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Instructional Television for Language Learning in the '80s

Background

In 1977, a nonprofit consortium of departments of education in American states and Canadian provinces, called the Agency for Instructional Television, asked me to write a paper on "the role of instructional television in enhancing primary language arts/communication skills instruction in the 1980s." As part of their Skills Essential to Learning Project, their staff was starting to plan a primary school series for the '80s and wanted to know what I thought they ought to do with it. Operating on contributions from its constituents and on large grants from the Corporation for Public Broadcasting, AIT was already deep into writing and initial production of some series of programs for elementary and junior high school aimed at fostering "essential skills" but not aimed at raising standardized test scores. In a press release CPB President Henry Loomis said that this AIT project "permits us to put significant money into instructional broadcasting without any possibility of influencing the curriculum, which is a situation that is absolutely essential for us."

AIT gave me a budget for travel and consultation, so I set up two meetings, one on each coast, of teachers and of people experienced in filming, writing, or analyzing educational television. Thus well informed and advised—and perhaps even programmed—I wrote the following paper. Since part of my commission was to prophesy the situation of language learning in the '80s, the first half of the essay summarizes the recent past, then gives a capsule forecast of a possible educational future. That portion was published as "Language Learning in the '80s" in the *McGill Journal of Education,* Winter, 1979. The remainder has not been published before now, and since it was privately commissioned by AIT I am especially grateful for their generous permission to print it here. A list of my consultants follows the text.

Background

In planning programs for the 1980s we have to make a special effort at the outset to shake off the limiting mood of the present. Along with the rest of our culture, education is going through a spell of depression

and repression. It is most important that negative tendencies now reigning should not be assumed for the future as well. Hard times can push people to an extremity that engenders better times—just as good times can dupe people into worse.

The inversion of the "Great Society" programs

Accounting for the no-account. As an example of the good-to-worse, and as a starting point for a summary of current trends *not* to be assumed for the '80s, let's recall the large funds and great expectations that went with the Great Society programs inaugurated in the mid-'60s. The catch in all these programs was that the federal government wanted their funds accounted for in ways fetched up from Detroit and the Pentagon—cost-benefit, "systems" approaches such as the Planning, Programming, and Budgeting System that required making aims and budget categories one and the same and both strictly quantifiable. Such accountability not only did not fit human education but didn't, as it turned out, work well even for gross stuff like autos and heavy weapons (or at any rate, worked well only for special-interest groups, not for the public).

The computerizable fiscal accounting systems of heavy industry joined in unholy wedlock with two other trends, one in psychology, one in education. The behaviorism of Pavlov, Hull, Skinner, and, in education, Edward Thorndike, lent itself well to the industrial model of schools as factories turning out products from inert materials (students). It followed that such products (learning results) would be easily measurable, i.e., countable. At about the same time, programmed materials were making a big splash. This was perfect. They inched the learner from one tiny measurable bit of behavior to another, in steps so small they ensured a right answer to keep the learner moving but never added up to the big goals of education. "Specific" or "performance" or "behavioral" objectives became the order of the day. And that *was* an order. To get federal money, you cut learning into pieces small enough to fit programming procedures and the standardized tests they plugged into. The testing industry had, of course, long since perfected the art of redefining learning to fit its bite-sized computer-scorable questions (and had eliminated the writing sample from College Boards as too expensive and bothersome). Then schools could buy commercial materials that did it for you—taught and tested out the pieces, organized your classroom (even boasting "individualized instruction"), and made you accountable so you could get federal money. State legislatures and district governing boards got the point and followed the lead of Washington. So by the '70s the emphasis on easily measurable, fractionated pieces of overt behavior was locked into schools with the force of law and money at all levels of government. Today, in an era of tight money, these programs have been eliminated or severely

curtailed, leaving the field of education stuck with a materialistic approach it cannot warrant in learning terms. What made the wave is gone, but the wave is just now cresting across the continent!

Reinforcing the worst of the past. Two other painful ironies arose from this state of affairs. First, the idealism behind the Great Society thrust for improvement ended by reinforcing the worst of the past—the ineffectual drills-and-rules method of teaching that was itself what needed to be reformed. Ticketing parts of speech, picking synonyms, pairing words beginning with the same sound, doctoring dummy sentence structures, underlining the simile—all got defined as "cognitive" and "basic" and took over the curriculum while few people noticed that the real basics—speaking, listening, reading, and writing—were not getting taught. They were *assumed* to be taught by the drills on the parts. "Reading instruction" was taught, but not reading; "composition," but not writing. Why should the wholes be taught if the test, which merely replicates the drills, is only about the pieces?

"Back to basics" as double misnomer. This very unfortunate perfecting of the errors of the past contributed substantially to the now-notorious rise of illiteracy and the fall of scores even on the standardized tests to which the drills-and-rules approach was teaching. At this point we hear the hue and cry to go "back to basics." Where else have we ever *been?* No one opposes the teaching of reading and writing, of literacy. But those who fly banners of "back to basics" appear to champion the two R's against some adversary who is opposed to them. Since the opponent doesn't exist, the movement is a hoax. What the movement really supports is a certain way, or *method,* of teaching reading and writing—namely, the drills-and-rules method that, if it were to work, would have done so decades ago. Actually it *cannot* work because it assumes that parts can teach wholes, or add up mechanically into wholes the way subassemblies are assembled into machines, whereas the parts—the spellings, the individual words, the various sentence structures, the similes—can be learned only as functions of the wholes of which they partake. The more they are isolated out, the harder they are to learn—and the less motivation the learner can find to *want* to learn them.

The "back to basics" movement attributes the decline of skills in thought and language to la-de-da liberal experiments of the Great Society's heyday. Some of those innovations were bound to have been ill conceived and executed, as is expected for experimentation, some never got off the ground for lack of support, and some went well but were discontinued when Nixon began cutting funds for education and decrying change. Actually, the decline owes as much, or more, to sociological changes and the impact of TV as to school performance one way or the other. To the extent that school performance is indeed responsible, the dominant method of the '70s, the '60s, and before is and has been the

drills-and-rules particle approach. So "back to basics" is a double misnomer. Not only is the movement not back, it is not toward the basics, which are the whole, authentic acts we call thinking, conversing, reading, and writing. The standardized tests that generate the scores cited in the outcries do not, in fact, *measure* the basics; they measure the bits and splinters that some people for years have erroneously *assumed* to add up to the basics. Actually, the *productive* activities, like speaking and writing, are not measured at all on current standardized tests. Problem solving and critical thinking are also finessed, and even the receptive "basic" of reading is measured so unscientifically—there being no oral component on paper-and-pencil tests to separate variables—that low scores are uninterpretable.

