5 / Using Television to Overcome Educational Disadvantage

Television is, in certain respects, an intrinsically democratic medium. Within the United States and other developed countries, it is democratic in that it reduces the advantage possessed by middle-class people in the world of schools and books. On a global scale, it is democratic because it can help alleviate the problems of educational development in the Third World. If knowledge is power, television, because of its psychological and material accessibility, has the potential to help redistribute this power more widely in society and among societies, particularly through its use in the educational system. (This potential is rather independent of the fact that, in other respects, notably the control of the medium, television is elitist rather than democratic.)[1] This potential to spread education grows out of the way the medium can, at its best, be made to fit both the nature of its subject matter and the minds of its audience.

With Jessica Beagles-Roos, I did some research involving children aged six to ten from four different groups: middle-class white, middle-class black, working-class white, and working-class black. Each child watched an animated, narrated story on a TV monitor; at a different time, the child heard another story played on a cassette player/radio. Right after seeing or hearing each story,

the child was tested for comprehension and memory.

The results can throw light on the role of television in education, because the radio presentation is similar to what happens in the classroom: the child hears the teacher lecture or have exchanges with other children. Like a radio presentation, the classroom stimulus is basically a verbal one. The television presentation adds dynamic visual illustration.

Television led to more overall learning of the stories than did radio, whether learning was measured by verbal or visual knowledge. Some of our learning measures showed no class or ethnic differences; a few did, with differences favoring the groups that generally do better in school-related tasks of all kinds. That is, middle-class children of both ethnic groups learned better from television than working-class children; white children of both classes learned better from radio than black. But the class and ethnic differences were far smaller than the differences between the two media. The average working-class child learned much more from a television presentation than the average middle-class child did from a radio presentation, and the average black child learned more from a television presentation than the average white child did from a radio presentation.

The medium of television did not erase class or ethnic differences. But to the extent that, in education, we are interested in skill levels rather than group comparisons (and I firmly believe that skill level is what counts), these results have important implications. They suggest that television can raise the level of learning in all groups to above what it is in *any* group without the medium.

SESAME STREET AND THE DISADVANTAGED

Over the years, there has been debate about whether *Sesame Street* closes the gap between disadvantaged and

advantaged preschool children. The conclusion is that it does not close this gap, either in the United States or in Israel. This is understandable: we cannot expect a TV show to eliminate a knowledge gap created by many forces in society. However, what is important about *Sesame Street* in the United States (and in Australia and Israel as well) is that disadvantaged groups do learn what is taught on the show, and that they learn more if they watch more. They also learn best the skills that receive the most time and attention on the show. In other words, learning is proportional to exposure to *Sesame Street*.[2]

There is a lot more equality between children of different ethnic and socioeconomic groups in their response to *Sesame Street* than in their response to schools. In the United States in 1973, more than 90 percent of inner-city preschool children were watching *Sesame Street* in cities where it was broadcast on a commercial channel.[3] Thus, the program was not viewed more by middle-class children than by poor, urban children. Disadvantaged groups have, in contrast, relatively high dropout and truancy rates from school. As a group of *Sesame Street* researchers put it, "Although the classroom may be an uncomfortable place for many children, particularly those who have not come from middle-class homes, television is part of the child's own turf."[4]

The point here is not, of course, that children from the disadvantaged groups in a society have a lesser ability to learn from print or other media in school. Rather, it is that they have fewer opportunities in their backgrounds for experience with books and with school-like situations and so they are at a disadvantage in classrooms oriented toward reading and lectures. In contrast, their backgrounds, at least in industrialized countries like the United States and Britain, may provide an advantage in learning from television because of greater

exposure and more favorable attitudes at home toward the medium.

