Who Will Have Access to the Virtual University?

Educators and policymakers must work together to ensure that no one is excluded from the educational opportunities in cyberspace.

By Lawrence E. Gladieux and Watson Scott Swail

Lawrence E. Gladieux is executive director for policy analysis of The College Board. A former congressional staff member, Gladieux received his master's in public affairs from Princeton University. He can be reached at lgladieux@collegeboard.org.

Watson Scott Swail is associate director for policy analysis of The College Board. Swail is a former technology teacher and received his doctorate in educational policy from the George Washington University. He can be reached at sswail@collegeboard.org.

There is no doubt that the World Wide Web shatters barriers of time and space in the delivery of instruction. But its advent is also likely to create new barriers and inequities, simply because of the differential availability of the required technology.

In fact, the result of the new technologies may be to deepen the divide between educational haves and have-nots, and the marketplace alone will not fix the problem. Public policy must intervene to narrow the "digital divide" between whites and minorities, the wealthy and less advantaged.

New Barriers to Under-represented Students?

The Web shatters geographical barriers to educational access, but it also may create new ones. Virtual universities will only help those who have the necessary equipment and experience to be comfortable with the technologies.

While computers may seem ubiquitous in today's society, their distribution is highly stratified by socioeconomic class. According to 1997 U.S. Department of Commerce figures, three-quarters of households with incomes over $75,000 have a computer, compared with one-third of households with incomes between $25,000 and $35,000, and one-sixth with incomes below $15,000.

The Department of Commerce figures also indicate that online access is similarly stratified by income. White households are twice as likely as black and Hispanic households to have access to computers and online services. Those with a B.A. degree or higher are about four times as likely as those with only a high school education to have online service.
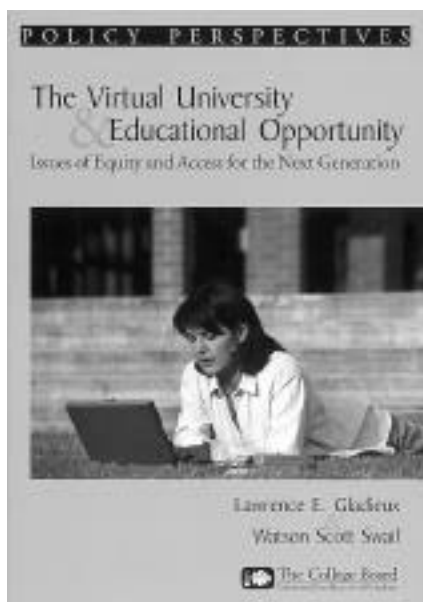
While technology has widely penetrated elementary and secondary schools, not all students have equal access to computers and the Internet at school. In fact, there is evidence that students with the greatest need get the least access. According to a 1997 study by the Educational Testing Service, the ratio of students to computers is highest in schools with the largest proportions of poor and minority students, and the availability of Internet access goes down as the percentage of such students increases.

Not surprisingly, differentials in experience with technology show up when students enter postsecondary education. The University of California-Los Angeles' Higher Education Research Institute concludes from its

most recent annual freshman survey: "Despite the overall high levels of computer and Internet use, not all students enter college with Internet savvy." Also, the percentage of students using email varies widely by type of institution, with the greatest use among students enrolling in private universities and the lowest rates among students at public black colleges. Such disparities could preclude significant numbers of students from participating in the virtual university.

In the final analysis, data probably cannot capture the full story here. While education is the great equalizer, technology appears to be a new engine of inequality. Access to technology is not only about hardware and software. It is about effective use, teacher training, and careful integration of technology into the curriculum. The most advantaged citizens — and schools — are most able to benefit from cutting-edge technologies. Advantage magnifies advantage. Those who use computers on a regular basis are more apt to use them routinely in problem solving and critical thinking. They use computers as past generations used pen and paper. Those with limited computer experience will be handicapped in their ability to access knowledge and avail themselves of the ever increasing variety of learning experiences.