The teacher defrocked. The second irony of the Great Society's well-intentioned program is that its brand of accountability made it impossible to hold teachers accountable! The situation still obtains today. Taking over the old fractionated learning and dressing it up in performance objectives, programmed learning materials, and criterion-referenced tests, all designed to compare costs with benefits, took decision-making away from teachers and placed it in the hands of federal agencies, state legislatures, and school board officials. This occurred because these parties had to cover (account for) themselves and hence dictated, through mandated objectives and tests, the sort of curriculum and methods they would tolerate from teachers. Stipulating specific behavioral results (observable by computer scoring) acts backwards, as all required tests do, to determine what is taught and how it is taught. To the extent that federal agencies, legislators, school boards, and district administrators force teachers to teach a certain way, they, not the teachers, must assume responsibility for the results.

Had teachers cleaned house before all this, however, they would not be forced to teach in futile ways now that they know better. And many do know better; far more people outside than inside the classroom want to pour the old wine into new bottles. But the imposition of centralized, standardized specifications of teaching and testing units has thoroughly confused the natural perceptions teachers have of how children learn.

In sum, as the people's will, expressed in Great Society programs, was processed through government and industry, it became distorted and eventually even inverted, so that reform ended in the triumphant enshrinement, via the "back to basics" movement, of what was to have been reformed, it having long since been tried and found untrue.

Independent curriculum creation

This review may not only help us avoid projecting into the '80s a historical flip-flop better left, indeed, as history, but may also show how valuable a role a nonprofit organization may play. Government and in-

dustry are very hard to control and keep on target, as many forces may pull them off course. *Any* organization may go awry of course, but a consortium not organized for profit and specialized in intent has a better chance to accomplish a certain mission if it resists the infections set abroad by government and industry.

Sesame Street—a cautionary tale. The example of *Sesame Street,* however, serves to show the dangers that even the nonprofit organization faces. The profit motive and public bureaucracy may be ruled out, but both federal and foundation funding can exert influence, and popular cultural trends may be very hard to resist. *Sesame Street* was conceived and executed by an elitist operation enjoying many benefits. Its sponsor, the Children's Theater Workshop, was well heeled and well connected. Despite these advantages, between the original conception and the first production the aims of *Sesame Street* were narrowed and lowered considerably.[1] The well-chosen experts who stated the program's aims, in the summer of 1968, seemed constrained to the form and content of the objectives-writing trends already current in funding circles. Then came production. The program's initial emphasis (since much corrected) lay on memorizing letters and numbers. Much program time and media wizardry were spent teaching the alphabet. Now, some old "reading research" supposedly shows a correlation between reading achievement and knowing the alphabet early, but it was professionally very naive in 1969 to take this or any other isolated statistical correlation at face value. Obviously, what correlates with reading achievement is a *middle-class home setting,* in which children are (were?) not only taught the alphabet but talked with, read to, and given adult models for reading and writing. Such children probably learn to read well *despite* learning the alphabet early, since alphabetical pronunciation of letters conflicts considerably with the actual spelling of English sounds. Learning the alphabet can be dignified as "cognitive" and "basic" (i.e., very serious and worth funding) whereas in fact it is neither.

If the logic of *Sesame Street* was "Middle-class children learn to read; therefore we'll give poor minority children what those kids get," then it should have afforded poor children what middle-class kids were getting that really *counted:* it should have shown illustrated pages of good children's books while sounding the texts in a good storyreader's voice—that is, should have read to them in "lap method" style. But stating the objectives and the testing for this programming would have been much harder than for the learning of the alphabet. Educational Testing Service announced authoritatively that *Sesame Street* was accomplishing its objectives—at least those objectives which ETS chose to measure, the easier ones. Children *did* learn the alphabet. ETS accepted the objectives themselves at face value and hence would never discover whether learning the

[1]See *Getting to Sesame Street: Origins of the Children's Television Workshop,* Richard M. Polsky, Aspen Institute, Praeger, New York, 1974.

alphabet aided reading or not. So long as measurement tests particle activities, teaching can appear successful and still not teach the real goals, which are broader.

At any rate, *Sesame Street* partook too much—at least until criticized—of the regular commercial and educational worlds. Its mistaken focus on the alphabet stemmed from the same payoff anxiety that caused the commercial world to develop in the first place not only performance objectives and numbers games in assessment (like Nielsen ratings) but also the zoom-flash, overexcited programming techniques that *Sesame Street* also borrowed. But the decision to feature the alphabet also showed too little autonomy from the educational momentum toward teaching isolated parts (in this case not even the relevant parts!) according, precisely, to what we have been describing as the major misdirection of the whole educational establishment.

Still, keeping in mind this cautionary tale, and granting to any pioneer its right to some mistakes, we return to the point that education needs badly a curriculum agency of at least some degree of independence. Such an agency must *foster* this independence and recognize it as its greatest asset. Perhaps the most pertinent question that an independent agency can ask itself is, "What can we do that government and industry don't or can't do for education?

Problems of the medium itself

A final negative element of the present that future plans should take into account concerns the very medium itself. Both formal research and native perception indicate clearly that television has had bad effects on children that go beyond either the content or the quality of programming. No matter how good a program is, it still tends to induce passivity and to replace interaction with other people and the environment. Reading and listening to the radio are relatively passive too, but reading requires far more inferring and imagining, and even radio leaves it to the audience to fill in the visuals. TV is no worse, of course, than movies, which also supply a video and immobilize the viewer. It is only TV's presence in the home and the consequent large quantity of viewing that make it more dangerous. Schools can control both the quantity and quality of ITV fare, but they still have to face the fact that they are adding more viewing time to an already crippling amount of it. Many of the recommendations in this paper aim not only to teach language but to do so in ways that may offset the damage inherent in the medium.

Future Educational Trends Affecting Language Learning

In order to describe the current educational situation that will be changing during the '80s, I have had to touch on politics, economics, and

technology because these have determined education more than have pure learning factors. Likewise it is impossible to envision future language arts in isolation from other aspects of education and social change with which they will become increasingly enmeshed. But fortunately, what language learning will be mixed with or determined by will be increasingly benevolent and relevant. Inevitably also, prophesying mixes what *will* be with what *ought* to be, and the issue becomes not just how to *fit* ITV programming into the future but how to help *create* the future with it.

Toward pluralism and holism

During the '80s the technocratic approach and the "back to basics" bandwagon will deadend in ineffectuality because they are inorganic and unrealistic, and the humanistic forces will gain ascendance. Temporarily buried during the '70s by fearful reaction to change, the innovative impulses of the '60s to reform society and education will resurge but with greater knowledge, effectiveness, and balance. Standardization will give way to pluralism; the particle approach to holism. Drills-and-rules will give way to realistic, well-motivated activities found outside of school, as people become aware that human ends cannot be achieved by mechanistic means.

