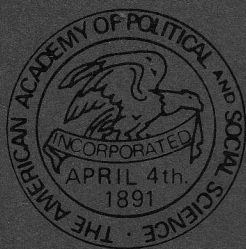


THE ANNALS

OF THE AMERICAN ACADEMY OF
POLITICAL AND SOCIAL SCIENCE

Electronic Links for Learning

Special Editors: VIVIAN M. HORNER
LINDA G. ROBERTS



March 1991

THE ANNALS

*of The American Academy of Political
and Social Science*

RICHARD D. LAMBERT, *Editor*
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ELECTRONIC LINKS FOR LEARNING

Special Editors of this Volume

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THE ANNALS

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Why Distance Education?

By JASON OHLER

ABSTRACT: This article is concerned with these two aspects of distance education: how it can change our approach to learning and how it can change us. Through the eyes of its potential we can navigate the long journey of addressing some of the educational problems that have plagued us since *Sputnik* and that have increasingly turned the American public into a group cynical about its own value in the world. At the same time, we can see in it our evolution toward a culture whose values, organizational principles, and sense of what it means to be educated and prepared for the tasks of living are undergoing a transformation at the most fundamental levels.

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services will undoubtedly require a strong federal role. In the past, federal funding for distance learning has been modest, and it has come from several diverse programs.²¹ Often, telecommunications and distance learning have been peripheral components of these programs, not targeted goals. In this sense, the development of a telecommunications infrastructure for distance learning must be identified as a major goal in federal education policy. This will require political support and a commitment of new funds or the reallocation of existing funds to develop both the infrastructure and distance-learning services.

Optimism about the potential of a telecommunications highway for distance learning must be tempered by the realities of the political and economic climate. In many ways, the early 1990s are a déjà vu experience for those who were involved in the education policy debates of the early 1980s. Following the Office of Technology Assessment's 1982 report, *Information Technology and Its Impact on American Education*, and the publication of *A Nation At Risk* in 1983,²² there was a similar campaign to enlist telecommunications technology and distance learning to revitalize American education. At the federal level, however, political support did not materialize.

21. Office of Technology Assessment, *Linking for Learning*, p. 15.

22. National Commission on Excellence in Education, *A Nation at Risk* (Washington, DC: Department of Education, 1983).

PLATO AT THE KEYBOARD

There is a danger far worse than losing the battle for political support of distance learning, and that is that the education community might win support but be forced to set their sights too low. Much discussion about the problems in American education raises inevitable comparisons with education in Japan and Korea. The Japanese and Korean systems are excellent in rote learning and the development of basic verbal and quantitative skills, but they are weak in higher education, particularly at the graduate level, and do not foster a critical examination of existing knowledge, that is, creativity and discovery. These are shortcomings that those countries acknowledge and are trying to reform.

Some proponents of educational technology see it as a way to bring the U.S. education system on a par with Japanese education. Indeed, educational technology can help in rote learning and in developing basic verbal or quantitative skills. If this is our only goal, however, our sights are far too low. Plato argued that education should foster a critical examination of existing knowledge. This is how we advance knowledge and discover new ideas or scientific principles. Telecommunications technology can support basic skill development and the critical examination of existing knowledge that leads to discovery. The former is necessary to compete in the information age of the next century. The latter is necessary to excel.

A television interview with former Secretary of Education Lauro Cavazos¹ revealed him to be another in a long line of sincere, intelligent, dedicated leaders, passionately committed to creating schools that honor a child's right to be educated to his or her fullest potential. Also like his predecessors, he believed that America is a nation dangerously at risk, with an often mediocre and sometimes deplorable education system that precludes students from realizing their fullest potentials. He, too, vowed to set this frightening state of affairs aright largely by using what must often feel like the bureaucrat's only real weapon: increased awareness.

Increased awareness is always welcome, but as a primary strategy it is overworked and consistently ineffective. It has neither significantly raised the standards of American education nor improved student achievement in the past, and it is doubtful that it will do so in the future. What American education desperately needs are new tools, new approaches to learning, and new educational contexts more in touch with the world as students will experience it after leaving school.

