

Daniel F. Feldman
04/05/2000 11:56:28 AM

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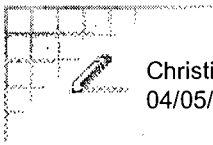
To: See the distribution list at the bottom of this message

CC:

Subject: White House Conference on the New Economy: AGENDA

unfortunately, got this too late for us to try to attend any or part of this, but thought you'd be interested in the panels, given our recent discussions and meetings re the new economy...

----- Forwarded by Daniel F. Feldman/NSC/EOP on 04/05/2000 09:59 AM -----



Christine L. Anderson
04/05/2000 09:51:18 AM

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Subject: White House Conference on the New Economy: AGENDA

The White House Conference on the New Economy

Agenda

April 5, 2000

9:00 a.m. Opening Remarks

East Room

President William Jefferson Clinton

9:15 a.m. Panel I

East Room

***Is the New Economy Rewriting Rules on Productivity
and the Business Cycle?***

Remarks: Treasury Secretary Lawrence Summers

Martin Baily, Chair of the Council of Economic Advisors

Panelists:

Abby Joseph Cohen, Chair of Investment Policy Committee, Goldman, Sachs & Co.
James K. Galbraith, Professor of Public Affairs and Government, Univ. Texas-Austin
William D. Nordhaus, A. Whitney Griswold Professor of Economics, Yale University
Kim Polese, Co-Founder, President, CEO, Marimba, Inc.
Roger C. Altman, Partner, Evercore Partners, Inc.

10:35 a.m. Break

10:50 a.m. Breakout Sessions

Session One (Blue)

Blue Room

***Is a Debt-Free U.S. Government Good For America's
Economic Future***

Discussion Leaders:

Robert Kuttner, Co-Editor, The American Prospect
Henry Kaufman, President, Henry Kaufman & Co, Inc.

Moderator: Gene Sperling, Director, National Economic Council

Session Two (Orange)

Roosevelt Room

Avoiding Risks to our Economic Expansion

Discussion Leaders:

Robert J. Shiller, Stanley B. Resor Professor of Economics, Yale University
Diane Swonk, Chief Economist, Bank One Corporation
John B. Taylor, Mary and Robert Raymond Professor of Economics, Stanford University

Moderator: Jack Lew, Director, Office of Management and Budget

Session Three (Red)

China Room

Who's Being Left Behind in the New Economy?

Discussion Leaders:

Robert Greenstein, Founder and Executive Director, Center for Budget and Policy Priorities and

Alice Rivlin, Senior Fellow, Brookings Institution
Robert L. Johnson, CEO, BET Holdings, Inc.

Moderators: Health and Human Services Secretary Donna Shalala
Maria Echaveste, White House Deputy Chief of Staff

Session Four (Green)
Globalization and Jobs

Map Room

Discussion Leaders:
C. Fred Bergsten, Director, Institute for International Economics
David A. Smith, Director, Public Policy Department, AFL-CIO
Susan M. Collins, Senior Fellow, Economic Studies, Brookings Institution

Moderator: Labor Secretary Alexis Herman

Session Five (Yellow)
***The Next Stages of the Internet and Its Impact
on the Economy***

Diplomatic Room

Discussion Leaders:
Hal R. Varian, Dean, School of Information Management & Systems, U.C., Berkeley
E. David Ellington, Co-Founder, Chairman, President, CEO, NetNoir, Inc.
William R. Hambrecht, Founder, Chairman, CEO, W.R. Hambrecht & Co.

Moderator: John Podesta, White House Chief of Staff

Noon Lunch
State Dining Room

1:45 p.m. Remarks

East Room

President William Jefferson Clinton
Federal Reserve Chairman Alan Greenspan

2:15 p.m. Panel II
***Closing the Global Divide: Health, Education
and Technology***

East Room

Panelists:
Amartya Sen, Master, Trinity College, Cambridge University
William H. Gates, Chairman and Chief Software Architect, Microsoft Corporation
Henry Cisneros, President and CEO, Univision, Inc.

James D. Wolfensohn, President, World Bank
Mirai Chatterjee, Secretary, Self-Employed Women's Association (SEWA) of India
Robert F. Chase, President, National Education Association

3:15 p.m. Break

3:30 p.m. Panel III

East Room

***Can the New Economy Tools Empower Civil Society
and Government?***

Panelists:

Robert D. Putnam, Stanfield Professor of International Peace, Harvard University
Kaleil D. Isaza Tuzman, Co-founder and CEO, govWorks.com
Esther Dyson, Founder and Chairman, Edventure Holdings, Inc.
William Julius Wilson, Weiner Professor of Social Policy, JFK School, Harvard University

Message Sent To: _____

THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release

February 2, 2000

THE CLINTON-GORE ADMINISTRATION:
FROM DIGITAL DIVIDE TO DIGITAL OPPORTUNITY
February 2, 2000

Today, President Clinton will unveil a comprehensive proposal to help bridge the digital divide and create new opportunity for all Americans. This issue has been a top priority for Vice President Gore, who has worked to bridge the Digital Divide by ensuring that all children have access to educational technology. Access to computers and the Internet and the ability to use this technology effectively are becoming increasingly important for full participation in America's economic, political and social life. Unfortunately, unequal access to technology and high-tech skills by income, educational level, race, and geography could deepen and reinforce the divisions that exist within American society. President Clinton believes that we must make access to computers and the Internet as universal as the telephone is today -- in our schools, libraries, communities, and homes.

To make the most of these new opportunities, the President believes we must:

- Broaden access to technologies such as computers, the Internet, and high-speed networks;
- Provide people the skilled teachers and the training they need to master the information economy;
- Promote online content and applications that will help empower all Americans to use new technologies to their fullest potential.

President Clinton will announce specific proposals in his new budget to help accomplish these goals and help create digital opportunity for more Americans -- including \$2 billion in tax incentives to encourage private sector activities such as computer donations, and \$380 million in new and expanded initiatives to serve as a catalyst for public-private partnerships:

PRESIDENT CLINTON'S NEW BUDGET INITIATIVES

1. \$2 billion in tax incentives over 10 years to encourage private sector donation of computers, sponsorship of community technology centers, and technology training for workers.
2. \$150 million to help train all new teachers entering the workforce to use technology effectively.
3. \$100 million to create 1,000 Community Technology Centers in low-income urban and rural neighborhoods.
4. \$50 million for a public/private partnership to expand home access to computers and the Internet for low-income families.
5. \$45 million to promote innovative applications of information and communications technology for under-served communities.
6. \$25 million to accelerate private sector deployment of broadband networks in under-served urban and rural communities.

7. \$10 million to prepare Native Americans for careers in Information Technology and other technical fields.

To Help Mobilize Public/Private Partnerships To Close the Digital Divide, President Clinton Will Lead A New Markets Trip during the week of April 9th: Closing the Digital Divide requires creative partnerships between industry, non-profit organizations and government. That's why President Clinton will lead a New Markets trip during the week of April 9th designed to mobilize a significant private and public effort to close the digital divide. This trip, which will include leading high-tech CEOs, will highlight communities that are using information technology to enhance our children's education, expand access to life-long learning, and create economic growth and high-tech, high-wage jobs.

THE CLINTON-GORE AGENDA FOR
CREATING DIGITAL OPPORTUNITY
February 2, 2000

Private sector competition and rapid technological progress are powerful forces to bridge the digital divide and make Information Age tools available for more and more Americans. The information technology industry is able to double the amount of computing power available at a given price every 12-18 months, and is now selling low-cost computers and "information appliances" -- such as specialized Internet access devices. Some companies are even offering free, advertiser-supported Internet access. By working with the private sector and community-based organizations, the Administration can accelerate the trend toward expanded access.

But access to technology is only the first step. We also need to give people the skills they need to use technology, to promote content and applications of technology that will help empower under-served communities, and to ensure that teachers can use technology effectively in the classroom. Below is a brief description of the initiatives that President Clinton and Vice President Gore are proposing to help accomplish these goals:

1. \$2 billion over 10 years in tax incentives to encourage private sector donation of computers, sponsorship of community technology centers, and technology training for workers: President Clinton's budget includes \$2 billion in new tax incentives to encourage companies to donate computers to schools, libraries and community technology centers, to sponsor schools, libraries, and community technology centers in designated Empowerment Zones, and to provide basic computer training, workplace literacy, or other basic education for their employees.
- Encouraging companies to donate computers. The President proposes to extend and expand tax deduction that gives companies an incentive to donate computers to schools, libraries and computer technology centers. This enhanced deduction allows companies to deduct more than the cost of their donation. Under current law, this deduction applies to donations of computers to schools only and expires after the year 2000. The President's proposal would extend this provision through June 30, 2004, and would expand it to donations to public libraries or community technology centers in Empowerment Zones, Enterprise Communities, and high-poverty areas.
 - Promoting corporate sponsorship of schools, libraries and community technology centers. The President proposes tax relief to encourage companies to sponsor schools and community technology centers in Empowerment Zones, Enterprise Communities, and targeted low income

areas. The President's proposal would allocate credits for \$16 million in corporate sponsorship to each of the 31 existing Empowerment Zones and 10 proposed new Empowerment Zones and \$4 million in corporate sponsorship for each of the more than 80 Enterprise Communities. In total, the President's proposal would help support up to nearly \$1 billion in annual sponsorships to help improve schools and community technology centers.

- Supporting technology training for workers. The President's proposal would provide targeted tax relief to encourage companies to provide basic computer training, workplace literacy, or other basic education for employees that lack the basic skills to succeed in the modern workplace. Companies would be allowed to take a 20 percent tax credit for up to \$5,250 in annual expenses per employee. Eligible employees generally would not have received a high school degree or its equivalent.

2. \$150 million to help train all new teachers entering the workforce use technology effectively in the classroom: Under the leadership of President Clinton and Vice President Gore, the United States has made enormous progress in connecting schools to the Internet, and increasing the number of modern computers in the classroom. However, access to computers and the Internet will not help students achieve high academic standards unless teachers are as comfortable with a computer as they are with a chalkboard. President Clinton's budget calls for \$150 million in Department of Education grants -- double the last year's investment of \$75 million -- to ensure that all new teachers entering the workforce are technologically literate and can integrate technology into the curriculum. The need for this investment is clear. According to the National Center for Education Statistics, only 20 percent of teachers report that they are "very well prepared" to integrate technology into classroom. And over the next 10 years, K-12 schools will need to hire 2 million new teachers to fill the vacancies left by retiring teachers and to accommodate increasing student populations.

3. \$100 million to create up to 1,000 Community Technology Centers in low-income urban and rural communities: The President's budget more than triples the Department of Education's support for Community Technology Centers - from \$32.5 million in FY2000 to \$100 million in FY2001. This initiative, championed by Congresswoman Maxine Waters was initially funded at \$10 million in fiscal year 1999. The goal of the initiative is to help close the "digital divide" by providing computers and Information Age tools to children and adults that are not able to afford them at home. These community technology centers will help empower hundreds of thousands of low-income children and adults in a variety of ways. Children will be able to improve their performance in school by having access to high-quality educational software after school and prepare for the high-tech workplace of the 21st century by getting certified with an information technology skill. Adults will be able to use computers and the Internet to take a self-paced adult literacy course; get access to America's Job Bank to see what jobs are available; learn to type up a resume and cover letter using word processing software; learn to start up their own "micro-enterprise" or Web-based business, or acquire new training. A study sponsored by the National Science Foundation confirms that Community Technology Centers are helping to bridge the digital divide. Of the users surveyed: 62 percent had incomes of less than \$15,000; 65 percent took computer classes to improve their job skills; and 41 percent got homework help or tutoring at the center.

4. \$50 million for a public/private partnership to expand home access to computers and the Internet for low-income families: The President's budget includes a new \$50 million Department of Commerce pilot program to expand access to computers and the Internet for low-income families, and to give these families the skills they need to use these new

Information Age tools effectively. This new program will provide competitive grants to public-private partnerships at the local level. Potential partners might include: local school districts seeking to expand parental involvement in education; high-tech companies willing to provide discounts on computers and access; libraries offering training on "information literacy"; employers seeking to upgrade the skills of their workforce using distance learning, and government agencies at all levels seeking to save taxpayer dollars through the electronic delivery of government services. The Administration will continue to work with the private sector and non-profit organizations on the most effective way to design this program.

5. \$45 million to promote innovative applications of information technology for under-served communities: President Clinton's budget will increase the investment in the Department of Commerce's highly-successful Technology Opportunities Program (TOP) to \$45 million -- triple the current level of \$15 million. This program encourages innovative applications of information technology that help empower low-income communities -- public health information systems that raise childhood immunization rates in inner-cities, tele-mentoring for at-risk youth, and electronic networks that strengthen local communities by fostering communication and collaboration.

6. \$25 million to accelerate private sector deployment of high-speed networks in under-served urban and rural communities: High-speed Internet access is becoming as important to the economic vitality of a community as roads and bridges are today. The President will propose a new \$25 million program at the Department of Commerce and the Department of Agriculture to accelerate private sector deployment of broadband networks in under-served urban and rural communities -- using grants and loan guarantees. The potential payoff from these kinds of investments is enormous. One company, for example, has helped people move from "welfare-to-work" by connecting their community with the high-speed networks needed to support telecommuting. This solves some of the biggest barriers associated with welfare-to-work -- lack of childcare and transportation.

7. \$10 million to prepare Native Americans for careers in information technology and other technical fields: The National Science Foundation will support efforts by tribal colleges to increase the number of Native Americans who are prepared to pursue careers in information technology and other technical fields. The ability to use technology is becoming increasingly important in the workplace, and jobs in the rapidly growing information technology sector pay almost 80 percent more than the average private sector wage.

THE IMPORTANCE OF BRIDGING THE DIGITAL DIVIDE

Access to computers and the Internet and the ability to effectively use this technology are becoming increasingly important for full participation in America's economic, political and social life. People are using the Internet to find lower prices for goods and services, work from home or start their own business, acquire new skills using distance learning, and make better informed decisions about their healthcare needs. The ability to use technology is becoming increasingly important in the workplace, and jobs in the rapidly growing information technology sector pay almost 80 percent more than the average private sector wage.

Technology, used creatively, can also make a big difference in the way teachers teach and students learn. In some classrooms, teachers are using the Internet to keep up with the latest developments in their field, exchange lesson plans with their colleagues, and communicate more frequently with parents. Students are able to log on to the Library of Congress to download primary documents for a history paper, explore the

universe with an Internet-connected telescope used by professional astronomers, and engage in more active "learning by doing." Students are also creating powerful Internet-based learning resources that can be used by other students -- such as award-winning Web sites on endangered species, the biology of sleep, human perception of sound, and an exploration of the American judicial system.

Access to computers and the Internet has exploded during the Clinton-Gore Administration. Unfortunately, there is strong evidence of a "digital divide" -- a gap between those individuals and communities that have access to these Information Age tools and those who don't. In some instances, this divide is actually widening. A July 1999 report from the Department of Commerce, based on December 1998 Census Department data, revealed that:

- Better educated Americans more likely to be connected. Between 1997 and 1998, the technology divide between those at the highest and lowest education levels increased 25%. In 1998, those with a college degree are more than eight times likely to have a computer at home and nearly sixteen times as likely to have home Internet access as those with an elementary school education.

- The gap between high- and low-income Americans is increasing. In the last year, the divide between those at the highest and lowest income levels grew 29%. Households with incomes of \$75,000 or higher are more than twenty times more likely to have access to the Internet than those at the lowest income levels, and more than nine times as likely to have a computer at home.

- Whites more likely to be connected than African-Americans or Hispanics. The digital divide is also persistent and growing along racial and ethnic lines. Whites are more likely to have access to the Internet from home than African-Americans or Hispanics have from any location. African-American and Hispanic households are roughly two-fifths as likely to have home Internet access as white households. The gaps between white and Hispanic households, and between white and African-American households, are now more than six percentage points larger than they were in 1994. However, for incomes of \$75,000 and higher, the divide between whites and African-Americans has narrowed considerably in the last year.

- Rural areas less likely to be connected than urban users. Regardless of income level, those living in rural areas are lagging behind in computer ownership and Internet access. At some income levels, those in urban areas are 50% more likely to have Internet access than those earning the same income in rural areas. Low income households in rural areas are the least connected, with connectivity rates in the singles digits for both computers and Internet access.

In addition, data from the National Center for Education Statistics reveals a "digital divide" in our nation's schools. As of the fall of 1998, 39 percent of classrooms of poor schools were connected to the Internet, as compared to 62 percent for wealthier schools.

A STRONG RECORD OF WORKING TO CLOSE THE DIGITAL DIVIDE

President Clinton and Vice President Gore have worked hard to close the digital divide, and to help create opportunity for more Americans in the Information Age.

- President Clinton and Vice President Gore have set a national goal of ensuring that every child is technologically literate. In addition to preparing children for the high-tech workplace of the 21st century, technology can help change the way teachers teach and students learn.

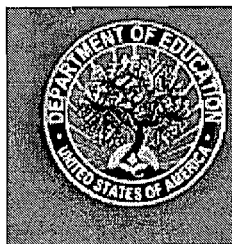
Teachers can communicate more frequently with parents, keep up with the latest developments in their field, and exchange lesson plans with their colleagues. Students can conduct research using primary source material, learn the principles of genetics by breeding virtual fruit flies, and learn astronomy by using a professional telescope located 3,000 miles from their classroom.

As a result of the Clinton-Gore educational technology initiative:

- The number of classrooms connected to the Internet has increased from 3% in 1994 to 51% in 1998.
- The number of schools connected to the Internet has increased from 35% in 1994 to 89% in 1998.
- The "e-rate", part of the Telecommunications Act of 1996, is providing \$2.25 billion in 20% - 90% discounts to connect schools and libraries to the Internet, with the deepest discounts going to the poorest schools that need it most. The e-rate alone has provided Internet access for children in more than 1 million classrooms.
- Our total investment in educational technology at the federal level (including the e-rate) has increased from \$23 million in 1993 to over \$3 billion today.
- Grants supported by the Department of Education are training 400,000 new teachers to use technology effectively in the classroom.

In addition, President Clinton and Vice-President Gore have worked to:

- Expand access to technology for people with disabilities: President Clinton and Vice President Gore have been strong supporters of efforts to make technology more accessible for people with disabilities. Recent actions by the Federal Communications Commission will help ensure that telecommunications equipment, such as cellular phones, is designed to be accessible for people with disabilities.
- Expand access to technology in under-served communities: In addition to the Community Technology Center program, HUD Sec. Andrew Cuomo has created approximately 500 Neighborhood Network learning centers that bring state of the art technology to publicly-assisted housing across America. HUD's Neighborhood Networks are innovative private/public partnerships that establish computer-based multi-service centers to help people in publicly-assisted housing learn critical computer skills and prepare for 21st century jobs.
- Ensure that the Administration makes closing the Digital Divide a top priority. In December, 1999, President Clinton directed members of the Cabinet to take specific actions to address the digital divide: President Clinton is directing members of his Cabinet (Secretaries of Commerce, Education, Health and Human Services, Housing and Urban Development, and Labor) to take specific steps to close the Digital Divide, including:
 - Continuing to measure the nature and extent of the digital divide by examining the importance of income, education, race, gender, geography and age to Americans' access to Information Age tools;
 - Expanding the network of Community Technology Centers to provide access to technology for those Americans who can't afford it;
 - Promoting applications of the Internet that will empower low-income families, such as the ability to start their own business; and
 - Upgrading the IT skills of workers in low-income communities.



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Discounted Telecommunications Services for Schools and Libraries E-Rate Fact Sheet

"Until every child has a computer in the classroom and the skills to use it...until every student can tap the enormous resources of the Internet...until every high-tech company can find skilled workers to fill its high-wage jobs...America will miss the full promise of the Information Age."

President Clinton, MIT Commencement
June 5, 1998

Don't Leave Any Children Behind - Ending the Digital Divide -- We are still a long way from closing the gap between the "haves" and "have-nots" opportunity to getting new technology. The most recent data from the National Center for Education Statistics shows that wealthy schools were more than 2 » times more likely to have Internet access in classrooms than poor schools -- 36% vs. 14%. Similarly, schools with high-minority enrollment were almost three times less likely to have Internet access in classrooms than predominantly white schools -- 13% vs. 37%. The E-Rate will help to ensure the end of the digital divide between rich and poor schools and among urban, rural, and suburban schools.

A Long-Serving Tradition of Universal Service -- For more than 60 years, Americans have benefited from universal phone service.

A History of Public Support -- Americans want technology in their children's schools -- now. 74% of Americans agree that computers improve the quality of education. The decision to provide discounted telecommunications services to schools and libraries was the culmination of a lengthy, inclusive, and bipartisan process, that involved many significant public meetings, hearing and rulings. The following is a brief chronology of these events:

- March 1995 -- A bipartisan amendment on universal service is offered to the Telecommunications Act, which calls for providing all K-12 public and private non-profits schools, as well as libraries, with discounts for telecommunications services.
- February 1, 1996 -- The Telecommunications Act is

signed into law by President Clinton. Among its key objectives are: 1) encourage competition in the telecommunications and broadcasting industry; 2) reduce regulatory burdens; 3) provide consumers with greater choice and lower rates; and 4) expand and maintain an existing system of universal service that provides high-cost areas, low income families, and schools, libraries, and rural health care providers with affordable access to advanced telecommunications. The Act mandates the creation of a bipartisan Federal-State Joint Board on Universal Service.

- November 7, 1996 -- Following several public hearings and meetings, the FCC Joint Board issues recommendations to implement universal service for Schools and Libraries.
- May 7, 1997 -- The FCC rules unanimously to provide all K-12 schools and public libraries up to \$2.25 billion a year in discounts for telecommunication services ranging from 20%-to-90% on a sliding-scale formula. The average discount will be about 60% and the poorest schools will receive discounts of 80%-to-90%. Internet access and internal connections necessary for connecting classrooms and libraries are subject to discounts. The E-Rate does not cover computers, software, or other unrelated services.
- January 30, 1998 -- The 75 day open application process for schools and libraries to receive discounted telecommunication services begins.
- April 15, 1998 -- The first round of the E-Rate application process ends. More than 30,000 applications are submitted, requesting total discounts worth \$2.02 billion.

Providing Equity -- The applications for the E-Rate funds demonstrate that the program is serving primarily small and medium size schools and poorer schools. Seventy percent of the schools and libraries are seeking discounts totaling less than \$25,000 and fifty-three percent are seeking less than \$10,000. Fifty-three percent of the total funds are being requested by the nation's poorest schools and libraries -- those that would receive the greatest discounts. The wealthier schools that have applied for the smaller discounts make up only .3% of the total funds requested.

Certification Required -- The Schools and Libraries Corporation (SLC) is conducting a careful examination of requests to ensure that only applications that adhere to all requirements are eligible to receive funding. Schools and libraries must certify that they have a technology assessment and plan for how they will use the discounted services. The plan must be approved by their state agency, and the state or local authority must provide a description of the services sought and how those services will be used to enhance

education.

