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Enhancing Lifelong Learning Opportunities for Adult Workers

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Executive Summary

In today's rapidly changing economy, the demand for highly skilled and flexible workers is higher than ever. Individuals must acquire additional skills training and/or postsecondary degrees to succeed in the competitive labor market. In order to sustain the economy as a whole, the United States must improve the access, financing, and quality of education and training for **all** American workers.

Lifelong Learning

Research shows that continuing education and training beyond high school yields significant benefits. Individuals with associate's or bachelor's degrees earn significantly more than those with only a high school degree. Employers who provide formal training for their workers experience significant gains in productivity and overall economic performance.

While large numbers of Americans are engaged in postsecondary education or training programs, and employers and the government spend billions on training each year, there are huge gaps in the access and financing of lifelong learning that affect millions of working adults. Individuals who work for large firms are much more likely to receive employer-sponsored training than those who work for small firms. Furthermore, individuals with a college degree or who earn more than \$10 an hour are much more likely to receive employer-sponsored

training than high school graduates or lower-wage workers. Federal funds for education and training are mainly directed to primary and secondary education and are not utilized to provide education courses to adult workers. Federal tax credits for education most often benefit middle- and upper-income families and cannot be accessed by lower-income workers who often do not earn enough to pay taxes.

Improving Access and the E-Learning Opportunity

As individuals increasingly work long hours and are members of dual-earner families, the Internet offers the possibility of increased access for working adults to the education and training they need. Individuals and private companies are increasingly taking advantage of such web-based resources; however, significant barriers exist for large segments of the American population that hinder the utilization of this new and important tool. Minority, lower-income, and lower-education households are much less likely to have a computer or have Internet access than White, higher-income, and college-educated households. Furthermore, tuition for online courses is often comparable to or greater than that for a traditional education. In addition, quality represents another major concern because many online education programs are not accredited or regulated by state or federal institutions.

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Assessing Education and Training Investments

While e-learning presents a unique challenge for assessing quality and value, all education and training programs must undergo assessment to assure the value of public and private investments. Traditionally, progress has been measured by tracking degrees awarded by education or training institutions; however, the increasing emphasis on skills and knowledge in the labor market requires a shift from traditional assessments to measures of knowledge mastery.

Conclusions and Recommendations

Policymakers can help to improve the structure and management of lifelong learning programs by working in partnership with the private sector and education and training institutions.

- 1. Provide better information about lifelong learning opportunities.** State governments, working with educational institutions, should improve the quality of information about employment and training opportunities in their states.
- 2. Assess the quality of education and training institutions.** The public sector needs to support robust, meaningful, and standard accreditation processes to ensure the integrity of education and training programs.
- 3. Organize training around business sectors.** State governments should encourage active

engagement of clusters of firms and educational and training establishments to develop life-long learning solutions that meet the needs of key businesses.

- 4. Allocate resources to serve the needs of working adults.** Federal policymakers should reform student aid programs to encourage and support lifelong learning. Temporary Assistance to Needy Families and Workforce Investment Act funds should be used to encourage lower-income workers and welfare recipients to pursue secondary and postsecondary education and training. States should consider increasing investments in basic literacy education for all who need it.

Introduction

The American economy and labor market have undergone profound changes over the past several decades. What is often referred to as the “new economy” is marked by increasing technological change, globalization, new management practices, and new forms of work organization. During this time of rapid change, the demand for highly trained and flexible workers increased significantly and remained strong even during the economic recession of 2001-2002.

In order to produce the highly effective workers desired by American employers, the United States needs to improve the access, financing, and quality of education and training available to people **after** they graduate from high schools, colleges, or universities and enter the workforce. To meet these new challenges, policymakers and education and training institutions should reconsider traditional approaches to financing and delivering continuing education and training services for adults. State governments — and the organizations they fund — will be expected to do a better job of:

- Informing workers and employers about learning opportunities,
- Providing career guidance for adult learners,
- Providing financial aid to improve access for working adults, and
- Ensuring high-quality standards for all learners.

This report reviews the status of lifelong learning services for adults in the workforce. It also offers recommendations for how policymakers can contribute to improving the quality and availability of learning opportunities for all Americans.

