

This process whereby creating artist is turned into engineering technologist is only part of the story. It is important not only in itself but also as symptomatic of a much more widespread cultural malaise, the drift towards worldwide cultural homogenization. The late George Grant (1969, p.26), with serious good humor, wrote about the consequences of our continued encouragement of this drift:

As for pluralism, differences in the technological state are able to exist only in private activities: how we eat; how we mate; how we practise ceremonies. Some like pizza, some like steaks; some like girls, some like boys; some like synagogue, some like the mass. But we all do it in churches, motels, restaurants indistinguishable from the Atlantic to the Pacific.

In a similar vein and I hope in a way which contributes something to Grant's discussion of technological homogenization, I have criticized schooling as socialization that standardizes emotions as well as analytic perceptions and in so doing, often diminishes or eliminates potentially important differences for the sake of moulding students to professionalized bureaucratic routines (Nelsen, 1985). The widespread advocacy and use of "computer-aided instruction" in our schools is more of the same.

The key to understanding what is wrong with the computer as instructional aid both within and outside the classroom involves the interconnections among ***collaboration in, demonstration of and the freedom one has in controlling*** her/his own learning. Educator Frank Smith (1986) in an excellent book, entitled ***Insult to Intelligence: The Bureaucratic Invasion of our Classrooms***, has spoken to these connections in relation to computer-aided instruction.

Smith situates the "drill and test" learning of production-line schooling that is favored by computer technology within the larger framework of a particular kind of behaviorist learning theory. Focusing upon language teaching he contrasts this "bits and pieces" learning- the fragmented, isolating and tightly controlled learning which treats human beings like pigeons pecking at keys -with the collaboration, demonstration and freedom which must necessarily accompany the apprentice-like learning he favors. Smith effectively underscores the point that learning simply accompanies, but in a very important way is quite incidental to, so-called "learning objectives". In brief, he argues that while a behaviorist learning model grounded in the systems analysis technology of highly specified objectives may have been important in putting humans on the moon, application of this same learning model has not and will not, even with the aid of computers, be effective in making students literate.

In the final analysis the crucial issue for both Smith and myself has to do with control. His concern, like mine, is that the computer is becoming just another means for further ritualizing and mechanizing a top-down direction which further abridges what little freedom is left to both students and teachers together to discover and satisfy their unique desires by developing their own styles of learning.

Should this concern seem to some readers as if it is overly pessimistic and an over-emphasis upon the passivity created by computer instruction, then it is important here to elaborate so as to more fully understand the larger social context within which computer-based school instruction takes place. This larger context encompasses the interconnections between the school and the widespread development and use of electronic media other than the computer as parts of a larger set of socioeconomic arrangements which encourage mass passivity. Elsewhere I have detailed the way in which bureaucratic and global corporations, as manufacturers of both computer hardware and the programmed-learning packages that accompany it, continue to dehumanize and depersonalize school culture by shaping a knowledge industry built in their image (Nelsen, 1975). An ally useful to these large corporations has been television, a medium which has prepared the way by encouraging our fascination with, and growing faith in, the technological fix of video-screen machines "teaching" programmed-learning packages to a T.V.-pacified audience. Like television, the little black box we call computer also comes with a point of view or a hidden curriculum that is embedded both in the structure of power relations governing production and distribution of hardware and programming, as well as in the form of the medium itself.

What results, in the cases of both computers and television, is increasingly homogenized programming for mass audiences who, like their producers, are ever more passive and pacified by a learning-as-product mentality rather than viewing and developing learning as an active process. For an indication of just how deeply entrenched and widespread is this passivity-oriented homogenization engineered through today's electronic media, I return to Hunter's (1987,

p.57) analysis and his concluding paragraph on how the latest in multitrack recording technology has disastrously "flattened" rock music.