Already Paid For -- The Telecommunications Act of 1996 was designed to create regulatory reform including reductions in access charges to the telecommunications industry. Over the last 11 months, the long distance companies have already saved nearly \$2.4 billion from access charge reductions. This windfall more than offsets the estimated E-Rate demand of \$2.02 billion. By passing the cost onto the customer and adding a surcharge to phone bills, these long distance phone companies are trying to keep that \$2.4 billion in savings for themselves.

- Long distance companies are not wanting for profits -- The March 2, 1998 edition of *Business Week* indicates that the profit margin of the telecommunications industry stood at 8.7% in the 4th quarter of 1997, significantly greater than the composite profit margin for all industry of 5.5%.

Streamlined Administration -- The FCC is taking positive steps to streamline the administration of universal service. On January 1, 1999 the SLC and the Rural Health Care Corporation will be merged and their boards will be consolidated.

Strong Future -- Currently, only 27% of classrooms are linked to the Internet. With the implementation of the E-Rate, more than half of our nation's classrooms will be connected, including almost every classroom in the nation's fifty largest urban school districts. This is an enormous step towards closing the technology gap that exists among our communities and creating full and fair opportunities for all students. Our children will be better prepared to compete for the high-tech, high-wage jobs that our economy is producing in record numbers.

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Last update June 9, 1998 (*pjk*).

Reauthorization of the Higher Education Act

Distance Learning and the Higher Education Act:

Making College Easier and More Affordable to Attend

In its proposal for reauthorization of the Higher Education Act (HEA), the Administration is seeking to broaden opportunities for distance learners by expanding eligibility for student aid and encouraging innovative uses of technology by institutions and other education providers, while ensuring the integrity of these courses and programs. These proposals reflect changing demographics in postsecondary education and new ways institutions are delivering higher education, while ensuring that students get what they pay for and taxpayer dollars are well spent.

According to a recent study by the National Center for Education Statistics, in 1995, 33% of all higher education institutions offered distance education to more than 700,000 students, and the interest in providing technology-based education continues to grow rapidly. Institutions are examining new ways to reach out to students, including working parents, workers that seek additional training to advance, and students with disabilities. Distance learning provides opportunities to individuals who face such time and place constraints. The Administration will also pursue different ways -- including working closely with accrediting agencies and State licensing agencies -- to learn more about distance education and to gain experience in effectively managing and monitoring the student aid programs in a technology-based learning environment.

Student Aid (Title IV) Proposal

The Administration's reauthorization proposal for distance education broadens opportunities for distance learners by expanding institutional and student aid eligibility, eliminating the different treatments in cost of attendance between distance learners and on-campus learners, while ensuring quality through accreditation. Specifically, the Administration is proposing to:

1. Expand Title IV student aid eligibility for students in distance learning by removing the 50 percent limitation and restriction at degree-granting institutions. Currently, institutions that offer more than 50 percent of their courses by distance or have more than 50 percent of their students as distance learners are ineligible to participate in the Title IV student aid programs. Under the Administration's proposal, only non-degree granting institutions (i.e. institutions that do not offer at least one degree program) would remain subject to the current requirements regarding eligibility. Expanding, at this time, institutional eligibility at degree-granting institutions only is a cautious approach that provides greater assurance that the distance programs will be high quality and serve students well.
2. Eliminate the differences in cost of attendance treatments between distance learners and on-campus learners. Currently, dependent and independent students living off-campus who are enrolled at least half-time in an eligible program receive an annual living allowance for room and board costs of no less than \$1500 and \$2500, respectively. The Administration's proposal would allow distance learners (who are enrolled at least half time) to include a living allowance in their need determination, just as the law already allows for students who live at home. This approach is appropriate in light of the societal benefits that result from an educated population regardless of whether the student attends a residential-based institution or completes a program from a distance. In addition, the Administration is proposing to allow the cost of equipment, including computers, to be included in a distance learner's cost of attendance. Currently, students receiving all or part of their instruction through distance are unable to include the cost of equipment in their cost of attendance.

As noted above, a student must be enrolled at least half-time in order to include the living allowance in the need determination. The Administration is not proposing any change to this

requirement. In other words, a student enrolled in only one course would not be provided a living allowance regardless of whether the student took the course by distance or on-campus.

For example, Mary has income of \$5,000, lives at home and takes classes full-time at the local community college. Alice also lives at home, has the same income, is enrolled in the same program, but takes all of her classes over the Internet. Both Mary and Alice are dependent students and there is no contribution from their parents' income or assets in the determination of need. Tuition and other education expenses for both students is \$1,500. For the 1998-99 award year,, Mary would be eligible for a \$2,750 Pell Grant while Alice would only be eligible for a \$1,300 Pell Grant. The difference reflects the fact that Mary is allowed a \$1,500 cost of living allowance in her aid calculation while Alice -- because she is a distance learner -- is not. Under the Department's proposal, Alice would be eligible for a \$2,750 Pell Grant, the same amount as Mary.

3. Ensure accountability of distance learning courses and programs through accreditation by requiring accrediting agencies to have specific distance learning standards that, at a minimum, address issues related to the institution's criteria for (1) selecting students to participate in distance learning, (2) monitoring student progress, (3) the academic and student support services available to students, and (4) measuring student outcomes. Currently, accrediting agencies are required to assess the quality of an institution by examining, among other things, the institution's curricula, faculty, facilities, student support services, default rates, and success with respect to student achievement in relation to its mission, including as appropriate, job placement rates, completion rates, and professional licensing exam pass rates. The Administration's reauthorization proposal would further require accrediting agencies to have specific standards on distance learning programs or courses at an institution.
4. Provide the Secretary with the authority to respond where appropriate to distance learning after more knowledge and experience is gained in this area. For example, the current provisions for academic year and program length may not apply in the distance learning arena; the proposal would allow the Secretary to respond accordingly where other alternative measures may be more appropriate. The Secretary could exercise this authority and remove regulations that do not make sense for distance learning models and change or replace them with ones that are more tailored and address the unique characteristics of distance learning.
5. Authorize an independent study to examine the effectiveness of accrediting agencies and associations in developing and enforcing the distance learning standards described in the proposed new section 111(a)(5) of the Act. This would provide the Secretary and the Congress with more information about this developing area of technology and its impact on the HEA programs, and thereby help to ensure accountability in the field of distance learning.

Learning Anytime Anywhere Partnerships

In addition, the Administration is proposing a new \$30 million competitive grant program that would support pilot projects using distance learning technologies and other innovations to enhance the delivery of postsecondary education and lifelong learning opportunities to students of all ages. The Learning Anytime Anywhere Partnership Program would encourage partnerships between educational institutions (including four-year institutions, community colleges, technical institutes, adult literacy and education programs, and regional vocational/technical schools that serve adults), community-based organizations, software and technology developers, learning assessment specialists, and private industry employers in an effort to deliver a valuable and quality education to a variety of different kinds of students who face time and place constraints. Projects in this initiative will emphasize the development of innovative ways to ensure quality and measure student achievement that are appropriate to distance education.

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EXECUTIVE SUMMARY

Information tools, such as the personal computer and the Internet, are increasingly critical to economic success and personal advancement. *Falling Through the Net: Defining the Digital Divide* finds that more Americans than ever have access to telephones, computers, and the Internet. At the same time, however, NTIA has found that there is still a significant "digital divide" separating American information "haves" and "have nots." Indeed, in many instances, the digital divide has *widened* in the last year.

This report, NTIA's third in the *Falling Through the Net* series, relies on December 1998 U.S. Department of Commerce Census Bureau data to provide an updated snapshot of the digital divide. The good news is that Americans are more connected than ever before. Access to computers and the Internet has soared for people in all demographic groups and geographic locations. At the end of 1998, over 40 percent of American households owned computers, and one-quarter of all households had Internet access. Additionally, those who were less likely to have telephones (chiefly, young and minority households in rural areas) are now more likely to have phones at home. (Chart I-1)

Accompanying this good news, however, is the persistence of the digital divide between the information rich (such as Whites, Asians/Pacific Islanders, those with higher incomes, those more educated, and dual-parent households) and the information poor (such as those who are younger, those with lower incomes and education levels, certain minorities, and those in rural areas or central cities). The 1998 data reveal significant disparities, including the following:

- Households with incomes of \$75,000 and higher are more than *twenty times* more likely to have access to the Internet than those at the lowest income levels, and more than *nine times* as likely to have a computer at home. (Chart I-2)
- Whites are more likely to have access to the Internet from home than Blacks or Hispanics have from *any* location.
- Black and Hispanic households are approximately *one-third* as likely to have home Internet access as households of Asian/Pacific Islander descent, and roughly *two-fifths* as likely as White households. (Chart I-22)
- Regardless of income level, Americans living in rural areas are lagging behind in Internet access. Indeed, at the lowest income levels, those in urban areas are more than twice as likely to have Internet access than those earning the same income in rural areas.

For many groups, the digital divide has *widened* as the information "haves" outpace the "have nots" in gaining access to electronic resources. The following gaps with regard to home Internet access are representative:

- The gaps between White and Hispanic households, and between White and Black households, are now approximately five percentage points larger than they were in 1997.
- The digital divides based on education and income level have also increased in the last year alone. Between 1997 and 1998, the divide between those at the highest and lowest education levels increased 25 percent, and the divide between those at the highest and lowest income levels grew 29 percent.

Nevertheless, the news is not all bleak. For Americans with incomes of \$75,000 and higher, the divide between Whites and Blacks has actually narrowed considerably in the last year. This finding suggests that the most affluent American families, irrespective of race, are connecting to the Net. If prices of computers and the Internet decline further, the divide between the information "haves" and "have nots" may continue to narrow.

Until every home can afford access to information resources, however, we will need public policies and private initiatives to expand affordable access to those resources. The Clinton Administration is committed to connecting all Americans to the National Information Infrastructure. Pro-competition policies, to reduce the prices of basic phone and information services, and universal service policies will continue to be important parts of the solution.

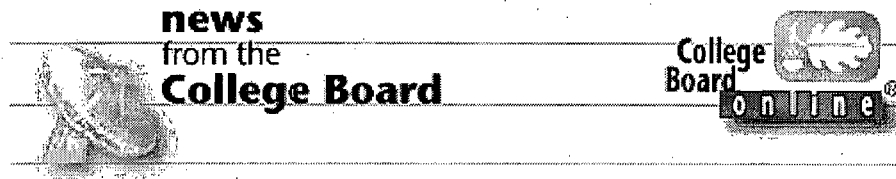
Community access centers (CACs) -- such as schools, libraries, and other public access points -- will play an important role. The 1998 data demonstrate that community access centers are particularly well used by those groups who lack access at home or at work. These same groups (such as those with lower incomes and education levels, certain minorities, and the unemployed) are also using the Internet at higher rates to search for jobs or take courses. Providing public access to the Internet will help these groups advance economically, as well as provide them the technical skills to compete professionally in today's digital economy.

Establishing and supporting community access centers, among other steps, will help ensure that all Americans can access new technologies. As we enter the Information Age, access to computers and the Internet is becoming increasingly vital. It is in everyone's interest to ensure that no American is left behind.

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College Board President to Form National Coalition to Close "Digital Divide"

College Board President Gaston Caperton today pledged to create a national coalition of educators, civil rights leaders, technology executives and elected officials targeted to close the "digital divide" between affluent and economically disadvantaged students within five years.

In an 11 a.m. address in Albany, New York, before more than 700 members of the New York State Council of School Superintendents assembled at the Desmond Hotel, Caperton committed the Century-old College Board to supporting professional teacher development and to closing the technology gap between the "educational haves and have-nots."

"The single most un-American aspect of our great society is the lack of truly equal educational opportunity," said Caperton, the former two-term governor of West Virginia who took the helm of the College Board last July. Caperton told the superintendents that his experience taught him that major contributors to unequal educational opportunity were the current hit-and-miss classroom access to technology and uneven teacher training.

To make technology access universal rather than random, Caperton said that he and the College Board would call on educators, civil rights leaders, technology companies and elected officials to commit time and resources to making Internet access available to all American high school students by 2005.

"I believe that you and I share a common understanding of what works in education and what should be shared equally," Caperton said to the assembled educators. "Technology works, professional development works, and a uniform system of world class standards works."

Expanded Internet Effort

He pointed to a major expansion of the College Board's Internet group as a vehicle for professional development and a source for educational information, tools and test preparation at low cost or no cost at all.

"We are going to take a lead role in delivering a wide array of professional development offerings across the academic spectrum -- including Advanced Placement," Caperton said.

The Advanced Placement Program® (AP®) -- which allows high school students to earn college credits while still in high school -- is currently available in some sixty percent of the nation's high schools. United States Secretary of Education Richard Riley recently praised the AP Program as a way to raise national standards, and called for its expansion into every school in the country.

Caperton also offered the superintendents the resources of the "College Board System"-- a series of diagnostic and early intervention programs designed to enable high school students to meet the challenging standards of the Board's Advanced Placement Program and to prepare them for greater success on the SAT® exams. The State of Florida, the

Archdiocesan School System of Philadelphia and the city of Rochester, New York have recently taken steps to adopt the College Board System.

Defends the Performance of School Superintendents

Caperton also offered a spirited defense of school superintendents, who he said were under-appreciated, underpaid, forced to work with extremely tenuous job security, and often subjected to unfair criticism.

"Far too many people expect you to solve all the social problems that have not been solved by political leaders, community leaders, the courts, law enforcement agencies, the clergy and families," Caperton said.

"Much of the current criticism of education, and the performance of school superintendents, is couched in terms of the need for 'raising standards'," Caperton said.

"I believe in high standards. Standards can be our best friends. But they can only be implemented if you, as the CEO's of your school districts, have the flexibility to choose your own team and make your own decisions without constantly being second-guessed by school boards and public officials," Caperton said. "You can't be given huge responsibility without being given equal authority."

He further contended that too many public officials focus solely on what is wrong in education, without celebrating its many successes.

"Folks in power tend to forget that it is the successful, hard work of educators such as yourselves that has given millions of people the tools and the confidence to succeed," Caperton said. "The economic boom we have been enjoying is no accident. It is a clear example of what has worked in American education. We just need to make sure everyone gains access to what works."

Press Release Archives



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THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release

February 2, 2000

REMARKS BY THE PRESIDENT
ABOUT THE DIGITAL DIVIDE

Ballou Senior High School
Washington, D.C.

11:35 A.M. EST

THE PRESIDENT: Thank you. Now, all of you sitting out here in this audience, you know, some of us speak in public for a living; others don't. I thought Darnell was terrific. Didn't you think he did a good job? (Applause.)

I am so glad to be here today with all of you at Ballou Senior High School. I thank the band for playing for us earlier today -- I thought you all did a great job. (Applause.) And I thank Dr. Durham and Dr. Bridges for welcoming me here and for giving me a track and field jacket, which I will wear happily. (Applause.) I thank the students who met me.

I want to say a special word of thanks to the Chairman and CEO of America On-Line, Steve Case; and for Epic Learning's President, David Sterling. I thank them for what they said here today and for the commitment they have to giving you and young people like you all over this country a chance to live your dreams by making sure you have access to the technological future that ought to be within reach of every American. They don't have to do this; they're doing this because they know it is the right thing to do. And I thank them for being here. (Applause.)

I want to talk a little today about what our job is in the government, what my job as President is, what Washington's job should be, to make sure that we can have more stories like the ones I saw from the students today that Darnell introduced me to. And I want to thank all the students that showed me what they were doing to either repair or to work with computers. But nothing that the President proposes that costs any money can be done unless the Congress goes along. And there is an enormous amount of interest in the United States Congress today in both parties, in both the Senate and the House, to do something about this.

And there is a big delegation from Congress here, so I want to introduce them. I'd like to ask them to stand, and I hope you will express your appreciation to them. First of all, Senator Bob Bennett, from Utah, who headed our Y2K efforts in the Congress. Thank you, sir. (Applause.) Congresswoman Maxine Waters from California. (Applause.) Congresswoman Sheila Jackson Lee from Texas. (Applause.) Congressman Bill Jefferson from Louisiana. (Applause.) Congressman Adam Smith from Washington. (Applause.) Congresswoman Ellen Tauscher from California. (Applause.) Congressman David Wu from Oregon. (Applause.) And your representative in Congress, Eleanor Holmes Norton. Thank you. (Applause.)

Did I miss anybody? And I want to thank your wonderful Mayor, who was once a member of our administration, Mayor Anthony Williams. Stand up, there. Thank you very much. (Applause.)

I want to just mention a couple of other people. First of all, thank you, Superintendent Ackerman, for welcoming me. I want to thank Harris Wofford, who is the head of the AmeriCorps program, and Vista. The AmeriCorps-Vista volunteers are working to help solve this problem of the digital divide all over America. They're young people who are going back into our schools, going back into our community, helping people who otherwise wouldn't have a chance, and earning some money themselves for college. Some of you might want to consider joining AmeriCorps when you get out of high school.

Stand up, Senator Wofford. Thank you very much. (Applause.)

I want to thank Angela Lee from AT&T and Julie Evans from NetDay for the work they have done to help connect all of our schools to the Internet. I want to thank three people in our administration -- Gene Sperling, my National Economic Advisor, who has worked so hard on this; Secretary Daley, who is speaking in Harlem on this issue today; and I want to thank Vice President Gore for reasons I'll say in a moment, but he had a great deal to do with what we have been able to accomplish over the last six years.

I just got a wonderful tour from Darnell, and a chance to learn how technology is enhancing your educational mission. And as Steve Case said, it will only increase when you become one of these power-up sites. I learned every freshman is taking a computer literacy class. I learned students are going on-line to get help with their homework and learn what they need to do to prepare for college. I learned that you can chat in foreign languages with people around the world and work on projects with scientists from our Naval Research Lab.

I was particularly pleased to learn about Epic Learning's long-term commitment to help students toward certificates in high-tech careers, and about the way companies like 3M, AT&T and Cisco, along with the AFL-CIO, are working to give you additional hardware, software, and teacher training.

One thing that I think may be a down side from the students' point of view -- it occurred to me when I was driving through the snow today -- is that once we get everybody wired, you'll still have to go to school even when you can't get here, because you can just go on the Internet. (Laughter.) But I think it's worth the sacrifice to give you a better future.

I wanted to say to you -- to give you some examples. When we talk about bridging the digital divide, what do we mean? We mean that everybody ought to have access to a computer; everybody ought to have access to the Internet; everybody ought to know how to use it and then we ought to make it possible for people to make the maximum use of it. I want to just give you some examples of what this incredibly profound change in our society has wrought in individual lives.

Victor Shen is a high school junior in Whittier, Alaska. He dreams of becoming a professional mathematician, but he lives in a small school in our largest but most rural state. So his school doesn't offer college-level calculus. His town is so remote that he's cut off from the whole rest of the world for several months every winter. But he will soon have the chance to take the classes he needs to pursue his dream of becoming a mathematician by getting on-line. It wouldn't be there.

It ought to be there for every person like him, in every rural area and every inner-city neighborhood in the entire United States of America. There are lots of Victor Shens out there. There are people in this high school who could become professional mathematicians,

professional scientists. There are people like you in every community in this country -- no one should be shut out of this. (Applause.)

Listen to this. Two years ago, a man named Clinton Johnson lost his little bakery on 125th street in Harlem in New York City. He had no savings to support his wife and two children. But he found a community technology center near his home, learned HTML code and got himself a good job as a web developer.

Dale O'Reilley, a grandmother of two from Medford, New Jersey, was diagnosed nine years ago with Lou Gehrig's Disease. Now, even though she can no longer move or speak, a special laptop computer allows her to give voice to her thoughts, and she continues to write newspaper articles for the Philadelphia Inquirer. (Applause.)

The areas in America with the highest unemployment are our Native American reservations. I visited last year the Pine Ridge Indian Reservation in South Dakota, the home of the Oglala Sioux. The unemployment rate there is over 70 percent.

We're all looking for new ways for them to find things to do. They have very gifted artists and crafts and making Native American products. This year, I ordered Christmas gifts from the Pine Ridge reservation over the Internet. They would never be able to market their products across this nation -- never, ever. They wouldn't have the money to do it. But because they have a web page, people like us can find them and help them to build their dreams. (Applause.)

And before we came out here, I was talking to Steve about -- I spent some time a few months ago with the executive of E-Bay out in Northern California. Some of you may have found E-Bay on the Net. It's a trading site. And the company's gone like crazy, because people love to buy and sell things. It's like an old-fashioned community like the farmers' market used to be in my hometown on Saturday morning. And people buy and sell all kinds of things on E-Bay. There are now over 20,000 Americans making a living, not working for E-Bay, but buying and selling on the site, and many of them used to be on welfare. They found a way through the Net to empower themselves through their minds to have a different future.

Now, this is just the beginning. We have only scratched the surface. Imagine what it will be like when every single child in this country can just stretch a hand across a keyboard and pull up every book ever written, every painting ever created, every symphony or jazz piece ever composed. When high-speed wireless networks bring distant learning and telemedicine to every rural area in this country. When even the smallest business can compete worldwide just because they have access to people across the world through the Net.

This is the future we are trying to build. In 1994, when Vice President Gore and I sponsored the first NetDay to begin to hook all of our schools and all of our classrooms up to the Internet, only 3 percent of the classrooms in America were wired. Since then, the public and the private sectors, through generous grants, through NetDays, volunteer work, and through the steep discounts that schools can get in access charges, thanks to the so-called e-rate, which the Vice President pioneered -- since then, we've gone from 3 percent of our classrooms connected to over half of our classrooms connected. And 90 percent of the schools in the United States today have at least one connection to the Internet. That's a big step forward, and I'm proud of that. (Applause.)

But as you have already heard, there is still a big digital divide in this country. And it runs through income first -- low-income families are far less likely to have access to the Internet and

computers. There is also, for reasons we don't entirely understand, there is a separate racial and ethnic component to it. Among low-income families, African American and Hispanic families are less likely than other low-income families to have computers and to be hooked up to the Internet.

We also know that people who live in rural areas, regardless of their race, are far, far less likely to own computers, and to be wired to the Net -- even though they, in some ways, need it more than anybody else because of their physical isolation. And that this is most pronounced in Indian country in the United States.

Eventually this digital divide will deprive businesses of the workers they need. That's why I was so glad to see people training here, to learn how to use and to repair computers. It could also widen inequality in our society between people, based on who's connected and who's not.

Now, at a time when our country has the longest economic expansion in history and the lowest unemployment rate in 30 years, and the lowest minority unemployment rates ever recorded, we must close the digital divide. We have worked too hard to turn this country around and to get it going in the right direction, to let all this generation of young people wind up with greater inequality, when we have a chance to have greater equality of opportunity in America than ever in our history. (Applause.)