So one hallmark of education in the '80s will be *alternatives,* to accommodate the plurality of differences in personal makeup and development, of familial and ethnic background. But these differences will be constantly reintegrated on the basis of human *universals,* the other hallmark. Students of different age, capacity, and temperament, for example, will be accommodated by flexible subgrouping within a heterogeneous group or "class"; special-education and English-as-a-second-language students will get some special treatment while remaining mainstreamed. Restating our description, we feel that perhaps it makes more sense to say that pluralism will replace the particle approach, since both share an emphasis on differences and breakdowns, while holism will replace standardization, since both of these share an emphasis on similarity and unity. In reality, then, trends may not be reversing but rising, rather, to a higher plane. Instead of putting analysis and synthesis in the service of rationalizing institutionalism, people will be putting them to "the human use of human beings" (mathematician Norbert Wiener). School "subjects" are not objects, foreign and outside. This elevation will play a part in the ongoing evolution of human consciousness.

Individualized instruction, alternative schooling, student contracts, special education, classroom learning stations, multi-ethnic curriculum, electives, and the open classroom will coalesce into a fully developed practical management of student-centered learning accommodating every significant sort of individual variation. Parallel to this, such trends as

team teaching, cross-grade grouping, pod arrangements, racial integration, older students teaching younger, school resource centers, community aides, work-study courses, interdisciplinary studies, and flexible scheduling will coalesce into the instituting of larger, more mixed pools of learners. Any such pool will give an individual daily opportunity to work with different adults, older and younger students, and a variety of materials, methods, media, and environments. This tandem coalescence will not only allow for differences but put these differences into useful interactions by flexible subgrouping within a pool not too large to cohere or too small to afford variety and a sense of community.

Alternatives. Alternative *means* to the same general goals will be accepted and facilitated. Children will learn to read and write, for example, by different combinations of the four possible approaches to literacy—phonics, sight word, "language experience" (the pupil watching his stories being written down), and read-along (following a text with the eyes while hearing it read). They will practice reading by reading different selections and practice writing by doing different assignments, all in a personal order but often with partners. One sequence for all for each year and one lesson plan for all each day will phase out and become a thing of the past. These variant routings to the same goals will be logged for each learner, and this logging will accumulate in records, along with learners' products, and be passed on from year to year so that students can start where they left off the year before.

Children will be taught from primary on how to render experience into *alternative media and alternative symbolizations*—to dramatize, depict, or narrate stories, for example; to express feeling through mime, dance, song, music, poetry, photography, or plastic arts; or to cast information quantitatively as mathematical relations, qualitatively as verbal description, or combining these with graphics, as maps, charts, diagrams, slide-tapes, captioned photos or drawings, or moving pictures with voice-over. This will fulfill the theme of logician/epistemologist Susanne Langer that human beings have various alternative "semantics" to express "feeling" (thought/emotion).[2]

Balancing the brain. Powerfully supporting this "equal time" offering of the modes of communicating and informing is the recently disseminated research finding that the human brain cognizes in two main modes. One is analytical, intellectual, verbal, and literal and processes data serially. The other is synthesizing or holistic, intuitive, nonverbal, and metaphorical and processes data simultaneously. One strikes a note at a time; the other, a resonant chord. They are different but equally valid and should collaborate on many tasks (such as reading, which combines linear processing with the metaphorical nature of words).

[2]*Mind: An Essay on Human Feeling,* Johns Hopkins Press, Baltimore, 1967.

Until around eight or so years old, people cognize both ways in both hemispheres of the brain, but then, perhaps because socialization and acculturation begin to threaten with extinction the holistic mode, the hemispheres specialize so that, in most right-handed people, the left takes charge of the analytical and linear, associated with the "academic curriculum," while the right takes charge of the mode associated with metaphor, arts, crafts, and sports.[3] It is around this time, during or after third grade, that a notorious slump occurs in many if not most school children. We may have a clue here to ways it can be avoided. The influential work of Joseph Chilton Pearce strongly asserts that stereotyping and premature stress on verbal/conceptual learning during primary schooling account for the slump and seriously cripple the astonishing native learning capacity of the small child.[4]

A growing number of psychologists and educators are arguing very convincingly that our culture currently favors the left hemisphere so much as to create a dangerous imbalance and that school must make deliberate efforts to educate for the right hemisphere by restoring the arts to elementary school—now scorned as frills impeding the skills—and by letting children's intelligence fully explore imagistic, metaphoric, fantastic ways of symbolizing.[5] One of the giants of child psychology, Bruno Bettelheim, has recently made a penetrating and eloquent case for the profound emotional and conceptual value of fairytales.[6] Ironically, it is holistic cognition, so undervalued today, that best copes with the interrelational intricacies of inner and outer life that characterize our epoch.

Alternative realities. The ultimate set of alternatives for which the '80s will eduate is *alternative realities*[7] in the sense that Carlos Castaneda has now made a part of our modern heritage—i.e., fundamentally different experiences of what is real. Carl Rogers, one of the most influential of living psychologists and therapists, said precisely this at a conference in 1974 at Stanford called "Readin', Writin', and Reality." The title itself, yoking the humble literacy skills directly to one's level of consciousness, serves as signpost to the educational changes we can expect. Up to now it has always seemed natural that schooling should perpetuate a single public reality to fit routine acculturation processes going on outside of school. But at our present stage of evolution this may destroy rather than preserve society, for if we do not encourage variant perspectives and a range of levels of consciousness, society will fail to solve its complex problems for lack of creativity. One notion of reality is not enough, es-

[3]See *The Psychology of Consciousness,* Robert Ornstein, W. H. Freeman & Co., San Francisco, 1972.
[4]See his *Magical Child,* E. P. Dutton, New York, 1977.
[5]See *The Metaphoric Mind,* Robert Samples, Addison-Wesley, 1976.
[6]*The Uses of Enchantment: The Meaning and Importance of Fairytales,* Vintage paperback, Random House, New York, 1977.
[7]A *Separate Reality* and other books of his tetrology of conversations with the Yaqui Indian shaman, Don Juan, Simon & Schuster, New York, 1971.

pecially if it represents the conventional, common-denominator, center-of-gravity stance. Exactly parallel to the danger of teaching a single reality is the peril of suppressing the right-hemisphere functioning, so badly needed to deal with today's intricacies and to restore the balance of the mind. Fostering alternative realities really means letting the mind entertain all possibilities and find its most expanded state of consciousness. The alternatives in means, methods, materials, and media, and especially symbolizations mentioned above, will allow different learners to utilize each other's partialities to forge impartiality, wholeness.