THE ELECTRIC COMPANY: TEACHING READING

The Electric Company is an example of how television can reach children who have not succeeded in school. It accomplishes this goal by systematically using features that are unique to television. The show was created in 1971 by the Children's Television Workshop as an experiment in using television to teach reading skills to second-, third-, and fourth-grade children who were having difficulty in learning to read in school. Like *Sesame Street*, the show attracted a large audience: at one point, the audience was estimated at about eleven million and the program was used in 35 percent of all elementary schools in the United States. Watching *The Electric Company* improved a wide variety of reading skills. It was particularly effective with beginning readers (first graders) and with second graders who scored in the lower half of their grade on standard reading tests. All groups, black and white, Spanish-speaking and English-speaking, benefited equally from the program. Thus, *The Electric Company* demonstrates the egalitarian nature of television and its ability to provide educational help selectively to those most in need.[5]

Many features undoubtedly contribute to the success of *The Electric Company*: the medium of television is second nature to its audience; the show presents children from many cultural backgrounds; it is set in an urban street scene familiar to many disadvantaged children; it uses rock music; it has humor. In addition, the show uses forms unique to television (or film) to present concretely and directly difficult reading concepts that a teacher using print can present only abstractly and indirectly.

One of the most difficult tasks in beginning reading is blending the sounds of individual letters into larger units such as complete words. *The Electric Company* has successfully taught this skill.[6] Through the use of visual movement and synchronized voice, the show has graphically modeled the blending process. In one such segment, two featureless profiles are face to face a short distance apart on the screen. (Profiles are used because research showed that facial features distract children's attention away from letters.) The character on the left pronounces, with slightly exaggerated lip movements, the first element of a word, for example "ch." As it is pronounced, the letters *ch* appear to emerge from the character's mouth and move to the lower middle of the screen. (Exaggerated lip movement is used because it attracts visual attention to the place where the print will emerge.) The routine is then repeated, with the last half of the word, perhaps "ip," emerging from the mouth of the character on the right. Finally, the two print elements slide together to form a single unit, "chip," as that unit is pronounced by the two actors in unison. In teaching blends it is important to make clear what letters are being pronounced when. Television can do this easily. Making letters brighter, expanding them, wiggling them, or making them jump, just at the moment when they are being pronounced, makes it likely that the child will associate the right sound with the right letter in the blend.[7]

These techniques have two important characteristics. First, the dynamic visual quality of television models an "invisible" aspect of reading, blending, that is difficult to describe or to illustrate with static materials. Thus, the dynamic visual forms of television fit the mental operations that constitute the process of reading. I believe that this fit is a key part of what makes television a good teaching tool.

The second characteristic is the use of movement to direct attention. For example, the moving lips bring children's attention to the mouth. In directing the child's visual attention, the show puts into practice the principle that attention is a prerequisite for comprehension and learning.[8] Thus, the techniques used in *The Electric Company* involve a careful match between the desired mental processes and the forms used to elicit them. One reason why *The Electric Company* succeeds where schools fail is that the forms of television can create a much closer match to the mental processes of beginning reading than conventional methods ever could.

TELEVISION, INTERACTION WITH AN ADULT, AND THE KNOWLEDGE GAP

A pervasive finding in television research is that the effects of television programs on knowledge are stronger if an adult interacts with the child during the viewing process. The adult can encourage the child to pay attention, can make interpretations, and can explain things the child finds incomprehensible. Watching with the child is not enough; it is crucial to talk about the show being watched.[9] In fact, research on *Sesame Street* in both the United States and Israel indicates that, to a great extent, the gap in learning between disadvantaged and advantaged children closes if the disadvantaged children have an adult to watch and discuss the programs with them[10]

While this type of discussion with an adult can happen at home, an adult is not always available. At school, in contrast, the teacher is always available for this role. This suggests that bringing high-quality, attractive educational television into the classroom and integrating it into classroom discussion might significantly reduce

the educational gaps between advantaged and disadvantaged children.

TELEVISION AND EDUCATION IN NIGER

Some Third World countries have used television to bring education to children whose parents lacked either formal education or literacy. These experiences demonstrate that television can be effective as the primary means of education in situations where not just certain groups, but the overwhelming majority of the population is "educationally disadvantaged" from the point of view of formal education.