Some of you may know that I have been going around America holding what I call New Markets tours, to make the argument that with all the prosperity of the country, now is the time to recognize and be honest about the fact that not every community has felt the economic prosperity of the last few years, and that is our obligation, to bring economic opportunity to all the neighborhoods, and all the rural areas, and all the Indian reservations, where they don't know there has been a recovery because it hasn't changed their lives. If we don't do it now, we will never get around to doing this. Now is the time to do it.

In April, I am going to lead one of these New Markets tours, focused only on this issue -- closing the digital divide. What can we do to have the kind of stories I saw in your classroom today and every classroom and every neighborhood, among every group in every community in the United States? And I've asked Congress to help me. And I want to talk a little bit about what I think our job is.

First of all, we ought to have a goal -- I believe in having big goals. If you have big goals and you work towards them, even if you don't quite get there, you look around and you find you've come a long way. If you don't have big goals, you don't get much done. What should our big goal be? Our big goal should be to make connection to the Internet as common as connection to telephones is today. That's what our big goal ought to be. (Applause.)

And I think we should start by making sure that every community has a technology center that serves not just young people, but adults as well. (Applause.) Yes, you can clap for that -- that's all right. (Applause.) I don't want to take credit for this. We started doing this two years ago because Congresswoman Maxine Waters from California, who is here today, who was then chairman of the Congressional Black Caucus, brought this idea to our attention. She said, you ought to have community technology centers everywhere for the adults, for the people who aren't in the schools. They need access to this, too.

These centers were working so well that we tripled our investment in them last year. And I have given Congress a budget that will triple our investment in them again so we can have 1,000 community

centers with computers serving the adults of America who otherwise would not have access to them. Thank you very much, Congresswoman Waters, and I hope we can pass it. (Applause.)

Second, we want to join with the private sector to bring more computers and Internet access into the homes of low-income people. Public-spirited members of the high-tech community have already helped us -- pledged to help us on this. I know of at least two places in America where there is a serious program, thanks to the private sector, not only to hook up all the classrooms, but to give more low-income students' parents computers in their homes and make sure they know how to e-mail the school, and keep working back and forth on the homework, on the progress of life in school. (Applause.)

In one of these districts in particular, in New Jersey, where a lot of the students are first-generation immigrants whose parents' main language is not English, there has been an explosion in student performance, in part because the Net has enabled the parents who are working all day, who are busy, who hardly have enough money to support their children, but because they're connected, they can be directly involved through e-mail in their children's education. It made a big difference. And we need to recognize that as much as we can do with the community centers, which we ought to do now, eventually we're going to have to give home access to low-income people just like the rest of us have, and I think we should be working on it. (Applause.)

Third thing I want to do is to ask Congress to give private companies a couple of billion dollars -- that's a lot of money -- in tax incentives to get them to build and support these community technology centers, donate quality computers and provide computer training.

Fourth, I want to do more to give -- this is a big issue -- I bet you notice this here; I bet some teachers know this -- we must do more to give quality technology training to all of our new teachers in America, to make sure they're as good with computers as they are with textbooks. You can have all the computers in the world, and if the kids know more about it than the teachers -- which is often the case, at least, if they're as technologically challenged as I have been in my life -- we'll be behind.

Why should we expect teachers, who did not grow up in the computer age, to just know everything they should know to teach the kids everything they can teach to maximize this? We should do more. We owe it to the teachers of this country to give them all the training they need to maximize all this hardware and software that we're doing our best to put at their fingertips, and at the use of their students. (Applause.)

Next thing we need to do is bring high-speed networks to underserved communities. Businesses are looking for high-speed Internet access when they consider new sites. One of the problems I've got in trying to convince people that, even with tax incentives, they ought to go to isolated areas is, they don't have high-speed Internet access, and time is money. So it's very important to do that.

And finally, we want to triple our investment in our Commerce Department's Technology Opportunity Program, to create innovative applications of technology for all low-income communities. For example, we want to have health information systems that raise childhood immunization rates in inner cities. We want to have mentoring for at-risk youth that can be done via the Internet. We believe there are a lot of things that can be done to lift the lives of low-income people, and to bring benefits to them that normally aren't there, if we just think about it and we give people the tools who live in these communities to think about it and find ways to maximize their future.

It would be a terrible irony of our time if these tools, these information revolutionary tools that are breaking down barriers all over the world -- and I'll just give you one more fact -- when I became President -- now, to the kids, this seems like a long time ago, but for the adults, it won't be -- when I became President seven years and two weeks ago, there were 50 -- 50 sites on the Worldwide Web -- 50. Today, there are over 50 million. And it's the fastest-growing means of communication in history by far. Nothing even comes close.

And as a result, I told somebody the other day -- you know, I come from a small town in rural Arkansas, and I've got a cousin that plays chess once or twice a week with a guy in Australia. I mean, it's unbelievable. This is the kind of things that's going on. This tool is breaking down barriers between nations and cultures, and enabling us to come together, and it's opening up all these wonderful opportunities. It would be a tragedy if we allowed this instrument that is also breaking down barriers to build up new barriers to people living their dreams simply because they didn't have access to it. That's what this whole thing is about.

There are kids in this gym today who, in a former time, might never have been able to even think about getting an education in some sort of esoteric technology or scientific subject that will see something on the web that will spark your interest, and that you will then be able to pursue, could change your whole life. It would be wrong for you not to have that opportunity.

There are people here today who will understand that they can use this tool to make a living and to create economic opportunity in this part of Washington, D.C. that's never been there. It would be wrong for you not to have that opportunity. There are people here today who can find out information about things that already exist.

I saw -- one young woman was looking at the questions she should ask in going to college. Every one of you should know that already on the books, we have passed tax credits, scholarships and loans so that at least two years of college is affordable to everybody in America now. I don't care how poor you are. And if the Congress passes the legislation before them now, four years of college will be affordable to everybody in America. I don't care what your income is. You need to know that. (Applause.)

And it will be tragic if this instrument, that has done more to break down barriers between people than anything in all of human history, built a new wall because not everybody had access to it. That's what this whole deal's about.

Steve Case and I were talking when Darnell was up here talking, and he said, you know, I'm not little anymore, and he did that sort of, oh, shucks, routine, you know? (Laughter.) I told Steve Case, I said, boy, he is really good. (Laughter.) And Steve said, yes, I'm glad I don't have to follow him. (Laughter.) I want every American to have a story like Darnell's. And this tool means that we don't have to give up on anybody. We don't have to leave anybody behind. We can all go forward together in the most exciting age this country has ever known. And we're here to tell you we will do our best to make sure you go.

And I want to close, as Mr. Case did, by saying, it doesn't matter what technology you put before you -- to the students -- if you don't do your part. You've still got to be able to read. You've still got to be curious enough to want to learn. You've still got to be disciplined enough to be willing to work. But if you get your heart and your mind engaged, there should be no barrier to letting you live your

dreams tomorrow. And we're going to do our best to take the barriers down.

Thank you, and God bless you. (Applause.)

END

12:01 P.M. EST

EDUCATION DAILY

The education community's independent daily news service

La. School Board Election Setup OK'd By High Court

The Supreme Court yesterday barred the federal government from blocking changes in state and local elections considered discriminatory when the result would not disadvantage minority voters.

The 5-4 decision in a Louisiana case held that the government has no authority under a provision of the 1965 Voting Rights Act to bar election changes when they fail to improve minority influence at the polls for discriminatory reasons.

The high court allowed the current election scheme for the 12-member school board in Bossier Parish, La. The majority, led by Justice Antonin Scalia, denied the federal government the authority to reject proposed changes to voting districts that are drawn with a discriminatory intent when the result leaves minority voters no worse off.

No Backsliding

The ruling applies to all states and counties covered by the law.

Section 5 of the act—which requires government approval of election changes to guard against voting practices with discriminatory purposes or effects—“is nothing more than a determination that the voting change is no more dilutive than what it replaces,” Scalia wrote.

Chief Justice William Rehnquist and Justices Sandra Day O'Connor, Anthony Kennedy and Clarence Thomas joined him.

That section of the law “prevents nothing but backsliding,” Scalia wrote.

Although the government has no authority to bar—in advance—an election change that does not improve minority-voting strength, once changes are instituted, a challenge may be
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College Board To Lead 'Digital Divide' Coalition

The College Board is gathering a coalition of education, civil rights and technology leaders to address the “digital divide” in American education, the group's president announced yesterday.

“The single most un-American aspect of our great society is the lack of truly equal educational opportunity,” College Board president Gaston Caperton told the New York State Council of School Superintendents at their meeting in Albany.

He said the coalition's goal will be to close the gap between rich and poor students' technology access by 2005. “I believe that you and I share a common understanding of what works in education and what should be shared equally,” Caperton said. “Technology works, professional development works, and a uniform system of world class standards works.”

“[The coalition is] in its nascent stage,” said John Hamill, executive director for public affairs of the College Board, which commissions the SAT.

Caperton, a former Democratic governor of West Virginia, plans to solicit members in the coming weeks. He will seek leaders from
(more on p. 3)

Calif. Study: Revamp Special Ed Classroom Formulas

California should, in most instances, revamp its funding formulas for the construction or modernization of special education classrooms, according to a recently released state analysis.

A new statute adopted in 1998 reformed the state's facility grants program, basing funding on the number of special ed students, their placement settings, and the severity of their disabilities. Those regulations were adopted on an interim basis, pending the recommendations of the California Legislative Analyst's Office.

But the office says the state legislature should go back to the drawing board. Classifying students is an unnecessary burden on local school districts, according to the report, which was released earlier this month.

Base Funding On All Kids

Instead, the report recommends that funding be based on the total number of pupils enrolled in a school and the total number of classrooms. Any need for additional classrooms should be determined based on a state average for all placements, both special and regular education, the report says.

The report argues this would provide districts some needed flexibility; preclude any incentive for classifying pupils in a way to maximize state funds; lower administrative costs by eliminating some recordkeeping and reporting; and reduce state review costs.

But some drawbacks remain, including diminished state oversight, imprecise dispensation of funds and added responsibility for local authorities.

About two-thirds of California's roughly 600,000 special education students are placed in a "Designated Instruction and Resource Specialist" setting, which is essentially a regular education class with additional services provided from time to time in a separate classroom.

Most of the remaining special ed students are placed in "Special Day Class," a more costly setting with tailored services where students spend the majority of the day.

State guidelines say that Designated Instruction facilities are already provided for under

the normal K-12 funding streams, meaning that the bulk of the special ed facilities grants go to Special Day Classes.

Even though the number of students in such settings is typically half the number in regular classrooms, the Special Day Classes need to be larger in order to store wheelchairs and other equipment; provide restrooms with direct classroom access; and include "daily living-skill areas," such as kitchens.

Under the report's proposed funding plan, the disproportionate cost of Special Day Classes would be taken into account under a uniform grant to all pupils. Construction grants would range between \$5,300 and \$7,300 per pupil, depending on the grade; modernization grants would likewise range from \$2,300 to \$3,200.

"Special Education Facilities Funding Report" is available online at www.lao.ca.gov.

—Michael Cardman

College Board Takes On 'Digital Divide' (Cont. from p. 1)

education, government, civil rights and business circles, including "big players" in the technology industry, Hamill said.

Strong representation from civil rights groups is key because race plays a central role in the technology gap, he explained.

The first step will be to form a working group that includes a cross-section of constituencies affected by the digital divide. Activities will be determined once the coalition is established.

Training to help teachers use technology in the classroom will be a major focus of the coalition, Hamill added. "The difference between this and other efforts is that they want to build [professional development] into it," he said.

Last week, Intel, Microsoft and other technology giants launched a massive teacher technology training initiative (ED, Jan. 24). Together, the companies pledged more than \$400 million in cash, products and services. The sponsors say it is the largest such effort to date.

—Hannah R. Gladfelter

What's new about technology in the classroom?

FEBRUARY 10, 1999

EDUCATION WEEK on the WEB

EDUCATION WEEK

IN CONTEXT

THE ARCHIVES

TEACHER MAGAZINE

THE DAILY NEWS

SPECIAL REPORTS

PRODUCTS & SERVICES

Going the Distance



Read an accompanying story, "Public or Private?" in This Week's News.

The highway heading east from Sioux City is ruler-straight, with little on either side but miles and miles of barren Iowa cornfields covered in snow. Only the 18-wheelers bowling down the four-lane road, which soon narrows to two lanes, interrupt the monotony.

It's not the kind of landscape that brings in many visitors. Or, for that matter, teachers.

Though Iowa schools are the pride of their communities and compare well nationally in achievement, "math and science teachers are hard to come by" in the more rural areas, says Kenneth J. McKenna, the principal of Battle Creek/Ida Grove Senior High School, located about a half-hour's drive off the main drag.

Specialty courses such as Advanced Placement classes or foreign languages are even more of a problem. Even when teachers are available to teach such subjects, there aren't always enough interested students to justify paying their salaries, says McKenna, whose school enrolls about 300 students in grades 9-12.

Read our feature story, "Program Puts Teachers On-Line," Nov. 4, 1998, about a distance education program in Alaska.

That's one reason he's thankful for the Iowa Communications Network, the only completely state-owned and -operated telecommunications network in the nation. The fiber-optic network allows schools to communicate not only over the Internet, but also by television-quality video and audio.

This year, Battle Creek/Ida Grove and three other nearby high schools are using the ICN to share about 10 televised courses--including psychology, AP U.S. history, advanced speech, calculus, languages, and a college-credit medical-professions course--that would be impossible for each school to offer separately. In cases where a televised course duplicates one that another school offers, it helps students accommodate jam-packed schedules.

"It makes so much sense to be sharing. All of a sudden, I can offer one course and get seven back," McKenna says.

While schools in many states receive televised courses, mostly via satellite broadcast, no other state has promoted interactive televised instruction, and underwritten it, like Iowa has.

"It's a demonstration to the country of what can happen in a fairly small, rural state to provide equitable opportunities," says Pamela A.

Two-way, interactive videoconferences are the next-best thing to being there for Iowa students who are benefiting from a pioneering state telecommunications network.

Pfitzenmaier, who, as the director of educational telecommunications at Iowa Public Television, coordinates the educational activities of the ICN.

Since 1989, when construction of the ICN began, 340 schools have installed interactive classrooms that allow them to carry live, two-way video teleconferences for a bargain-basement line charge of \$5.25 an hour, a cost that is heavily subsidized by the state. And schools can often arrange to use more than 200 interactive sites at area education agencies, libraries, colleges and universities, and National Guard armories.

As a result, Iowa is uniquely positioned to take advantage of what some educators predict will be the next big instructional trend in K-12 schools: distance learning.

For years, rural schools have received television-based classes broadcast by satellite or cable TV. Now the Internet, via World Wide Web sites and e-mail, and interactive television are allowing new forms of distance learning.

Internet-based courses tend to be "asynchronous," meaning they don't involve simultaneous interaction between teachers and students. Many experts believe this approach is more appropriate for adult learners than teenagers. The Internet can transmit real-time "compressed" video, but it is usually of poor quality.

Interactive television, meanwhile, offers an immediate means of communication that allows teachers and students to respond to each other almost as if they were in the same classroom.

Experts disagree over whether interactive television or the Internet will prove more successful in the long run. Fortunately for Iowa schools, the ICN gives them both options.

Iowa schools have taken to the icn with greater enthusiasm every year. Last fall semester, K-12 schools in the state used their interactive classrooms for a total of 30,907 classroom hours--up from 22,821 classroom hours in the fall of 1997. (A one-hour class transmitted to five schools is counted as five classroom hours.)

At the same time, most observers agree that the network's potential has barely begun to be tapped, and many schools' interactive rooms are only occasionally used.

The course-sharing arrangement in western Iowa is one of the ICN's success stories. Four years ago, after Battle Creek/Ida Grove installed one of the first school ICN labs in the state, McKenna and Superintendent Joe Graves noticed the equipment was collecting dust.

"It was sitting there idle most of the time," McKenna recalls. "It seemed like a \$50,000 white elephant."

The district had no budget for purchasing video courses from out-of-state colleges or commercial distance-learning providers. So in 1996, McKenna wrote letters to other high schools in northwest Iowa, inviting them to start a course-sharing league over the ICN.

The deal was simple: Any school that provided a course, free, to the others would be entitled to any and all other courses at no expense. Their only cost would be the ICN's hourly line charge.

Since 1996, the league has been as large as five schools. Currently, it's four.

"The more the merrier," McKenna says. More schools means more options, and more ways to get a good match between school calendars, class schedules, and subject-area needs.

The shared courses take place in each school's interactive classroom. In each room, three large-screen television sets are mounted high on the walls. There are also three video cameras, one at the back of the room trained on the teacher, one at the front aimed at the students' rows of tables, and one mounted on the ceiling above the teacher's table to take images of documents.

A computer on the desk allows the teacher in charge to choose camera shots that all the classrooms will receive. Students share desktop microphones; the teacher usually uses a clip-on mike. A telephone and a fax machine complete the setup.

On a recent Tuesday morning, Battle Creek/Ida Grove is the sending school for AP U.S. History. Nine 11th and 12th graders share the same room with Kate Kramer, the teacher, while the class's nine other students--visible on 32-inch television screens--report from Woodbury Central, Maple Valley, and Rockwell City high schools, up to 65 miles away.

Today's lesson is a classic--the causes of the Civil War--and the method is fairly traditional. Students in small groups mull over questions on a worksheet, writing down their answers before discussing them as a class.

To students at the receiving schools, Kramer is more than a remote video presence. She calls on them by name, and on this day tosses them questions at about the same rate as to those in the room with her. Just to be sure not to miss someone, she occasionally draws a tongue depressor bearing a student's name from a well-rifled stack of them in her hand. To that student she directs her next question.

"Can anybody help them out?" she asks into a video camera, when the Maple Valley High School students falter at defining the "gag laws" passed by Southern states. The answer comes from the trio at Woodbury Central.

"I had some anxiety about teaching on television at first," Kramer says later. "But I love it now."

During second period, Nate Werneburg, a senior, is the only student using the ICN room at Battle Creek/Ida Grove. He is taking Speech II from Maple Valley. An adult's presence is required by the league's informal rules, so an uncertified aide takes a seat at the front of the room; she will help if needed.

It's perhaps not the most efficient use of the aide's time, but the course credit will allow Werneburg, 18, to graduate a semester early, a week before he reports to the U.S. Navy.

Werneburg says the class--the first he has taken online--has been a good experience, with a fine teacher that he otherwise never would have known. "This is one of my funner classes," he says. "I learned to give an after-dinner speech."

Later that day, and 45 miles away in the town of Merville, Woodbury Central High is getting its turn to send a course out to the other schools in the league--in this case a medical-professions course taught by Tom Chartier.

Chartier, a 50-year-old with a wry smile, leads 17 students--all girls--in a review before the semester final, in Woodbury's sleek interactive-video classroom.

Ten of those students appear on 50-inch screens on the wall, from Ida Grove. They discuss the rules of medical documentation and the medical definitions of "abandonment" and "cryonics" and traits of a health-care provider.

The yearlong class is especially valuable to the students because it will earn them college credit. Chartier, who is college-certified, teaches the combined class only two days a week over the ICN. Then a teacher in Ida Grove leads the students at that school the rest of the week. But all the students are eligible for college credit from Western Iowa Tech Community College.

Chartier, who has taught for 28 years, says the video classes took some getting used to, starting with figuring out how to control the cameras so students in the remote classrooms saw what he wanted them to see on their screens. He has learned through experience, with the help of a training session at Western Iowa Tech two years ago.

Teachers need two things to make the arrangement work, Chartier says. First, the equipment has to function reliably, which requires solid technical support. Second, the teacher needs to release his grip on the airwaves.

Chartier says that when he first started using video, he felt as though he had to be presenting information all the time. But now he permits silences so students can make notes or think, and he leaves five minutes at the end of class for students to chat with one another.

Perhaps because of such efforts, Chartier says the remote students perform equally with those in his actual classroom. But he does say the students who aren't in the room need special qualities. "People who succeed have to be strong in comprehension, reading, and have good listening skills," he says. "Without that, there could be a little bit of trouble. They have to be able to focus on a screen."

One complaint some observers have about Iowa's distance education classes is that they don't take advantage of the technology to teach in innovative ways. Teachers often provide information in standard lecture style, with the usual questions and discussions one would find in any traditional classroom.

Pfitzenmaier of Iowa Public Television says that's partly a limitation of the network's current architecture.

She says technical changes being planned will eventually--pending state funding--allow compressed video to go to individual desktop computers throughout a school, which should support a whole range of educational software and alternative approaches.

One complaint some observers have about Iowa's distance education classes is that they don't take advantage of the technology to teach in innovative ways.

Yet ICN administrators say that lecture and discussion are still efficient and effective ways to present material, and that the schools also have computer labs that permit a range of other learning methods.

In the meantime, McKenna tries to place above-average or better-motivated students into the classes at Ida Grove.

Superintendent Graves, who has taught a graduate class over the ICN, says, "Even with graduate students it's much easier to lose the student, much easier [for him or her] to escape mentally."

Distance learning also requires a special type of teacher, McKenna says. It's challenging to keep track of papers and grades for students at all the sites as well as to orchestrate everyone's active participation in class, so flexibility and organizational skills are crucial, he says.

Key on teaching

The biggest hassles of course sharing, in practical terms, are the schedule and calendar conflicts, Iowa educators say.

"This is a kind of a pain to set up and do," Graves admits.

"A lot of people are letting pretty small things keep [them] from sharing, like their schedule's three minutes apart," says Jim Christensen, the distance-learning coordinator for the Western Hills Area Education Agency, which serves the state school system's Area 12 in western Iowa.

The key to success, school officials agree, is flexibility. To accommodate schedule differences between schools, Battle Creek/Ida Grove students who are taking ICN classes are often allowed to leave their previous classes five minutes early or arrive late.

Early periods of the school day are easier to schedule with other schools. By lunch, often the trickiest time of day to schedule, "you can just about forget it," Principal McKenna says.

Schools that haven't been able to work things out as flexibly as Battle Creek/Ida Grove can use the ICN for limited projects and for special

events.

For example, Christensen arranged a series of live question-and-answer sessions last fall between students in Iowa classrooms and astronauts at NASA's Johnston Space Center near Houston. For each hour-long session, he says, participating classes spent about 10 hours of preparation and study.

And a 5th grade class at Lincoln Elementary School in Sioux City has used the ICN to visit with pen pals in an elementary school in Wales. Once a month, Lisa Frink's students go to a nearby National Guard Armory building that has an interactive-video room and talk with the Welsh students. They have written a story together and shared cultural lore. Before the December holidays, the students did a statistical study of the most desired Christmas gifts; they found that electronic toys and Barbies topped the wish lists at both schools.

Yet Frink is the only teacher at Lincoln using the ICN. This is the first year the school has had access to the network.

The Iowa Department of Education, the ICN schedulers in the state's 12 area education agencies, and the community colleges are trying to increase use of the network by helping schools match up with one another. Iowa Public Television maintains the Iowa Database, a Web site that posts the ICN's master schedule as well as educational "want ads" from schools looking for offerings, say, of Russian language, or scores of online field trips and joint class activities, some of them sponsored by state or federal grants.