Close your eyes the next time you watch an MTV video, and you'll realize that the band could be anyone, which is to say *no* one. What rock video has confirmed is that rock music no longer requires an emotional - let alone physical -engagement on the part of its audience. It is merely something one watches, passively, without noticing its constituent elements. It is no longer worth *listening* to.

Here Hunter is drawing our thoughts a final time not only to the dynamism that is lost by the separation of composition and performance, but also he is clearly implying that attention to the video screen can be a mask which hides from the listening and watching audience much of what has transformed rock music. The new "clean-sounding" music has grown increasingly dependent upon costly equipment owned by a wealthy elite and the esoteric expertise of a few producer-and engineer-technicians. The result is promotion through the machine manipulation of record mixing in dance clubs with the hope of gaining entree to one of the few "live performance" clubs left in a vastly contracted club scene. What is left to musicians as artists or creators is a technological apprenticeship for a favored few "visual bands" whose music is purged of any idiosyncracies, its heterogeneity and humanness if you will, so as to be translatable into rock-videos.

In brief, this "clean-sounding", rock-video music is common or folk music, not in the sense that it is participatory music made by special folk representing localized or particularized ways of living, but only in that it represents the lowest common denominator - a flattened pre-packaged homogenization of life's more varied quality and qualities. It is made for nobody in particular by nobody in particular. It is music which truly has become Muzak. And, perhaps the saddest observation of all, it is this flattened-out, elevator-type Muzak which a large percentage of the general public as audience is now used to and has come to expect.

COMPUTERS AND STUDENT EXPECTATIONS: A DISCUSSION OF THE MACHINE-AS-MASTER MIND SET, LITERACY, AND SOCIAL CHANGE

What needs to be said about the student audience for today's computer-based instruction? What have they come to expect? One way of answering is to pose two or more questions. Is the oft-remarked upon potential of "the personal computer revolution" actually creating revolution in the sense that large-scale socio-economic arrangements are being fundamentally altered? At the very least, is the potential for personalizing instruction being realized in

the sense that computer-based learning is helping to develop and meet personalized needs and tastes on either an individual and/or a community basis? The answer to both questions is "No".

The refinement of computer technology and the widespread implementation of computers in the classroom further support the lines of development and non-revolutionary change which foster a disturbing kind of technological or technocratic mentality, a machine-as-master mind set. It is this developing mentality which further discharges what should be our emotionally-charged spirituality, our sense of morality if you will. It is what makes it more and more difficult for us to find a principled place to stand – to know, through a developing sense of who we are as community members, what we stand for and why. And, as is argued below, it is a matter of survival value for individuals to develop a community-minded sense of place which at times literally forces them to say "No" – in a word, to counter, to do something other than simply to be caught up in passive support of the main technological drift.

According to evidence provided by Paul Olson (1985) and his associates, the main technological drift is usually supported when computers are introduced as part of the classroom curriculum. Computers as they are currently being used in the schools, and this is the case outside the classroom as well, seem to be increasing rather than decreasing economic, status and knowledge inequalities among groups. Their initial findings indicate that unless the computer is introduced in certain preferred ways its liberating potential, its potential to overcome the class, gender and ethnic biases of the hidden curriculum, is at best muted and often altogether lost. These observations by Olson and his team reaffirm and underscore a basic premise of current work in the sociology of education – namely, the importance of social context.

The best social contexts are those in which computer use is integrated as part of regular classroom activities and controlled at the local classroom level by students encouraged by the teacher and each other to collaborate in discovering and demonstrating the computer's advantages. It is students and teachers together creating this kind of social context or atmosphere who are most likely to actualize whatever liberating potential computers in the classroom may have. However, as Olson et al. point out, it is precisely this kind of atmosphere which is most often not created, and much more frequently than not students continue to remain unliberated from the structural constraints of both the school's and technology's hidden curriculum,

