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"After the Bubbles Popped": Technology and Education

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Rights

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Index:

.01. **Introduction** (return to index)

I wish to discuss here one central question: What are wise uses of technology in education after the recent "bubbles" of the New Economy, telecommunications industries, and unquestioning enthusiasm for the Internet have all popped? And then I wish to ask a related question: How do we know what "wise uses" are?

.02. **Critiques of Technology in Education** (return to index)

For some time it may seem that in education we have been highly enthusiastic about the use of computer-mediated instruction. We ourselves have attended several conferences and year and

are often invited to present at workshops. The Berglund Center has supported such activities throughout the Pacific Northwest, and in our Summer Institutes. But there also has long been considerable criticism of the use of computers in schools.[1] The writers Todd Oppenheimer and Clifford Stoll are frequently cited and are probably the two most influential critics, at least in the popular opinion.

Neither is it just a few contrarians like Oppenheimer and Stoll who criticize the use of computers in education. So do many practitioners in the field. Recently, for example, there was broadcast in Oregon on National Public Radio (September 24, 2002) an interview with Lauren Sheehan, faculty chair of Swallowtail School in Hillsboro, Oregon, who argued against the use of computers in K-8 education. [2] Swallowtail, a private school, has apparently attracted parents precisely because it does not use computers in the classroom.

These critics make a variety of points, questioning the relative efficiency of computers as learning tools, positing their dehumanizing effect, pointing with alarm at the loss of traditional content and methods, and so forth. But like those of us who are enthusiastic in supporting the increasing use of electronically mediated teaching, rarely are they able to support their position with systematically gathered information. Rather, like us, they tend to rely upon anecdote and personal experience.

.03. **Federal Funding is Being Reduced** (return to index)

Even if you are enthusiastic about computers as a learning tool, perhaps the status quo is now satisfactory? For example, the federal government recently has taken the attitude that the problem of the "Digital Divide" has been solved. [3] Accordingly, federal funding is being reduced. One focus of this cutback is the Community Technology Centers program funded by the Department of Education. One of our partners at the Berglund Center, the*Centro Cultural* of Cornelius Oregon, has recently lost its funding under this program despite a spectacularly successful community outreach effort. [4]

.04. **Private Sector Funding is Also More Difficult to Secure** (return to index)

And presuming that we are fully in favor of the wise use of computers, and have administrative or other necessary support, funding is getting ever more difficult to secure.

This is due in large part to the collapse of the "New Economy" in April of 2000: In the words of John Cassidy, author of dot.con, the best explanation of the relationship between the stock market, the Internet and the New Economy bubble with which I am familiar:

The collapse of the NASDAQ was a turning point in American history. For the past five years, the stock market, particularly the NASDAQ, had been a symbol of American technological leadership and economic power. Most of all, it had been a symbol of American self-confidence. Ronald Reagan used to claim that the 1980's represented "morning in America,"

but this claim rang somewhat hollow in an age when gnarled operators like Ivan Boesky and Robert McFarlane were busy going about their business. It was during the 1990s, following the collapse of the Soviet Union and victory in the Gulf War, that the United States really discovered a feeling of youth and vigor. Old restrictions seemed to slip away, and the country stepped into the future like an animal shedding its winter coat. The rise of Silicon Valley and the Internet was something fresh—something untarnished by financial scandal or memories of Vietnam. It gave new life to the most potent American myth of all: that the future is boundless. [5]

An increasing concern for security is also diverting resources, particularly critical in research and development (R&D). We are, I am told, seeing a consolidation in the firms working, for example, with educational software. This will probably be true for virtually every aspect of the computer-related industries, and telecommunications as well. [6]

This will mean reduced private sector grant funding, fewer workshops, fewer opportunities for training, and fewer computer labs. And, of course, public funding for education in general is shrinking dramatically all over the country.

.05. **Is this a Paradigm Shift?** (return to index)

This problem is a very large and complex one, amounting perhaps even to a paradigm shift: Computers and everything about them were exciting, wonderful, endlessly promising. Now, I think, we have the appropriate backlash: Computers are of questionable utility, too expensive, potentially a threat to homeland security and in any event, what is the big deal, most libraries and schools already have them?