"Short of developing a common schedule, that's about the best you can do," Rich Gross, a technology consultant for the state education department, says.

McKenna notes that standardization and cooperation do not come easily to Iowa, which is so committed to local school autonomy that it has defied the nationwide trend toward state curriculum standards.

"The only way to make it really work is for everyone to have the same calendar and the same schedule--and that will never happen in Iowa--or at least that's the only way to make it work better," McKenna says.

Battle Creek/Ida Grove Senior High has been successful, he says, because "we work hard trying to find people that are compatible."

On the Web

Read more about the Iowa Communications Network, including a [clickable map of ICN video sites](#). Read how ["Students Learn 'Real World' Chemistry Through Supplemental Curriculum."](#)

["Iowa: Students and the Caucuses,"](#) from ["The Citizens Election Project,"](#) a Pew Center for Civic Journalism Project, looks at how the ICN linked prospective first-time voters with presidential candidates.

To learn more about distance education, browse through the ["Distance Education Clearinghouse,"](#) from the University of Wisconsin-Extension. Includes a list of [online journals](#).

Distance Learning:

Funding Sources

Districts are using various **funding sources** to provide this AP opportunity to their students, including general curriculum funds, gifted/talented monies and funding to support math education.

Some states and localities have special funding available as well.

Federal Government

- **Advanced Placement Incentive Program**

Purpose of Program: The primary purpose of the Advanced Placement Incentive Program is to enable States to reimburse part or all of the cost of advanced placement test fees for low-income individuals who (1) are enrolled in an advanced placement class; and (2) plan to take an advanced placement test. In addition, a State educational agency (SEA) in a State in which no eligible low-income individual is required to pay more than a nominal fee to take advanced placement tests in core subjects may use any grant funds, that remain after test fees have been paid on behalf of all eligible low-income individuals, for activities directly related to increasing (a) the enrollment of low-income individuals in advanced placement courses; (b) the participation of low-income individuals in advanced placement tests; and (c) the availability of advanced placement courses in schools serving high-poverty areas. This program is authorized under Title VIII, Part B, of the Higher Education Amendments of 1998 (1998 Amendments) (20 U.S.C. 1070a-11, note). **Who May Apply:** SEAs in any State, including the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Northern Mariana Islands, the Republic of the Marshall Islands, the Federated States of Micronesia, and the Republic of Palau.

- **Technology Innovation Challenge Grants**

The Clinton Administration selected 20 school district partnerships in 17 states to be awarded grants totaling \$30 million to help provide the additional support to meet the challenge of preparing new teachers, and supporting existing ones, to teach effectively using technology.

The Technology Innovative Challenge Grant Program serves as a catalyst for positive change for schools. It supports educators, industry partners, communities, parents, and others who are using new technologies to help bring high quality education to every classroom and neighborhood.

"School districts are forming partnerships with businesses and community organizations across the country to meet the challenge of bringing their schools and communities into the information age," said President Clinton.

"These Challenge grants will help schools put computers in classrooms and provide more training for teachers to use technology to improve their lesson plans. These grants are one of many efforts needed to ensure that our students are prepared for the challenges of the 21st century."

"The grants focus on enhancing teachers' skills and their professional development to use computers and advanced learning technologies in their classrooms," said U.S. Secretary of Education Richard W. Riley. "Students will benefit from teachers who are familiar with these rapidly changing technologies and are able to effectively integrate them into their teaching curriculum."

The 20 school district partnerships receiving new grants are located in 17 states. They will work with partners in 150 school districts, 100 businesses, and 80 colleges and universities, benefitting about one million students and providing additional training opportunities for thousands of teachers in these communities.

The grants will range in size from \$789,000 to \$2 million a year for five years, and will leverage business and community partners by generating matching commitments valued at more than \$90 million.

Challenge Grant communities work to integrate new technologies into state or local education improvement efforts that have been stimulated by a growing national commitment to raising education standards.

Effective use of new technologies in these communities will contribute to improved student achievement in reading, writing, science, mathematics, history, the arts and other disciplines. Each project will support effective training for teachers and promote greater parent and community involvement in education.

These projects also will help smooth the transition from school to careers and college by engaging students in real-life learning experiences through which they can develop the life-long learning skills necessary to navigate the changing economy.

- Title VI

Title VI supports local education innovations. States must subgrant at least 85 per cent of funds competitively to school districts to support activities in eight primary areas: (1) technology related to implementing reform; (2) acquisition and use of instructional and educational materials, including library materials and computer software; (3) promising education reform projects such as magnet schools; (4) programs for at-risk children; (5) literacy programs for students and their parents; (6) pro-grams for gifted and talented children; (7) school reform efforts linked to Goals 2000; and (8) school improvement programs or activities authorized under Title I.

California

- Digital High School Funds

- University of California College Prep Initiative (UCCP) funds. The Initiative was established to provide online college preparatory courses to high school students who otherwise would not have this opportunity.

Michigan

- Michigan Virtual University.

Michigan high school students go online for Advanced Placement courses

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LANSING, Mich. — August 10, 1999 — Starting this fall, Michigan high school students who excel in their everyday classes can enroll in online Advanced Placement (AP) courses through the Michigan Virtual University (MVU)

Thanks to a new partnership between Michigan Virtual University and APEX Online Learning, Inc., students across Michigan will be able to earn college credit via the Internet. In recent years, many high schools have offered college-level Advanced Placement courses while the student is still in high school. Not all school districts, however, have been able to offer them, either due to financial constraints or an insufficient number of interested and qualified students.

APEX online courses are multimedia, independent study courses that include 150 hours of curriculum, an online teacher who answers questions and grades the students' work, and ongoing assessment and reporting. Creative teams of certified teachers and subject experts design courses that include learning activities such as tutorials, multi-media simulations and online discussions.

As an introductory perk, MVU offered 100 course scholarships (one semester each) to Michigan high schools for any of these online courses:

- Calculus AB (two semester course)
- Statistics (two semester course)
- Microeconomics (one semester course)
- U.S. Government and Politics (one semester course)

In conjunction with the scholarships, MVU has been collaborating with the Michigan Association of Intermediate School Administrators and the Michigan Association of School Administrators to offer free training and a small stipend to the in-school educators who serve as on-site mentors for the students.

Most colleges look favorably upon applicants who take AP classes, and most will grant credit or waive a course requirement for students who score well on AP exams. Students enjoy the flexibility of the online courses because

they can access the course 24 hours a day on the Internet and work at their own pace.

The Michigan Virtual University is an initiative of Governor John Engler, who in his January State of the State Address cited the need for online Advanced Placement courses for Michigan students. Jamey Fitzpatrick, MVU vice president of development and education policy, said "Because these are the first Michigan Virtual University offerings to the K-12 community, we had to be particularly careful in selecting a provider that guarantees high quality course content. The APEX courses are exactly what we were looking for and will be essential in establishing our reputation as a leading provider of distributed learning opportunities."

Rachel Martinez, education manager for APEX, said "We are proud to have been selected to support Michigan Virtual University's vision to use technology to offer Michigan students broader access to the challenging AP curriculum. And our thanks to Bob McDonough, director of academic services for the College Board/Midwest, who played an instrumental role in understanding the educational needs of Michigan and providing solutions which brought MVU and APEX together."

The Michigan Virtual University is a private, not-for-profit Michigan corporation established in 1998 to deliver education and training through the innovative use of electronic learning technologies such as the World Wide Web, intranets and CD-ROMs. MVU serves as a broker and is developing a slate of distributed learning programs and services throughout Michigan.

APEX Online Learning is a Seattle-based company that began in 1997 as a research project of Paul Allen, one of the founders of Microsoft. It is dedicated to expanding access to learning opportunities — opportunities that help students reach their next educational and professional goal through online learning. APEX provides effective products by combining the interactivity and accessibility of the Internet with the experience of master teachers and content specialists. Current programming includes Advanced Placement online courses in five subject areas and AP exam review.

Washington State

A first round of grant applications were being accepted until September 7, 1999 for the Internet-Based Curriculum Grant Program.

United States Dept. of Agriculture:

The Distance Learning and Telemedicine Grant and Loan Program (DLT) was created to encourage, improve, and make affordable the use of

telecommunications, computer networks and related technology for rural communities to improve access to educational and/or medical services.

Background, Accomplishments , Initiatives, Applicant Eligibility, Qualifying Situations, Qualifying Equipment

Background

The 1990 Farm Bill authorized the Distance Learning and Telemedicine Grant Program to provide grants to rural schools and health care providers. The 1996 Farm Bill reauthorized the Distance Learning and Telemedicine Grant Program and established a new loan component. The DLT helps rural schools and health care providers invest in telecommunications facilities and equipment to bring educational and medical resources that otherwise might be unavailable to rural areas.

Demand for the DLT has been very high; for the four fiscal years from 1993 through 1996, USDA's Rural Utilities Service received 858 applications seeking a total of \$262 million. Due to budget constraints, only \$35 million was available. This money funded 119 projects in 39 states and one U.S. territory.

In January of 1997, RUS received \$6.5 million in funding authority from the Fund for Rural America. Utilizing these funds, RUS funded an additional 23 projects, bringing the grand total to 142 grants totaling \$41.5 million.

Accomplishments - "Real Results"

Funding for telemedicine and distance learning services are having a profound effect on the quality of life for rural residents. Distance is a barrier that prevents rural residents from accessing high quality educational and health care services. Distance learning and telemedicine services, utilizing Advanced Telecommunications

Technologies, can bridge this distance for rural Americans so that they can access the same quality education and health care services as the rest of the nation. Distance Learning Services can provide rural schools, students, teachers, and parents with many new opportunities. A trip to the local library in a rural town can be as rewarding as opening the information door to the world. Parents can receive continuing education courses increasing career enhancement opportunities. Health and public safety officials can receive advanced certification training in their local communities without having to travel to major city centers.

The DLT has helped rural residents access the information superhighway, which offers rural America an unprecedented opportunity to compete on an equal footing with big cities and with other countries. The information superhighway is already bringing jobs, educational and health care services to rural areas, and more fully integrating rural Americans into the mainstream of

the American economy and culture. Yet there also exists a danger that some parts of rural America will lack access to "on-line" resources and will fall even further behind the rest of the country.

The Administration believes that the information superhighway is crucial to rural development and recognizes that the Federal government, in partnership with the private sector, has an important role to play in ensuring that rural Americans have full access to those resources.

The DLT has facilitated an important step forward. Through four years of program activity, approximately 704 rural schools and education centers will gain access to improved educational resources through the information superhighway by sharing limited teaching resources and gaining invaluable access to libraries, training centers, vocational schools, and other institutions located throughout the country.

Program Initiatives

The program is intended to fund projects which are primarily "dynamic"; i.e., those systems which deliver critically needed educational and medical services in rural areas through structured interactive educational training and/or medical professional presence over distances. Intermittent services which cannot readily show usage or tangible results such as community bulletin boards, or Internet Home pages, may be considered as adjuncts to dynamic systems, but would not be suitable as a primary purpose under the DLT.

The program facilitates "networking" of multiple dispersed sites over a geographic area, rather than a single stand alone entity. Applicants must submit proposals which, to the extent possible, maximize the number of geographically dispersed sites.

Projects must be driven from the "ground up". For instance, applicants must document significant local community involvement and input in designing projects.

Projects funded are required to be self-sustaining without the need for further grant or loan funding. Ongoing costs for sustaining the proposed system, through user fees, tax assessments, school budgets, or other funding, should, to the extent possible, originate locally.

To ensure sustainable projects, RUS endeavors to fund applications which maximize system utilization and benefits to rural residents. For example, projects which serve multi-purposes, such as providing adult education and vocational training, while also delivering K-12 and college courses, are highly desirable.

The DLT funds capital costs of acquiring and installing telecommunications hardware located at schools, hospitals, and other eligible sites. It also funds other non-recurring capital costs of establishing a distance learning and telemedicine system. System operating expenses, including salaries, are not eligible.

Applicants should fund telecommunications access and usage fees for network transmission facilities through revenue from the project, or from sources other than RUS. Services should be provided through the local telephone telecommunications carrier, or other telecommunications provider.

Applicant Eligibility

Rural schools, libraries, hospitals, health care clinics, and related organizations which operate rural educational or health care facilities. Indian tribes, consortiums or partnerships, and other incorporated organizations that operate educational or medical facilities in rural areas. The DLT is an exclusively rural program. Urban institutions are encouraged to participate as network partners; however, grant funding will be provided only to facilitate educational and/or medical services to rural areas. Funds will not be provided to State or Local governments; however, State supported institutions which provide educational and/or medical services to rural areas are eligible.

Distance Learning situations include, but are not limited to:
Linking rural schools within regions to share limited teaching resources.
Linking a rural school or a grouping of rural schools to institutions located in metropolitan or more populated centers. Utilizing rural libraries or other community facilities as distance learning centers, linking them with on-line resources or regional institutions. Utilizing job training centers, vocational schools, or other facilities incorporated by job training programs.

Types of Equipment Funded

The DLT is "hardware intensive", but other costs, limited to the capital costs of establishing the project, such as software, training, and technical assistance, may be considered.

RUS will fund up to 90% of the costs of acquiring eligible equipment for requested loans. RUS will fund up to 70% of the costs of acquiring eligible equipment for grants, combination grant and loans, and all applications not specifically requesting loans. See 7 CFR Part 1703 for specific guidelines.

Examples of eligible equipment:

Equipment used for distance learning classrooms, such as encoding and decoding devices, specialized cameras and video monitors, video switchers, microphone mixers, computers and local area networking equipment.

PROGRAMS:

APEX:

APEX is an independent educational enterprise that develops and delivers online Advanced Placement courses to individuals and schools. The APEX Project was initiated by Paul Allen, co-founder of Microsoft, to bring the full power of computers and the Internet to online learning for Advanced Placement students. Because APEX is focused exclusively on Advanced Placement courses, APEX is able to concentrate a unique combination of specialized talent and resources on the development and delivery of these curricula. Using the unique multimedia and interactive capabilities of the Internet, APEX has developed online courses that offers learning alternatives for high-achieving students. Students can earn school credit and prepare for Advanced Placement exams even when a particular AP course isn't offered at their school, or when they have scheduling conflicts.

The APEX instructional designers have combined the strengths of master AP teachers, the knowledge of content experts, and the power of new Internet technology to create comprehensive courses that meet all College Board AP curriculum requirements. Because the courses are online and created in advance, students can complete assignments at their own pace at school or at home. Each course includes a set of learning activities and tests that takes about ten hours a week to complete.

An APEX "class" is made up of 25 students from across the country and an online AP teacher dedicated to helping each student master the AP course. Students interact with each other during special online discussion groups to share information, opinions, and solutions. APEX online teachers interact with each student via email or phone to answer questions and provide encouragement, while monitoring progress and evaluating assignments and tests.

APEX classes give students an opportunity to gain the knowledge and skills necessary to be well-prepared for AP exams, learn new computer skills, and make friends from around the country.

Cost

Tuition for an APEX Advanced Placement course is \$395 per semester course per student. This fee includes:

- Online instructor mentoring and supervision by an experienced AP teacher.
- A complete curriculum designed specifically to meet standards published by the College Board.
- Unlimited access to online course materials, including multimedia tutorials and assessments.
- Special exam rehearsal exercises modeled on actual exam.
- All necessary software.

- Any required texts.
- All registration fees.

Some AP courses are one semester, most are two semesters long. Students pay for each semester separately. Some courses require special application software (such as computation packages for math) or equipment (such as a graphing calculator).

Technical Requirements

To install and run APEX programs, you need to have the following hardware:

- A PC with at least a Pentium 75 MHz processor, 16 MB of RAM, and 80 MB* of available hard drive space for a complete installation
- A sound card and speakers or headphones
- A CD-ROM drive.
- A 28.8 kbps speed modem minimum
- Consistent, reliable Internet access at 28.8 KBPS or above
- A printer
- Access at least once a week to a fax machine

And one of the following Operating Systems:

- Windows95
- Windows98
- or Windows NT 4.0

***Note:** The APEX Installation requires 80 megabytes of free hard drive space for a complete installation only. If you currently have Internet Explorer 4.01 SP1 or later installed on your hard drive, 50 megabytes of free space is adequate.

Academic Requirements

In general, students should be self-motivated and good independent learners. Good writing skills are important to a student's ability to succeed in an AP course, and essay writing is important to do well on the free-response sections of an AP Exam. Because this course is computer-based, students should have basic keyboarding skills and be comfortable with basic functions of Windows 95, getting online, using email, and using a word processor.

ARCHIPELAGO

Archipelago, a Harcourt Higher Learning Company, is an educational multimedia publisher. Archipelago specializes in the development of content-based multimedia and Web sites. Their in-house staff includes expert computer

programmers, animators, graphic artists and designers, video and audio producers, editors, project managers, and Web producers. Archipelago is currently developing interactive multimedia course presentations for the distributed learning environment. These products will provide students with the flexibility they need to take courses anytime, anywhere.

Archipelago brings strong educational credentials and first-hand teaching experience to its multimedia courses. Archipelago's founder and president Gary Lopez (Ph.D., marine biology, Scripps Institution of Oceanography) began his work in education as a college instructor and his work in media as a filmmaker and software designer. Gary's client list includes Encyclopedia Britannica Educational Corporation, The Cousteau Society, the Corporation for Public Broadcasting, and most major educational publishers. Brian Rowlett (University of California, San Diego) Archipelago's Vice President Technology, and Pat Harman (University of Illinois at Urbana-Champaign), Director of Art and Design, also have university-level teaching experience in their disciplines. This classroom teaching experience, combined with more than fourteen years of developing educational and documentary media, makes Archipelago a unique publisher.

Archipelago Productions was purchased in 1993 by Harcourt General Corporation -- the parent company of Harcourt, an international publisher with eleven elementary, secondary, college, professional, and trade publishing units. Archipelago is a division within this corporation, producing college and high school Advanced Placement (AP)-level multimedia products. The company also works closely with its sister publishing divisions to produce a variety of educational materials. Over the past several years Archipelago has produced a number of custom multimedia presentations such as the Saunders Interactive General Chemistry CD-ROM, Saunders Core Concepts in Physics, Encuentros - introductory Spanish CD-ROMs, and over twenty-five other CD-ROM titles designed for student purchase and classroom presentation. Also, more than fifty videodisk products (with a variety of custom features) and over fifty applications of the LectureActive™ Presentation software are available.

Courses

UNIVERSITY OF NEBRASKA:

As part of the Department of Distance Education, the UNL Independent Study High School (ISHS), founded in 1929 to help small rural schools, currently serves nearly 14,000 enrollments annually from students in all 50 states of the United States and more than 135 other countries. The Independent Study High School is fully accredited by the North Central Association of Colleges and Schools and the Nebraska Department of Education and as such is authorized to grant a fully accredited high school diploma.

In addition to serving individual diploma students, UNL's ISHS works closely with local school districts and alternative educational centers to help them supplement their curriculum. Schools and adult or community learning centers use UNL distance education instructional materials for individualized instruction in all types of settings, such as their own distance education programs, in regularly scheduled day classes, in classroom minicourses, or in programs for at-risk students.

The University of Nebraska-Lincoln Independent Study High School offers a complete four-year high school curriculum of more than 130 core and elective courses in 16 subject matter areas. Students can earn a high school diploma by taking only distance education courses. However, more than 65% of the students enrolled in UNL distance education courses use the courses as a supplement to their high school curriculum.

Benefits:

- Help students overcome scheduling conflicts.
- Provide courses not offered by your high school.
- Offer enrichment courses for advanced students.
- Provide basic courses for special-needs students.
- Provide alternatives for students who cannot attend traditional daytime classes.

Courses:

Agriculture

Art

Business

Career Planning

Computers and Technology

Driver Education

English as a Second Language

English

Family and Consumer Science

Industrial Education

Languages:

- French
- German
- Latin
- Spanish

Mathematics

Music:

- Piano
- Theory and Appreciation

Photography

Science
Social Studies
Study Skills

the digital divide network



Digital Divide Initiatives

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Corporate Initiatives

AT&T

The AT&T Learning Network: This program offers free online resources to help families, schools and communities use technology effectively to enhance teaching and learning.

Leadership Conversations for the Next America: AT&T is launching "Leadership Conversations for the Next America" to bring together high school students, Youth Opportunity Movement participants and Job Corps partners with local, state and national policymakers to discuss economic opportunities, education, job skills and leadership for the 21st century.

Academy of Information Technology: AT&T is helping to launch the Academy of Information Technology, a high-school level curriculum designed to prepare young students for the information technology workplace.

Job Corps Funding: AT&T is investing in the Edison (N.J.) Job Corps program by developing a three-year initiative to address the shortage of skilled workers in the information-technology industry that includes providing paid internships for training program graduates, mentors, equipment and materials.

Community Technology Centers: AT&T is collaborating with the NAACP, the National Urban League and the Community Technology Centers' Network to give under-resourced communities access to technology.

Los Angeles Neighborhood Technology Centers: AT&T supports the Los Angeles County Office of Education's Technology for Learning initiative, an effort to establish 25 neighborhood-based technology centers. To reach communities of color and other under-served groups, AT&T is supporting LACOE's partnership with the Greenlining Institute, a multi-ethnic advocacy center.

Computer Learning: AT&T is supporting The Puente Learning Center in South Central Los Angeles to help provide free computer-based education programs to children, youth and adults, and to encourage other community agencies to do the same.

New York City Housing Resources: AT&T is helping settlement houses in New York City serve as centers where technology resources can be accessed, shared and used by settlement staff, community residents and program participants.

Cable in the Classroom Program: AT&T Broadband and Internet Services offers free cable modem and service to every school in its area of service, and through its support for Cable in the Classroom, provides a free cable connection and over 540 hours per month of commercial-free educational programming to schools across the country.

School Safety: AT&T's Safe School Program provides free AT&T Wireless service and Ericsson wireless phones to selected schools to support school safety efforts.

GetNetWise: AT&T is a founding sponsor of GetNetWise: You're One Click Away, a comprehensive Web-based resource designed to ensure parents and families have the technology tools and tips, safety referral contacts and suggestions on quality content they need to help kids have safe and enriching experiences online.

America Online, Inc.

AOL Rural Telecommunications Leadership Awards: The National Telecommunications and Information Administration (NTIA) recently reported that among all income groups, rural areas have the lowest online participation rate. To address this issue, the AOL Foundation is partnering with the National Center for Small Communities to manage the AOL Rural Telecommunications Leadership Awards, which seek to reduce the digital divide by recognizing and promoting telecommunications innovations in rural areas.

The Digital Divide Grants Initiative: The AOL Foundation's Digital Divide Grant Initiative seeks to invest in nonprofit organizations, social entrepreneurs, and collaboratives working to empower disadvantaged communities and populations through technology. The Foundation hopes to support a variety of ventures to foster innovative and effective approaches to bridging the Digital Divide.