What most students are taught from classroom computer use is much like what their television watching in general, rock-videos included, teaches them. They learn not to question but rather passively to accept the program, the message and the message of a medium that isolates them by blurring and denying, by successfully homogenizing, different life situations. What is created is a computerized togetherness, a "network" to use the current lingo, which further isolates individuals in support of, rather than calling forth collaborative efforts to change, the status quo. In brief, the isolation fostered by the electronic media of computers, television and the like, encourages a

passiveness and an acquired inability to image, to imaginatively unblur, possibilities for fundamental social change. All of this is not too surprising given evidence indicating that in typical Canadian homes conversations between adults and children usually take up less than thirty minutes a day, most of that time being limited to "don't" and "do" directives, and in which a machine that creates images for us is on for more than six hours a day. What we have lost, to return to Smith's key terms, is the *freedom*, or perhaps more precisely the experiential or practical knowledge, to *collaborate* in *demonstrating* and creating a different present and future from the one imaged for us by the electronic media.

Reading, like using the electronic media of television and computers, may encourage a distancing and isolating individualism. However, it is critical to understand that the aloneness required of readers by print culture, unlike that fostered by the electronic media, is often accompanied by what Neil Postman (1982, p.77) has described in the literate person as "learning) to be reflective and analytical, patient and assertive, always poised, after due consideration, to say no to a text." Saying no to the authority of the printed word is crucially important to those of us interested in fundamental social change because it is often the first step in, the catalyst for, imaging alternatives to status quo arrangements.

Developing literacy skills (reading, writing, conversing, analytic thinking) that may result in this engaged interest in alternatives is itself dependent upon developing what Michigan educator Seymour Fader (1981) calls, "the voice in your ear." He argues that this voice is developed because on a regular basis one has been listened to, has been treated by family and friends as having something to say that it is worth listening to. This in turn teaches us how to listen to others both in conversation and in books. Given the role models available in the previously-described Canadian home, a home which is typically lacking in conversation and heavily involved with television, concerned observers might legitimately wonder about the probability of developing Fader's "voice in the ear," even with the new computer technology at hand.

It is the development of Fader's voice which makes one come to know that s/he exists as a *legitimate* person, a person who has something *legitimate* to say. What is extremely troubling about the widespread use of computer technology is that in situating us as a people and culture more firmly in the electronic age, computer technology, like that of television and its rock-videos, further homogenizes a growing cultural sameness by a programming where, in Postman's (1982, p.79) words: "Everything is for everybody." Of course, this is in large part due to the nature of the television medium itself which, as is not as much the case with the computer, both requires and develops no skills. Still, neither the computer nor television, unlike reading, encourages the engaged participation that accompanies development of Fader's voice and even computer advocates, proponents of computer-based instruction, are concerned about this.

Sherry Turkle (1984), for example, has written about the "revolutionary"

potential of turning away from a drill and practice kind of computer-aided instruction to a model of education where the child programs the computer to build something personalized – something over which s/he develops mastery and exerts control. Yet, even assuming this more creative use of the computer as an expressive and personalized learning device, Turkle is very concerned with the way in which the computer-age children she studies differ from their pre-computer parents. The heart of her concern is with the ruledriveness of computers and their users. Interviewed on TVOntario's "Realities", Turkle (1985, pp.7-8) noted and warned:

. . . If you look at video games, if you look at computer games, if you look at Dungeons and Dragons, what all of these worlds have in common is that they're rule-driven.. .And it troubles me that the style of this generation is so tied up in to a sense that behind the game, behind the behaviour there are the rules.. .And in these rule-governed fantasy worlds, again, it's very different from you be Boy Rogers, I'll be Dale Evans, I'll be a Nancy Drew, you be a Hardy Boy or the oldest game in town for children which is, you know, for time immemorial, I'll be the Mommy, you be the Daddy-that kind of game. Where the game is to not have rules but to empathize, to negotiate, to imagine what's inside another person's head, to create a social world where children learn that everything doesn't have rules.