The Value of Lifelong Learning

The process of educating and retraining people throughout their working careers is commonly called “lifelong learning.” From this perspective, education is not a distinct phase from which one “graduates,” but is a permanent temperament — a way of life. In the same way that individuals should protect their physical and mental health from infancy through old age, education should be acquired at every step of life — from preschool through elementary and middle grades, high school, undergraduate and graduate education, professional development, and job training. Effective education should no longer be understood as going to a good high school or college but as a lifelong endeavor that combines the teaching of basic knowledge with training in the concrete skills needed to prosper in a knowledge-based economy.

This re-conceptualization of education is driven by upheavals in the nature of work and the U.S. and world economy. Up until perhaps 30 years ago, the industrial economy enabled most American workers to have rewarding and stable careers without engaging in formal training or education beyond high school. With increasing globalization, the majority of the world’s labor-inten-

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sive, lower-skilled manufacturing jobs migrated to countries whose employers pay lower wages to workers. Additional skills training and/or postsecondary degrees have become the route to economic opportunity in America's increasingly high-skilled job market.

It is well established that continuing education and training beyond a high school or college degree yields benefits for individuals, firms, and society. For example, two years of postsecondary education culminating in an associate's degree increases workers' incomes by 18% to 23% over those with a high school diploma (Golonka & Matus-Grossman, 2001). Continuing education courses also offer enrichments not directly related to jobs and careers. For example, by providing classes on family issues, such as teen programs to prevent drug use and pregnancy, the Ford Motor Company, Visteon, and the United Auto Workers have found that their Family Learning and Service Centers foster stronger families and communities.

Employers benefit when their workers participate in education and training beyond the high school or college level. Formal, on-the-job training raises firm productivity by roughly 15% to 20%, on average, with associated gains in individuals' innovative abilities and wages (Committee for Economic Development, 1996). Studies conducted by the American Society for Training and Development (ASTD) conclude that firms' overall economic performance is enhanced by greater commitments to employee training (Bassi & Van Buren, 1999).

ASTD researchers also investigated whether training investments in one year affected a firm's total shareholder return (TSR) during the year that followed. (TSR includes both change in stock price and any dividends issued during a given year.) Looking at the training investments of 575 U.S.-based, publicly traded firms during 1996, 1997, and 1998, the researchers found that an increase of \$680 in a firm's training expenditures per employee generates, on average, a 6% improvement in TSR in the following year, even after controlling for many other important factors (Bassi, Ludwig, McMurrer, & Van Buren, 2000).

The competitiveness of the U.S. economy is enhanced by greater participation in lifelong learning by workers. This is the broad consensus of economists and American corporate executives. Analyst Richard Judy of Workforce Associates, Inc. warns that 60% of future jobs will require skills and knowledge that only 20% of present workers possess. An abundant supply of skilled workers, along with methods for continuous training, are necessary to sustain the growth of the U.S. economy in the 21st century (see, for example, surveys conducted by the Conference Board, the American Management Association, Coopers Lybrand, and many others).

The Growing Commitment to Lifelong Learning

In many ways, the United States is already a nation of lifelong learners. More adults are engaged in postsecondary learning today than in

the past. Providers of education and training services — from traditional colleges and universities to online education companies — are creating new opportunities for convenient continuing education. Consider some of these recent trends:

- Excluding “traditional” students (among 16- to 24-year-olds, full-time participation in a college or university credential program is not counted as an adult education activity), participation in adult education among those aged 16 and above increased from 34% in 1991 to 42% in 1995 to 47% in 2001 (National Center for Education Statistics, 2004).
- Enrollment in community college courses — a cornerstone of life-long learning — has grown sharply. The number of community colleges increased from 1,091 in 1970 to 1,600 today (including branch campuses of community colleges), and 11.6 million students or 46% of all undergraduates in higher education attend community colleges (American Association of Community Colleges, n.d.).
- College enrollment rates have reached an all-time high, with three-fourths of high school graduates entering college within two years of graduation. Rising demand for postsecondary education continues in the face of college tuition increases. Between the 1997-1998 and 2002-2003 school years, average tuition and fees at four-year public institutions rose 32%, to \$7,656 for in-state students and 29% to

\$14,045 for out-of-state students. At two-year public institutions, the average tuition increased 19% for in-state students and 15% for out-of-state students with costs, not including room and board, averaging \$5,186 and \$7,407, respectively (U.S. Department of Education, 2003). The 1992 reauthorization of the Higher Education Act created unsubsidized Stafford Loans and raised the maximum limits for federal education loans. Within one year, the amount of college loan borrowing grew 38%, from \$17.2 billion to \$23.8 billion, and has continued growing to \$34 billion in 1999-2000 (Choy, 2000).