Changes of this magnitude require a fresh perspective that allows us as a society to travel familiar territory with a renewed identity and idealism. Distance education provides such a perspective. In its most positive application, it is used to cross difficult physical and social boundaries, reaching minorities, high-risk learners, and the handicapped, over-

coming the tyranny of time and distance and equalizing opportunity for our nation's disenfranchised. In its worst, it uses its incredible power to reach large student bodies to reinforce old standards and misconceptions and propagate new ones. In both cases it incorporates the techniques and technologies that seem unnatural in typical classroom settings and yet are part of the everyday environment that students will encounter after graduation.

But distance education is more than just another attempt by the education community to respond to the rising chorus of criticism leveled at it by citizens, school boards, and government. It is a discernible step in social evolution. It is an imaginative and yet practical attempt by society to invest itself with the survival skills needed in a highly competitive world that increasingly values the educated, cooperative, technologically competent citizen.

WHO ARE THE DISTANCE LEARNERS? THE MANY FACES OF BECKY

Imagine: instead of sitting in a classroom to learn American history, your teenage daughter goes to a special viewing room at school or at a community center with a group of her peers, or perhaps even stays at home by herself, and settles in front of the television. With a soft drink, notebook, telephone, and computer close by, she punches the remote control. On comes Mr. Johnson, standing at the blackboard in Studio B somewhere on the east coast of the United States explaining the origins of the Civil War. Confused by something

1. Interview on *MacNeil/Lehrer Newshour*, 4 May 1989.

she has just heard, your daughter places a telephone call. Seeing the red light flashing on his portocom, Mr. Johnson stops. "Yes?"

"Mr. Johnson, this is Becky in San Francisco. I don't get it when you say the Civil War had more to do with economics than with slavery. Can you explain that more?"

"How many other people are having that problem?" asks Mr. Johnson. He checks a bank of monitors and discovers that 78 of his 135 students have registered an affirmative answer through their computers. "Hmmm. I see there are a number of you. It looks like I need to go over that area more thoroughly. First, let me send you a map of the United States that shows the kinds of economic activities that were going on around the time of the war. This will be very useful in my explanation." The promised map immediately begins to appear on Becky's printer, as well as those of her on-line classmates. "And let's switch gears in terms of tonight's assignment. Each of you should send your tutor a half page about this concept, and they will post the best from each learning group to the electronic bulletin board. Log on sometime Monday with your computer and read what the others have said. You have much to learn from each other."

Welcome to distance education.

Simply put, distance education occurs when students are in one place and teachers, peer learners, or resources are in another. The gap in time and space between them is bridged with an array of familiar technology as well as the new machines of the information age, like those used by Becky.

The system she uses is already in operation in a number of locations in the United States, and it is just one of many kinds of delivery systems available. Distance-learning relationships can be maintained in a number of ways, from the simple exchanging of printed material via post—often referred to as correspondence education—to two-way interactive, cross-continental television. The combination of new technologies that are incessantly spilling over the horizon and into our lives and the reinterpretation of older technology and learning techniques promise to maintain a fresh supply of learning options. The result is always the same, regardless of how teacher and students maintain their relationship at a distance: information is transported, not people; students stay put and school comes to them.

On the surface, distance education may appear to serve only the geographically disadvantaged. Public education originally turned to distance delivery as the most cost-effective means of extending the promise of an equal education to those who did not live within busing distance of a school.² Business has turned to education by television and correspondence as relatively cheap ways to meet the needs of frequently reeducating a geographically dispersed labor force.

But beneath the surface can be heard the rumblings of major shifts in social organization that suggest

2. It is interesting to note that integration by busing was essentially an industrial-age version of distance education, moving people rather than information to achieve equity in educational opportunity.

distance education is suitable for a number of different types of students, all of whom share a similar trait: they all feel somehow distant, or excluded, from the educational system. For some the distance is physical. For others it is cultural or psychological, however nearby a school might be. Regardless of the reason, they turn to distance education in search of options.

Ten years ago the options were limited. Today they are numerous and growing rapidly. Those willing to seek learning opportunities and resources beyond what is immediately or traditionally available will find that media can often effectively transport experts from around the country and the world into their homes, schools, and businesses.