In this environment, I think we have to make the case for the use of computing in education quite differently. We have to know what works and what does not, and when particular approaches are appropriate to solve particular problems. Above all, we must be able to clearly express our choices and to defend them with appropriate studies and analyses.

There is no lack of valuable analysis available on these issues though a great deal remains to be done. One could do worse than by starting with a series of reports from the Pew Internet and American Life Project. See, for example, for issues affecting 12-17 year olds: "Teenage Life Online The rise of the instant-message generation and the Internet's impact on friendships and family relationships." [7] For issues affecting High School students see: "The Digital Disconnect: The Widening Gap between Internet-Savvy Students and Their Schools." [8] For the situation among College-age students see: "The Internet Goes to College: How students are living in the future." [9]

.06. **But How Do We Know What Wise Uses Are?** (return to index)

Most of the information referenced above is very reassuring: it shows that while younger students

use the Internet primarily for entertainment, older ones use it largely for educational purposes. The studies also show, however, that students are far better users of the Internet than are their teachers, and probably most teachers need to spend more time online rather than less, and to make far better uses of the technology currently available.

Part of the frustration affecting our students in their educational use of the Internet is our own uncertainty. We do not, as of yet, know quite how to use it effectively in our teaching. Nor, in particular, do we know how to assess its uses. Many educators have seen fit to ignore assessment questions. Nothing raises the hackles of teachers faster than the notion of "assessment", because we know that it is frequently a code word for something else, often the ritualized preliminary to budget cuts or anti-educational tirades.

But we need to all become experts in assessing what we do in the classroom, particularly if it involves computers, and in explaining it. Until we better understand the strengths and weaknesses of specific uses of technology in education and can explain them to lay audiences, we are exposed to a variety of criticisms that may well impeded the spread of technology, given the environment in which we find ourselves after the bubbles have popped.

For our part, at the Berglund Center for Internet Studies we will be paying increasing systematic attention to issues related to on-line teaching. We think that whether it is fully desirable or not, it is certain to be an increasingly important (and controversial) part of education.

Endnotes

[1] For the Locus *Classicus* of this argument, or at least its most widely disseminated statement, see Todd Oppenheimer, "The Computer Delusion",*The Atlantic Monthly*, July 1997.
http://www.theatlantic.com/issues/97jul/computer.htm
See an interview in *Education World with Stoll, author of High-Tech Heretic: Why Computers Don't Belong in the Classroom and Other Reflections by a Computer Contrarian. and of Silicon Snake Oil — Second thoughts on the Information Highway*

[2] Swallowtail School's home page is at:
http://home.europa.com/~tjspears/SwallowTail/
For a related story see: "High Demand for Low-Tech School. See how techie parents support teachers who keep computers out of the classroom", By Suzanne Brahm, "Tech Live".
http://www.techtv.com/news/culture/story/0,24195,3375635,00.html

[3] See U.S. Department of Commerce, "A Nation Online: How Americans Are Expanding Their Use of the Internet."
http://www.ntia.doc.gov/ntiahome/dn/
For analysis of this argument see: Jeffrey Barlow, "The Digital Divide in the Fall of 1992″, *The Journal of Education, Community, and Values* August, 2002, at:
http://bcis.pacificu.edu/journal/2002/08/editorial.php

[4] See "Beyond Closing the Digital Divide" by Elizabeth C. Arch and Luis Rodriguez at
http://bcis.pacificu.edu/journal/2002/09/arch.php

[5] Cassidy, John. *dot.con. The Greatest Story Ever Sold*. Harper Collins, New York: 2002.p. 295. See review at:
http://bcis.pacificu.edu/journal/2002/07/cassidy.php

[6] See Jeffrey Barlow, "The Internet, Securities, and Security", *The Journal of Education, Community, and Values*, July, 2002 at:
http://bcis.pacificu.edu/journal/2002/07/editorial.php

[7] http://www.pewinternet.org/PPF/r/36/report_display.asp

[8] http://www.pewtrusts.com/pdf/vf_pew_internet_schools.pdf

[9] http://www.pewtrusts.com/pdf/vf_pew_internet_college.pdf

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