Governments, individuals, and employers spend huge sums of money on education and training — nearly 10% of the gross domestic product of the U.S. economy (Merrill Lynch, 1998). According to the Organisation for Economic Co-operation and Development (2003), the United States spends approximately 5% of the gross domestic product on public expenditures for education. The United States spends more, on average, on postsecondary education than other nations with highly advanced economies. In 1995, the United States spent nearly \$8,000 per student per year in higher education, above the average of \$6,649 (Office of Educational Research and Improvement, 2000). These estimates do not include spending on formal or informal, on-the-job training for which private firms are estimated to spend approximately \$50 billion, or 1.8% of payroll, per year.

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Direct federal government outlays and grants for education and training to state and local governments increased from \$38.3 billion in 1990 to \$45 billion in 2000 in constant (FY 1996) dollars — an increase from 2.5% of the total government outlays to 2.8% (U.S. Government Printing Office, n.d.). The largest single federal government expenditure is for student aid to college undergraduates. About 39% of the 16.5 million undergraduates enrolled in 1999-2000 received some type of federal student aid (National Center for Education Statistics, 2001).

In addition to direct spending, the federal government also offers several tax incentives to encourage education and training. Several of these are reviewed in Table 1.

Gaps in Access to Lifelong Learning

The growth in public and private investments in lifelong learning is a positive indication that individuals, employers, and policymakers are responding to the need for a highly skilled workforce and to economic opportunities available to those with more formal education. Yet, gaps remain in the access and financing of lifelong learning that make it difficult for millions of working adults to get the education and training they want and need. These limitations on learning opportunities are especially evident among the least well educated and those who work in small- and medium-sized businesses.

While individual workers and private employers must bear a great deal of the responsibility for meeting

Table 1: Federal Government Incentives to Encourage Lifelong Learning

Incentive	Explanation
Tax-deductible contributions	The deductibility of charitable contributions to educational institutions.
Dependent student exemptions	Personal exemptions claimed for dependent students aged 19 to 23.
Exclusion of bond interest	The exclusion of interest on state and local bonds used to finance the construction of private, nonprofit educational institutions, and student loans.
Income exclusion	The exclusion from income of employer-provided educational assistance.
HOPE tax credit/Lifetime learning credit	The HOPE tax credit enables taxpayers to reduce their tax liability up to \$1,500 spent per student on tuition and mandatory academic fees for themselves, a spouse, or a dependent in the first two years of undergraduate education. The Lifetime Learning Credit may be applied to additional years of college, equaling up to \$2,000 of the first \$10,000 of postsecondary education expenses spent annually on taxpayer, spouse, or dependent. Both credits are subject to income phase out and both may not be claimed for the same student during the same year.
Student loan interest deduction	Deductions for the cost of interest on the loan during the first five years of repayment.
Education Individual Retirement Accounts (IRAs)	Education IRAs to encourage saving for postsecondary education.

this challenge of economic change, they cannot do it alone. Better access to, and management of, the nation's education and training assets is required to achieve effective and efficient results for society as a whole. Currently, for example, it is extremely difficult for the average citizen or employer to sort out available lifelong learning opportunities and to assess their quality. Many people who need training and education cannot find it; others cannot afford it. New approaches are needed to make lifelong learning opportunities straightforward, simple, and accessible for all workers and employers.

Gaps in the nation's lifelong learning network undoubtedly leave many lower-skilled workers behind. For example:

- According to the U.S. Department of Labor's Bureau of Labor Statistics (1996), 84% of workers in firms with 50 or more employees receive some kind of formal training. Yet, more than 94% of U.S. workers are employed in firms with less than 50 employees where formal training is much less likely to occur (Bednarzik, 2000).
- Only 58% of employees earning less than \$10 an hour received training, compared with 76% of those earning more than that rate, according to research by the American Society for Training and Development (Bassi & Van Buren, 1999).
- In one nationwide study of company training practices, the typical firm trained 49% of its employees with high school

degrees but trained 77% of its employees who were college graduates. These inequalities were even more pronounced in firms with the greatest commitment to training. In those firms, employees with more than a high school education were twice as likely to receive training as less-educated employees (Bassi & Van Buren, 1999).