The shift in psychologies

The reign of behaviorism is clearly over. It lingers only as embalmed in some commercial and administrative circles. For some time it has been losing ground to the deeper insights of child development (Jean Piaget, Jerome Bruner, Heinz Werner), psycholinguistics (Roger Brown, Noam Chomsky), neurophysiology (Wilder Penfield),[8] Gestalt or holistic psychology, the psychologies called humanistic or transpersonal that focus on the highest human capacities and follow such exponents as Carl Rogers and Abraham Maslow, and finally the various dynamic and interactive psychotherapies aiming beyond mere coping to liberation and even bliss. Checked momentarily during the '70s, these psychologies are becoming irresistible because they are obviously more accurate and fruitful than the simplistic stimulus–response psychology so dominant in this century. As a bloc these emphasize *innate capacity* and the possibility of indefinite evolution.

What these experts say runs counter to conventional education. To survive, schools will convert in the light of this new knowledge and in the light of old failures. This better understanding of how people learn makes clear that constant prodding, provoking, and manipulating are unnecessary (appearing so because students can find no motivation to work with particles) and retard learning. People are born learners. The greatest learning occurs spontaneously before school,[9] and before heavy acculturation and institutionalizing. Schools will improve in the '80s by de-institutionalizing.

Reading readiness. Government has clearly "bought" the evidence that preschool children are sensational learners and has espoused Early Childhood Education. Funding in this area may run counter, however, to another insight from these same psychologies, which is that forcing a certain *kind* of learning, before readiness, retards that learning. Forced instruction may even seem to succeed, as reading scores often appear to indicate for a while, but scores usually crumple. Or scores may hold but at a cost in

[8] *The Mystery of the Mind,* Wilder Penfield, Princeton University Press, Princeton, 1975.
[9] See *The First Three Years of Life,* Burton White, Prentice Hall, Englewood Cliffs, NJ, 1975.

total growth not worth the price. Piaget has always felt that Americans try too hard to speed up development that will occur anyway. Virtually all of the psychologies above would agree that verbal learning is pushed too soon in our schools, a condition that accounts in large measure for the swelling ranks of "remedial readers."

There seems little question that all youngsters would learn to read without stress if given time. It's not that hard, requires little intelligence, and can happen quickly when circumstances are personally right. But a first grade teacher today is considered negligent if she allows a child to pass to the second grade illiterate—or she may be accused of racial discrimination or of depriving the child of his "right to read." Many primary teachers will admit they force children, against their better judgment, but they have to cover themselves. An entrenched aspect of current education requires "grade-level" reading scores, a denial of individual differences.

By the '80s, this self-defeating pressure will perforce yield to the realities of learning. Primary teachers then will have to allow for some children becoming literate before entering school or early in school and for others becoming literate only by third or fifth grade. Now being rediscovered, Rudolph Steiner, founder of the international network of Waldorf schools based on his clairvoyant views of growth, recommended fifty years ago that literacy be deferred until around nine when, he said, the child's full consciousness of having an ego separate from the world readies him for the degree of conceptual objectification necessary for literacy to take well. Children build abstract conceptualization out of imagery based on physical experience. The proper and well-established order is from bodily enactment to pictures to abstract symbols. Pairing spoken words with written words is hardly developmental and *may* be learned early, but the *point* of it, meaning, is developmental.

Chanting while jumping rope, or singing words to music, represent excellent extensions of the nonverbal into the verbal. The Carl Orff and Shinichi Suzuki methods of teaching music to children claim to prepare for or foster other kinds of learning, including verbal/conceptual, and will increasingly influence primary education, along with Steiner, who emphasized not only a whole-soul approach but specific utilization of rhythms, music, and body movement to help teach language and math. We can expect music, rhythm, song, and dance to play a serious role in all of primary and elementary education in the future, not merely restoring the arts but undergirding more abstract learning.

Regulating one's own mind and body

Allied to these ascending psychologies, the "human potential" movement begun in the '60s will flower in the '80s, having in the interim picked up tremendous momentum from Eastern spiritual/physical disci-

plines, biofeedback, and autogenic techniques of self-regulation, and the acceptance by growing numbers of scientific and medical communities of the validity of psychic phenomena. All of these are already making their way into schools. With stunning force and rapidity, Eastern and Western methods of increasing mental and physical capacity beyond conventional norms are fusing into a major cultural force, as Alan Watts presaged a decade ago.[10] From the oriental martial arts; from Western physical and mental therapeutic techniques; from the practices of yoga, zen, sufism, and Amerindian shamanism; from commercial self-improvement courses like EST, Arica, and Silva Mind Control that synthesize the preceding techniques; and from scientific research in self-hypnosis, parapsychology, and neurophysiology has emerged an increasingly coherent methodology for teaching people of all ages how to live at their highest capacity—not merely personal capacity but even transpersonal. This teaching methodology begs for introduction into schools, and many public school teachers now are teaching forms of meditation and related exercises for relaxation, internal awareness, concentration, centering, balancing, and energizing.[11] These fundamental controls of mind and body underlie other learning, however academic. Consider just the role of attention in reading and math.

Psychic powers. For millennia yoga has calmly asserted that advanced practitioners achieve "supernatural" powers as a by-product of their spiritual discipline. Now the recent letting out of psychic phenomena from the closet, reduplicating tremendous interest in the subject by leading minds in the late nineteenth century, seems destined to convince people of the near future that they can learn to do far more with the mind and body than modern humankind has ever conceived. America's foremost psychic healer, Olga Worrell, has been published in the *Journal of the American Medical Association,* and the flourishing organizations for holistic healing or medicine, such as the Academy of Parapsychology and Medicine, are founded usually by physicians and assume invisible energy fields moving in and out of our bodies that mind can influence. The Stanford Research Institute research by Targ and Puthoff on psychics Uri Geller and Ingo Swann has been published in *Nature, the* journal for announcing scientific discovery. The reality of psychic phenomena such as telepathy, clairvoyance, and psychokinesis has been acknowledged by many of the best minds of today, many of them scientists and other establishment figures.[12] Parapsychology has been gathered into the fold of the American Psychological Association—finally—after Gardiner Mur-

[10]*Psychotherapy East and West,* Pantheon Books, Random House, New York, 1969.

[11]A pioneering handbook for such teachers by two education professors is *The Centering Book,* Gay Hendricks and Russell Wills, Prentice Hall, Englewood Cliffs, N.J., 1975. George Leonard in *Education and Ecstasy,* Delacorte Press, New York, 1968, first pulled together these movements for education.

[12]See *Psychic Exploration,* edited by astronaut Edgar Mitchell, G. P. Putnam's Sons, New York, 1974.

phy had been proving in labs at Duke the existence of these phenomena for thirty or forty years. (As Einstein said, pursuing the physical always leads into the metaphysical.)

