

# The Teacher in a Multi-Mediated Setting

ISABEL W. DIBLE\*

**F**OR teachers, change is not new. Teaching is, by its nature, an evolving profession dedicated to guiding the learning of successive generations of students growing up in a changing environment.

Likewise, a multi-mediated environment is not new, for the environment both within and outside the school has always been multi-mediated.

What is new is the *acceleration* of change in the role of teachers and the variety, quality, capability, and availability of media in the total environment, including the school.

With the significant increase in knowledge about the impact of media on the educative process, there is growing recognition that education in the traditional sense is no longer enough.

## Media: Then and Now

For many years schools have used the basic media of instruction. Textbooks, chalkboards, and teachers themselves have been part of the traditional school setting. This does not mean that change has not occurred. Teachers have become better prepared, textbooks better designed and executed, and chalkboards glare-free and attractive in color. However, their functions for learners have not changed fundamentally over a period of years. Instructional procedures have con-

tinued to be more or less teacher-centered, group-oriented, and textbook-based even though the use of new media has been incorporated into the program.

Within schools, current problems associated with complexities of curriculum, accelerated instruction, and the much heralded explosion of knowledge appear to be overwhelming. Outside schools, the critical need is for citizens who can cope with the escalated rate of change, and who can bring critical analysis to bear upon the information aimed at them by government, industry, and various organizations through the powerful and pervasive media of communications.

More teachers, buildings, and equipment will not solve the problems. The systems must undergo *basic* change, including the role of the teacher.

Important changes always produce cynics as well as believers. Most change is met by some skepticism if not hostility. Educational change is no exception.

An interesting article in a recent educational journal was titled "The Blackboard Stays with Us"—which no one can deny. However, the horse also stays with us, as well as the telegraph key, the broom, the manual typewriter, and the propeller-driven biplane.

\* Isabel W. Dible, Director of Instruction, K-8, Beverly Hills Unified School District, Beverly Hills, California

They still work and there is continued demand for them, but we are no longer limited by their functions.

A multi-mediated environment for learning is a case in point. The principles involved are not new. A filing cabinet is an information retrieval system. A pencil and a piece of paper make a recorder. These materials are still needed and used, but this should not obscure the fact that vastly increased alternative strategies and processes are available.

### Learning About Media

Whether or not one agrees or disagrees with Marshall McLuhan, one cannot dismiss his significant contribution to the thinking about things happening in the contemporary world. He reminds us that education must help children to live in this new era properly, and that educators must be willing to face up to new strategies and procedures.

McLuhan emphasizes the need to study with a variety of media, not excluding books, so that children at the very least become

conscious of "what hit and what missed them in their own environment."<sup>1</sup>

McLuhan again warns us that as educators we cannot afford to do nothing as the 16th century schoolmen did in front of the torrent of the Gutenberg Press. In his opinion, they were "blind to the new tidings and collapsed in front of the challenge."<sup>2</sup> He describes change of psychological mood, resulting from the change of media from the mechanical to the electric, and suggests that this development has produced "the TV child."<sup>3</sup>

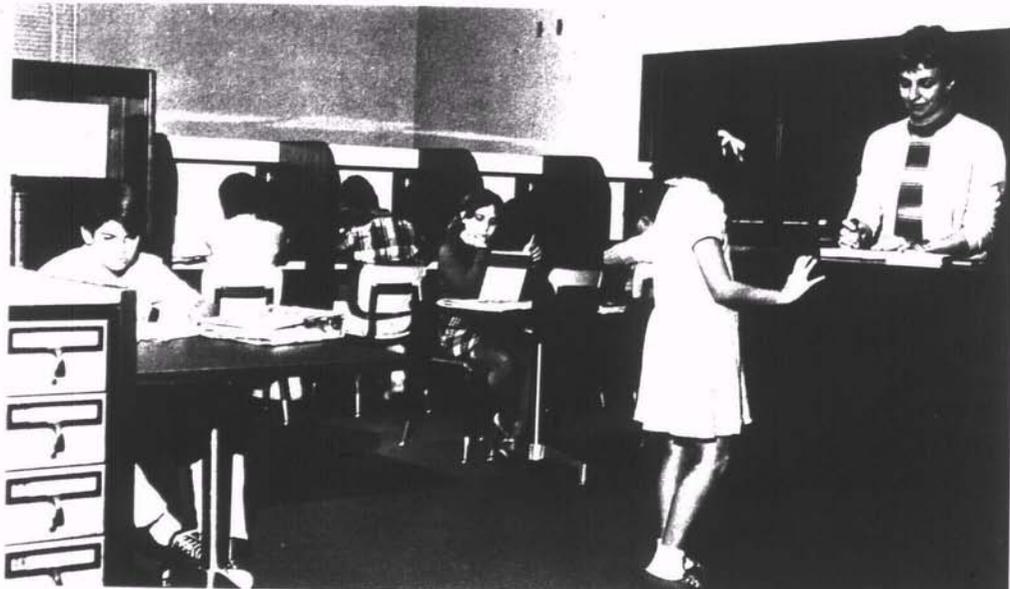
The term multi-media may be defined in different, albeit related ways. Multi-media may be interpreted as the variety of materials, processes, and strategies developed, available, and increasingly used today. Some of these uses are to learn, to persuade, to compute, and to store and retrieve information.