National Digital Divide Clearinghouse: AOL's goal of this initiative is to create a single source of all available information about efforts to provide underserved communities with access to technology and provide tools for information sharing and community building among those working to bridge the Digital Divide.

PowerUP: PowerUP is comprised of more than a dozen nonprofit organizations, major corporations and federal agencies that have joined together to launch a major new multimillion dollar initiative to help ensure that America's underserved young people acquire the skills, experiences and resources they need to succeed in the digital age. AOL has pledged 100,000 AOL accounts for free Internet access to sites throughout the country.

Bell Atlantic

Asian American Technology Hub: The Asian American Federation of New York plans to launch a technology hub for the Asian Pacific nonprofit community. With the aid of a major grant, the Asian American Federation will become an Internet Service Provider and will build the technology infrastructure of community-based organizations, extending the power of the Internet and computer networking to its 34-member health and human service agencies throughout the New York metropolitan area that need it but do not have the wherewithal to get it. The Federation's ambitious plans for ushering Asian American nonprofits into the 21st century and the digital future will enable not only instant access to community-based news and information, but communication with Asian communities across the globe.

NAACP Funding: Bell Atlantic enabled the NAACP to improve the Association's Internet-based communications system with a major challenge grant offered by Bell Atlantic. The funds will enable the nation's oldest and largest civil rights organization to more effectively communicate with its network of 2,200 branches, units and chapters across the U.S.

Employee and Retiree Activism & The Bell Atlantic Pioneers: Numbering over 170,000 strong, Bell Atlantic volunteers log in over six million hours a year in donated time. Bell Atlantic Pioneers are active and retired employees who volunteer their time to help meet the needs of their communities. From painting maps on school playgrounds, mentoring through Junior Achievement, wiring classrooms for the Internet, to swinging hammers to build homes for the homeless, Bell Atlantic Pioneers offer their personal time for the betterment of their communities.

Technology Centers: The National Urban League, enabled by Bell Atlantic, established five community technology centers in Binghamton and White Plains, N.Y.; Baltimore, Md.; Boston, Mass.; and Newark, N.J. At these centers, people have access to hardware and software they need to plug into cyberspace, thereby crossing the digital divide that separates so many communities from the world of technology. Not only do these centers provide underserved communities with a direct on-ramp to the information superhighway, they also provide, in some cases, a safe haven for children in inner-city communities - where they can study, learn and explore in safe, nurturing environments.

Hispanic Federation Web Site: The New York-based Hispanic Federation, enabled by Bell Atlantic, to develop an interactive Web site designed to provide its nonprofit network of more than 60 member agencies with a host of powerful online tools. The Hispanic Federation Web site, a database-driven, dynamic information gathering system, offering more interactivity than conventional Web sites, was made possible through a major Bell Atlantic Foundation grant, along with in-kind contributions from Bell Atlantic and IBM.

Gateway

PowerUP: PowerUP is comprised of more than a dozen nonprofit organizations, major corporations and federal agencies that have joined together to launch a major new multimillion dollar initiative to help ensure that America's underserved young people acquire the skills, experiences and resources they need to succeed in the digital age. Gateway and the Waitt Family Foundation will provide 50,000 Gateway computers.

Microsoft

Public libraries: In partnership with the Bill and Melinda Gates Foundation, Microsoft will donate an estimated \$200 million in software to create access to technology at public libraries that serve low-income communities.

Boys & Girls Clubs: Microsoft has teamed with Boys & Girls Clubs of America to establish technology centers at 15 Boys & Girls Clubs nationwide, and to develop a model for other clubs to use in establishing their own technology centers. In the program's first year, Microsoft donated \$1.1 million in cash and \$540,000 in software.

Connected Learning Community grants: CLC grants enhance learning and communications in disadvantaged communities by expanding access to information technology. More than 95 community-based nonprofit groups across the United States have received grants totaling \$1.25 million in cash and \$2.4 million in software during the past three years.

Working Connections: This 5-year, \$30 million grant program supports the development and enhancement of information technology training for underserved populations through the nation's community college system.

Higher education for minorities: To ensure excellent technology infrastructure, teacher preparedness, training and access for minority college students, Microsoft has long supported Historically Black Colleges and Universities, Hispanic-Serving Institutions and tribal colleges.

TRIO programs : Microsoft has donated more than \$20 million in software to increase technology access for low-income students participating in the federally funded TRIO programs at 49 colleges and universities across the United States, benefiting more than 70,000 students.

Microsoft Technology Leadership Grants: Technology Leadership Grants provide major software donations to large, national nonprofit organizations to expand their use of information technology to support their mission. In the three years of this program, Microsoft has donated over \$18 million in software to 20 organizations.

SBC

Community Partnership Agreement: The Community Partnership Agreement is a nonprofit collaboration between SBC subsidiary Pacific Bell and nine California community coalitions representing 134 Latino, Asian American, African American, civil rights, and disability organizations that is dedicated to closing the digital divide by bringing communications technologies to traditionally disadvantaged communities. SBC is providing a \$50 million monetary contribution to the fund, which is distributing \$5 million per year over a ten year period.

Major National Urban League Grant: In November, 1999, SBC announced a \$1 million grant to the National Urban League to support the League's technology programs. The grants will help fund the Urban League's efforts to close the digital divide by helping them create and maintain community technology centers that bring technology to underserved communities. Community Technology Centers were heralded in the Falling Through the Net reports as key access points for low-income communities.

National Urban League Midwest Technology Centers: SBC subsidiary Ameritech has also given \$350,000 to the Urban League to fund community technology centers in Aurora, Ill., Cleveland, Detroit, Indianapolis, and Milwaukee.

"Links to Learning & Closing the Digital Divide" Initiative: Just recently in Connecticut, SBC subsidiary SNET awarded \$500,000 to institutions of higher education under a grant program designed specifically to close the digital divide. Seven colleges and universities have received grants and are administering programs such as: hands-on technology training for the visually impaired, women in transition, senior citizens and young adults from difficult family situations at Housatonic Community Technical College; a basic computer literacy training program for the underserved



population of eastern Connecticut at Eastern Connecticut State University; and an "Introduction to Computers" curriculum for women in transition at Gateway Community Technical College.



Bethany Little

11/08/99 02:54:44 PM

Record Type: Record

To: Kendra L. Brooks/OPD/EOP@EOP, John B. Buxton/OPD/EOP@EOP

cc:

Subject: RE: Digital Divide Initiative Launched

Something to read on the metro...

----- Forwarded by Bethany Little/OPD/EOP on 11/08/99 02:54 PM -----



nancy.hoit@npr.gov

11/08/99 01:51:37 PM

Record Type: Record

To: Pamela.Johnson@npr.gov, Russ.Kile@npr.gov, beverly.godwin@npr.gov, Lynn.Kahn@npr.gov

cc: See the distribution list at the bottom of this message

Subject: RE: Digital Divide Initiative Launched

Thanks Lynn... this looks fantastic. We've worked with many of the partners.

From: Lynn Kahn

Sent: Monday, November 08, 1999 10:50 AM

To: Pamela Johnson; Russ Kile; Beverly Godwin; Nancy Hoit

Subject: Digital Divide Initiative Launched

Major 'Digital Divide' Initiative Launched
Coalition of Business, Nonprofits and Government Partner to
Reach Underserved Youth in Thousands of Communities and Schools
WASHINGTON--(BUSINESS WIRE)--Nov. 8, 1999-- A Breakthrough
in Technology Access and Education -- New
Organization Created to Advance Goals of America's Promise
AOL and Gateway CEOs Commit Internet Accounts, Computers and

Millions in Grants

More than a dozen nonprofit organizations, major corporations and federal agencies today launched a major new multimillion dollar initiative to help ensure that America's underserved young people acquire the skills, experiences and resources they need to succeed in the digital age.

The new initiative, called PowerUP(TM), is a unique

partnership to give underserved children access to technology and guidance on how to use it. Based in schools and community centers around the country, PowerUP not only will provide young people with access to the wide range of content and information on the Internet; it will also help them develop additional skills they need to succeed in the 21st century.

PowerUP will be able to scale quickly and reach thousands of young people because it will leverage partnerships with numerous public and private organizations, and build on thousands of existing community centers, schools and other locations nationwide. PowerUP partners will provide technology, funding, trained personnel, in-kind support and other resources to help close the divide between young people who have access to computer-based information or technology-related skills and those who don't.

AOL Chairman and CEO Steve Case, who is chairing PowerUP, said: "There's no single solution to bridging the digital divide -- it's going to take all of us working together to make a difference. In a few short years, the Internet has transformed nearly every aspect of our lives -- and is fast transforming our society. The real question we face now is how we can make sure that everyone benefits from these changes. We must take steps now so that in the Internet Century, no children are left behind."

Case added, "PowerUP has drawn inspiration from America's Promise to deliver positive youth development opportunities to the nation's young people. Its goal is not only to provide young people with access to computers and the Internet, but also to leverage technology's power and the potential of the online medium to help young people develop character and competence."

Gateway Chairman and CEO Ted Waitt, a founding member of the board of PowerUP, said, "The gap between the Internet haves and have nots is widening along racial, economic and geographic lines, and we absolutely, positively cannot afford another divide in this country. We can pull together. Nothing is more important in our lives and in the future of our communities than ensuring all of our children have access to the tools and information they need to get ahead, and stay ahead."

Created as a nonprofit organization, PowerUP is guided by a board of directors that in addition to Case and Waitt includes: Erskine Bowles, partner at Forstmann Little and former White House chief of staff; Jean Case, President of the Case Foundation; Carly Fiorina, President and CEO of Hewlett-Packard Company; Jack Kemp, Co-Director of Empower America; David Mercer, National Executive Director of YMCA; Sam Nunn, Partner at King and Spalding and former U.S. Senator; Leon Panetta, Director of the Panetta Institute and former Director of OMB and White House chief of staff; Retired Army General Colin L. Powell, Chairman of America's Promise; Franklin Raines, Chairman and CEO of Fannie Mae; and Roger Staubach, Chairman and CEO, The Staubach Company.

A Compelling National Need

General Colin L. Powell (Ret.), Chairman of America's Promise, said, "PowerUP is a breakthrough initiative that our nation urgently needs. As I've traveled throughout the country, it has become clear to me that our future success as a nation will depend on how prepared our young people are for the challenges of the 21st century. PowerUP will bring to the nation's underserved youth the skills and experiences they need to build a successful future."

Harris Wofford, CEO of the Corporation for National Service, said, "AmeriCorps is proud to add people power to PowerUP. We know from

experience that just putting computer hardware and an Internet connection in the schools is not enough. To unleash the full potential of young people -- and of the computer -- kids need to know more than just how to surf the net. They need to learn how to use computers to succeed in a digital world. AmeriCorps members will give students access to advanced technology and compelling programming, in a safe environment with a caring adult. Together, that's what all of us in PowerUP will do."

A Powerful Program Offering

PowerUP brings together several critical and innovative program elements to create a powerful offering for community centers, schools and other locations nationwide. Key elements include:

- * Computers and Internet Access - Through major grants from the Waitt Family Foundation and the AOL Foundation, PowerUP will provide 50,000 computers and 100,000 AOL accounts for free Internet access to sites throughout the country.

- * Innovative, Life-enriching Interactive Programming - A unique "PowerUP Online" guide aggregates information and organizes activities and resources according to the "five promises" identified by America's Promise as essential for children to become successful adults including: tools on how to find a mentor; fun and productive activities to do after school; healthy lifestyle information; exploration of career opportunities and how to acquire the skills needed to take advantage of them; community service; and links with real-time community youth program opportunities provided by participating local youth serving organizations. PowerUP Online, developed by the AOL Foundation, also includes a scholastic/academic component addressing educational achievement.

- * An Army of Trained Workers - PowerUP will provide the people power needed to effectively train young people in attaining digital literacy skills while offering them an ongoing relationship with a caring adult in a safe environment. Initially more than 400 specially trained, full-time AmeriCorps*VISTA members and other staff will provide a sustained and trained presence at PowerUP-supported centers where needed. One of the shortcomings in technology education efforts to date has been lack of dedicated, capable adult staff to work with young people in centers on a regular basis.

- * Partnering with Key Groups to Scale Quickly and on a Large Scale - PowerUP's goal is to scale quickly to reach a national level. It will do this in two ways: by engaging key partner groups at the national and local levels, and by providing flexible program options for existing centers.

- * Youth-serving organizations - PowerUP will partner with local YMCAs, Boys & Girls Clubs, Save the Children's "Web of Support" centers, National Urban League, and other organizations with roots in thousands of communities across the country to connect young people with additional learning and positive youth development activities such as after-school sports, arts and crafts, or other classes and technology services.

- * Federal agencies - In keeping with a PowerUP goal of enhancing scholastic achievement and digital literacy, PowerUP will partner with the U.S. Department of Education's Computer Technology Centers and 21st Century Community Learning Centers to supplement and complement educational goals of children both during and after school hours.

- * Corporations - Companies that have established their own sites or technology programs may choose to add PowerUP program elements, and/or supply additional financing or in-kind support either at the national or local level.

* Private individuals and foundations - Financial and in-kind support.

* Millions of Dollars in Local Community Grants - PowerUP will provide an initial total of \$5 million in direct grants to community- and school-based centers who wish to participate in the PowerUP program. Grants may be used for any activities or resource needs that are consistent with PowerUP's program goals.

* Links with Schools - PowerUP works to enhance scholastic achievement and national digital literacy goals by forming partnerships with local schools and educators. A section of the PowerUP Online guide features a scholastic approach to educational attainment linked to academic curricula, and AmeriCorps*VISTA members are responsible for connecting the PowerUP program with local schools to supplement and complement educational goals of young people both at school and after school.

* Healthy Snacks - Through its partnership with PowerBar Inc., PowerUP will provide PowerUP-supported sites with healthy snacks, including PowerBars, PowerBar Harvest bars, and PowerBar Essentials bars.

Steve Case said, "We recognize that there are many projects underway in communities across the nation that seek to bridge the digital divide, but they are fragmented and lack the scale necessary to attract significant resources. PowerUP will help knit these initiatives into a national tapestry and jump-start a crusade that can change the lives of millions of kids, bringing together an unprecedented combination of people, skills and resources.

"PowerUP offers us the opportunity to make dramatic progress in establishing consistent, quality-oriented methods and resources to ensure that technology centers and programs across the country share a common standard of excellence in driving positive youth development," Case said. "Just as the nation made a successful commitment to ensuring that every child has access to public education starting at the age of five, we must now commit ourselves to ensuring that in the 21st century every child in America has access to technology so that no one falls behind. This mission is what PowerUP is all about."

Partnership Brings Funds, People, Skills and Resources

The PowerUP partnership brings a range of support services and resources to community centers, schools and other youth service locations around the country:

* National Benefactors - National benefactors of PowerUP include the Case Foundation, the Waitt Family Foundation, AOL Inc./AOL Foundation, and The Corporation for National Service (which houses AmeriCorps*VISTA), and The YMCA of the USA. These organizations will bring money, computers, access, interactive programming, trained staff and other community-based services on a large scale to sites across the nation:

* The Case Foundation, established by Steve and Jean Case, will provide an initial grant of \$10 million to establish PowerUP. The grant includes \$5 million to cover all staff and administrative costs of the program, enabling partnership contributions to go directly to supporting or establishing in-site programs for youth at centers across the country. Another \$5 million will provide the local community grants to benefit up to 5,000 local community centers and school-based sites nationwide.

* The Waitt Family Foundation, established by Ted and Joan Waitt and their family, will supply computer hardware to PowerUP by providing 50,000 Gateway computers and Internet appliances over the next three years.

* AOL Inc./The AOL Foundation has donated its resources and staff to

develop PowerUP Online, a first-of-its kind interactive programming guide built around the "five promises" that America's Promise has identified as essential for children to become successful adults. PowerUP Online aggregates valuable content and organizes activities and resources in an easy-to-use format for use in grades K-12. In addition, 100,000 AOL accounts are being provided for centers that need them.

* The Corporation for National Service (AmeriCorps*VISTA) is bringing people power to PowerUP. Initially more than 400 AmeriCorps*VISTA members and others in AmeriCorps will be trained and deployed to provide dedicated, full-time mentoring and other assistance to schools, YMCAs, Boys & Girls Clubs, National Urban League centers, Save the Children "Web of Support" centers, the U.S. Department of Education's Computer Technology Centers and 21st Century Community Learning Centers, and other community technology centers across the country.

* The YMCA of the USA will provide service-learning and positive youth development opportunities for young people at PowerUP-supported sites, including providing a sustained presence of caring, supportive adults who regularly interact with parents and teachers in the community.

* Founding National Partners - Founding national partners who will support the program through their existing networks of community-based centers, training programs, in-kind contributions and other activities include Sun Microsystems, Boys & Girls Clubs of America, Save the Children, National Urban League, Communities in Schools, FamilyEducation Network, PowerBar Inc., and the U.S. Department of Education's Computer Technology Centers and 21st Century Community Learning Centers.

* Founding Local Sponsors - Founding local sponsors who have established pilot sites for PowerUP in their communities include Microsoft, Sun Microsystems, the Northern Virginia Technology Council, and the Case Foundation. The sites are located in San Jose, Ca; Seattle, WA; Alexandria, VA; and Washington, DC. The sites are additionally supported by the YMCAs of Santa Clara Valley, Greater Seattle, and Metropolitan Washington, which provide service-learning and positive youth development opportunities.

PowerUP is a commitment to America's Promise. America's Promise -- The Alliance for Youth led by General Colin Powell, is dedicated to mobilizing individuals, groups and organizations from every part of American life, to build and strengthen the character and competence of our youth.

Contact:

Lisa Ellen
(212) 453-2444
OR
Susan Porter
(202) 828-8866

Message Copied To:

Policy, Programs and Leadership

The U.S. Department of Education's Office of Educational Technology (OET) coordinates Department-wide educational technology programs; develops national educational technology policy; and implements this policy through ED's programs. Working closely with the offices of Elementary and Secondary Education (OESE), Educational Research and Improvement (OERI), Postsecondary Education (OPE), Vocational and Adult Education (OVAE), and Special Education and Rehabilitative Services (OSERS), OET helps to ensure that ED's programs are also coordinated with efforts across the federal government. A primary focus of OET's work is evaluating the effectiveness of educational technology. OET's leadership priorities currently include: promoting equal access to technology, ensuring Internet safety, encouraging new strategies for software development, and planning the nation's long-term policy for educational technology.

Educational Technology publications are available at <http://www.ed.gov/Technology/> or by calling 1-877-4ED-PUBS or 1-800-USA-LEARN.

Our most requested publications include:

Getting America's Students Ready for the 21st Century: Meeting the Technology Literacy Challenge

Parents Guide to the Internet

An Educator's Guide to Evaluating the Use of Technology in Schools and Classrooms

Distance Education in Higher Education Institutions

Every child in America deserves the chance to participate in the information revolution.

President Clinton

National Educational Technology Goals

1. All teachers and students will have modern computers in their classrooms;
2. Every classroom will be connected to the information superhighway;
3. All teachers in the nation will have the training and support they need to help all students learn through computers and the information superhighway; and
4. Effective and engaging software and online resources will be an integral part of every school curriculum.

**U.S. Department of Education
Office of Educational Technology
400 Maryland Avenue, SW
Suite 6W301**

Washington, DC 20202

Phone: (202) 401-1444

Fax: (202) 401-3941

Web site: <http://www.ed.gov/Technology/>



Educational Technology Programs

at the
U.S. Department of Education

Capacity Building

Technology Literacy Challenge Fund: This program provides funding to help states and school districts develop and implement plans to meet the four national educational technology goals. Contact OESE at 202-401-0039 or go to <http://www.ed.gov/Technology/TLCF/>.

Professional Development

Preparing Tomorrow's Teachers to Use Technology: This program helps ensure that tomorrow's teachers are prepared to integrate technology effectively into the curriculum and to use the new teaching and learning styles enabled by technology. Contact OPE at 202-260-1365 or go to www.ed.gov/teachtech/.

Innovation

Technology Innovation Challenge Grants: This program promotes innovative uses of educational technology by awarding grants to partnerships of school districts, universities, businesses, libraries, software designers, and others. Contact OERI at 202-208-3882 or go to <http://www.ed.gov/Technology/challenge/>.

Distance Learning

Star Schools: This program supports projects that utilize distance learning technology to provide instructional programs to students and professional development to teachers in underserved populations. Contact OERI at 202-219-2186 or go to http://www.ed.gov/prog_info/StarSchools/index.html.

Learning Anytime Anywhere Partnerships: This program supports partnerships of colleges, universities, businesses, community organizations, or other entities that deliver quality postsecondary distance education. Contact OPE at 202-708-5750 or go to <http://www.ed.gov/offices/OPE/FIPSE/learnany.html>.

Community Networks

Community Technology Centers: This program expands access to technology centers in low-income communities. Contact OVAE at 202-205-8270 or go to <http://www.ed.gov/offices/OVAE/CTC/>.

Technical Assistance

Regional Technology in Education Consortia: These six centers provide states, school districts, adult literacy programs, and other education institutions with professional development, technical assistance and information about the use of advanced technologies to improve teaching and learning. Contact OERI at 202-219-8070 or go to <http://rtec.org/>.

Research

Interagency Education Research Initiative: This is an initiative of the U.S. Department of Education, National Science Foundation and National Institutes of Health to focus expertise in research, evaluation, and educational technology on achieving two important educational goals: Ensuring that all children have acquired the foundations of mathematics and reading by the end of grade three, and ensuring that all mathematics, science, and reading teachers have high-level content in these areas. Contact OERI at 202-219-1935 or go to <http://www.ehr.nsf.gov/eri-ed-nsf/>.

Federal Communications Commission: The FCC oversees the E-Rate (Education Rate), which provides affordable access to advanced telecommunications services for all schools and libraries in the United States. Contact the Schools and Libraries Division at 202-776-0200 or go to <http://www.sl.universalservice.org/>.

Federal Resources for Educational Excellence: An Internet tool for teaching and learning, FREE was developed by more than thirty federal agencies. It makes hundreds of federally supported education resources available at <http://www.ed.gov/free/what.html>.

Department of Commerce: The DOC Telecommunications and Information Infrastructure Application Program (TIAP) supports planning and construction of telecommunications. Contact TIAP at 202-482-2048 or go to <http://www.ntia.doc.gov/otiahome/otiahome.html>.

National Science Foundation: NSF makes grants and awards in all areas of science, mathematics, and engineering education. Contact NSF at 703-306-1234 or go to <http://www.nsf.gov/home/her>.

Department of Energy: DOE's ten national laboratories and thirty technology centers and research facilities provide educational experiences for students, training and curriculum materials for pre-service and in-service teachers, and literacy programs for the general public. DOE also runs Computers for Learning, which will place hundreds of thousands of surplus government computers in U.S. classrooms. Contact Computers for Learning at 888-362-7870 or go to <http://www.computers.fed.gov>.