Accepting that distance learners do not necessarily live in remote areas, a redefinition of terms is needed. What we are talking about are dispersed, or decentralized, learners who are recombined or networked to form new learning communities that are less dependent upon common space and old formulae for the maintenance of public education. This is a two-step process. Decentralization deconstructs and often individualizes, while networking reconstructs, often in cooperative situations. These terms are hardly new or underutilized. Technophilosophers from McLuhan to Toffler have used them exhaustively to describe the fundamental shift from industrial to information ages in the way we work, play, learn, and live.

Decentralization and networking can appeal to learners for a number

of reasons. To understand the broad appeal that distance education could have, consider it from Becky's point of view. Why has she turned to using a nontraditional method of learning? There are numerous possibilities, many of which are overlapping and reinforcing and some of which are certainly destined to spark debate about how to balance teachers and technology, the local school and its electronic counterpart.

1. *To overcome geographic isolation in order to receive a state-sanctioned education.* Perhaps Becky lives in a remote community in Alaska, North Dakota, or any rural education district and simply cannot get to school. To many, these constitute the real distance learners. It is important to note that the students in this category have an apparent lack of choice about attending a centralized school. That is, although moving to a more populated area with regular schooling opportunities might be theoretically possible for some families, for many it would occur at such a great cost to the integrity of home, job, and family that such a move becomes impossible in practical terms.

The system Becky is using is commonly employed by rural schools as a means of trying to equalize educational opportunities with those of larger schools. Many small schools that can afford only the three *R*s and other staples of the American educational diet beam in foreign language courses, upper-level mathematics and composition courses, and others not affordable on a face-to-face basis. A number of services that resemble

Becky's, like Texas TI-IN, the Satellite Telecommunications Educational Programming, from Spokane, Washington, and the National University Teleconference Network, from Oklahoma, are only a few examples of what were a short time ago just experiments in this kind of learning, which have become sizable commercial enterprises almost overnight.

2. *To avoid or reinforce particular content.* This is often considered the domain of so-called home learners, students who are often avoiding a particular life outlook offered at the nearby learning institution. The most obvious example is when parents want an education for their children that has a curriculum driven by religion rather than by secular humanism. Becky may be one of the thousands of students who use specially prepared correspondence learning materials with a Christian perspective. Patricia Lines estimates that fully half of all home learners fall into this category.³

Alternatively, Becky may subscribe to one of the many services that promise to come into existence in the near future that are neither mainstream nor religious. Perhaps a new service will offer a perspective of our nation's past from the point of view of the contribution of women or the treatment of natives, either of which would offer a view substantially different from what most would consider standard American history fare. Perhaps she is Mexican American and part of the program is in

Spanish and focuses on the contribution of her ancestors to American history. The possibilities in this regard are endless.

3. *Because she is incarcerated.* Of the thousands of people incarcerated in American prisons, all will need some kind of education. Perhaps Becky is in a model detention center of the future run by an administration that understands that educational access is the key to deterring recidivism. Electronic access to educational resources holds great promise for reaching potentially dangerous and socially—and often geographically—isolated audiences.

4. *To avoid social influences.* Becky, quite likely at her parents' behest, may turn to distance education in order to avoid negative influences such as drugs, gangs, and high dropout rates, which can have a negative impact on school quality. Her family perhaps can neither move, for employment reasons, nor afford to send Becky to a private school. Given that these social maladies are on the rise, the incentive to seek an education at a distance is quite real.

5. *To experience or avoid certain learning dynamics.* One of the fastest-growing areas of distance education between kindergarten and twelfth grade is what is often referred to as on-line computer conferencing, allowing students to plug their computers into the phone system and communicate with anyone in the world who can do likewise. On-line computer conferencing projects such as the Long Distance Learning Network and Interactive Communica-

3. Patricia M. Lines, "An Overview of Home Instruction," *Phi Delta Kappan*, Mar. 1987, pp. 510-17.

tion Simulations⁴ use electronic networking to practice cooperative learning, resource sharing, and other untraditional methods of interaction that seem out of place in the typical school but in step with the new methods of living and working we are warned are the hallmarks of the highly successful Japanese style of management.