Current federal government incentives to encourage working adults to enroll in postsecondary education and lifelong learning are modest and/or not widely used. Today, most public resources for educating the workforce are concentrated in primary and secondary education. Public funding for training working adults is quite limited. The National Household Education Survey found that 34% of working adults enrolled in educational courses cited the high cost of education as a barrier to continuing their studies (Bosworth & Choitz, 2002). Another 27% of workers who wanted to take postsecondary education and training courses said the high cost of education and the lack of financing kept them from enrolling (Bosworth & Choitz, 2002).

To better understand the public's attitudes about work, employers, and the government, the John J. Heldrich Center for Workforce Development at Rutgers, The State University of New Jersey and the Center for Survey Research and Analysis (CSRA) at the University of Connecticut began, in 1998, *Work Trends* — a multi-year study of the U.S. workforce through regular surveys of adult workers and employers. The Heldrich Center and CSRA interview working adults (and

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the unemployed who continue to seek employment) about critical workforce issues facing Americans and American businesses, and distribute the findings widely through the media (see Appendix A for a complete list of all *Work Trends* reports). The goals of the series are to inform scholars and policymakers about how U.S. workers and employers view the nation's labor market and thereby provide policymakers with reliable insights into how families and businesses across the nation are judging and acting upon the realities of work and the workplace.

Today's labor market requires workers to upgrade their skills to keep pace with technology and changing workplace demands. When asked about this issue in *Work Trends* surveys, 85% of workers said that the lack of training is an important barrier to getting a job (John J. Heldrich Center for Workforce Development, 1999). At the same time, 88% of workers said that the opportunity to get more education and training from their employer is important to them (John J. Heldrich Center for Workforce Development, 1999). Workers who earn more than \$40,000 a year and workers in technical and professional fields are far more likely than lower-paid workers and workers in service, manufacturing, and clerical/sales to work in firms that pay for job training or education (John J. Heldrich Center for Workforce Development, 1998). Among workers who received training from their employer, 91% said it helped them to be more productive at work, while 65% said it enhanced their job security (John J. Heldrich Center for Workforce Development, 1998). Among workers whose employers provided financial

support for education and training outside the job, 84% said that the training increased their productivity and 64% indicated it enhanced their job security (John J. Heldrich Center for Workforce Development, 2002b).

While most employers contend that there are not enough workers with the skills they need, far fewer are willing to pay for their employees' education and training. In 2002, 36% of employers indicated that there were not enough workers with the skill requirements to fill higher-level positions, while 14% said there were not enough lower-skilled workers to fill entry-level positions (John J. Heldrich Center for Workforce Development, 2002b). The current economic climate is giving some employers pause when it comes to providing their employees with education and training. While 53% of employers said that they were as likely now to pay for or provide continuing training and education, 22% said they were less or not at all likely to provide such opportunities (John J. Heldrich Center for Workforce Development, 2002b). Twenty-two percent of employers said they were more likely to pay for or provide their employees with continuing education and training (John J. Heldrich Center for Workforce Development, 2002b).

Federal and state governments fund a wide array of initiatives designed to help people prepare for better jobs and to cope with unemployment and the transition to a new job. These programs are mainly funded at the federal level and implemented through a complex system of state and local government agencies, educational institutions, and community-based organizations. Special

programs are funded for various subgroups of the American workforce, ranging from welfare recipients to workers laid off due to industrial change.

These programs, services, and tax credits touch the lives of many Americans. According to *Work Trends* respondents, 32% said they have received support from some other government-funded education or training program (John J. Heldrich Center for Workforce Development, 1998). Most participants (78%) in these programs found them to be helpful, with 47% indicating that they were extremely helpful (John J. Heldrich Center for Workforce Development, 1998). However, 43% of American workers rated the current system of government-funded job training as only adequate, with 33% rating it as less than adequate (John J. Heldrich Center for Workforce Development, 1998). In rating the usefulness of government employment offices, only 9% of workers said that they were extremely useful, while 38% rated them as very useful (John J. Heldrich Center for Workforce Development, 1998). Twenty-one percent rated them as not very useful or not at all useful, and 29% said they were only somewhat useful (John J. Heldrich Center for Workforce Development, 1998).

Many workers indicated they need to learn new skills in order to succeed in the labor market — and they seek support from the government to do so. However, most workers also believed that achieving labor market success is a personal responsibility. Thus, only 16% of workers believed that government is principally responsible for helping people

when they are laid off from a job (John J. Heldrich Center for Workforce Development, 2004). However, American workers expressed strong support for government services to assist the unemployed. For example, 36% strongly agreed that the government should help laid-off workers pay for education and training for new jobs and careers (John J. Heldrich Center for Workforce Development, 2004). Although 19% of workers believed that employers should shoulder the responsibility for providing training and education, 40% of workers said that workers themselves are responsible (John J. Heldrich Center for Workforce Development, 2004).