The most dramatic example is Téléniger in the country of Niger, which started in 1964. Through television, Téléniger brought the first five grades to children who not only were "educationally disadvantaged" but did not even speak the language of the school, which was French. Another disadvantage was the absence of trained teachers.[11]

Téléniger avoided the trap of making the form of an earlier medium the content of the newer one: it did not use television to present teachers giving televised lectures. Instead, the project broke new ground in trying to use all the techniques special to the medium of television. For example, much was taught through dramatic skits, often set in traditional villages similar to the children's own.

In the area of language teaching, Téléniger took advantage of television's ability to present not only "talk" but also the visible context that made the talk meaningful. For example, an object would be presented on the screen and then named. Later, the image would be removed, and the child would be asked to remember the meaning of the word. This method contrasts with the

more usual language instruction in which what is being talked about is not present and must be evoked by translation—a relatively ineffective method of teaching a second language.

Téléniger also designed formats so as to encourage participation. A motto was "Children are more *actors* than spectators."

Teaching French was central to education in Niger because it was both a foreign language (the language of Niger's colonizers) and the language of instruction. Therefore, the results in the study of French were particularly important. Anecdotally, it is reported that French visitors to Niger were surprised at how well the children were speaking after only two or three years. The children scored well on standardized tests in all subjects (all given in French). In addition, there was an absence of being held back to repeat a grade level, generally a rather pervasive feature of the French educational system, even in France; pupils became very attached to the school, even coming when the teacher was absent; and the time necessary to pass the test for the standardized elementary school certificate was reduced from six to five years. And all of this was done without trained teachers, using people who had only an elementary education themselves plus three months of special training for the project.

The teachers' job was not primarily to lecture (which they could not have done, probably, without more training), but to help the children understand the TV screen and to encourage the children to talk about the program. The children were also encouraged to respond even more actively, for example by acting out skits based on what they had seen in the show. This is particularly interesting in light of the fact that research has indicated (for example in Colombia) that the combination of television with a more involving student activity like discussion is

more effective for learning than television plus lecture. Thus, the absence of trained teachers may actually have been an advantage to the project because it required more active student participation in the learning process. The importance of active participation by students comes up again and again in the results of research into the educational use of media.

The example of Téléniger shows the immense potential of television for overcoming educational disadvantage. Clearly this potential applies to educational development in the Third World, as well as to children from less advantaged groups within the industrialized countries.

CULTURAL COMPATIBILITY

While television's appeal and ability to communicate may be universal, the style and content of programming need to be adapted to individual cultures. Sometimes a program format that is successful in one culture will not work in another. This happened when a Spanish version of *Sesame Street* was tried out in Mexico. About half of each program was locally produced, with characters, settings, and speech indigenous to Central and South America, if not specifically to Mexico. When the show was tested in Mexico City, children from very poor families learned from it, as they did in the United States.[12] But when the show was tested in rural areas, it failed to achieve its learning goals. As Hilde Himmelweit puts it, "The rapid change of scenes and characters, designed to hold the attention of American city children, proved distracting to Mexican children used to a slower, less jerky rhythm of life."[13]

The universality of the medium should not be an excuse for a new form of cultural imperialism in which the television "haves" indiscriminately distribute their pro-

gramming around the world. The television "have nots" need also to consider the cultural suitability of programs that are for sale to their countries.

An important feature of television is its broad accessibility. Children develop basic television literacy by simply watching television; no one needs to be taught to "read" television's symbolic code. In addition, the hardware of television is inexpensive enough to be available on a mass scale. Evidence from different subcultures and countries shows that children who are at an educational disadvantage in the world of lectures and books do not have this same disadvantage when it comes to learning from television. Properly used, the medium of television could do much to raise both the minimum and the average levels of education in the industrialized countries and the Third World alike.

Up to now, I have not mentioned the artistic quality and production values of television programs. In addition to good educational design, a program's aesthetic and creative qualities are undoubtedly important to its educational success. An attempt at educational reform using television in El Salvador had variable results depending mainly on the quality of particular programs.[14] Although it is difficult to measure such intangibles as artistic quality, it is important to keep in mind that television is an art as well as a technology. The full exploitation of television's educational potential must depend on using the art, as well as on knowing the technology, the child, the culture, and the subject matter.