Of those wishing to avoid particular learning dynamics, perhaps the most interesting are those who do not like the distance in local education, both physical distance, as in the case of large, lecture-based classes, as well as psychic and social distance in the case of teachers and students who are unable to develop a rapport.⁵ It is interesting to note that in some cases the so-called high-risk youths respond to computer-aided instruction simply because they can avoid the teacher-student hierarchy dynamic.

6. *Because she is severely disabled.* Becky may be so disabled that she is essentially isolated from nearby schools. Her on-line service may link her with people of similar disabilities for group support, to be addressed as a member of a more or less homogeneous group for the purpose of instruction, or to offer services of value to the disabled. Disability Information Services of Canada⁶ and

4. Jason Ohler, "What's on Line for Educators," *Electronic Learning Magazine*, 8(6):34-35 (Apr. 1989).

5. Charles Wedemeyer, *Learning at the Back Door* (Madison: University of Wisconsin Press, 1981), p. 39.

6. Nancy Marlett, "Disc Removes Communication Barriers for Disabled People" (DISC professional package, 1989). Contact: DISC-ONTARIO, 182 Brunswick Avenue, Toronto,

ChatBack of the United Kingdom⁷ are computer conferencing systems that offer models in this area. Alternatively, her network may be used to do just the opposite, to mainstream her with a so-called normal peer group and to offer equal access to learning resources used by a heterogeneous group of students. Because members of her on-line peer group do not interact with her directly, they are less likely to address her as a disabled person and to be predisposed toward her abilities.

Becky may also be home ill, just for a day, or perhaps for a few weeks with a bad case of pneumonia. Her on-line service is there to be used as her energy permits.

7. *To avoid having to abandon a life-style or culture.* Perhaps Becky lives an alternative life-style, on a farm, on the road, or even on a boat. The Calvert school, one of the most successful correspondence schools for elementary students in the United States, counts among its many patrons the children of parents in the circus, the entertainment industry, and sports, who move frequently and need a consistent form of education for their children. The parents of Tammy and Michelle Walsh sold their house, bought a boat, and enrolled their daughters in the American School, a correspondence school using primarily mailed printed mate-

Ontario M4K 1W5; telephone 416-963-9465; email to Ms. Marlett on BITNET at N_Marlett@VAX.ACS.OPEN.AC.UK.

7. Victor Young, "CHATBACK—A Service for Young Computer Users" (News flier about ChatBack, 1989). Contact Mr. Young at Swadelands School, Lenham, England; email to Mr. Young on BITNET at VY@UKC.AC.UK.

rial. They organized pick-up and drop-off points for homework so that they could sail the Caribbean as a family. Both daughters went on to college.⁸ Although they could not use a live, interactive service like Becky's from a boat, the day is not far off when this could happen.

The refusal to abandon culture is perhaps one of the most poignant rationales for the use of distance education by the native population. Perhaps Becky is a Native American and chooses to live in her community in order to retain her cultural context as the framework of her learning while importing Western education on her own terms. This approach is very imperfect in its design concept, ensuring the displacement of some indigenous life-style and practice; however, it seems to be the best approach so far in terms of allowing people to straddle two cultures. The proposed Native Open Learning Network in British Columbia offers an instructive example in this regard. It proposes to tie together seven native communities or institutions with native concerns with an electronic educational delivery system, allowing them to teach one another and avoid nonnative, nonmulticultural mainstream education, which they feel has done a poor job of meeting their educational needs.⁹

8. *To resolve a schedule conflict.* Perhaps using this method of in-

8. Stefan Fatsis, "Sisters Get Education as Family Roams Seas," *Chicago Tribune*, 6 Mar. 1988.

9. Jason Ohler, "Native Open Learning Network (NOLN)—Planning for Technology" (Report, prepared for the Knowledge Network of British Columbia, Mar. 1989).

struction allows Becky to stay on the swim team and meet a graduation requirement, take an elective from which she could greatly benefit, or add to her transcript a course she needs in order to enter a line of course work at college. She also has the option of not "attending" her distance-education session, but taping it so she can replay it later. While she misses the opportunity to interact with her on-line teacher, she at least does not miss the lesson entirely, as she might with a regular class. Whether she "attends" the on-line lesson or not, the tape is a handy resource to have, allowing her to replay portions she did not understand the first time through.