When asked which government policies would be most effective in encouraging people to obtain additional job training, 19% of workers believed that the government should provide tax incentives for employers to train workers, 17% believed providing financial assistance to people who need it would be the most effective, and 36% believed providing additional funds to education and training organizations would be the most effective (John J. Heldrich Center for Workforce Development, 2004). Interestingly, many Americans are unaware of the tax programs that are currently available. Only 11% said they had heard of the HOPE Credit and only 14% had heard of the Lifelong Learning Credit; even fewer could tell *Work Trends* interviewers what these credits could be used for (John J. Heldrich Center for Workforce Development, 2002a).

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than \$45 billion in 2000 (U.S. Government Printing Office, n.d.), the share of state and federal spending and tax incentives devoted to continuing education and job training is much smaller. The share of the U.S. federal government's budget devoted to lifelong learning programs and courses is smaller than that of any other industrialized nation (See Organisation for Economic Co-operation and Development, 2001; Twentieth Century Fund, 1996).

The majority of federal funds for adult workers are reserved for the unemployed. Although funds from the Workforce Investment Act of 1998 (\$5.6 billion in funding) can be, in theory, used to retrain incumbent workers, such funds are seldom used for that purpose (U.S. Department of Labor, 2001). Individuals enrolled in the nation's largest program for lower-income families — Temporary Assistance to Needy Families — typically are discouraged from taking education courses.

The nation's largest federal student aid programs for learners are not open to full-time workers who want a part-time education. Students enrolled in less than six credit hours per semester represent less than 1% of Pell Grant recipients and less than 2% of all part-time students receive any federal educational opportunity grants or work-study positions (U.S. General Accounting Office, 2002). Working adults taking courses on a part-time basis are not eligible for federal student loans, which represent the bulk of government student aid dollars. Although the Lifetime Learning Credit, passed by Congress in 1997, does not require full-time attendance, the tax credit is used most often by moderate-income

families to subsidize the education of dependent children and cannot be accessed by lower-income individuals or families who often do not have enough income to pay taxes. A study by the U.S. General Accounting Office supports this criticism. According to the study, the majority of undergraduates who received the HOPE (66%) or the Lifetime Learning (approximately 70%) tax credits were from families earning \$60,000 or more (Selingo, 2002; U.S. General Accounting Office, 2002).

Leading companies like Johnson & Johnson and Motorola spend three times the national average on education and training, but many companies spend only modest amounts or nothing at all. Federal tax law currently provides tax deductions to firms that pay tuition for employees engaged in any form of continuing education; however, this policy has been suspended in past years by policymakers. The on-again, off-again nature of this tax incentive discouraged many firms from adopting tuition support policies. The Tax Reform Act of 2001 extended this policy for firms for the next 10 years — a step that may generate higher utilization.

Improving Access to Lifelong Learning

Access for adult workers to education and training opportunities is affected by money, time, and location. While today's workers have greater access than ever before to continuous education opportunities, they also face greater challenges in balancing the demands of home and work. With the increasing number of

dual-earner families and the long hours logged by American workers, the nation's policymakers and education leaders need to pay more attention to improving the convenience of learning opportunities. Education and training courses taken at home or work are more likely to be utilized than ones that require additional travel and time. The revolution in communications technology — if properly and skillfully deployed — offers a promising strategy for addressing these concerns.

The E-Learning Opportunity

Thousands of education and training courses and degree programs are flooding the World Wide Web. They are marketed to the public by a wide array of educational institutions — from the traditional college and university to private, for-profit organizations. Distance learning has grown into a \$5 billion a year market, growing 38% in 2004 (Wright, 2005). Ninety-seven percent of public universities now offer courses online and an estimated three million students took at least one class online and 600,000 students completed all of their coursework online in 2004 (Wright, 2005).

Several institutions that specialize in Internet-based learning — such as UNext, GEN, Jones University, and the University of Phoenix — offer everything from a certificate in word processing to a Ph.D. in education (University of Phoenix Online, n.d.). While some institutions, such as Jones University, conduct courses solely over the Internet, others, like

the University of Phoenix, also offer courses in traditional classroom settings. Instructional methods vary from virtual Internet classrooms — with online books, lectures, tests, and message boards — to simply requiring students to submit coursework via e-mail.