Another definition is that of simultane-

<sup>1</sup> Marshall McLuhan. *Understanding Media*. New York: McGraw-Hill Book Company, 1964. p. 175.

<sup>2</sup> *Ibid.*, p. 76.

<sup>3</sup> *Ibid.*



Photos courtesy of the author

Audio and video literacy are developed as students are assisted by a parent volunteer.

ous impact such as multiple screen projection, light and sound presentations, or projected 360-degree, totally encompassing environments.

In the past, educators have tended to think of split images and shared consciousness as distracting. On the contrary, the threshold of simultaneous awareness and response to multi-media was crossed some time ago. Young and old walk and converse on the streets with broadcasting transistor radios pressed against one ear, while they carry on conversation and observe the world around them. They are seeing one environment and responding to it while listening and responding to another.

It is no longer surprising to see an individual watching one football game on television while he listens to another on the radio. Moreover, a currently advertised home television set has more than one viewing screen and the capability of tuning in more than one channel simultaneously.

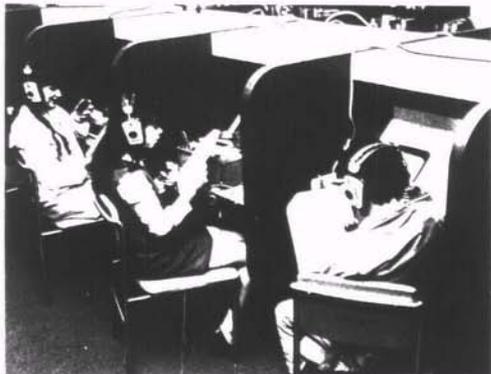
The implication for teachers is that the future is now.

## Hardware and Humanism

In general, educators appear to have moved beyond the stage characterized by the expressed concern that "machines will replace the teacher." It is now rather well accepted that new technological devices become extensions of the teacher rather than replacements. The haunting spectre of the mechanization and dehumanization of education continues to lurk in the background, however.

If instructional media are seen by the teacher as types of hardware such as color or black and white television, motion or still pictures, mono or stereo audio tapes, and slides or filmstrips or transparencies, then by the same token, textbooks must more properly be viewed as hard cover or paperback, chalkboards must be considered as glass, slate, or composition, and so on.

Basically, all of these descriptions classify media as no more than types of equipment rather than as implements of instruction and communication. The view is too limited to be useful. It must be broad-



A retrieval system makes audio-visual materials available in classrooms or libraries.

ened to indicate that all media provide processes through which teachers may apply research findings of the behavioral sciences to the problems of instruction.

To decide whether the medium or the curriculum itself is humanistic enough requires that value judgments be made in areas on which people have many philosophical and ethical differences of opinion. At the level of empirical observation alone, however, some aspects of "behavior" by various media may be more "humanistic" than that by human beings.

Media, for example, are tireless and are capable of repeating items endlessly without fatigue, annoyance, or exasperation. Media are non-judgmental. They do not pass or fail, threaten or punish, and can only perform in this way when they are directed to do so by humans.

The artistry of the teacher, therefore, lies not in rejection of media as impersonal. Rather, such artistry should relegate to media what can be done best through their processes and should reserve the unique talents of the teacher for diagnosis, evaluation, prescription, decision making, and direct individual interaction with the learner.

## State of the Art

In a magnificent multi-media presentation called "Our School," staged for the 1968 Annual Conference of the Association for



In carrels students use a retrieval system for independent study.

Supervision and Curriculum Development, a highly provocative challenge for schools was given as follows: "In the 19th century, the knowledge inside the schoolroom was higher than the knowledge outside. Today it is reversed. The child knows that in going to school, he is in a sense interrupting his education."<sup>4</sup>

Discussing the changing role of the teacher, one of the presenters, Alexander Frazier of The Ohio State University, named five necessary teacher competencies. One of these was "the need to enlarge the teacher's understanding of the impact of the electronic environment."<sup>5</sup>

Reminders of the "state of the art," electronically speaking, abound outside the school in the total environment. Elevators talk to and direct occupants and eliminate the need for an operator. Parking tickets are dispensed by an automated machine which also advises persons to drive carefully. The technologically advanced Japanese draw money from the bank by inserting a plastic card into a machine, dialing an account number, and receiving cash in 15 seconds.<sup>6</sup>

Expo '70 visitors in Japan were treated to an unprecedented electronic and multi-mediated display. Many pavilions featured 360-degree projected images for a totally

<sup>4</sup> Atlantic City, New Jersey, March 12, 1968.