National Aeronautics and Space Administration: NASA provides online educational programs and services. Visit <http://www.education.nasa.gov>.

U.S. Department of Agriculture: USDA's Distance Learning and Telemedicine Grants support telemedicine services and distance learning services in rural areas. Contact the Rural Utilities Service at 202-720-4581 or go to <http://www.usda.gov/rus/dlt/1703.pdf>.

Introduction

If equality of educational opportunity can be established, democracy will be real and justified. For this is the vital truth beneath its catchwords: that though men cannot be equal, their access to educational opportunity can be made more nearly equal (Durant, 1968, p. 79).

Lighting a fire in the student's heart, role modeling and nurturing may contribute more to learning than the neatest hyper-linked courseware (Dertouzos, 1998, p. 20).

A burgeoning computer market and the advent of the Internet and World Wide Web have sparked a rapid increase in the electronic delivery of higher education. Technology-based distance education has been around a long time, but its growth has surged in the 1990s, resulting in an industry that is growing by hundreds, if not thousands, of online courses each month. Training through the Internet is becoming big business worldwide. The "virtual university" is edging its way on to the wide screen of educators, policy-makers, and students. The vision of students collecting certificates or degrees without ever setting foot in a classroom has captured the imagination of education entrepreneurs and Wall Street investors.

Management pundit Peter Drucker has predicted that the residential university campus as we know it will be defunct

within 30 years. A better bet is that traditional higher education will change, not disappear. The question is: How will it change? The fact is, computer and related technologies are evolving so quickly—and new providers and brokers of higher education proliferating so rapidly—no one knows.

A healthy skepticism is in order when evaluating claims for the transforming power of virtual instruction. A good deal of hype, from both commercial and nonprofit sponsors, accompanies its marketing. Also, history suggests that the impact of cutting-edge technology consistently falls short of its proponents' expectations. Early in this century, Thomas Edison speculated that motion pictures would replace textbooks as the principal medium of instruction. Fifty years ago many heralded instructional television as the salvation of classroom teaching.

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This said, however, today's expanding, interactive computer networks possess a power, promise, and allure that institutions, governments, corporations, the nonprofit sector, and students are responding to in unprecedented ways. This paper reviews recent developments in information technology and distance learning, and how—along with economic forces—they are fueling a global market for higher education.

For the most part we raise questions. The computer-based technologies that are driving the change are so new that

there is very little experience, much less systematic data, on which to assess the future.

We write primarily from a U.S. perspective, but the trends and issues are increasingly global. We focus especially on the question of access. Will the new technologies expand opportunities for those who have been traditionally underrepresented in higher education? Or are these technologies liable to deepen the divide between the rich and poor, the educational haves and have-nots in today's society?

Build It and They Will Come

Twenty years ago, only 50,000 computers existed on the planet. Today, that many units are sold every 10 hours around the world. Internet expansion has been even more dramatic. In 1985, about 300,000 e-mail users were registered worldwide. Ten years later, the U.S. alone accounted for over 80 million users (Jones, 1997).

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The technological evolution from an industrial society to one dependent on information and knowledge has forever altered how we learn and do things. Providers of education and training are harnessing communications technology to complement and sometimes supplant the traditional classroom. Again, distance education is not new. Today's virtual instruction has its roots in correspondence schools. But it has the potential to transcend barriers of time and space in ways

unimagined only a few years ago. Almost anything—text, data, images, video, audio—can be delivered electronically, almost anywhere in the world, almost any time and in real time, over the Internet. Imaging and Web-based technologies are also constantly enhancing the potential for two-way communications between and among teachers and students in remote locations.

The development of this technological capacity has resulted from a push-pull relationship between providers and the public: technological advances have created awareness and appetite among users, while usage has pushed providers to further develop the technologies. Dolence and Norris suggest a Darwinian element in this societal shift:

Society is undergoing a fundamental transformation from the Industrial Age to the Information age... All people, organizations, societies and nations are affected, although not at the same pace or to the same degree. Those who realign their practices most effectively to the Information Age standards will reap substantial benefits. Those who do not will be replaced or diminished by more nimble competitors. (Dolence & Norris, 1995, p. 2).

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From the student perspective, we must realize that today's high school graduates are already children of the "information age," and that tomorrow's students will be even more conditioned by electronic media. Today's university students increasingly *expect* to learn with computers and the latest information technology,

not least because an increasingly competitive labor market demands no less. As Kenneth Green puts it, institutions engage in "a kind of educational malpractice" if they fail to provide students with technology training as part of their educational experience (Green, 1997b, p. 9).

Distance Education and U.S. Financial Aid Policy

To protect both students and taxpayers against potential fraud and abuse, the federal Higher Education Act has generally inhibited government aid to distance education. Among other constraints, postsecondary institutions that enroll more than 50 percent of their students in distance education courses are ineligible for student aid funds under Title IV of the Act. In 1998, however, Congress authorized the Secretary of Education to waive such regulations on a limited basis and test the quality and viability of distance education using various technologies.

The new law defines distance education as an educational process that separates, in time or place, the student and instructor and includes courses offered by computer transmission, television, electronic conferencing, videocassettes or discs, or correspondence. Up to 15 institutions may be funded in 1999 to take part in a demonstration program, and the statute specifies that the Western Governors University shall be one of the participants. An additional 35 institutions may participate in the third year of the program.

The demonstration is intended to help determine: a) the most effective technologies for delivering quality education via distance course offerings; b) statutory and regulatory requirements that should be altered to provide greater access to high-quality distance education; and c) appropriate federal assistance for students enrolled in distance education. The Secretary of Education is required to report back to Congress 18 months after the program is launched and annually thereafter.

The complete Federal Register notice on the distance education pilot program may be found at <http://ocfo.ed.gov/fedreg.htm>.

Training Needs and Training Providers

Technological opportunity has converged with economic imperative to expand the overall demand for higher education and alter its delivery in time and space. Knowledge-based economies require increasing levels of education and training. In the U.S., estimates of the proportion of future jobs requiring postsecondary training range from 70 to 90 percent. Skill and credential requirements in the job market show no signs of leveling off.

Economic incentives and pressures are pushing U.S. higher education enrollments to record levels. Rates of participation by 18- to 24-year-olds have never been higher, and the market for training and retraining of working adults is booming. Some estimates suggest that almost half of the adult U.S. population engages in some type of part-time education or training, and part-time enrollments are growing three times faster than full-time enrollments.

In fact, patterns of enrollment in U.S. postsecondary education are increasingly complex. The terms "traditional" and "nontraditional" are becoming less useful in describing today's students. Many students are stretching out their education, attending part-time, balancing

study with work and family responsibilities, attending intermittently, and attending more than one institution before graduating. For growing numbers of students, the postsecondary experience is no longer a straight shot.

If students increasingly defy categorization, so do institutions. A range of unconventional providers has entered the postsecondary marketplace, offering instruction and credentials in new settings, on flexible schedules—and increasingly by way of the new distance-learning media. A quick search of the Internet reveals scores of Web sites that offer some form of distance education, or information about such learning opportunities. Competition is intense, and lines blur between public and private, for-profit and not-for-profit, and a variety of entrepreneurial combinations in between. (See Appendices A and B at the end of this monograph for a partial listing of these Web sites).

Many corporations have been training their employees for decades; they have essentially brought postsecondary education in house, investing in their own human capital. Some corporate universities have gone further, taking their educational services to the broader pub-

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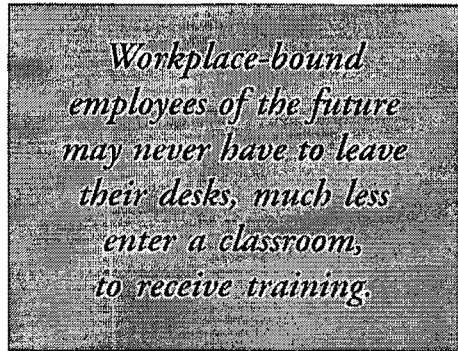
lic. Motorola, for example, estimates that over 20 percent of its 100,000 students come from outside company ranks.

There is also a new breed of freestanding corporate enterprise that is tapping into a growing market for career retraining and advanced degrees. The University of Phoenix, for example, is far-flung, for-profit, and fully accredited. In just 20 years, it has become the largest private university in the U.S., delivering business and other applied degree programs to 56,000 students at 70-plus sites nationwide.

U.S. industry is estimated to have spent \$60 billion on formal training in 1997. Most training in the corporate sector remains site-based and is delivered the old-fashioned way, by human instructors. But online and other modes of distance education using information technology are on the rise (Lakewood Publications, 1997). Workplace-bound employees of the future may never have to leave their desks, much less enter a classroom, to receive training.

Meanwhile, more and more traditional institutions of higher education are experimenting with virtual instruction. A U.S. Department of Education survey found that one-third of accredited institutions offered distance education courses in 1995, and a quarter of these institu-

tions offered degrees exclusively through distance education. Penn State (World Campus), the University of Minnesota (Virtual U Minnesota), UCLA (Home Education Network), Lansing Community College, and Florida's Gulf Coast University are taking a lead in the electronic market.



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Higher education institutions are also forming consortia and linking with the private sector to develop, catalog, and disseminate courses and degree programs. Nonprofit and for-profit companies provide software, hardware, and consulting services to support distance education. Denver-based Real Education, Inc., for example, helps institutions that lack the technical capacity to develop state-of-the-art courseware online. On its Web site, Real Education provides an index of course offerings, organized by subject, semester offered, and school from which the instruction originates. From the World Lecture Hall, a Web site organized by the University of Texas, students can download multi-

media course materials from scores of universities. The Globewide Network Academy and The Internet University also coordinate thousands of online courses.

In late 1998, Western Governors University (WGU) began operation as the nation's first exclusively virtual university. WGU was formed by the governors of 17 states (plus Guam), along with a number of business partners including Microsoft, Sun Systems, IBM, and AT&T. It has no plans to hire faculty, but will procure its online academic materials from businesses and institutions of higher education in the U.S. or other countries. Students anywhere in the world can enroll. WGU's mission is to "expand educational opportunities for learners everywhere" and provide access to a "dispersed population of students who might not otherwise have access to higher education and to those needing workplace training" (Blumenstyk, 1998, p. A21).

States participating in WGU are looking for economies of scale in providing higher education services. Some states hope WGU will enable them to fend off political pressures from some com-

munities to build or expand existing brick-and-mortar campuses. The state of California, however, opted out of WGU because state leaders decided they had too much invested in California's 301 colleges and universities to share with other states. Instead, California has developed its own California Virtual University, which recently more than doubled its 700 courses to 1,600.

If some U.S. institutions have ideas of going transnational with their distance course offerings, so do many others around the world. Our search of the Internet (see Appendix B) turned up virtual-learning Web sites from Argentina, Australia, Belize, Brazil, Canada, Costa Rica, Ghana, Israel, the Netherlands, New Zealand, South Africa, Spain, Sri Lanka, and the United Kingdom, among other countries. The U.K.'s Open University has been a world leader in distance education for a quarter century. Now it is entering the U.S. market in partnership with WGU, Florida State University, and campuses of California State University, and has established an Open University of the United States (Marchese, 1998).

Who Will Regulate a Global Market?

Even a cursory tour of World Wide Web distance-learning sites is impressive. But there are many unanswered questions about higher education's recent online surge. Not least is how to provide quality assurance.

The new information technology knows no boundaries and opens a potential world of possibilities for students. Pronouncements on behalf of virtual instruction emphasize that it is learner-centered. It takes the classroom to the student rather than the other way around. Students have more control over where, how, and when they learn. But how will students distinguish among providers of virtual training? How will they assess the relative quality and utility of educational opportunities offered in cyberspace? Also, how will employers evaluate skills and credentials acquired in the virtual mode? (Barley, 1997).

Issues of accreditation and credentialing are problematic enough in the realm of traditional higher education. But the wide openness of the new technology invites educators, entrepreneurs, and students alike to cross national and other borders, adding a whole new dimension of complexity. Providers—traditional or nontraditional—have few regulatory barriers to entry.

The Council for Higher Education Accreditation (CHEA), a nongovernmental voluntary association concerned with standards of institutional quality in U.S. higher education, is currently looking into these issues of "gatekeeping" in the new world of distance education. Another voluntary organization, the Washington, D.C.-based Global Alliance for Transnational Education (GATE), has also been founded to grapple with these issues on an international level. Still, who ultimately will regulate a global market remains an open question.

How will students distinguish among providers of virtual training, and how will employers evaluate skills and credentials acquired in the virtual mode?

Will the New Technologies Save or Add to Educational Costs?

Part of the promise of virtual technology is to deliver instruction at reduced cost. But to do so it will have to break with history. Most educational technology introduced over the past 50 years has supplemented and often enhanced—not supplanted—traditional classroom instruction, thus *adding* to its cost, not reducing it. Cutting-edge information technology tends to be expensive and have a short half-life, straining education budgets, not relieving them.

Nonetheless, the vision of packaging courses with name instructors and mass marketing them around the world through the Internet is a powerful lure to providers, especially those that already have substantial investment in the necessary infrastructure. To the extent that students respond and enroll online, there will be money to be made. Companies

may profit, and institutions of higher education may create new revenue streams. Some institutions, even if they do not have the electronic infrastructure and technical expertise to start with, want to position themselves in the potential market for distance education and have sought external grants for courseware development. They are likely to find, however, that online courses are works in progress, requiring ongoing outlays for maintenance, re-vamping, upgrading, and staff training (Green, 1997a).

Whether online instruction will produce savings for students is also unclear. Some institutions are actually charging more for online courses than for on-campus instruction. Students who enroll online, however, may face lower net costs because of savings in time and travel expenses (Baer, 1998).

Most educational technology introduced over the past 50 years has supplemented and often enhanced — not supplanted — traditional classroom instruction, thus adding to its cost, not reducing it.

Who Will Benefit?

Are students in fact flocking to online educational opportunities? The U.S. Department of Education reports that three quarters of a million U.S. students enrolled in more than 15,000 distance education courses in 1995 (U.S. Department of Education, 1997b). This estimate, however, includes all forms of distance education, not just online learning, and even such an inclusive estimate does not amount to a significant proportion of postsecondary enrollments.

In truth, we have very little information on how many students or employees are actually making use of online course offerings, and we know less about their characteristics. As Barley (1997) suggests, without such information we have no way of knowing whether virtual technology is reaching those who might not otherwise have access to higher education, or simply accommodating those who already take advantage of other educational opportunities.

Over the past couple of decades, there have been wonderful examples of distance education programs extending access to isolated populations. Contact North in Ontario, Canada, reaches remote villages and towns in the northern portion of the province. The British Open University

has a distinguished record of making education accessible for those who are home- and work-bound, using a variety of distance learning technologies, recently including the Internet.

Internet-based technology can surely build on these earlier successes, but only if providers take care to build quality programs that include technical support and individualized attention to students, mentoring, and faculty-student exchanges. The Open University has attached great importance to such interactions, including face-to-face tutorials where possible. Sir John Daniel, vice chancellor of the Open University, warns:

Much of the commercial hype and hope about distance learning is based on a very unidirectional conception of instruction, where teaching is merely presentation and learning is merely absorption. The Open University's experience with two million students over 25 years suggests that such an impoverished notion of distance education will fail—or at least have massive drop-out problems (AAHE Bulletin, 1998, p. 11).

A New Set of Barriers for the Traditionally Underrepresented in Higher Education?

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.

Not all students have equal access to computers and the Internet. In fact, there is evidence that students with the greatest need get the least access.

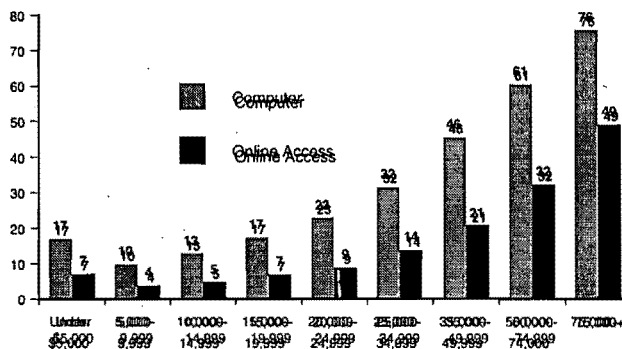
While computers may seem ubiquitous in today's society, their distribution is highly stratified by socioeconomic class. Figures 1-3 illustrate, by income, race/ethnicity, and educational attainment, the wide disparities in access to computers as well as online services in the U.S. as of 1997. Three-quarters of households with incomes over \$75,000 have a computer, compared to one-third of households with incomes between

\$25,000 and \$35,000, and one-sixth with incomes below \$15,000.

Online access is similarly stratified by income. And 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

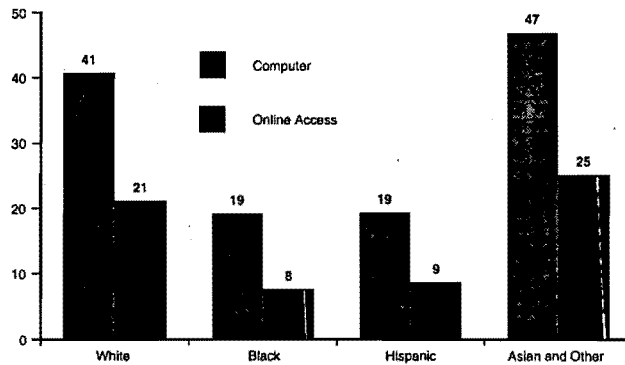
Figure 1. Percentage of U.S. Households with a Computer and Online Service, by Household Income, 1997.



Source: *Falling Through the Net II*, National Telecommunications & Information Administration (NTIA), U.S. Department of Commerce, July 28, 1998.

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Figure 2. Percentage of U.S. Households with a Computer and Online Service, by Race/Ethnicity, 1997.



Source: *Falling Through the Net II*, National Telecommunications & Information Administration (NTIA), U.S. Department of Commerce, July 28, 1998.

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 (Coley, Cradler, & Engel, 1997).

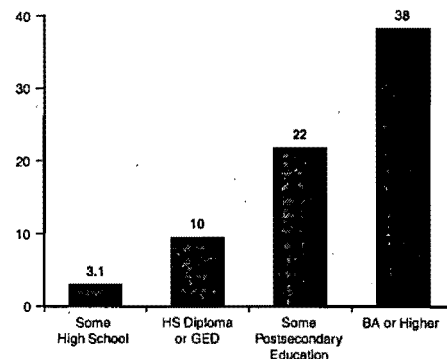
More recent data from the National Center for Education Statistics indicate progress in closing such gaps and meeting the Clinton administration's goal of connecting every school to the Internet by the year 2000. Table 1 shows that 89 percent of public schools had access to the Internet in fall 1998, compared to only 35 percent four years earlier. But school access is not a good indicator of student access. In fact, one study suggests that half the schools that are linked to the Internet are connected only at the library/media center or principal's office (Quality Education Data, 1998).

A better indicator of penetration in the schools is percentage of classrooms connected to the Internet. Here the disparities remain significant. As indicated in Table 1, about 40 percent of classrooms in schools with the highest concentration of poor students (measured by percentage of students eligible for free or re-

duced-price lunch) have Internet access, compared to more than 60 percent of classrooms in schools with the lowest concentration of poor students. There are similarly wide gaps by race/ethnicity.

Figure 4 shows the average number of students per computer with Internet access in fall 1998. On average, there were 17 students per computer in schools with

Figure 3. Percentage of U.S. Households with Online Service, by Educational Attainment, 1997.



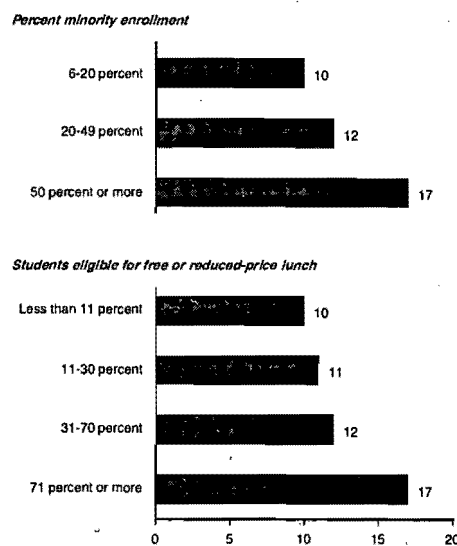
Source: *Falling Through the Net II*, National Telecommunications & Information Administration (NTIA), U.S. Department of Commerce, July 28, 1998.

Perspectives

the highest concentrations of poor students, compared to 10 in schools with the lowest concentration of such students. The same gap exists between schools with the lowest and highest concentrations of minority students.

Not surprisingly, differentials in experience with technology show up when students enter postsecondary education. UCLA's 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" (Higher Education Research Insti-

Figure 4. Ratio of Students per Instructional Computer with Internet Access, by School Characteristics, Fall 1998.



Source: U.S. Department of Education (1999), "Internet Access in Public Schools and Classrooms: 1994-98," *Issue Brief* (NCES 1999-017). Washington, DC: National Center for Education Statistics.

Table 1. Percentage of Public Schools and Instructional Rooms With Internet Access, by Selected School Characteristics: Fall 1994-98.

School characteristics	Percentage of schools with Internet access					Percentage of instructional rooms with Internet access ¹				
	1994	1995	1996	1997	1998	1994	1995	1996	1997	1998
Total	35	50	65	78	89	3	8	14	27	51
Level of school ²										
Elementary	30	46	61	75	88	3	8	13	24	51
Secondary	49	65	77	89	94	4	8	16	32	52
Percentage of students eligible for free or reduced-price lunch										
Less than 11	—	62	78	88	87	—	9	18	36	62
11-30	—	59	72	83	94	—	10	16	32	53
31-70	—	47	58	78	91	—	7	14	27	52
71 or more	—	31	53	63	80	—	3	7	14	39
Percentage of minority students enrolled										
Less than 6	—	52	65	84	91	—	9	18	37	57
6-20	—	58	72	87	93	—	10	18	35	59
21-49	—	54	65	73	91	—	9	12	22	52
50 or more	—	40	56	63	82	—	3	5	13	37

— Indicates data not available.

SOURCE: U.S. Department of Education (1999), "Internet Access in Public Schools and Classrooms: 1994-98," *Issue Brief* (NCES 1999-017). Washington, DC: National Center for Education Statistics. "Internet Access in Public Schools," *Issue Brief* (NCES 98-031). Washington, DC: National Center for Education Statistics.

¹Based on the total number of instructional rooms in regular public schools.

²Data for combined schools are not reported as a separate level of school because there are too few sample observations for reliable estimates. Data for combined schools are included in the totals.

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tute, 1999, p. 1). As illustrated in Figure 5, the percentage of students using e-mail 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.

