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Technology: Its Use in Education

A National Perspective

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Policy Briefs are reports on the status of current issues in education from a national perspective, descriptions of actions and agendas in the NCREL region, commentaries by experts from their particular point of view, and resources for further information.

Throughout the nation, educators, policymakers, legislators, and the general public are increasingly interested in the potential of modern technology to transform education -- in terms of what is taught, how it is taught, and how the educational enterprise is managed.

More and more schools seek new computer hardware and software as a vehicle for addressing poor academic performance, or providing enrichment options for students already performing well by traditional standards. Similarly, through new curriculum and graduation standards, policymakers and legislators are encouraging or even requiring that computer literacy, programming, and keyboard skills be included as part of the "new basic skills".

In addition, state departments of education are mandating increased requirements for high-school graduation, and some schools are responding with distance learning courses to fulfill these requirements. The broader business community also has played an active part in reminding educators that in order for our nation to remain competitive in the increasingly technological and global economy, the workforce must be a technologically literate one.

Tomorrow's adults must function effectively in a world that requires technology to develop, process, and manipulate information; to develop innovative products and services, and to increase the productivity of a shrinking workforce.

Evidence for this growing interest in technology as a means toward fundamental educational reform is found in a myriad of sources. For example, in recent years the number of journals and other periodicals, as well as professional organizations devoted to educational technology, has increased exponentially. In addition, *Education Week* lists 16 conferences on educational technology for 1989-1990.

Several important issues emerge from this increased interest and awareness in technology and its implications for education. These issues fall into five basic categories:

Supporting change/reform efforts: The questions here are basically two-fold. First, once a school, district, or state has identified new goals, priorities, and directions for school reform, how can technology be used to assist in achieving them? Second, what new models and structures for organizing schools and instruction are now possible as a result of the available technology? For example, if new graduation requirements include foreign language instruction, but sufficient teachers are not available, technology could offer the resources necessary for fulfillment of the requirements. Technology can be used in a variety of ways to make such instruction available. Alternately, telephone and computer communications capabilities can allow teachers to communicate efficiently with both parents and students, or to provide instruction for students who are unable to attend school regularly and are at risk.

Improving information management and student information systems: Though many school districts have sophisticated central student information systems, this information is seldom available to classroom teachers either in a timely manner, or in a form that can be used for instructional assessment and planning. Technology can make this data easily available to teachers in their schools or classrooms, and in a form that they can use effectively. Similarly, principals can have access to school-wide information to assist them in making decisions about allocation of human and other resources, instructional improvement priorities, or potential staff development needs.

GUEST COMMENTARY

Online Rights

By Jason Ohler, University of Alaska Southeast

Editor's Note:

Two priorities involved in using technology to improve education are: 1) assuring equal access for all students and 2) realizing the impact of technology on educational change. Our guest commentator addresses these issues and how they relate to the fundamental nature of schooling.

Imagine being present at a town meeting in a small, early American pioneer community, hearing the suggestion for the first time that along with chalk and slate tablets, students had a right to paper and pencils or even individual textbooks. Surely to some the idea must have seemed irreverent, excessive, even mad.

Educational technology policy has always been driven at least in part by what the public perceives a child's right to technology to include. The concerned parent ten years ago who questioned a school district's right to put computers in classrooms now insists his children have a right to use them on a daily basis.

Then again maybe the majority took it the way we take technology acculturation today, as inevitable. We are nearing the time when access to distance education and its most recent development, online education (using everything from two-way interactive TV to electronic mail), will cease to be experimental extras and become acceptable, inevitable educational options. Access to them will become as much a right as access to libraries and gymnasiums today.

But the ramifications of mainstreaming online education and its technologies promise to be especially profound, challenging the nature of schooling as we have known it for some time. Once designed primarily for those who could not get to school because distance or scheduling didn't allow, distance education will become a genre that attempts to provide something for just about everyone.

Parents disenchanted by the teaching quality, lack of good electives, or negative influences at the local school; cultures wanting to stress a certain heritage or value system; families trying to cultivate a more flexible life style; teachers overwhelmed by information and needing help; and students looking for education potentially less prejudicial and more global are just a few examples of those who will feel they have a right to online alternatives. We have opened the door just slightly on the online audience. When we dare open it wide we will be astounded at how diverse and vast it actually is. Technology is significant because it challenges our very concept of what a "school" is.

To appreciate this, imagine being at a school board meeting in the future, at a time when online services have become an accepted option within the overall framework of what we call schooling, an activity that might take place at home or at a newly formed neighborhood learning center run by parents, as well as at a school. Here, too, the townspeople will hear suggestions that seem irreverent, excessive, or mad. Imagine the sparks flying as school administrators, school boards, parent groups, and the NEA battle over entirely new issues, such as:

- The impact of electronic education on tenured teaching: Will electronic teachers be allowed to compete with classroom teachers?
- Balancing the budget with potentially low-cost electronic learning options: If an acceptable online or media-based option costs less than a typical classroom teacher, are we obliged to try it?
- What it means to have a teacher present in the classroom: If a certified teacher's aide "administers" a TV course, is this sufficient?
- Revising teacher certification requirements to accommodate those teachers that electronically cross service area boundaries: Whose standards will we use?
- The teacher's role amid the change: What are the strengths of face-to-face teaching within the contained classroom and how do we optimize them?

This is basically all new territory, and unlike the relatively calm debate about whether or not schools should turn to online technologies and services, all of it is emotionally charged. "School" will become a different place. And teachers, administrators, students, and community members will struggle with their new rights and responsibilities within the rapidly evolving educational community. ■

Jason Ohler is the Director of the Educational Technology Program at the University of Alaska in Juneau and the Editor of the Online Journal of Distance Education and Communication on BITNET. Ohler was keynote speaker at a professional development seminar on Distance Education held this past summer at Indiana University. His current research projects include facilitating electronic mail communication between high school students in the Soviet Union and Alaska to discuss global environmental issues, and involving Alaska middle and elementary students in the political process by linking them with and their legislators using eletronic mail.