Private industry is also a major supplier and consumer of e-learning services. Motorola, one of the leading companies in employee training, states that, “More training in less time means smarter workers, faster adoption of new technology, and someday, strategically speaking, the ability to turn the company on a dime” (Eure, 2001). Motorola requires its employees to participate in a minimum of 40 hours a year in training. These and other training-intensive corporations are learning quickly the benefits of Internet-based education tools to increase the amount of learning in that time and increase the number of workers that may be trained at any given time (Eure, 2001).

Many other companies are beginning to follow suit. For example, as part of a new four-year alliance, General Motors' executive, management, professional, and technical employees will have access to Internet-based training and education from Cardean University, the accredited virtual university created by Illinois-based UNext (Harris, 2001). AT&T uses e-learning through its partnership with the University of Phoenix Online and the creation of the AT&T School of Business and Technology. IBM offers online courses through its partnership with New York University's School of Continuing and Professional Education (Olsen, 2000).

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Although the number of households with Internet connections is rising, there are significant groups in the population that cannot take advantage of e-learning opportunities in the convenience of their homes.

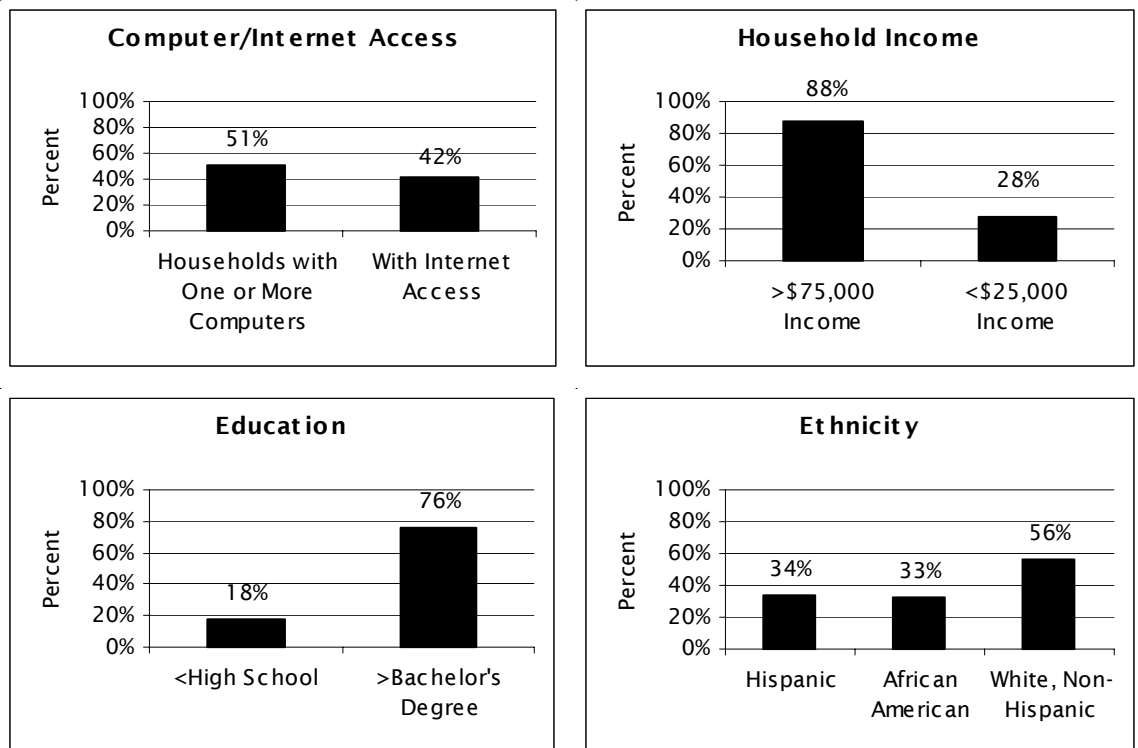
Private corporations are not the only organizations looking for customized online programs. For example, the U.S. Army launched eArmyU in 1999. This e-learning network ties 29 accredited universities into an online consortium and has already enrolled over 30,000 active-duty soldiers with the goal of increasing this number to 80,000 by the end of 2005 (Wright, 2005).

Convenience and self-paced learning are the obvious advantages to e-learning. People can blend learning into their schedules, negotiating around busy work and family life. Flexibility saves time, money, travel-related stress, and, in some cases, the need for child care. Furthermore, this technology holds the opportunity to extend traditional college/university education to new populations, such as people with disabilities or those who live in communities located far from educational institutions.