So-called *extra*sensory perception and *super*natural powers are being accepted as potentialities that everyone might manifest if the single reality of acculturation does not suppress the small child's belief that anything is possible, and if academic schooling does not break his initial attunement with the force fields in which he lives.[13] The years between the shedding of the teeth and the onset of puberty constitute the period of greatest susceptibility to hypnosis and of spontaneous psychic powers, of absorption in reading and of concrete intuition. Some children may well be seeing the auras or energy fields around other people.[14] Instead of being a slump period, ages 8 to 12 should see great spurts in adult-modeled competencies. The real job of primary schools may be to set this up.

Changing priorities. We know now that human beings can learn to regulate their own heart beat, respiration, brain waves, metabolism, skin temperature, mood, state of health, level of energy, state of mind, focus of mind, and state of consciousness. The real revolution in education, due for the '80s, will focus on the extension of the personal capacity to control one's own mind and body in relation to other people and force fields of our natural and manmade environment. The senior policy analyst of the U.S. Office of Education made a step in this direction in 1978 by promoting a series of papers and conferences on precisely the human-potential trends I have just described, including the exploration of extraordinary and "psychic" powers.[15] The value of such learning is obviously so great, approximating as it does the basic intent of all learning, that matters now held of great importance will be dropped, deferred, or played down. In this reordering of priorities we can well expect that literacy may not be an important objective of primary school, especially since it can be deferred with more chance of gain than loss. Most likely, instead of enjoying the spotlight, as now, language generally will play no more a role during primary school time than it does outside of school at that age of life.

An isomorphic alphabet

An important sociotechnical change that could come about during the '80s is worth mentioning, because, should it occur, it would also dras-

[13]In "Cosmic Consciousness," J. A. Christensen, *Media and Methods,* February 1975, the author suggests that educators take psychic power seriously and prepare to deal with it in schools.

[14]See James Peterson's article, "Extrasensory Abilities of Children, An Ignored Reality?" *Learning,* December 1976, and *The Boy Who Saw True,* Cyril Scott, A. Wheaton & Co., Exeter, England, 1953, 1961, a nineteenth-century diary by a child seeing auras.

[15]See "The Outer Limits of Human Educability—Proposed Research Program," an official paper presented by Jerry L. Fletcher, Senior Policy Analyst, Office of the Deputy Assistant Secretary for Education, Department of Health, Education, and Welfare, 200 Independence Ave., S.W., Room 317, Washington, D.C. 20201.

tically alter schooling as we know it. Fulfilling George Bernard Shaw's old recommendation, the English-speaking world might adopt an isomorphic alphabet (one-to-one correspondence between sounds and their spellings) just as it is now shifting to the metric system. Such adoption would reduce the problem of "basic skills"—literacy skills—to insignificance, since English spelling makes word attack and writing far harder to learn than, say, Italian or Turkish. Most European children learn to read and write a couple of years sooner than English-speaking children.

An isomorphic alphabet would make literacy easy enough that children could pick it up incidentally, with far less stress. This would free schools to shift gears upward into precisely the higher sorts of learning just discussed, instead of being hung up on a merely mechanical difficulty for years on end. Much school time now has to be expended on what amounts to remedial literacy, whatever the subject or grade.

The Unifon Alphabet, invented by John Malone, comprises forty symbols closely resembling conventional letters, and each standing for one phoneme. It could be used only for initial literacy learning, as a transition into the intricacies of actual English spelling, but few teachers consider a special learning alphabet as worthwhile. (The old Initial Teaching Alphabet never caught on, and its inventor, John Downey, now backs Malone, who claims only a few days of transition are needed.) Unlikely as it might seem at first thought, the English-speaking world may start to move this way during the '80s, in response to two main forces.

For one thing, more and more of the world is speaking English; it has already become virtually the international language. As a second language for different nations, it serves admirably, being not only the language of a major literature, but being inextricably interwoven into the world's political and commercial transactions. Second, great incentive is growing to create machines for typing recorded speech and for electronically sounding out a text—that is, for machine translating between voice and print. Such machines would require almost certainly an isomorphic alphabet. Add to this the advantage itself of lifting a great burden from public schools, and you have reasons to take seriously the possibility of spelling reform. Even if only begun in the '80s, it would force educators and the public to support higher kinds of learning to fill the large vacuum so created.

Recommendations

First, consider how TV differs from other school media resources. How does it compare with sound films, for example? One difference is that films are usually made for large-screen viewing, whereas TV relies a lot on close-up shots for small-screen viewing. But, more important, TV is *broadcast,* that is, controlled from a center outside the classroom. Allied to this concept of broadcasting is that of *programs* or *series,* of creating sequence or other continuity (setting, format, characterization, serial story)

from one "program" or film to another. But there is no exclusive connection between broadcasting and continuity across presentations, since movies as well as TV "programs" can be made in series. All that broadcasting accomplishes is to place the power to start and stop presentations outside the classroom. This does not ensure that programs will be utilized, because the teacher still retains the old right to switch sets off and on. In fact, by forcing on the classroom a time of viewing that may be unsuitable, broadcasting risks reducing viewership.

Recent technology

Recent technological advances make possible a flexible classroom control such that presentations could be not only started and stopped at the class's convenience, but also interrupted, resumed, and rerun at will. Video cassettes enable a classroom to manipulate TV programs as they would films. The only difference is that the programs are on videotape, played in the form of cassettes through a regular TV monitor of the same sort used for broadcasting. Any forecast of the '80s should assume that video cassette players will be available in schools and probably also that they and the monitors will accommodate color. One advantage of classroom control over broadcasting is that the staggered hours of viewing permit teachers to pass around a limited quantity of machines and hence render unnecessary a set for each classroom. Actually, a more likely and more attractive forecast would be to expect that video cassettes will be replaced in the '80s by disks played by laser beams (which Music Corporation of America and other companies already have). Laser disks are cheaper to produce, easier to stop and start, and better wearing than video cassettes.

Classroom control

Programs could be reproduced on either cassette or disk. What is essential is that programs so shown be conceived at the outset to utilize classroom control. No advantage would accrue if programs were not made to be interrupted, for example, so a class could do an activity in direct response to what it had just viewed. The key assumption underlying classroom control is that students will take action as an immediate result of what they see. Programming produced deliberately for variable interrupting and for optional replay or for ad hoc viewing by a subgroup of a class differs from programming for continuous, one-shot, whole-class, prescheduled viewing. Classroom control better implements the individualization, interaction, and integration required for an improved curriculum.