It is precisely this failure to create a social world, a world where each individual knows that s/he as a person exists as part of a larger collectivity and is developing a meaning-filled and meaningful voice in engaged interaction with others, which troubles me most about widespread reliance upon computers within and outside the classroom. Whether it is drill and practice learning packages programmed by far-off experts with offices at corporate headquarters or at branch-plants in major metropolises, or the rule-driven creativity of child programmers in front of a terminal at a local public school in my hinterland city and region, learning where computers are the centerpiece of instructional activity is not likely to create either revolutionary or personalized social worlds.

What such learning is likely to encourage is our growing cultural ethos in which individuals are increasingly comfortable about having *No Sense of Place* (Meyrowitz, 1985). A learning and cultural character where individuals are increasingly blase' about their inability to develop even the small amount of liberating potential inherent in computer technology – a situation where individuals continue to accept a voice in the ear that increasingly homogenizes idiosyncratic experience by encouraging dependency and control from afar, rather than beginning to counter global economic and technological developments by developing an individualized voice grounded in a community and regional uniqueness that would further actualize local autonomy and control.

SUMMARY COMPUTERS AS CLASSROOM TECHNOLOGY AND THE PRACTICE OF SOCIAL SCIENCE AS PUBLIC PHILOSOPHY

In sum, it should be clear that I oppose the widespread introduction of computer-based instruction in the classrooms of our compulsory-attendance schools. It is painfully evident to me that whatever liberating potential computers may possess is severely limited by the manner in which the prevailing socioeconomic arrangements of the computer industry and the technology of the medium itself together impose upon users. Widespread use of computers emphasizes that which is most damaging about our current over-reliance, our fixation, on the latest in technology - specifically, the cultural homogenization that encourages our thinking about and worshipping of TECHNIQUE, in the social sciences this is often seen in a fascination with METHOD or METHODOLOGY as not only a means to some other end but, as an end in itself. Surely, we must ask why, for whom and at the expense of whom, as well as how? However, to do so means that we are asking moral questions -the kind of questions with which most people in the electronic age of television and computers, are quite uncomfortable.

Elsewhere I have suggested some starting points for a social science practice which by asking these questions would no longer ground itself in the ideological luxury of removing social science from social policy (Nelsen, 1984). Similarly, Robert Bellah et al. (1985, pp.297-307) also have argued for developing social science as public philosophy. To develop such a social science would mean creating and emphasizing an apprentice-like learning atmosphere where participants are free to collaborate and demonstrate their developing knowledge to and with one another. It would be a participatory learning where those inside school classrooms are practically connected to others neither by considerations dictated from the technology of the computer nor by computer "networking" that is an orchestrated result of the global economic concerns of transnational corporations, but instead, by common considerations and concerns originating in their local communities. Creation of such an atmosphere would mean continually asking the moral and philosophically-based "why" questions, not as part of abstract theoretical debate among "liberal" individuals in a "liberal" society, but rather, as matters of practical involvement among actively engaged individuals who share an understanding that they each are part of a larger community-based collectivity

Schools at all levels have never done much to create an atmosphere like the one just described and, I hope that this paper has clearly shown that the widespread implementation of computer-based instruction in the schools is not a step in the right direction. It is not merely happenstance that Grant (see, for example, 1969; 1986), a Canadian philosopher whose interest in the well-being of the collectivity stemmed in large measure from his strongly-held Christian faith, was in the forefront of those asking the "why" questions. It is not necessary, however, for all the rest of us interested in the collective well-being to embrace Christianity in order to develop progressive and change-oriented

practice which is, like Grant's, out-of-step with the main technological drift of the times. To accomplish this what we do have to ensure are opportunities, both within and outside the classroom, for exchanging ideas about and experiences with computer technology as potential for human liberation. As for schools, if one of schooling's important tasks is to pass on to the next generation and at least sometimes question the old culture, the culture of print and literacy, than I for one am very grateful for the few potentially liberating opportunities which may continue to be created through the recognition that schools, "computer revolution" included, are still behind today's electronic times.

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