Scheduling resolution is one of the primary reasons adults turn to distance education, allowing them to juggle a job, often a family, and a desire to go to school. In this case, there is often little or no real-time interaction, as there is in Becky's American history class. These learners accept education on their terms, listening to or watching tapes and reading materials as their schedule permits.

9. *Because she is not learning in school.* Perhaps Becky's school has an American history teacher who does not challenge her, who is teaching outside his or her field, or with whom she has a difficult time establishing rapport. The service to which she subscribes may well be noted for its careful selection of teachers with proven in-class and on-line teaching records and offers a high-quality, cost-effective alternative. As people like Becky begin to use a combination

of distance and local education options, the two will inevitably go through a period of reconciliation in which they try to establish a relationship that is somehow competitive and cooperative at the same time. This promises to be a painful adjustment.

10. *To escape tracking.* Perhaps Becky is one of the thousands of students in American schools who are tracked, a practice that school districts use to label students at an early age according to their supposed learning levels. Despite motivational, family, or other problems at the time she was tracked, it is likely Becky has not been reassessed over the years and has continued to be taught down to throughout her learning career. She turns to her on-line service which, we hope, avoids such arbitrary preconceptions of her ability.

It is interesting to note that face-to-face education's greatest attribute, a teacher's ability to be able to read students on a daily, real-time basis, becomes its greatest impediment when applied prejudicially. On-line teachers who might usually harbor misconceptions in a classroom situation—whether consciously or not—about, for example, what they feel to be women's natural inabilities in computer programming or math find themselves in an environment that can be less conducive to the development of those misconceptions.

11. *In order to learn in a more global context.* A number of on-line computer conferencing projects take advantage of the fact that they are tied together by a global phone network. One such project on the now

defunct Source, a computer networking service based in the United States, involved social studies classes from five countries discussing what was unique to their cultures and what was universal across their cultures.¹⁰ A local project on BITNET used communication between youngsters from other countries to supplement foreign language instruction.¹¹ Kids Network, run by National Geographic, offers children a chance to track international environmental problems across political boundaries.¹² Now defunct, the McGraw-Hill Information Exchange ran a number of projects with a global or at least international flavor, such as tracking bird migrations over North America and stimulating communication—electronic and face-to-face—between students in the Soviet Union and the United States.¹³ The list of such projects is long and growing.

Perhaps Becky has chosen this American history course because it is taught by an international team of

10. Moshe Cohen and Naomi Miyake, "A Worldwide Intercultural Network: Exploring Electronic Messaging for Instruction" (Report no. 8, Center for Human Information Processing, University of California, San Diego, 1985). Contact Margaret Riel at AT&T Long Distance Learning Network, P.O. Box 716, Basking Ridge, NJ 07920-0716; telephone 619-943-1314; email AT&T ID- IMRIEL or Compuserve ID- 76004,1007.

11. Dixie Weiss, student project, foreign language department, Juneau Douglas High School, Juneau, AK. Email on BITNET: JTDLW1@ALASKA.

12. Ohler, "What's on Line for Educators."

13. On-line conferencing and promotional material for the McGraw-Hill Information Exchange, 1987. Contact Lynne Schrum, telephone 503-345-8257, BITNET at LSCHRUM@OREGON.

experts and allows her to correspond with an international body of students, thus offering her a more global, less provincial point of view than she might otherwise receive. Perhaps her parents are wise enough to encourage her to take such a course because they understand that the world she inherits is in many ways the global village that was predicted decades ago by McLuhan, in which xenophobia is dysfunctional and cross-cultural communication is a way of life. High-risk learners, often with overwhelming personal problems, can particularly benefit from a perspective that helps lift them out of their own emotional morass and places their lives in a much larger perspective.

There is an additional kind of globalness that can occur in distance-education programs in which people learn privately, usually at home. Private instruction allows those who do not ordinarily come together for instruction—like office personnel and management, or adults and school-age children—to gather, however anonymously, in a common learning environment. There is no automatic benefit in this, but it does offer obvious potential for cost effectiveness as well as intracultural and cross-cultural experiences not available in our often stratified educational settings.