The explosive growth of Internet-based learning could help solve education and skills gaps because it is an efficient method of delivery. However, its full potential to reach new audiences with better learning opportunities can only be realized if the learning software is appropriate for all audiences and if people have access to the computer equipment and digital skills necessary for e-learning.

Although the number of households with Internet connections is rising, there are significant groups in the population that cannot take advantage of e-learning opportunities in the convenience of their homes (see Figure 1). Fifty-one percent of American households had one or more computers, and 42% had Internet access in August 2000, but higher-income, highly educated, and White households were more likely to have access to computers and the Internet (U.S. Census Bureau, 2001).

Figure 1: Characteristics of Households with a Computer in the Home



Source: U.S. Census Bureau, 2001.

The lack of home-based computers and Internet access prevents many adults who would benefit from additional education and training from taking e-learning courses. An equally important problem is the lack of appropriate educational software for those who do not read at the high school level. Many e-learning courses assume users are highly educated individuals rather than those with limited reading skills. The gap between the needs of the lower reading level population and most e-learning software is not likely to be bridged by the private market. It will require a major effort by state governments that purchase software services for individuals who read at or below the high school level.

The cost of online education courses may also present a barrier for some adults. Fee-based credit and degree courses delivered via the Internet may cost more than traditional classroom courses, and seldom cost less. For example, a bachelor's of science in business administration from the private, for-profit DeVry University cost \$41,000, \$10,000 more than a traditional business degree (Sessa, 2001). (Tuition costs at DeVry University now range from \$45,000 to \$50,000, depending upon location [DeVry University, n.d.].) Generally, online degree programs are equivalent in costs to programs delivered in the classroom. For example, the University of Phoenix Online's tuition for an MBA is comparable to the average tuition at the top 50 MBA programs as rated by *U.S. News & World Report* (2001). Highly selective private colleges and universities charge about the same for online programs as for classroom programs. For example, Duke University's Fuqua

School of Business charges between \$87,000 and \$110,000 for its online degree programs, excluding travel costs to required, on-site residencies (Fuqua School of Business, Duke University, n.d.).

The proliferation of e-learning providers and programs also presents new challenges for agencies charged with ensuring quality. Many online education programs are not accredited by independent academic organizations and there is limited state and federal regulation of the online education business. Policymakers need to address how online providers are evaluated and accredited. They also need to provide consumers with accurate and timely information about the quality of courses and institutions.

Several online universities hold accreditations from regional and national accrediting institutions. For example, the University of Phoenix Online is accredited by the Higher Learning Commission and is a member of the North Central Association. In contrast, other online schools list self-serving "accreditations" from groups that are not recognized by the U.S. Department of Education. With a modest investment, almost anyone or any organization can become an e-learning provider. Unfortunately, "e-diploma mills" have mushroomed in the past several years. To further confuse customers, several of the less credible institutions have obtained .edu Internet domains, despite the fact that these domains are supposed to be reserved for colleges with accreditation approved by the U.S. Department of Education. The administration of these domain addresses is overseen by the U.S. Department of Commerce. Educause, a

Many online education programs are not accredited by independent academic organizations and there is limited state and federal regulation of the online education business. Policymakers need to address how online providers are evaluated and accredited.

higher education technology consortium, took over the administrative duties of assigning domain addresses from Network Solutions in October 2001. While Educause claims that it only gives .edu domains to credible institutions, many were awarded before Educause took over these duties and institutions have been allowed to retain their domain addresses (Carnevale, 2004).

To assist customers of online learning, several state governments have taken actions against institutions that are not accredited by a legitimate institution or board. The State of Oregon created the Office of Degree Authorization (ODA), which compiles a list of unaccredited institutions nationwide that provide degrees not recognized in the state. The establishment of “degree mills” is illegal in Oregon and comes under the jurisdiction of ODA, which “exists in part to find and stop such activities” (ODA, 2002). Furthermore, ODA has prohibited several institutions in other states from advertising in Oregon. Degrees from over 100 non-accredited institutions worldwide are deemed illegal for use in the state. ODA alerts individual professionals who may be citing degrees from these non-accredited institutions and warns them that this practice is contrary to Oregon law.

