Does Education Want What Technology Can Deliver?

David Ahl, AT&T

"By virtually any objective measure from college entrance board scores to uniformly administered test programs in various states, the quality of education at all levels is decreasing. Concurrent with this decrease in quality we have the information explosion where the sum of man's knowledge has already surpassed his ability to know all there is about any one thing. Along with this information explosion is the move to the centralization of function and accumulation of knowleldge. Centralized data bases. This implies that retieval of information is a very pressing need. Not just reitieval of information, but the retrieval of the appropriate information to bear on a problem."

"In our studies we found the vast majority of schools account for telecommunications expenditure, whether for instruction or administration in either the 'Plant Operation' or 'Plant Maintenance' budgets.... The same accounting fallacy is at work against technology in higher education although to a slightly lesser extent."

"The Carnegie Commision estimated that technology such as computers, cable TV, and video cassettes would remain in the experimentation stage throughout the 1980's, be generally introduced in the 1990's and generrly in use by the year 2000. Our findings mirror these results."

"Just as education increasingly consists of learning how to locate information, the teacher may become the one who teaches how to locate and utilize educational resources. In other words, the teacher becomes a facilitator of inquiry rather than a giver of facts."

Six major requirements for the adoption of new technolgy by educational institutions:

1. Cost effectiveness. After all the costs are totaled the new technology must displace existing costa or provide added value. This depends at least as much on users costs to develop, install, and maintain the application as it does on the computer or communication service rates."

2. Implementation. The application must minimize disruption in the way that people go about their business. This may well place institutional and human factors restraints on the system that restricts the purely technological options. In other words, we are saying that people still run the system, not technology.

3. Reliability. This of course refers not simply to achieving an adequately long mean time to failure of the system components but to the ability of the entire system to handle its fluctuating workloads under a great variety of circumstances including among them the failure of systems components but also including he variability of student and faculty usage.

4. Serviceability. This is a kind of new challenge in data network communications. In large networks it may be much more difficult to determine which elements of the system failed. The neceissity for remote diagnosis of the state of the system is heightened and teleprocessing networks of the future will have to follow the old adage "Physician heal thyself."

5. Extendability means simply that the teleprocessing application, and the system on which it runs, -ust be able to grow with the user's changing perception of his needs. Most of the serious problems computer users have had in the past with the introduction of superior new technology relate to the limited capability o- the old system to be upgraded gracefully.

6. Meet Perceived Needs. By this I mean that the new technological solution must meet the needs of the educator as he perceives them himself. Even though technology may solve a real and very legitimate problem faced by educational institutions it will not be adapted unless the educator sees the problem clearly and has assigned a high priority to its solution.