12. *Because she wants to learn information-economy skills.* What Becky is doing is not just for fun. This is the very stuff of the evolving workplace. If nothing else, learning via technology establishes a comfort level with a work environment that students will find upon leaving school.

Not only should Becky expect to work in such an environment, but she should expect to continue to learn in one as well. Service industries—such as the health and engineering professions—the military, which accounts for hundreds of thousands of correspondence students, and corporations need to frequently retrain a geographically dispersed work force due to rapid advances in information, techniques, and technologies in their fields. Focused delivery systems like Becky's are already commonly used for such purposes. A telecommunications curriculum for middle and high school students—some would suggest for lower grades as well—that has computer communications as its focus might include on-line searching of data bases, creating and maintaining a discussion group on line, and working cooperatively with students from across the country or around the world on a joint project.

13. *For remediation.* Remediation means different things in different cultures. In the United States, where high school dropout rates are high and where there appears to be a strong causal connection between being a dropout and a convicted criminal,¹⁴ new remediation models have sprung up, from supervised correspondence study leading to a general education diploma, to on-the-job education. In a number of foreign countries, such as Japan and the United Kingdom, adults must pass entrance exams to enter college. The only sec-

14. *Proceedings of the Conference on Technology and Students at Risk* (Bloomington: Agency for Instructional Technology, [1987]) p. 38.

and chance for those who do not pass is through some form of distance education. The United Kingdom runs an extensive open-university program for adults, while Japan has just inaugurated the University of the Air, which broadcasts for 18 hours a day using radio and television.¹⁵ Both programs provide instructive models for remediation.

14. *Because schools are too expensive for the state to provide.* This is particularly true for developing countries. A typical example is Kenya, whose government realized that, with education consuming a third of its annual budget, it had to find cost-effective alternatives. Thus it established the Correspondence Course Unit, which employs radio, print, and short face-to-face courses as an alternative to building the kind of elaborate school infrastructures common in developed countries.¹⁶

In the United States, private education has always been the alternative to public education for disgruntled parents, but it is often too expensive for the vast majority of American families. Perhaps Becky's parents really wanted to send her to a preparatory school but could not afford to. Their alternative was subscribing to an on-line educational service.

15. *To improve local communication under certain conditions.* One of distance education's greatest contributions to local education is the idea of using communication technology

—fax machine, electronic mail, phone—to connect teachers and students who ordinarily meet on campus but are also separated from one another due to, for example, scheduling, such as meeting only once a week, or work-related absences, such as being on the road, conducting research, or being ensconced in a library heeding the publish-or-perish imperative.

For the past five years I have used electronic mail to maintain a communication link with my students between classes and while traveling. As a result of the near ubiquity that electronic mail affords me, I deliver a far better service to students who ordinarily are forced to play telephone tag or find me out of town unexpectedly during office hours. As Becky's local teacher, I might ask her class to attend two lectures or discussions a week—or perhaps watch one lecture on an electronic service—and send me their thoughts, assignments, or questions regarding concepts or homework via electronic mail between classes. I would probably also develop on-line study groups, so that Becky is part of a team of learners who share resources and present group projects to me. Whether I am on the road or at home I can log on to my electronic mail service and process student correspondence. I have found that much of the business of being a teacher at the postsecondary level can be handled by electronic communication. For the portion that constitutes the human interaction of a teacher-student relationship that cannot be handled electronically, electronic mail is used to set up times for face-to-face meetings.

15. *Developing Distance Education* (Varnamo, Sweden: Falts Tryckeri, 1988), pp. 10-11.

16. *Ibid.*, p. 350.

16. *To reduce anxiety and improve face-to-face communication.* In a recent pilot project in Alaska, geographically remote teachers using electronic mail to support distance-delivered education reported observing a very interesting phenomenon: as a result of communicating with others via electronic mail, their students improved face-to-face communication skills. This was particularly observable in those students considered typically noncommunicative or shy.