<sup>5</sup> Alexander Frazier, *ibid.*

<sup>6</sup> Tateisi Electronics Company, Tokyo and Osaka, Japan.

encompassing environment. Audio broadcasts were of incredible fidelity, and automated equipment was everywhere doing everything. If such a world fair can provide a look into the future, media of all kinds will soon be capable of performing tasks that today seem unbelievable.

Many teachers have believed that a key factor in motivation is a child's home environment. This environment now includes more than family members and perhaps more than reading materials. It holds one or more television sets with which children have lived since birth. Further, studies indicate that children spend many hours each week with this "electronic member" before ever coming to school.

Within the school environment, "the state of the art" is not static. Media centers provide settings in which teachers help pupils to develop the abilities of self-direction and independence, qualities emphasized by behavioral scientists as essential to contemporary living. Such centers have a variety of names and occur in various locations, but all have facilities uncommon in school environments a decade ago. They are busy, dynamic places.

Multi-media libraries contain an ever increasing number of nonbook materials and may include dial access information retrieval



Students monitor broadcasts, operate projectors, and service requests.

systems. Central or satellite resource centers enable students to pursue independent studies and engage in creative production. A planetarium conjures up heavenly bodies on demand. If they wish, students may observe their own images on video tape.

Within classrooms themselves, microcosms of the multi-mediated environment exist with capability for teacher or pupil use.

### What Next?

The future is open-ended. For example, researchers suggest that it is possible to compress speech into half or even one-third of its normal time with increased comprehension. Compressed speech, accompanied by "speed listening," would have a host of applications in education such as instruction for the blind, industrial training, library research, or language study.<sup>7</sup>

Patrick Suppes, Stanford University mathematician, who is also well-known for his work in computer-assisted instruction, sees a steady evolution from today's elementary language and math drills to foreign language teaching at higher levels. He envisions, somewhat further in the future, the inclusion of more discursive subjects such as literature and history in which computers must have ultra-complex programming for dialogue.<sup>8</sup>

It has been predicted that children will soon have two-way television sets, and that through use of satellites, pupils will be able to communicate with other children throughout the world.

One of the most attractive possibilities for education reported by experimenters with new instructional technology is the capacity for changing time factors, and utilizing media to free time for other things. For example, some estimates indicate that the optimal use of multi-media in a language laboratory as an adjunct to a teacher's capacity may enable students and teachers to have approximately

<sup>7</sup> Herbert L. Friedman, Ray O. Freedle, and David B. Orr. Research conducted at the American Institute for Research, Silver Spring, Maryland.

<sup>8</sup> Patrick Suppes. "How Far Have We Come? What's Just Ahead?" *Nation's Schools* 82: 52-53; October 1968.



AV materials for special projects are made on the spot.

one-third of the school week freed for other things.<sup>9</sup>

Use or nonuse of multi-media is not a case of either/or. Rather it is a case of more and more.

### Teacher: Director of Learning

A publication of the National Education Association describes schools of the future in which teams of professionals and paraprofessionals help children to learn by computer, self-instruction, materials creation, multi-media, and exploratory centers.<sup>10</sup>

In this setting, the teacher is a manager who serves in the role of the integrator of knowledge. In such a multi-mediated environment, he may have professional relationships with support personnel such as technicians, electronic engineers, and graphic artists, as well as with paraprofessionals and volunteer parents. Here the emphasis is on learning rather than teaching, and the leader assumes a new level of professional responsibility: that of *learning director*, specializing

<sup>9</sup> Donald Hair and Olive Lowry, Public Schools, Spokane, Washington.

<sup>10</sup> Alan C. Green, editor. *Educational Facilities with New Media*. Washington, D.C.: Department of Audiovisual Instruction, National Education Association, 1966.

in pupil involvement and self-direction. Literacy becomes more than reading and writing competence. The teacher of today must also be capable of developing visual and audio literacy to enable students to utilize the rapidly growing field of instructional technology.

An enduring and frequently stated objective of educational planning has been that of providing for individual differences. The literature has been full of terminology such as developing potential, meeting expectations, and providing challenge for each child in a group. Teachers point out that to attend to individuals properly, they would have to be in more than one place at the same time—a physical impossibility.

The multi-mediated environment can allow teachers literally to be in several places simultaneously. Tapes, cassette recorders, and other devices enable teachers to speak to,

direct, listen to, and counsel students in an entirely individualized way without themselves being physically present. A pupil may even "take a teacher home" along with his homework.

The teacher, himself, can obtain professional training on request through a dial access system or by scheduling his time to take advantage of television instruction at school or in his own home. The Scottish poet, Robert Burns, would be surprised to learn that contemporary teachers can actually "see themselves as others see them." Self-observation and analysis are available by electing to be videotaped in action.

The teacher's role in a multi-mediated environment is both promising and liberating. Teachers may, if they wish, become agents for opening the whole world to learners. Stated differently, they may free students to explore the entire world for themselves. □



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