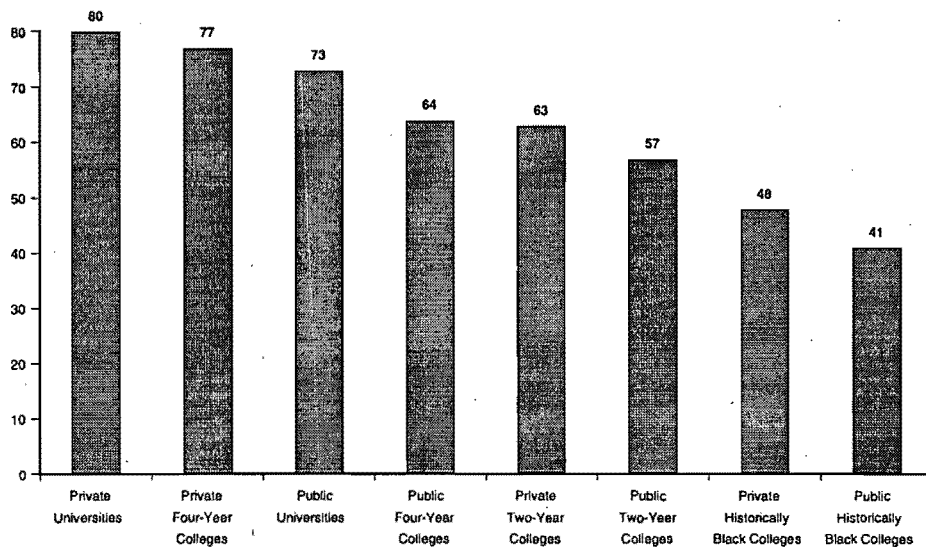
It is about effective use, teacher training, and careful integration of technology into the curriculum. The most advantaged citizens—and schools—are most able to benefit from cutting-edge technologies.

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.

The most advantaged citizens—and schools—are most able to benefit from cutting-edge technologies. Advantage magnifies advantage.

Figure 5. Percentage of Freshmen Using E-mail During the Last Year, by Institution Type, 1998.



Source: Higher Education Research Institute (1999). "Freshman Embrace the Internet as an Educational Tool." *The American Freshman: National Norms for Fall 1998*. Los Angeles, CA: UCLA.

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.

Access to Technology

Until every child has a computer in the classroom and the skills to use it...until every student can tap the enormous resources of the Internet...until every high-tech company can find skilled workers to fill its high-wage jobs...America will miss the full promise of the Information Age.

*President Clinton
June 5, 1998*

The Clinton Administration's principal initiative to equalize access to technology is the “E-rate” program authorized by the Telecommunications Act of 1996. The act builds on federal law of 60 years ago to guarantee all Americans affordable telephone service. In 1996, Congress expanded this universal-service concept to ensure that all libraries and schools would be able to afford “advanced telecommunications and information services.”

In 1997, the Federal Communications Commission (FCC) created the Schools and Library Corporation to offer education-rate discounts on telecommunications services, including Internet access charges, with discounts ranging between 20 and 90 percent depending on regional economic indicators. During the first round of applications, more than 30,000 schools and libraries responded, and the first wave of grant notifications were mailed in the fall of 1998.

But the financing of the E-rate program has been contentious. To pay the cost, the FCC levied a universal-service fee on telecommunications companies. The industry has gone to court to fight the FCC's action as an illegal tax, and last summer AT&T, MCI, and Sprint announced that they would pass the cost on to the consumer. In the political firestorm that ensued, the FCC scaled back its commitment to the E-rate program, promising to give out \$1.9 billion over an 18-month period, rather than the previously agreed upon \$2.25 billion over 12 months. At the time of this printing, the E-rate program was receiving a second round of applications.

The Public Policy Challenge

The good news in the U.S. 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 underrepresented 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 over \$1 billion dollars dedicated to making "sure everyone has the ability to have Internet access, regardless of where they live or how much money they have" (Hafner, 1999, p. 18). 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 (see page 21). 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

To cap this monograph, 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 WGU 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:

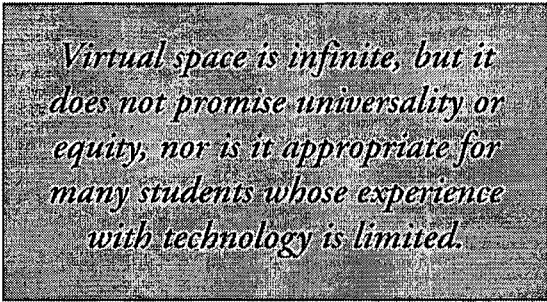
Consider broad access in the development of products and the expansion of markets. More lucrative, high-end products and users are the driving force behind the Internet’s frenetic expansion. But the communications industry must step up to the plate of social responsibility, which means at times looking 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.

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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. Postsecondary 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.



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.

Appendix A: Among the Leaders

WESTERN GOVERNORS UNIVERSITY (www.wgu.edu)

Western Governors University (WGU) currently provides three degree and certificate programs, with 15 additional programs expected in 1999. WGU has established collaborative agreements with the Open University in Great Britain; the Open Learning Agency in British Columbia, Canada; the Tokai University Educational System in Japan; and the Universidad Virtual del Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM) in Mexico.

THE OPEN UNIVERSITY (www.open.ac.uk)

Established by a Royal Charter in 1969, the Open University of Great Britain has served over two million people in England and around the world and awarded more than 200,000 Bachelor's degrees. In 1998 alone, OU enrolled over 200,000 students, 10 percent of whom reside outside of the UK. The average age of undergraduates is 37, with an average tuition cost of £3,500. OU employs approximately 3,750 full-time staff and 7,000 part-time associate lecturers. Most new courses have their own dedicated Web sites and online conferencing facilities, with trained tutors and staff assistance.

THE CALIFORNIA VIRTUAL UNIVERSITY (www.california.edu)

The California Virtual University was established in 1996 shortly after California opted out of the Western Governors University. That decision was predicated on the fact that California has invested heavily in its own, highly respected public system of higher education. Planners hope that CVU will provide increased access for the deluge of students—more than 500,000—expected to enroll in California postsecondary education within the next decade. CVU is in essence a broker and does not grant degrees or certificates. Rather, it “serves as a gateway to technology-mediated distance learning courses and programs from California institutions.” CVU sponsors include Cisco Systems, International Thomson Publishing, Oracle Corporation, Pacific Bell, Alfred P. Sloan Foundation, and Sun Microsystems, Inc.

The Virtual University and Educational Opportunity

JONES EDUCATION COMPANY COLLEGE CONNECTION ONLINE (www.jec.edu/cc/map.html)

Formerly the Mind Extension Network, JEC College Connection is a partnership of colleges and universities from around the nation, including the George Washington University, the University of Colorado, and the University of Delaware. Ten degree programs and two certificate programs are currently available in the areas of educational technology, business administration, communications, nursing, and hotel management. Instruction is provided via videotape and satellite feed, with Internet and email support.

THE UNIVERSITY OF PHOENIX (www.uophx.edu)

Accredited in 1978, the University of Phoenix now serves more than 56,000 students, almost all of whom earned degrees prior to admission. While UP has become widely identified with the "virtual" trend, in fact less than 5 percent of its enrollment is instructed online. The University of Phoenix system includes 74 campuses and learning centers in 13 states and the Commonwealth of Puerto Rico. "Our approach is based on openness and accessibility—not distance and isolation," according to UP's Web site.

REAL EDUCATION (rs.realeducation.com)

Developing online, virtual instruction requires both technology and content. While the former requires a major investment in campus infrastructure, the latter is, in actuality, the most expensive and substantial barrier to institutions that consider "going virtual." Real Education is one among several companies that now help campuses develop and deliver courseware. In 1998, Real Education signed more than 60 colleges and universities, including the University of Pennsylvania, Seton Hall University, and the University of Colorado. Microsoft, WebCT, Pearson Education, and SkillSoft are listed as strategic partners. In January 1999, Real Education announced \$15 million in private equity financing to support further development and growth.

BLACKBOARD, INC. (www.blackboardllc.com)

Like its competitor Real Education, Blackboard Inc. supports teaching and learning over the Internet. Cornell University, Georgetown University, Tufts University, Northwestern University, the College of William and Mary, and the University of Tennessee at Knoxville utilize Blackboard, Inc.'s services. Strategic Partners include KPMG Peat Marwick LLP, International Thomson Publishing, W.W. Norton Publishing Inc., Sylvan Learning Systems, EDUCAUSE IMS Project, GEO Interactive, and Microsoft.

Appendix B: Web Site Listing

Web Sites Providing Courseware or Information on Distance Learning

TRADITIONAL INSTITUTIONS OF HIGHER EDUCATION

Argentina

Universidad Nacional de San Luis
<http://inter2.unsl.edu.ar/~cead>

Australia

Edith Cowan University
<http://www.echidna.stu.cowan.edu.au/VC/>

Monash University
<http://www.dec.monash.edu.au/>

University of Asia
<http://www.uniasia.edu>

University of Southern Queensland
<http://www.usq.edu.au/dec>

Belize

Belize Institute of Technology
<http://www.clarence.com/home/bit>

Brazil

Faculdade Carioca
<http://www.carioca.br>

Instituto Nacional de Educação a Distância
<http://www.intelecto.net/textos1.htm>

Canada

Athabasca University
<http://www.athabascau.ca/>

Queen's University
<http://www.queensu.ca/pts>

Simon Fraser University
<http://www.sfu.ca/cde>

Université Laval - Alérion
<http://www.ulaval.ca/dgfc/distance/index.html>

University of British Columbia
<http://det.cstudies.ubc.ca>

University College Cape Breton
<http://www.uccb.ns.ca/eca>

University College of the Fraser Valley
<http://www.ucfv.bc.ca/online>

Costa Rica

University of San José
<http://www.usj.edu>

Hong Kong

Center for Educational Development
<http://www.ced.com.hk>

The Netherlands

Open University of the Netherlands
<http://www.ouh.nl>

New Zealand

Massey University
<http://www.massey.ac.nz/~wwcues/about/about.htm>
<http://its-www3.massey.ac.nz>

Iceland

Reykjavik Institute of Education
<http://www.rvik.edu>

The Virtual University and Educational Opportunity

Spain

Centro de Enseñanza a Distancia
<http://www.ceac.com>

Universitat Oberta de Catalunya
<http://www.uoc.es/>

South Africa

INTEC College – Southern Africa
<http://www.intec.edu.za>

Sri Lanka

Open University of Sri Lanka
<http://www.ou.ac.lk>

United Kingdom

The Open University
<http://www.open.ac.uk/>

Sheffield University
<http://www.shef.ac.uk/uni/services/dlu/dluweb/dluhome.html>

University of London
<http://www.lon.ac.uk/external>

United States

Boston University
<http://bumetb.bu.edu/>

Carnegie Mellon University
http://www.cmu.edu/home/education/education_distance.html

Central Michigan University
<http://www.cel.cmich.edu>

Chapman University
<http://www.chapman.edu/oei>

Christopher Newport University
<http://www.cnuonline.edu/>

Drexel University
<http://www.drexel.edu/distance>

Florida Gulf Coast University
<http://itech.fgc.edu/distance>

Florida State University
<http://idl.fsu.edu/>

The George Washington University
<http://www.gwu.edu/~distance>

Golden Gate University
<http://cybercampus.ggu.edu>

Idaho State University
<http://wapi.isu.edu/>

Louisiana College
<http://lconline.lacollege.edu>

Louisiana State University
<http://ls.lsu.edu>

Michigan State University
<http://www.vu.msu.edu>

Minnesota's Virtual University
<http://www.mnvu.extension.umn.edu/>

The New School University
<http://www.dialnsa.edu/>

New York University
<http://www.sce.nyu.edu/virtual>

Nova Southeastern University
<http://www.nova.edu>

Old Dominion University
<http://web.odu.edu/webroot/FrontEnd.nsf/pages/distlrn>

Penn State World Campus
<http://www.worldcampus.psu.edu/>

Purdue University
<http://info.aes.purdue.edu/acs/disted.html>

Rochester Institute of Technology
<http://distancelearning.rit.edu/>

Stanford University
<http://stanford-online.stanford.edu/>

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SUNY Empire State College
<http://www.esc.edu/>

University of California at Berkeley
<http://www.unex.berkeley.edu:4243/>

University of California at Los Angeles
<http://www.unex.ucla.edu/>

University of Hawaii
<http://www.hawaii.edu/dlit/>

University of Houston
<http://www.uh.edu/uhdistance>

University of Maryland, University College
<http://www.umuc.edu/distance/index.html>

University of Massachusetts at Dartmouth
<http://www3.umassd.edu/>

University of Missouri at Columbia
<http://indepstudy.ext.missouri.edu>

University of Missouri at Kansas City
<http://vu.umkc.edu>

University of Nebraska at Lincoln
<http://www.unl.edu/ExtendEd>

University of Nebraska at Omaha
<http://www.ccs.unomaha.edu>

University of North Carolina at Chapel Hill
<http://www.unc.edu/cit>

University of Texas
<http://www.utsystem.edu>

University of Wisconsin
<http://www.uwex.edu/>

Virginia Polytechnic Institute & State University
<http://vto.vt.edu>

Washington State University
<http://www.wsu.edu/vwsu>

Webster University
<http://www.websteruniv.edu/>

Policy Analysis

Western International University
<http://www.wintu.edu/>

COMMUNITY COLLEGES

Canada

George Brown – The City College
<http://www.gbrownc.on.ca>

United States

Bellevue Community College
<http://online.bcc.ctc.edu>

Brevard Community College
<http://www.brevard.cc.fl.us/distlrn/>

Chemeketa Community College
<http://bbs.chemek.cc.or.us/public/default.htm>

Clackamas Community College
<http://dl.clackamas.cc.or.us>

Colorado Community College
<http://www.cconline.org>

Edmonds Community College
<http://web.cce.edcc.edu/cce/edol.htm>

Fayetteville Technical Community College
<http://www.faytech.cc.nc.us/infodesk/vcampus/vcampus.html>

Front Range Community College
<http://frcc.cc.co.us/distance/intro.html>

Greenville Tech
<http://www.college-online.com>

Honolulu Community College
<http://www.hcc.hawaii.edu/distlearn>

Iowa Central Community College
<http://iccn.iccc.cc.ia.us/distanceed>

Ivy Tech State College
<http://207.115.178.3/distance-education>

The Virtual University and Educational Opportunity

Lansing Community College
<http://www.lansing.cc.mi.us/executive/extension>

Laramie County Community College
<http://www.lcc.whcen.edu/disted/disted.html>

North West Arkansas Community College
<http://labs.nwacc.cc.ar.us/disted>

Pikes Peak Community College
<http://www.ppcc.cccoes.edu/distance/default.html>

Pima Community College
<http://community.cc.pima.edu/cc/webclass.html>

Pitt Community College
<http://sphynx.pitt.cc.nc.us/des/des.htm>

Rio Hondo College
<http://www.rh.cc.ca.us/online>

Rio Salado College
<http://www.rio.maricopa.edu/>

Seattle Central Community College
<http://seaccd.sccd.ctc.edu/sccde>

Trinidad State Junior College
<http://www.tsjc.cccoes.edu/>

Yavapai College
<http://www.yavapai.cc.az.us/yhome.nsf?open>

PROFESSIONAL ASSOCIATIONS

United States

ADEC Distance Education Consortium
<http://www.adec.edu>

Council for Higher Education Accreditation
<http://www.chea.org>

The Distance Education and Training Council
<http://www.detc.org>

Global Alliance for Transnational Education
<http://www.edugate.org/>

United States Distance Learning Association
<http://www.usdla.org/>

CONSORTIA OR COOPERATIVES

Canada

Contact South
<http://www.contactsouth.org>

Ghana

Ghana Distance Education Project
<http://www.projectslope.org>

United States

Accredited College Degrees by Correspondence
<http://www.collegeathome.com>

California Virtual University
<http://www.california.edu/>

Michigan Virtual Automotive College
<http://www.mvac.org/>

National Technological University
<http://www.ntu.edu/>

National Universities Degree Consortium
<http://www.sc.edu/deis/NUDC>

Oregon Community College Distance Education Consortium
<http://www.lbcc.cc.or.us/occdcc/chart.html>

PBS Adult Learning Service Online
<http://www.pbs.org/adultlearning/als/>

Southern Regional Electronic Campus
<http://www.srec.sreb.org/>

University Alliance
<http://www.universityalliance.com>

Western Governors University
<http://www.wgu.edu/wgu/index.html>

CORPORATE COLLEGES AND UNIVERSITIES

United States

IBM Corporation
<http://www.ibm.com/>

Lotus Education
<http://www.lotus.com/>

Motorola, Inc.
<http://www.mot.com/>

Multiservice Networks Division
<http://www.mot.com/networking>

Oracle Corporation
<http://education.oracle.com>

Sun Microsystems
<http://www.seast2.vsec.sun.com/>

FOR-PROFIT AND NOT-FOR-PROFIT COMPANIES

Africa

The African Virtual University
<http://www.worldbank.org>

Australia

The VETTWeb Building
<http://www.vettweb.net.au/>

Canada

TVOntario
<http://www.tvo.org/eng/default.html>

Denmark

The Virtual Oresund University
<http://www.uni.oresund.org>

Germany

Virtual University of Berlin
<http://www.pc.prz.tu-berlin.de/prz/english/b/learning/index4i.htm>

Israel

Interactive Distance Education And Learning
(IDEAL) System, Arel Communications and
Software, Ltd.
<http://www.arel.co.il/>

Mexico

Universidad Virtual del Sistema Tecnológico de
Monterrey
<http://www.ruv.itesm.mx/>

United States

Apollo Group, Inc.
<http://www.apollogrp.com/>

College for Financial Planning
<http://www.fp.edu/>

Institute for Professional Development
<http://www.ipd.org/>

University of Phoenix
<http://www.uophx.edu/>

Asymetrix Learning Systems, Inc.
<http://www.asymetrix.com/>

Athena University
<http://www.athena.edu>

Blackboard, Inc.
<http://www.blackboardllc.com>

Caliber Learning Network: The Distance
Learning Solution for Working Professionals
<http://www.caliberlearning.com/>

Cisco Connection Online by Cisco Systems, Inc.
<http://www.cisco.com/>

The Virtual University and Educational Opportunity

Coalition for Networked Information
<http://www.cni.org/>

College of the Menominee National Virtual University
<http://www.menominee.com/cmn/programs/home.htm>

Collegis, Inc.
<http://www.collegis.com/home/>

Convene International, Inc.
<http://www.convene.com/>

DeVry Inc.
<http://www.devry.com/>

Keller Graduate School of Management
<http://www.keller.edu/>

Diversity University
<http://www.du.org>

Durand Communications, Inc.
<http://www.durand.com/>

Education Communications (EduCom)
<http://www.educom.com/welcome.html>

Instructional Management Systems Project
<http://imsproject.org/>

Education Management Corporation
<http://www.edumgt.com/>

ERASMUS Virtual University
<http://136.201.8.7/vuniv/ERAShome.htm>

The Fielding Institute
<http://www.fielding.edu/>

The Globewide Network Academy
<http://www.gnacadey.org/>

Harcourt Brace & Company
<http://www.harcourtbrace.com>

California College for Health Sciences
<http://cchs.edu/>

ICS Learning Systems (includes Business and Industrial Training Division)
<http://www.icslearn.com/>

The English Language Institute of America
<http://www.ELILearn.com/contents.htm>

Knowledge Online (Jones Education Company)
<http://www.jec.edu>

Jones International University
<http://www.international.edu/>

Lyceum: The Virtual Campus
<http://www.interlabs.bradley.edu/lyceum2/>

Magellan University
<http://www.magellan.edu>

McGraw-Hill OnLine Learning
<http://www.mhonlinelearning.com/>

National Computer Systems, Inc.
<http://www.ncs.com/>

Virtual University Enterprise
<http://www.vue.com/>

New Horizons Computer Learning Centers
<http://www.newhorizons.com/>

New Promise
<http://www.caso.com/>

The Pangaea Network
<http://www.pangaeanetwork.com/>

PricewaterhouseCoopers Virtual University
<http://www.vu.pw.com/>

Real Education
<http://rs.realeducation.com/>

Spacenet
<http://www.ge.com/capital/spacenet/index2.htm>

Spectrum Virtual University
<http://www.vu.org/campus.html>

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Sylvan Learning Systems, Inc.
<http://www.educate.com/>

TeleVideo Global, Inc.
<http://www.televid.com/>

Toner Cable Equipment, Inc.
<http://www.tonercable.com/>

The University of the United States
<http://www.uus.edu>

UOL Publishing, Inc.
<http://www.uol.com>

The Virtual Classroom List
<http://ull.chemistry.uakron.edu/classroom.html>

Walden University
<http://www.waldenu.edu>

The World Lecture Hall
<http://www.utexas.edu/world/lecture/index.html>

Worldspace
<http://www.worldspace.com/homepage.htm>

ZD University
<http://www.zdu.com/home.asp>

MISCELLANEOUS

United States

Project SCOPE
<http://www.projectscope.org>

General Distance Learning Information
http://www.yahoo.com/education/distance_learning

Lifelong Learning (database of institutions
offering distance learning)
<http://www.lifelonglearning.com>

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Higher education

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Viewpoint
By Thomas Kalil

A Nation of Learners

The government is committed to helping provide access to higher education and lifelong learning

Increasing investment in human capital has been at the heart of the Clinton-Gore administration's economic strategy. In a global economy in which technology and capital are increasingly mobile, America's standard of living rests on the skills of its workers.

Evidence for the importance of investment in skills and access to postsecondary education can be seen in the growing wage premium for college-educated workers. Between 1979 and 1995, the average hourly wage gap between male high school graduates and college graduates in their 30s increased from 26 to 53 percent. The equivalent gap for women increased from 40 percent to 78 percent during the same period. A well-educated citizenry is also essential for a strong democracy, particularly given the increased complexity of many policy issues. As Thomas Jefferson observed, "Whenever the people are well-informed, they can be trusted with their own government. Whenever things get so far wrong as to attract their notice, they may be relied on to set them to rights."