It was a totally unexpected by-product that in hindsight seems quite understandable. The fact that electronic mail does not require users to expose themselves or to engage in real-time interaction makes it a non-confrontational mode of communication. The reduction of experience to delayed transmissions of text allows for reflective response and, in a sense, helps to equalize participation for a self-conscious or easily intimidated Becky, who does not do well on her feet in competitive or face-to-face situations.

17. *Because the media are motivational.* Given the omnipresence of network television, it is not surprising that children are spending more time being educated by television than by school. Commercial television may not constitute school to the literal minded, but it is a formidable teaching institution nonetheless. Above all, television, as well as computers and other information technologies, is an expression of the culture of today's youths. As such, students often find these technolo-

gies motivational or at least comfortable to use.

Another aspect of this is the fact that technology-assisted learning can provide learning opportunities that lecture-based education cannot and vice versa. Teaching tools such as computer and television simulations can be used to approximate experiments or experiences that are too dangerous, expensive, or otherwise impractical in real life, such as flight, working with radioactive materials, or a trip to a foreign country. These are not necessarily the domain of distance education, as they have been incorporated into classroom activities for many years. But as the emphasis continues to be on meeting the needs of the learner on a more individual, flexible, specialized basis, and as home and school technologies like videocassette recorders and microcomputers become more prevalent, they begin to be considered as very powerful supplements to any distance-education program.

By and large, students simply enjoy on-line community. Perhaps in some cases, Becky simply prefers electronically delivered education because it is more exciting and familiar. Perhaps she is representative of the new generation of students, who, as a colleague put it, "are simply wired this way."

18. *To associate with a particular segment of society or, conversely, to become diffused within a heterogeneous population.* Although this point is suggested in a number of the preceding reasons, it needs to be brought out explicitly. Decentralized,

on-line education can enable students to associate academically, socially, or politically with a particular homogeneous segment of the population. That is, a geographically dispersed segment of society, such as the disabled or the elderly, to name just a couple, can learn or interact together despite their lack of colocation. This also allows Becky to change or experiment with her sense of identification, allowing her to join groups with which she might not normally associate herself.

Conversely, those who do not wish to identify with a particular segment of society to which they may belong can often become diffused in the mainstream of a heterogeneous on-line community because of the anonymity it can offer. It can offer Becky the escape she may need from prejudice or social stigma that might be associated with her for a number of reasons.

19. *To take advantage of a world of experts and resources that only media can provide.* Although many of the reasons already stated are subsets of this one, this point also needs to be brought out explicitly. When school is no longer limited to the resources that can be physically located within a classroom, a world of learning opportunity opens up. Such opportunities range from the simple and inexpensive, like audio conferencing with the author of a book used in a course, to the more extravagant, like using two-way interactive television to meet with experts from foreign countries. Distance education will be remembered as the beginning of the

school without walls in a very real sense. Although distance education has only achieved a wide audience in the past few decades—and one that is still small compared to the number of face-to-face learners—in the future we may well regard its slow evolution with the same historical respect we give to the installation of the first steam engines in factories. Like the steam engine, distance education on a mass basis has the potential to reorder society. Although the distance student body is currently small in comparison with the number of centralized learners, it is growing rapidly.

CONCLUSION

Many argued that in going to the moon we simply avoided problems at home. The same could be said about turning to distance education. It can be fairly asked, Can we not simply rectify a number of the problems on a local level that will drive people to seek electronic alternatives? Could we not begin to incorporate more cooperative learning models, rethink the efficacy of tracking, make a greater effort to reach our disenfranchised, and so forth?

Perhaps. But until these problems are solved, we are burdened by our own awareness that options exist or can be created from the raw materials of electronic education. If Becky's parents had access to an electronic alternative to the local school that would result in a significant improvement in their daughter's education, they would be forced to use it, the same way they would not hesitate to give her medicine that she needed.

Many of the problems that Becky might have turned to distance-delivery methods to solve have persisted unaddressed for decades. Whether or not distance education offers us real solutions to these problems, it at least provides a sorely

needed fresh perspective. It forces our thinking beyond the confines of the campus and out into the changing world about which we are supposed to be teaching and for which we are supposed to be preparing our students.