Reproducing and rebroadcasting. One difference between the cassette/disk and regular school films lies in how the master is reproduced. Although made for classroom control, future programs *might* be broadcast once

throughout a district, say, in order to permit schools to record copies that henceforth could be used like any other AV materials. Or other local means of reproducing may well offer themselves as technology develops during the '80s. In any case, what the distributing agency distributes is a *master made for reproduction.* As it is currently, some school and district offices make illegal copies of commercial audio cassettes, videotapes, and films. Programs produced by a nonprofit organization can build into their whole design an arrangement for legal local reproduction.

The more TV resorts to reruns, as *Sesame Street* and *Electric Company* have understandably done, the more TV broadcasting resembles film rental. Rerunning takes distribution in the direction of local control, since after an initial broadcast some of the target audience will have seen the program and some will not. Within school districts, programs are often transferred to videotape to facilitate rerunning. Periodic rebroadcast helps to give classrooms more choice of viewing time but obviously limits choices far more than classroom control does and does not allow variable interrupting and instant replay. Well-made ITV programs should be made available for viewing many times over a year and over several years, but rebroadcasting cannot satisfactorily answer this need.

Programming for classroom control clearly furthers two significant trends gaining ground for good reasons—local reproduction of, and rebroadcasting of, remotely produced materials. Since classroom control furthers so well also the desirable traits of a good future curriculum, a sound conclusion seems to be that ITV should become materially like other AV resources stocked in the classroom or resource center.

Casting off broadcasting

It is very fitting that the *tele-* or broadcasting aspect of ITV should be eliminated. As we have pointed out, the most damaging criticism of the medium is that it renders viewers passive in a negative sense. This criticism hurts worst because high-quality programming cannot offset it and could in fact increase dependency and passivity. Doesn't the broadcasting of remotely produced programs risk contradicting the educational ideal of an active, questing intelligence, if we consider that it will be added to home viewing of commercial programming? Certainly, well-designed informative programs can supply food for thought and stimulate further questing, but *any* one-way transmission puts the learner in a receiving posture. Still, cannot "high quality" programming be defined, precisely, as that which stimulates viewers to interact with things or other people? It can probably—if broadcasting is eliminated and if remote programming offsets its disadvantages by building in flexible classroom usage.

Interaction in learning requires the other two i's—individualization and integration. The right stimulus has to be available at the right time for the right pupils. Let's say that improvisational dialogue is modeled on

screen by peer performers for viewers to emulate. The program needs to be interrupted right then, resumed only when viewers have finished their own improvisations, rerun immediately if some viewers need that, and shown in the first place only to those members of the class ready for it. Local selection and timing need not conflict, however, with the concept of a *series* of presentations. The model improvisation, for example, could be one of a sequence of demonstrations by a group of children and a teacher who become known to the viewers and could be presented in a recurring setting with familiar sound effects, and so on.

The real value of ITV resides not in broadcasting but in the simultaneous presentation of sight and sound. It would influence education best at this point by showing through programming precedents how to produce school AV materials that will promote the most needed curriculum. As a medium TV fails precisely where schools do also. Both tend to be overbearing and induce inertia within. We do not need better ways of doing what is already overdone. One-way transmission naturally emphasizes the merely informational aspect of learning and hence imprinting or memorization, whereas more important learning consists of developing abilities to *do* things. What remote programming *can* do well is show viewers how to get into learning interactions not commonly practiced in schools for the very reason that their interactive nature makes them harder to demonstrate and direct through bookish media and harder also for school institutionalism generally to tolerate. Viewers should alternate watching and doing. If schools are to use TV wisely they must not merely accept it passively themselves, as employed commercially, but make it serve as needed. This means eliminating broadcasting so as to deepen programming potential.

Modular packaging

Disks/cassettes need not be of a uniform length when broadcasting and hence scheduling are not an issue. Furthermore, the variety of content that in traditional broadcasting has been placed on one videotape may as well be broken down and spread over separate disks/cassettes so that each portion can be most feasibly matched off with the appropriate students. The more modular, the more flexible.

What in the past was a variety show of, say, a half-hour, comprising some story, some animation of letters and words, and some documentary, would in the future be produced as separate materials, for the sake of individualization. Different learners might in this way view different portions of the former variety show, usually in small groups, or view the same portions but at different, more appropriate times. Some students, for example, might benefit from collaborative writing of limericks but not from choral reading aimed at literacy. Others might need the literacy reinforcement but not be ready for the collaborative writing. If physically

separated, these and other portions could be used simultaneously, if desired, by the different working parties, or, playing another option, used in mixture with other materials at various times. Furthermore, some footage that might formerly have been locked into the entire variety show can now be produced by itself in a form for instant replaying so that any subgroup can rerun it—to listen and watch at first, read aloud or sing along a second time, turn off and replace the sound track with their own voices. Teaching literacy through animated letters and words can work wonders, but if this approach does not accommodate individualization and rerunning, it should not be included in programming because no classroom contains members coinciding so specifically in readiness for certain sound-spellings, and good use of the screen-as-page technique would have to include easy replay in film-loop fashion. Such animation goes too fast to absorb all on one viewing. Material could be repeated throughout a longer program, but it is cheaper and more interactive to let viewers do the repeating by rerunning.

Content of programming

For primary school language-learning, three domains of content are open. First, there is the world of things, the nonverbal world, about which people form concepts, ask questions, make statements—in short, think and talk. TV can be a very effective source of information to extend experience undersea and overseas, into nature, into town, and so on, to enlarge what can be thought and talked about. Much of so-called "reading readiness" consists of expanding children's world of experience. Without this base, speech means little.

Directly based on this nonverbal world, and immediately underlying reading and writing, is the world of people talking to each other, the uses of oral language, by means of which everyone learns not only the speech sounds and basic vocabulary but also the grammar for putting the sounds and words together into utterances and the most effective ways to express oneself. Children talk outside of school, true, but they usually learn today a very limited language and limited *uses* of language. (And they spend five to six hours a day before a TV set.) They especially need to learn *more ways of interacting vocally* that they may not learn outside of school on their own. They should practice language not only for play and for socializing but also for problem solving, for giving directions, for expressing themselves, for communicating ideas, and for collaborating to develop thought.

Finally there is the world of print. Besides literacy itself—the audio-visual matching of speech with print—there are all the things that can be found to read—labels and captions, stories, facts, games, signs, directions, etc. Undergirded by the nonverbal and vocal worlds, the world of print caps a rich layering of content possibilities.

A strategy for selecting. As a matter of strategy, ITV programming for the

primary level should allow for what schools are likely to have and to do already in these areas of learning. ITV can serve most usefully by balancing existing school programs. What schools most readily provide on their own are factual things like the spellings of the language sounds (phonics), the names for things (vocabulary), a body of reading matter (mostly environmental labels and stories, in primary), and perhaps some stimuli for story telling and writing. What schools provide less readily are means for developing oral language in small groups (discussion and improvisation), peer collaboration in reading and writing, reading along with *shown-and-sounded* texts, a wide spectrum of reading and writing opportunities stimulated by interweaving the language arts with other arts, other media, and other subjects.