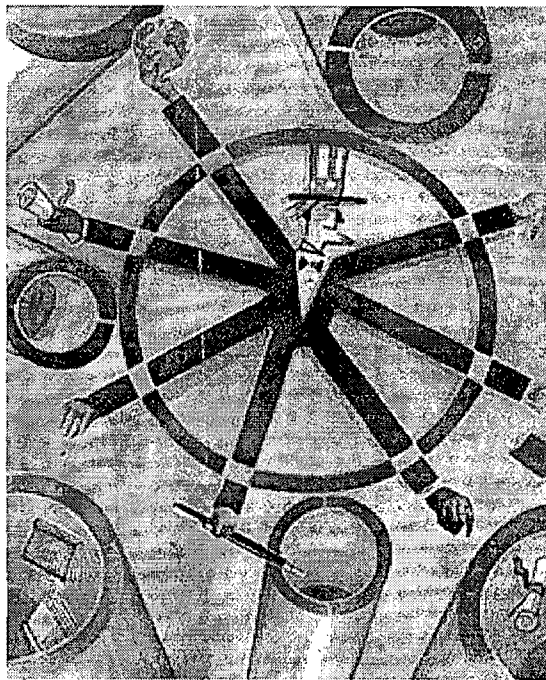
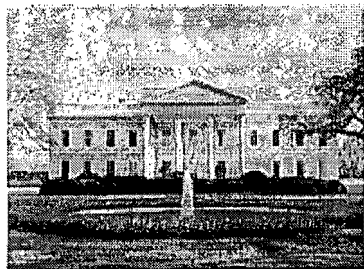


Illustration by Peter Kupe

That's why the administration has made access to higher education and lifelong learning a top priority. In 1997, President Clinton signed into law the HOPE scholarship, which will provide a tax credit of \$1,500 for college or other postsecondary training. He also succeeded in passing a lifelong learning credit of 20 percent for the first \$5,000 spent on tuition and fees, and a tax-free Education Savings Account. These policies are the largest investment in higher education since the G.I. Bill 50 years ago.

The role of technology in higher education



This year, the administration has started to explore the role that new technologies can play in expanding access to higher education and lifelong learning. Earlier in the administration, President Clinton and Vice President Gore unveiled an ambitious initiative to promote the use of technology in our nation's K-12 schools, by connecting every classroom to the Internet by the year 2000, increasing access to multimedia computers, providing technology training to teachers and

encouraging the development of high-quality educational software and content.

In the last several years, we have seen the explosive growth of the Internet and the World Wide Web, affordable personal computers capable of handling three-dimensional graphics and the development of new technologies such as streaming audio and video, reusable software components, Internet-based groupware that can support real-time and asynchronous collaboration, easier-to-use authoring tools and digital libraries for research and education.

Significant technical barriers to the widespread adoption of technology-supported education and training remain. For example, inadequate bandwidth to homes and businesses makes it difficult to deliver rich, multimedia content. However, these new technologies have the potential to provide distributed learning that is more versatile, engaging and pedagogically powerful than one-way instructional television or videotapes of lectures.

Clearly, this is an issue that is beginning to receive increased attention in government, industry and academia. A survey by the Department of Education found that in 1995, 33 percent of all higher education institutions offered distance education to more than 700,000 students. Under the aegis of EDUCOM, leading universities have partnered with publishers and major technology companies such as IBM to develop technical specifications for an Instructional Management System (IMS), which will allow educational content and distributed learning environments from multiple authors and vendors to work together. Several high-profile "virtual university" initiatives have been launched, such as the Western Governors' University (WGU), the California Virtual University, the Michigan Virtual Automotive College and the Southern Regional Electronic Campus.

These "virtual university" initiatives are experimenting with more than technology. The WGU, for example, is offering "competency-based credentials." As opposed to completing a certain number of credit-hours, students must demonstrate that they have acquired knowledge and skills that are relevant to a particular domain. This allows people who are knowledgeable about a particular subject to make progress toward a degree even if they have no college experience. Competency-based assessment may be particularly important in a virtual environment—since it is more difficult to use traditional metrics such as "seat-time."

Allowing adults to learn at a time, place and pace that is convenient for them would substantially expand their access to the skills required to compete for high-wage jobs.

Advocates of distance learning argue that technology can make education more accessible, affordable and effective. The administration's initial focus has been on the use of technology to allow adults to learn "anytime, anywhere."

Already, 5 million working adults are enrolled part time in America's colleges and

universities. The percentage of students attending college and universities who are over 25 has increased from 28 percent in 1970 to 41 percent in 1994.

An even larger adult population would like to take college courses but cannot attend a traditional college due to inconvenient class hours, distance from campus, the competing demands of work and family, or a physical disability.

Allowing adults to learn at a time, place and pace that is convenient for them would substantially expand their access to the skills that are required to compete for high-wage jobs. In my view, this is the most compelling argument for expanding distance learning opportunities.

Clearly, technology-mediated instruction will not and should not eliminate the need for campuses and residential programs, particularly for undergraduates. As one educator observed recently, "Research indicates that social interaction in traditional residential programs contributes substantially to the intellectual and ethical development of undergraduates."

Arguably, distance learning would be worth pursuing if it expanded access to higher education to working Americans and did not increase costs or reduce quality. But information and communications technologies may also be used to improve instructional quality and productivity. For example:

- Modeling and simulation software can enable a more active, hands-on form of learning that is better suited to many tasks than traditional lectures.
- Interactive courseware can give students immediate feedback on whether they have mastered a particular concept and allow them to learn at their own pace.
- Using hypermedia, students can explore subjects at different levels of depth, depending on their interests and background.
- Students in some of the "asynchronous learning network" pilot projects supported by the Sloan Foundation have reported increased communication with other students and greater access to the instructor. The ability to participate in these "communities of learners" is particularly important, given the social nature of learning.
- Universities such as Rensselaer Polytechnic Institute have redesigned courses in physics and calculus using information technology in ways that improve student performance and satisfaction while reducing costs.

We are still at the early stages of our ability to effectively use technology to support lifelong learning. Much of the existing courseware consists of little more than an electronic version of a textbook. Professors are using the World Wide Web primarily to post the course syllabus and lecture notes. More experimentation is needed to realize the full potential of information technology.

As Janet Murray concluded in *Hamlet in the Holodeck*, it can take decades before we understand the real possibilities of a new media.

Clinton administration policies

To foster this experimentation, the administration has proposed policies that would reduce regulatory barriers to distance learning, support innovative pilot projects, make the government a better user of information technology to train federal workers, expand investment in learning technology R&D and help create a Web-based marketplace for education and training resources. Below is a thumbnail sketch of these policies.

1. Expanding access to distance learning by reducing regulatory barriers.

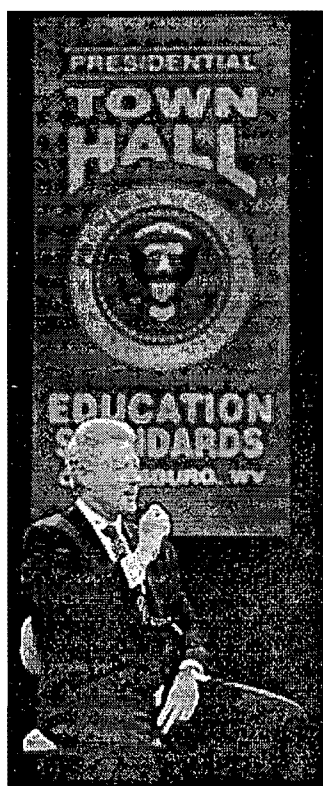
In its proposal for reauthorization of the Higher Education Act (HEA), the administration sought to broaden opportunities for distance learners by expanding eligibility for student aid and encouraging innovative uses of technology by institutions of higher education, while ensuring accountability and quality. The administration believes that it is critical that the higher education community address the accreditation, accountability and quality issues that will be raised by increased use of distance learning.

In July 1998, the United States Senate approved some of the provisions the administration has been fighting for. Under the Senate proposal, the Secretary of Education would be authorized to waive provisions of the Higher Education Act for a limited number of institutions or consortia participating in a distance learning demonstration program. This waiver authority could be used to:

- Remove the "50 percent" restriction for distance learning. (Currently, institutions that offer more than 50 percent of their courses by distance or have more than 50 percent of their students as distance learners are ineligible to participate in student aid programs.)
- Allow students to include the cost of computers in their living expenses.
- Eliminate requirements for length of academic programs. Final passage of the Higher Education Act is expected in the fall of 1998.

2. Supporting innovative pilot projects. As part of his FY99 budget, President Clinton proposed a new \$30 million grant program (Learning Anytime Anywhere Partnerships) to encourage innovation in the use of technology for postsecondary education and lifelong learning. This program, which would be administered by the Department of Education, would support pilot projects that are designed to expand the availability of learning opportunities using technology. LAAP would also encourage regional and national partnerships among educational institutions, state and local governments, employers and software companies.

3. Making the government a better user of technology for training its own employees. In January 1998, President Clinton sent an Executive Memorandum to agency heads directing them to make "full use of emerging technologies to improve the cost-effectiveness and the quality of Federal training programs."



President Clinton leads an Education Town Meeting in Clarksburg, W.V.

The President also directed the National Economic Council and the Office of Science and Technology Policy to develop a government-wide strategy for taking advantage of technology-based training. The plan is supposed to show how agencies will:

- Make use of best commercial practices when purchasing instructional software;
- Work with businesses, universities and other entities to foster a competitive market for electronic instruction
- Support R&D that will accelerate the development of new instructional technologies.

Some agencies are already moving in this direction. For example, the Department of Defense has launched the Advanced Distributed Learning (ADL) initiative, which is designed to meet the education and training needs of the military and the nation's work force using computer and Internet-based training. A key goal of the ADL is to foster the creation of re-usable learning content as "instructional objects." These objects can be customized to meet both civilian and military requirements. For example, DoD is partnering with General Motors to develop electronic performance support systems for vehicle repair, which can be tailored to meet the needs of repair technicians fixing cars or tanks. The Defense Department is an active participant in EDUCOM's efforts to develop the necessary technical specifications.

In July 1998, the National Economic Council and the Office of Science and Technology Policy formally requested the assistance of businesses and universities in an effort to greatly expand the use of technology to improve federal training programs for both military and civilian employees. The administration has established a Web site (<http://www.fed-training.org>) to collect comments.

4. **Investing in research and development.** The administration has also been increasing its investment in R&D to advance the state-of-the-art in learning technologies. Recently, for example, the Department of Commerce's Advanced Technology Program issued a request for proposals for Adaptive Learning Systems (ALS). The overall goals of ALS include the development of network-centric instructional systems that are more affordable, accessible and better adapted to the individual requirements of educators and learners.

Technical goals include the development of authoring systems that can be used by non-programmers, greater reusability of software components and better discovery and retrieval of educational resources.

5. **Creating a Web-based market for education and training resources.** The President's FY99 budget increases support for Department of Labor initiatives in labor market information. The Department of Labor has been developing a

whole suite of services called "America's Career Kit." Americans can use these services to search for job openings, post resumes, identify education and training related to their skill needs, and locate labor market information related to their occupational interests. For example, America's Labor Exchange (ALX) is an effort by the Department of Labor to create a Web-based marketplace for education and training resources. Eventually, individuals will be able to quickly and easily discover which skills are required for a particular job, and which providers offer the necessary training. Training providers and software developers can also post their offerings. One could imagine employers using ALX to identify other companies that would be willing to share the development costs of high-quality instructional software for a particular skill.

Advancing the National Debate



In addition to the specific policies that we have recommended, the administration is interested in fostering a broader national discussion about the appropriate role of information technology in supporting higher education and lifelong learning. In the first instance, that will require engaging critics and skeptics in a serious debate, as opposed to dismissing anyone who is not enamored with technology as a Luddite. A number of educators and social commentators have raised fundamental objections to greater use of distance education, warning of "digital diploma mills." They are concerned about the loss of social interaction in a virtual environment, the lack of attention to the pedagogical effectiveness of technology and the allegedly coercive nature of some campus technology initiatives.

Recently, more than 800 faculty members at the University of Washington sent a letter to Gov. Gary Locke expressing opposition to the notion of a "virtual university." They stated that "While costly fantasies of this kind present a mouthwatering bonanza to software manufacturers and other corporate sponsors, what they bode for education is nothing short of disastrous. Education, moreover, is not reducible to the downloading of information, much less to the passive and solitary activity of staring at a screen."

It will also require further exploration of a number of issues that are critical to the success of distance education. For example, one subject that warrants additional attention is the scarcity of high-quality instructional software. One of the principal conclusions of 1996 workshop sponsored by EDUCOM was that "we have not yet seen the emergence of a viable market for interactive learning materials in higher education."

Most software or instructional material that is developed by an individual faculty member is not widely used in other classes. Universities and faculty members are not in a position to provide sales, marketing and customer support that may be needed to successfully commercialize instructional software. To date, software companies and publishers (with a few exceptions) have been reluctant to make the large upfront investments needed to produce sophisticated, interactive courseware.

The administration is interested in fostering a broader national discussion about the appropriate

role of information technology in supporting higher education and lifelong learning.

Clearly, companies would need to achieve "economies of scale" to recover the development costs—which can be several million dollars per course. It would be interesting to see whether consortia or other forms of collaboration could help reduce the risks involved or share development costs.

Universities are starting to experiment with consortia for digital library projects. The JSTOR (Journal Storage) project is allowing universities to pool resources to pay for the digitization and storage of back issues of scholarly journals. This provides students and faculty with 24x7 access to the journals and an ability to conduct online searches, while reducing archival costs.

There are many other challenges that must be addressed, including federal and state regulations, intellectual property rights and the evolution of accreditation and assessment in a distance learning environment. These are tough issues, but the administration believes that progress in this area could significantly expand access to higher education and lifelong learning, particularly for working Americans. As we enter the knowledge-intensive economy of the 21st century, it is imperative that we become a "nation of learners." Although the administration is committed to playing a catalytic role, real progress will depend on the willingness of everyone with a stake in higher education and lifelong learning to take risks, make significant investments, share ideas and engage in an honest debate about what policies will promote the public interest.

Thomas Kalil is Senior Director of the White House National Economic Council.





December 1, 1999

EDUCATION WEEK on the WEB

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The Digital Divide

Thanks to technological innovation, exchange between individuals separated by time, space, and place is more extensive and more intimate than ever before. At the same time, traditional loci of economic and social power, threatened by new players in a more fluid, technology-driven, global society, are being forced to revise their strategies or face certain demise. As segments of society become increasingly dependent on the Internet, hierarchies shift and deeply ingrained assumptions about race, class, gender, and national identity seem less palpable.

And yet, as much as technology is altering the way Americans order the world, it also has the potential to perpetuate disparities, class advantage, and racial bias. The "digital divide," first coined by the U.S. Department of Commerce report *Falling Through the Net*, describes an ever-widening gap between technology haves and have-nots.

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No where is this gap more salient than in our nation's schools. Today, boxes and wires are still an issue for all but the wealthiest schools. According to the authors of *Technology in Education 1999*, an annual look at computers in schools by Market Data Retrieval, 94 percent of schools have Internet access in the wealthiest communities compared to only 84 percent of the schools in poorer areas. In addition to income, several studies--most notably Novak and Hoffman's 1998 *Diversity on the Internet: The Relationship of Race to Access and Usage*--have pointed to the race difference in Web use.

Inequitable distribution of hardware has been addressed by both the federal government and the private sector. Despite steady progress, Vice President Al Gore's goal of connecting all the nation's schools to the Internet by 2000 seems far from being realized as 1999 draws rapidly to a close. The Bill and Melinda Gates Foundation has contributed \$1.3 billion to battle the digital divide. PowerUp aligns rivals America Online and Microsoft, sports-snack maker PowerBar and General Colin Powell in a multimillion-dollar initiative to bring computer access to every child in the nation by creating

From the Archives

["Philanthropic Effort Aims To Help Close 'Digital Divide,'" Nov. 17, 1999.](#)

["U.S. Ed. Dept. Launches Grant Program for Technology Centers," Oct. 6, 1999.](#)

[Technology Counts '99: Building the Digital Curriculum, Sept. 23, 1999.](#)

["Opening up the Classroom," from Technology Counts '98: Putting School Technology to the Test, Oct. 1, 1998.](#)

["Black Students Found Less Likely to Access The Internet," April 28, 1998.](#)

["Computer Classes Aren't Just for Boys Anymore," Jan. 21, 1998.](#)

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Origin, Race, and
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(QEM) Network

every child in the nation by creating thousands of technology centers in poor communities over the next few years. And in December 1999, the Secretary of Commerce hosted a Digital Divide Summit.

Jan. 21, 1998.

Many observers downplay the impact of the digital divide and argue that it is only a matter of time before everyone is connected to the Internet. Others argue that the unequal distribution of tech resources will have lasting effects on the evolution of technology and many of them to the peril of those who are currently underrepresented online. Marcelino Ford-Livene of the Counsel for New Media Policy puts the predicament well in "The Digital Dilemma:" "There are many people who think that the digital divide poses no cause for alarm. They argue that since today's Internet is so new, the majority of Americans, regardless of color, are not even online yet. They feel it is simply a matter of time before millions and millions of minorities start to regularly access the Internet. While time is a factor, there is still much cause for alarm. In order to fully participate in this new medium, minorities must be a part of its development from its inception."

On the Web

Bridging the Digital Divide. The Benton Foundation's digital divide clearinghouse. Comprised of links to recent research on the topic, news releases, volunteer information, and funding resources.

Falling Through the Net: Defining the Digital Divide, U.S. Department of Commerce. The third report in the *Falling Through the Net* series on the telecommunications and information technology gap in America, July 8, 1999.

Internet Access in Public Schools and Classrooms: 1994-98. Since 1994, the National Center for Education Statistics has been tracking the rate at which public schools and classrooms are gaining access to the Internet. Read a February 1999 issue brief detailing their findings.

Diversity on the Internet: The Relationship of Race to Access and Usage, Novak and Hoffman, Vanderbilt University, Project 2000, February 1998. (Requires Adobe Acrobat Reader.)

Closing the Equity Gap in Technology Access and Use: A Practical Guide for K-12 Educators. Developed by the Northwest Regional Education Library, this comprehensive guide enables users to assess how well they are providing equity in educational technology and in turn, to formulate a plan to improve performance.

Find a **community technology center** near you.

"Connecting Kids and Communities to the Future," the results of a poll commissioned by the Education and Library Networks Coalition, concludes that the E-rate program is playing a pivotal role in bringing technology to students.

The **Office of Educational Technology** is an independent office within the U.S. Department of Education that aims to enhance technological capabilities in American classrooms and to strengthen

technology literacy in schools nationwide.

E-mail interview with Bill Gates, conducted by the AASA, Feb. 22, 1999. Gates addresses equitable distribution of technology and the ideal technology curriculum for elementary students.

Resources on Race, Ethnicity, and Class and the Internet.

Compiled by Dr. Kali Tal, University of Arizona in Tuscon, 21st Century Project. Selections include "The Unbearable Whiteness of Being: African American Critical Theory and Cyberculture," What it Means to be Black in Cyberspace, and "Buying into the Computer Age: A Look at Hispanic Families."

Annotated Bibliography: Resources on Technology Access and Community Technology Centers, Alliance for Community Technology, University of Michigan. A collection of papers and resources relevant to community technology centers and their goals, operation, and impacts.

Read more about the efforts of the **Bill and Melinda Gates Foundation.**

In the **"Digital Dilemma,"** Marcelino Ford-Livene of the Counsel for New Media Policy, Federal Communications Commission, cites ten challenges facing minority-owned new media ventures. From the Virtual Information Institute, Columbia Institute for Tele-Information.

OneNetNow.com, an online community promoting exchange between people of all ages, races, and ethnicities, is expected to launch on Jan. 17, 2000. Yusef Jackson is the chair; board members include actor/activist Edward James Olmos, Rev. Jesse Jackson, Sr., actor/activist Andrew Shue, baseball great Sammy Sosa, Kenneth "babyface" Edmonds, business leader Percy Sutton, business leader Carlton Jenkins, Producer Julio Caro and entertainment executive Tracey Edmonds.

E-Mail for All Outreach Campaign. Sponsored by the Markle Foundation, E-mail for All is informing the debate on equal access to technology through research and dialogue.

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Equity in Educational Technology



Issue : Access

Physical access to available educational technologies varies greatly across districts and within schools. Funding differences between rich and poor school districts are substantial and result in less access to educational technology for low-income and minority students.

The following assumptions, which are usually unconscious and unstated, often contribute to **UNEQUAL ACCESS** for different groups of students:

1. Schools can't keep up with rapidly changing hardware and software; most students will learn what they need to know on the job.
 2. Most lower-income, ethnic minority, limited-English speaking or lower-achieving students will not proceed to higher education.
 3. We're doing okay because at least we're exposing *those* kids to some form of technology.
 4. All students are more or less equal in their ability to benefit from computer-based curricula.
-



Questions

Below is a checklist that will assist you in identifying access inequities in educational technology. Select the "Always," "Usually," "Rarely," or "Never" response for each question. Then select the "Summarize My Answers" button at the end of the checklist to receive a summary of your responses. You will also be able to view a list of strategies for promoting equitable access to educational technology. You may then print both your responses and the list of strategies.

◆ District Level

Always Usually Rarely Never

☒ ☐ ☐ ☐

Do schools serving mostly lower-income children have the same equipment and course offerings as schools serving mostly higher-income children?

☒ ☐ ☐ ☐

Do schools serving mostly children of color have the same equipment as schools serving mostly white children?

☒ ☐ ☐ ☐

Do you work to overcome existing access inequalities between schools?

☒ ☐ ☐ ☐

Do you set minimum standards for technology in all district schools to ensure that all students have adequate access?

☒ ☐ ☐ ☐

Do you work with your local site councils on equity in educational technology so that they understand the ramifications of their decisions?

☒ ☐ ☐ ☐

Are schools with limited resources able to supplement existing courses or obtain full course offerings with distance learning technology?

☒ ☐ ☐ ☐

Do a proportionate number of experienced teachers teach in schools with predominantly students of color, resulting in equal access to high-quality instruction?

◆ **School Level**

Always Usually Rarely Never

☒ ☐ ☐ ☐

Do all students and parents or guardians, especially those from special populations groups, receive a clear message from all levels - teachers, counselors, administrators - that technology literacy is valuable for all students?

☒ ☐ ☐ ☐

If you track students, do you provide students in the general or professional-technical track with the same access to educational technology as those in the academic track?

☒ ☐ ☐ ☐

Are computers housed in a variety of locations so that they are available to all students and for diverse uses?

☒ ☐ ☐ ☐

Are students without computers at home or who do not participate in private computer camps provided access to equipment and instruction to mitigate this disadvantage?

☒ ☐ ☐ ☐

If students without certified learning differences bring laptops to school, have you examined whether this creates any academic disadvantage for other students?

☒ ☐ ☐ ☐

Are students with disabilities provided with assistive devices so they are able to use available equipment?

☒ ☐ ☐ ☐

Do limited English speaking students have access to software programs and instruction in their first language or in an English as a Second Language (ESL) environment?

☒ ☐ ☐ ☐

If the school has limited equipment, is its use available to all students, not only the gifted or those needing basic skills assistance?

☒ ☐ ☐ ☐

Are all teachers adequately trained to use technology as part of their teaching?

Summarize My Answers

Start Over -Clear Yes/No Responses



Strategies



You've read the issues



You've asked yourself the questions



Now read the Access Strategies !



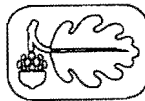
Or continue on from the Starting Point

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NWREL's Northwest Educational Technology Consortium

Closing the Equity Gap ~ <http://www.netc.org/equity/>

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