Chapter X

Technological Change, Virtual Learning, and Higher Education: Prospects, Problems, Potentials

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This chapter takes a critical look at the current enthusiasm for on-line distance education and virtual learning, as well as some deeper cultural and institutional implications of technological modernization for higher education's future. I address four complex questions: Does computer-based instruction really improve pedagogy and add value to the learning process? Will the spread of computing and information technologies reinforce, even exacerbate, broader social inequalities? Can on-line education contribute to sustainable intellectual communities in cyberspace? Are pressures for commercialization undermining the ethos of higher education?

IN WITH A NEW MILLENNIUM, OUT WITH THE OLD ACADEME?

Will higher education as we have come to know (and sometimes love) it be recognizable to us twenty-five years from now? Will the residential college campus become an elite enclave for all but the most privileged students from the richest families–and a nostalgic memory for the rest of us? Will the professoriate as we know it still exist, along with its most cherished occupational perk: tenure? Will students sit in libraries — cavernous buildings with books, journals, reading rooms, and even coffee shops — to do their work? Will they, indeed, "go" to classes? No one today knows the answer to any of these questions, but none of them is absurd. For the kinds of changes that some cyber-education leaders are envisioning, and tirelessly working to bring about, would make today's colleges and

universities seem more like those in 1975 (sans PC or Internet) than those of 2025.

When *The Academic Revolution* (1977) was first published more than thirty years ago, its authors, the sociologists Christopher Jencks and David Riesman, had no idea of course that college campuses in America would become saturated with high technology over the next two of decades. Indeed, technological change barely entered into their historical and sociological analysis of higher education in the United States. Instead, the most significant force at work in higher education after the Second World War was demographic: the explosion of the college-age population and college attendance, which had nearly tripled since 1945 to seven million students. Obviously today, computing and information technology (CIT) has profoundly changed the way we do business in academia. For a long time now high-technology companies have recognized and used campuses as major test bed sites for new products, including hardware, software, and networks. During the mid-1980s, companies like IBM, DEC, and Apple donated hundreds of millions of dollars worth of equipment and salary support to bankroll the academic computing "revolution" on America's campuses. By almost any measure of cost-to-benefit, that investment has turned out to be prescient and profitable. By the late-1980s and certainly early-1990s, with the expansion of the Internet, multimedia, and accessible super-powerful desktop computing, no college or university without ample computing infrastructure could hope to compete for good students or distinguished faculty.

Still, thoughtful reflection on CIT's balance sheet must take account of both its advantages and disadvantages for academia. Precisely this kind of comprehensive and systematic stocktaking was carried out in 1998 at the University of Virginia, where the Faculty Senate solicited open-ended input from faculty, students, and administrators about their experiences with CIT. History Professor Edward L. Ayers, who chaired that Faculty Senate, summarized the results of the process in an open letter published in the University's weekly newsletter. Its cogent observations warrant lengthy quotation as a status report on *fin de siecle* academic CIT:

In one surprise, no simple division of technophiles and Luddites marks the University community: most thoughtful responses tended to be thoughtful about both the positive and negative aspects of computers and networks. . . .

People repeatedly commented on the speed of communication, the ease of maintaining immediate communication with many correspondents, and the quick access to libraries and other sources made possible by networks.

Just as many people listed the undeniable disadvantages . . . It clutters our lives, erodes personal contact, makes it difficult to keep up with its own innovations and establishes one more set of expectations for us all to fulfill.

. . . Some people see great possibilities in the most sophisticated uses of the technology. They emphasized the possibilities of partnerships and joint author-ship, of the instantaneous diffusion of knowledge, of the ability to have a virtual office wherever one goes, of the availability of new scientific data, of the exciting visualization of information and of the promise of distance learning. Several noted that the new technologies made teaching deeper, though not easier. . . .

Other[s] . . . saw great threats posed by the machines in our midst. They stressed the draining of resources from the traditional library and other priorities and

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