There seems no limit but maturity level and money to the amount of factual or fictional content that could be dramatized and depicted for children to think, talk, and write about. But again, ITV producers can select according to what schools lack most. Many fine films of stories and nature exist. What is rarer are programs specially designed to invite extension by the audience—the incomplete story to finish, for example, or the factual depiction that raises questions for discussion or further investigation.

A kind of in-service training. The strategy of emphasizing what schools tend to do least conveys an additional benefit: it affords teachers a subtle but very effective in-service training. While pupils are viewing a trio of peer demonstrators read and write puns or tongue twisters together, following instructions on an activity card or poster and only occasionally consulting with their teacher, the local classroom teacher can see not only that such an activity so managed is possible but how it can be set up by means of an activity card (perhaps supplied with the disk/cassette), small grouping, and a teacher role as roving consultant. *Why* tongue twisters are worth working with can also become clearer as the teacher witnesses children making the sound-spelling discriminations that phonics programs aim to teach. While a teacher on screen is talking viewers step-by-step through a dramatic exercise, the classroom teacher gains a model for his or her action.

Most teachers need such concrete demonstration of the *how* and *why* of small-group, interactive, oral-language, learning-game, or dramatic activities because spontaneous activity by pupils is hard to manage, justify, and evaluate within the confines of a conventional curriculum. There is no doubt, however, that such high participation teaches more. Whereas educational manufacturers and teacher training institutions generally partake too much of the conventional curriculum to revise it, independent ITV could break the cycle and get much-needed activities into the classroom, partly by getting them into the minds of teachers. So one important principle of selection in programming might well concern in-service by indirection.

Three suggested kinds of programming

Three general kinds of programs could be combined for primary school. Although several or all could be spliced together to form a variety-type show, if produced as physically separate disks/cassettes they would usually, as argued above, facilitate greater flexibility.

1. *Demonstrating desired activities.* Peers or elders model certain activities, usually interactive, that deserve greater currency in schools than is generally accorded them, such as small-group show-and-tell with peer questioning and without a leader[16]; task talk and topic talk in small groups, playing of cards and other games for learning phonics or vocabulary or sentence structure; enactment of familiar stories from memory; improvisation of dialogue and action from a bare story idea or situation; partner reading (taking turns in duos and trios reading aloud a common text without the teacher); collective writing with a scribe; dictating stories to a more advanced student or adult aide, then reading back the dictation; talking into a tape recorder with a partner and transcribing later; working up a rehearsed reading of a text to perform for others or a Story Theater performance; pantomiming; choral reading or group singing; and so on.

After watching these activities modeled on screen, viewers turn off the set and follow suit. Sometimes, however, the on-screen teacher may talk the viewers through an activity, such as guided fantasy, or tell a story for viewers to pantomime step by step or make a series of provocative sounds for viewers to move to. Sometimes the camera shows pupils demonstrating the activity, then focuses on the teacher directing viewers to do the same thing.

2. *The screen as page.* Letters, single words, sentences, tongue twisters, puns, whole stories, songs, appear on screen as they are vocalized on the sound track. Panning up or to the side, flashing, and a bouncing-ball type of indicator are used to help viewers synchronize spellings with sounds. Spellings of short and long vowels may be introduced in isolation but consonants only in combination with vowels. No alphabetical names. And any isolated phoneme spellings or syllables are soon blended into others to make words, which are ordered into sentences. Various animation techniques such as simulation of a slot machine can transform one word into another by substituting, adding, deleting, or reversing letters while the results of each transformation are sounded.

Machinery for easy replay by small children is important, for individuals vary in both absorption rate and sound-letter knowledge. Also, on a second or third viewing children might join with the sound track and

[16]For a clear example of this very activity as it might be modeled, at third grade, see "Do and Talk," one of eighteen such films constituting the *English through Interaction* series in the *Interaction* language arts and reading program, senior author James Moffett, Houghton Mifflin Co., Boston, 1973. Also in that series, "A Pupil-Centered Classroom" shows first-graders following a curriculum such as that proposed in this article.

practice read-along or sing-along. On later viewings, children can turn off the sound track and sound the on-screen words themselves.

Music can be well used to enliven such programs and to synchronize viewers' voices with each other and with the printed words. Notes and beats provide additional cues and bring out stress and syllabification. Songs make for a fine read-along, join-in activity. They may teach literacy better than anything else.

Since children vary a great deal in which sound-spellings they need introduction to or occasions to practice with, these disks/cassettes would most often be shown to subgroups of a class, as explained earlier, different pupils skipping or repeating as needed. Such programs could form a series less and less phonetically controlled and employing increasingly uncommon spellings and words and punctuations, but from the outset some balance should be kept between the showing of isolated spellings and words and of whole sentences and sentence continuities. Small focus should never last long. Fine material for whole continuities of words are jokes and puns, tongue twisters, jump-rope jingles, and nursery rhymes, in addition to short poems, songs, and stories.

It is not recommended to show on screen at once both animated letters and the competing action of human, puppet, or cartoon hosts, as *Electric Company* sometimes does. It seems better to focus attention without distraction on the adding, deleting, reversing, and replacing of letters and on the *meaning* of what is being spelled out in word strings and continuities of sentences. The mind should be directed to and *through* words to the referents of the words. Sometimes the referents—objects, characters, settings—may be illustrated motionless, at the same time the words appear, as in story books, but essentially viewers should become accustomed to picturing referents in the *mind*'s eye and to finding interest not in what they see around words but in what the words say. TV is accused, precisely, of robbing viewers of the incentive to imagine for themselves. Animate the words, not the illustrations, when presenting both at once, so that language does not get up-staged just when it is barely making it *on-stage.*[17]

3. *Material for viewers to extend.* Stories may be dramatized and information depicted in such ways that viewers can finish them, refashion them, or detail them themselves. This kind of programming furnishes fodder for children to think, talk, read, and write about; to act out; to cast into

[17]See Caleb Gattegno's *Toward a Visual Culture* for the full description and rationale of teaching literacy through sound films of animated letters and words, and see his film series *Pop Up* implementing his ideas, both from Educational Solutions, New York. *Pop Up* consists of eighteen one-minute lessons on super-8 cassette or 16 mm reel.

See also in the *Interaction* Literacy Kit the super-8 cassette series of thirty-four 2- to 3-minute films *Sound Out,* Bobby Seifert and James Moffett, Houghton Mifflin, Boston.