Even when computers are available, technological problems — equipment malfunctioning, Internet congestion and delay— can interfere with online learning and lead to frustration for students and teachers. Internet users know that ability to "surf" the Web is tied to the speed and reliability of the Internet provider, CPU, and modem speed, and ultimately to the costs of these services and equipment. Technical difficulties can befall anyone in cyberspace, and usually do at one time or another, but they disproportionately affect those who have the least ability to pay.

POLICY PERSPECTIVES

The Virtual University
& Educational Opportunity
Issues of Equity and Access for the Next Generation

Lawrence E. Gladieux
Watson Scott Swail

© The College Board 1999

The College Board

Public Policy Challenges

The good news in the United States is that more people are attaining higher levels of education and filling millions of skilled, high-paying jobs in a strong economy. The bad news is that the least educated and skilled are getting a smaller piece of the pie and wealth disparities have reached unprecedented extremes. Narrowing this gap is surely one of the greatest challenges facing our country.

The virtual campus may widen opportunities for some, but not by and large for those at the low end of the socioeconomic scale, who have traditionally been under-represented in higher education. Virtual space is infinite, but it does not promise universality or equity, nor is it appropriate for many students whose experience with technology is limited — and who might benefit far more from traditional delivery systems.

Computers and the Internet are nonetheless changing the world as we speak. Fast and reliable access to technology increasingly drives our economy and is key to individual opportunity in today's world. Special efforts must be made to equalize technology's availability and expand opportunity for all. New sources of philanthropy, generated in particular by the computer and related industries, are beginning to focus on this problem. For example, Microsoft chairman Bill Gates and his wife, Melinda, have endowed a foundation with more than $1 billion dollars dedicated to providing Internet access to all. The foundation is donating computers, along with technical training and support, to libraries across the country; schools and community centers will be targeted next.

But private philanthropy alone — much less the marketplace by itself — cannot fix the problem of access. Government must play a part.

The Clinton administration has placed a high priority on educational technology and narrowing the "digital divide" between whites and minorities, the wealthy and the less advantaged. With Vice President

Gore in the lead on this issue, the administration has called for computers, quality software, well-trained teachers, and affordable advanced telecommunications services in every classroom in the country. But the source of revenue to support such an effort has divided the Congress, and the future of government intervention, like the future of these learning technologies, remains unclear.

Recommendations

We do not pretend to offer grand solutions. The issues are complex and the pace of technological change is overwhelming. With no claim to originality, we offer the following broad prescriptions to increase learning opportunities for all.

For those who may be designing virtual campuses and programs:

Place access at the core of system design. Access and inclusion should be the principal values inspiring the use of new technologies to deliver or enhance instruction.

Keep the promise of technology in perspective. The allure of technology can become a drain on human and fiscal resources that can impede the mission of institutions and their capacity to meet the needs of all students. Institutions should aim to strike a balance between traditional and technology-based delivery, and be prepared to alter the balance over time as the expectations and needs of students change.

Learn from the distance learning pioneers. Those aiming to "go virtual" can benefit from the experience of others in the careful integration of technology and traditional modes of instruction. It is no surprise, for example, that Western Governors University and other recent ventures have chosen to team up with Britain's Open University, drawing on its quarter century of success in distance education.

For the communications industry, including both the makers and providers of technology:

Consider broad access in the development of products and the expansion of markets. More lucrative, high-end products and users are the driving force behind the Internet's frenetic expansion. But the communications industry must step up to the plate of social responsibility, which means at times looking beyond bottom line, short-term interests, and toward longer-term, societal interests. Over the long haul, increased access to technology for lower-income, less-advantaged citizens will benefit both society and industry.

For public policymakers:

Take action to narrow the digital divide. The marketplace by itself will not ensure access to technology. Government must intervene to ensure a level playing field via industry incentives and safety-net programs designed to broaden access. Post-secondary students will only benefit from virtual instruction if they have had the experience and exposure to technology earlier in their development.

Monitor progress toward equal access. The government must continue to generate research and indicators on the social impact of the Internet. While current data illustrate gaps in ownership of computers and online access, tomorrow's research should probe the actual use of technology and how it impacts learning opportunities for all citizens.

> *"While education is the great equalizer, technology appears to be a new engine of inequality. Access to technology is not only about hardware and software. It is about effective use, teacher training, and careful integration of technology into the curriculum."*