



Understanding Technology and Media: A Curriculum Imperative

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BEFORE he left for school today, one second grader saw on television a search and destroy mission in Viet Nam, an excerpt from a UN Security Council debate, and a demonstration for open housing. His eighth grade brother, switching on his transistor radio when he awoke, heard before breakfast three hit tunes, the day's weather forecast, and a political analysis of a presidential primary contest. Both boys did not walk to school; one rode his bicycle and the other took a school bus.

Technology and communications media are so much a part of their lives—and have been ever since they were born. To attempt the task of identifying how these giants of modern society affect the lives of these boys—and the millions of youngsters in this world—would surely yield a bulky catalog. Such an enterprise seems somehow unnecessary. The pervading essence of the relationships is insistent and known. Yet, the schools

to which these boys go—and most others in the land—appear to ignore intellectually both the existence of technology and media in the culture and their relationships to people's lives.

To be sure, the decade just past has been a time of truly phenomenal expansion in the acquisition and use of certain technological hardware and media in schools. Television receivers and antennae, overhead projectors, film and filmstrip collections, cartridge loading projectors, and materials centers dot classrooms and schools which before knew only chalkboards, an intercom "squawk-box," and an alphabet chart.

Television cameras and recorders, computer installations, and teletype communication links, still generally rare, are not as awe inspiring as before; "have not" schools feel

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confident that they will be "haves" only a few budgets from now. In-service programs have "upgraded" and "retooled" thousands of teachers. Use of the obtained machines and materials, while not as high as enthusiasts dare dream, has been obvious and, in some systems, dramatic.

Opportunities and Ignorance

These years of bustle and rush about technology and media may be viewed, nevertheless, as tragic times. Two counts comprise the major observations.

First, the period has exemplified a pack-rat opportunism. Money was available; if unused, it would be "lost." So, the operational concern was conceptualized as "What can we get?" "Let's have an overhead projector in every room, at least one television set for every corridor or floor." And, "Who would like to spend six weeks in New York, Nashville, Boulder, or Los Angeles at a media institute?" A substantial residue is evident. Much equipment is now in schools. Many teachers are using the equipment.

But the *technologies* seem not to exist. A technology is not a machine; it is a social system in which machines and technological processes are related to people and their actions and other features of a society. Systems of relationships between machines and people—adults and pupils—in spaces and times have not been built.

A few primitive technologies have "happened." For example, overhead projectors and screens have displaced chalkboards in many classrooms; the teacher now sits, instead of stands, and the pupils look up rather than out. Too, the television set is pushed into the classroom for the 15-minute Spanish lesson on Tuesdays and Thursdays and quickly wheeled out in order that another group may have science.

Simply put, appropriate technologies—the system of relationships—for use of the new equipment in schools are not operational. More important, serious attention to this necessity is encumbered by matters seen as having higher priority, by issues involving how teachers want to work, by the relentless

press of clock and calendar (school must be kept going), and by widespread ignorance of the basic problem.

Second, and a critical tenderness, technology and media as dimensions of culture are not taken seriously in curriculum. For the most part, indeed, they are not even treated casually. A kind of romantic, if harsh, analogy of present school programs to that well-known curriculum described by my teacher, J. Abner Peddiwell, is possible. The "fish-grabbing" program of the present does not recognize the existence either of fish hooks or available food supply from the saber-toothed tigers nearby. Some specific instances are illustrative.

Instance: Industrial Arts

Industrial arts, maintaining its legacy of the manual training movement, still is too much characterized by projects and vocational concerns. The tie-rack and shoeshine kit may have given way to a handsomely turned lamp or inlaid table. Many junior high shops use "home-type" power tools. Major goals are seen as skill development on special machines, some contributed by local industries. Uncommonly present in the program is a rational, even appropriate, conception of the worker in modern industrial society and of the processes of industry.

One uncommon program has these major features. An IA course, and the environment—the shop—was reorganized to stress the relationships and interactions of an industry in contemporary society. An industry is characterized by economic, political, and personal relationships with divisions of responsibility and power. So, the class group confronted, intellectualized, and lived with organization and its problems not just at the first of the year but throughout the course. The teacher was not a foreman nor were pupils "laborers" or "independent piece manufacturers." A product was chosen for production—for mass production.