Both these series show animated letters and words, without other visuals. Emphasis is on using animation to show transformations of one word into another and to build syllables and words into sentences. *Sound Out* also teaches punctuation and capitalization.

other media; or to research further. It is a source, too, of concepts and vocabulary, providing proper pronunciation and contextual, pictorial definitions of new words, whether material is make-believe or scientific. The audio can carry voice-over, dialogue, or sound effects and can feed in mature sentence structure, happy phrasing, metaphors, and, in conjunction with the visuals, good rhetorical devices for narrative and exposition. These dramatizations and factual presentations employ live actors, puppets, cartoons, three-dimensional animation, or realistic photography of objects and nature. Viewers can stop a story to act out, tell, or write their own ending, or guess the next part then resume the show to compare their own version with the program's, or simply discuss what they understand or don't understand so far. The program itself could sometimes offer several versions of the same story, or alternative endings, to induce a sense of point of view and creative possibilities or to place what happened against the background of what might have happened. This open-endedness can in turn be related to oral storytelling and folk-type variations of well-known tales.

Not only different courses of action but different *styles* of storytelling can be offered and fostered. The same set of visuals can be reshown with different narration or dialogue that either changes the action or recasts the language into another dialect or style. Or the same narration or dialogue can be resounded with different visuals. The video channel can be blanked to allow viewers to visualize the action for themselves. Or the audio can be silenced to allow the audience to make up narration/dialogue. (Thus we use one channel to focus on another.) This will act as priming for children's own writing or telling of stories. A story may begin with live actors or a storyteller and continue with puppets or cartoons or clay animation, to encourage viewers to take a story and put it into another medium. Or it may consist of a series of stills held long enough to give viewers time to make up intervening action.

Interrupting factual presentations such as a documentary on a bee colony or a lapse-photography sequence on the growth of a plant allows viewers to ask questions about what they don't understand, to recapitulate collectively what they *do* understand, and to tease out implications from what *is* shown of what is *not* shown. As with stories, viewers can attempt to predict from what they *have* seen so far of an activity what they *will* see. Then the show can be resumed. For difficulties in comprehension, or to resolve some uncertain or disputed matter, footage can be rerun. When viewers' predictions differ from what they witness once the program is resumed, they can discuss what this difference means with factual material as compared with alternative endings to fictional stories.

Interrupting stories and documentaries should help make children more critical viewers of commercial television, especially if questioning and discussion occur. Merely calling them back to themselves from time

to time during a presentation should induce some detachment. The value of interrupting and discussing will surely be enhanced by mixed-age viewing, because the multiplicity of viewpoints will be richer, and children of greater maturity can influence the younger. It is just such enriched possibilities that argue for heterogeneity in classes or pools.

Special techniques. Both #1 and #2 types of programming just listed can utilize such techniques as:

- Show sentence, then sound it, then show the action it states (vocalizing the sentence again as it is acted out).
- Show a "title card" before or after the action it states comes on the screen, as in old silent movies. Alternate title cards (or narration/dialogue) with action. Use audio for sound effects only.
- Move camera in and out of book pages to catch both text and illustration, then move over details of illustrations (but not often while text is being sounded).
- Show stills of illustrations, then animate the illustrations.
- Sometimes use children's own stories and illustrations.
- Use chorus sometimes to read texts on the sound track in order to demonstrate choral reading and invite viewers to join in, breaking chorus into subgroups for different voices, phases, moods, etc.
- Use voices of nonstandard dialects sometimes, not only when the text is in dialect but sometimes even when the text is in standard English, so that nonstandard speakers can identify with the texts and standard speakers can taste the variety of their language.

Accompanying software. Most of the recommended programming would yield best results if accompanied by software along these lines:

- For programming #1, illustrated activity cards bearing directions for the activities demonstrated, written and illustrated for pupils to follow collectively with some help from the teacher or an aide, one card per activity (i.e., per working party), including directions for making and playing in small groups the card and board games for phonics, vocabulary, sentence structure, and logic.
- For programming #1, a teacher's manual describing how to form and handle small working parties, how to set in motion an activity-card system cross-referenced to books and other materials, and how to keep records of what language experiences individuals are accumulating.[18] This manual might include sample verbatim scripts for tak-

[18]See the teacher's manual for *Interaction,* Houghton Mifflin, Boston, 1973, and for *Student-Centered Language Arts and Reading,* James Moffett and Betty Jane Wagner, Houghton Mifflin, Boston, 1976. Both contain detailed descriptions for setting up and operating a classroom incorporating all of the activities and approaches proposed in this chapter. Many of the activity cards in *Interaction* could serve, in effect, as "treatment outlines" for programs ("level one," for primary school).

ing children step by step through guided fantasy, concentration or relaxation experiences, or stories to be pantomimed by a group in unison.

- For #2, printed booklets (half a dozen only, enough for a working party) transferring texts from screen to paper, including musical notation so teacher can help children recall tunes if need be.
- For #3, activity cards and/or manual for making best use of unfinished or variant stories and extending of factual presentations through interrupting, rerunning, and following up. An issue here is how much the teacher and how much the pupils will control the program screening and the interim activities. This function could pass increasingly from teacher to pupils, with the help of activity cards to remind pupils of what they can do and how to go about it.

Final reminders

Some good footage exists already in all three categories of programming that might be sought before producing new. It would most likely have to be transferred to newer formats, but the modular disks/cassettes proposed herein would facilitate utilization of, say, animated-letter footage, footage of modeled activities, or footage of stories and documentaries that would serve for some of #3 when put into interruptible format. On the other hand, since most TV and film footage does not assume immediate audience interaction, much would have to be produced fresh.

Consistency and familiarity are important for children. They like to feel at home, to recognize elements recurring from one presentation to another. But this can be effected in many ways without always having a central locale or hosting character(s). The three programming types outlined above can have continuity of form and content, human and other, across programs: recurring teacher and pupils demonstrating model activities for #1; the same book cover opening to different texts within for the screen-as-book approach of #2 or to introduce stories in #2; repeated melodies with different lyrics for #2; recurring animation techniques such as slot machine or typewriter or clay coiling for #2; the open-ended or variant-version aspect of #3; perhaps a familiar marker in #3 programs to suggest useful or suspenseful interrupting places; recurring visual and auditory motifs such as theme songs and logos; and so on.

Finally, the very effort to plan around language as a singled-out subject, and especially to feature "essential skills" of language, can constitute a serious hazard. In practice, producers should probably expect (1) to allot substantial programming to nonverbal activities like art and music and drama that either accompany language during primary or that merely set up language-learning later; (2) to emphasize *oral* language, both for its

own sake and for literacy readiness; and (3) to handle literacy only as a *possibility,* not a *necessity,* for primary pupils, keeping it in its place among other burgeoning learning. A strong emphasis on chanting and singing—sometimes while doing other physical action, sometimes while viewing the words—is most recommended.

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