Design, prototype development, and tool making were necessary. So were plans and trials for organization of machines in the production and assembly line. Studies were

made of man-machine operations, including work efficiency patterns using photographic procedures. Marketing and advertising campaigns were detailed. And, of course, the product was made. But not many products.

The course was attending to industry in society, its relationships and actions, to people and their ideas in the processes. This type of program takes responsibly the charge to understand, intellectually and personally, the modern world in which pupils live. Not at all incidentally, girls are attracted to such a program and so are boys not wanting, necessarily, training for a marketable skill.

Instance: English

English throughout the school program defines appropriate communication as writing and reading the disciplined and artistic products of written composition. Only grudging attention, if any, is awarded speaking and listening. And almost none is given to viewing and to its prerequisite construction of viewable forms. New language grammars are not uncommon, but rare is attention to the language and grammar of film and television. Forgotten, if once realized, is that many literary masterpieces were never intended for reading. Certainly not *Macbeth* or *Our Town* or *The King and I*. The purposes of *Common Sense* and *Macbird* are ill-attended if only known by reading for asserted artistic merits outside the context of the passions which produced them.

Pupil construction of responses to emotions and ideas lightly grasped or deeply sensed are limited now, to essay, poem, or other print-type form. With movie and television cameras so accessible, both in schools and in many homes, production of artistic, creative, even "literary" communications in non-print media should be encouraged. The critical success of the blossoming art of film making by children and youth is heartening. Yet, for the most part, such developments are independent of schooling, "underground," testifying to the one-dimension universe understood by professional educators. The serious study of the film in schools seems to be gaining increasing support in certain quar-

ters, but its legitimization in the curriculum is not at all secure.

In one sense, many of the enthusiastic attempts at reform in the English program unfortunately may be seen as a kind of intertribal warfare. Some authors are replaced with others currently enjoying more favor. A few works emphasizing pastoral and rural values, images, and messages are replaced with selections reflecting some of the tenseness, pitch, and rhythm of living in a technological, industrial, urban milieu. Some stimulating materials, if not too offensive to sensitivities and norms, are substituted for some rather stale, remote materials. The difference is real enough. But more is expected from such an important field. The curriculum must be a part of present reality—in particular, its technology and media—as well as the artifacts of the past. Isolated practices in some schools indicate that the vision is seen. Pressures for quite radical reform seem to be mounting.

Instance: Social Studies

Recent ferment in social studies has yielded some rather potent programs and materials. The impact of technology and media, however, seems slight. Possibilities for access to original sources—through microfilm processing, for example—are not realities in most schools. Use of the newer media as both source of data and vehicle for organization, generalization, and report, is not common. How convenient it is to take a small audio tape recorder to interviews with local candidates, to edit the material, and to develop a presentation to a larger group. Surely possible is the use of a portable video camera to record living conditions in various neighborhoods or a session of the traffic court or the arrival in town of a national figure. Now easy to have available is a video-recorded set of the President's State of the Union messages.

Somewhat as in the field of English, however, the curriculum revisionists in social studies have restricted their efforts to modification of emphasis and sequence in the conventional program. Reform has not included

substantial moves to incorporate the serious study of all that which is social. In such efforts, surely to be made in years ahead, attention will be focused on man's ways in a technological society, on the impact of technological forces on societies emerging from preindustrial eras, and on the ways life has changed and the accompanying fallout of values, ideas, and materials resulting from technological innovations. The programs will take seriously the processes and consequences of media bombardment and citizens' necessities to think reflectively and creatively about the messages in their media environment.

Opportunities: Viable Inputs

So many other instances might be included. These few serve to illuminate the problem: that school curriculum, in the main, has not seized technology and media as viable inputs into the system.

These observations are not an indict-

ment. They are advanced as opportunities. Such matters, when spotlighted, do acquire a sense of urgency. And they should. There is no neutrality here.

Technology and media are in our society and they must be in the substances and forms of our schools. For them to be excluded from curriculum, like lepers from those who are clean, is for the school to become increasingly remote and probably irrelevant to society. Or, the prospect seems real enough that society, through its private and public agencies, will enforce attention through cruel excess with some valuable although never clear ends being swallowed up by the means.

The hopeful alternative, on the other hand, is to serve society well by vigorous, responsible action. In so doing, boys and girls now in school and those to enter will be inducted more appropriately into their culture. They should, as an accompanying attribute, understand this culture more intimately and more fully. □

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