Large private companies have sufficient resources to invest in high-quality, e-learning partnerships or to build internal quality-control systems. Individuals and small- and medium-sized businesses likely will need help from state policymakers to sort out the legitimate from the questionable providers. State governments can be helpful by providing oversight of these “new economy”

education providers and in collecting and distributing information about learning opportunities.

Assessing Education and Training Investments

Lawmakers, policymakers, educators, private employers, unions, and many others seeking to strengthen learning opportunities need better tools to assess the value of education and training investments. Traditionally, educational progress is measured primarily by tracking diplomas awarded by high schools, colleges, and universities. Few fields, outside law and medicine, require independent tests in which people must prove mastery of a particular body of knowledge or set of skills.

Within the past 10 years, policymakers and educational leaders have initiated ambitious formal testing routines in public elementary and secondary schools. Forty-nine states use standardized tests to measure the knowledge and abilities that students have acquired in high school. State policymakers are also establishing curricular standards and specific competencies for high school graduates. These trends are extremely popular with American workers, according to a study by the John J. Heldrich Center for Workforce Development (2000), which found that large majorities of Americans support standardized tests. The majority of workers in that same study believe that on-the-job training courses are more effective in preparing workers than formal education conducted in schools or colleges. Standardized testing is also

becoming more common in some technology fields. For example, even if workers have a computer engineering degree, they often must pass a series of tests to attain “Microsoft Certification.”

Standardized tests of competency or mastery are not common in most continuing education programs and are rare in higher education institutions. In fact, few higher education institutions measure student learning on any consistent basis, according to an assessment by the National Center for Public Policy and Higher Education (2000). The National Center graded higher education institutions on preparation, participation, affordability, completion, and benefits but could not assess them in the category of student learning:

How much and what students learn in college is perhaps the most important criterion for measuring success in higher education. Despite assessment activities in many states, however, there are currently no common benchmarks for student learning that would allow meaningful state-to-state comparisons. The Incomplete grade highlights a gap in our ability as a nation to say something meaningful about what students learn in college (National Center for Public Policy and Higher Education, 2000).

The idea of a national assessment system for postsecondary education has been discussed amongst policymakers for many years, but no consensus has been forged about who would administer such tests or what the tests would cover. Not surprisingly, few college and univer-

sity administrators support standardized testing of students. Higher education leaders fear that such an approach would encourage colleges and universities to overemphasize preparing students for standardized tests and to neglect other, larger bodies of important, more general, or harder-to-test knowledge.

Measuring the results of continuing education and short-term training programs may be more feasible. Many of these courses and programs teach specific skills and knowledge for specific tasks. The National Skills Standards Board (NSSB), created by the Educate America Act of 1990 to define competencies for various sectors in the economy, has made some progress in this area. Through the NSSB, educators, unions, and industrial organizations have reached consensus on skill sets and competencies in such fields as manufacturing, customer service and sales, hospitality and tourism, and education and training (NSSB, 2001).

By providing national guidelines about competencies, employers and educators can better design course and program content. It also helps workers in choosing education and training providers and offers the promise of “portable” credentials that are accepted from one employer to another and in different labor markets. Critics of the NSSB fear that the Board is concentrating on narrow occupational clusters at the expense of developing more general workplace skills — communication, problem solving, and general computer skills that can be transferred across industry sectors (see, for example the Secretary’s Commission on Achieving Necessary Skills, or SCANS).

While the current system offers a rich array of learning opportunities in many settings, millions of American working adults remain in need of training and education but can neither find it nor afford it. These gaps are especially damaging to lower-skilled workers.

Conclusions and Recommendations

The funding and delivery of lifelong learning programs is complex. It can be confusing to an expert, let alone to an average citizen. Responsibility for paying for education and training rests with federal, state, and local governments and also with private institutions, companies, and individuals. The lifelong learning enterprise consists of thousands of public and private educational institutions and nonprofit community organizations. Policymakers at all levels of the federal system manage elements of it.

While the current system offers a rich array of learning opportunities in many settings, millions of American working adults remain in need of training and education but can neither find it nor afford it. These gaps are especially damaging to lower-skilled workers.

Policymakers need to steer this large, highly decentralized learning enterprise to ensure that services are delivered effectively and are more available to all workers and employers. Without proactive partnerships among government, employers, and the education and training establishment, current skills shortages likely will persist because of the speed of economic change.

Millions of adults, especially those who already have a good deal of formal education, have adapted to the need for lifelong learning. For millions of moderate- and lower-skilled workers, this tectonic shift threatens to deepen and expand poverty and income inequality.

Considerable evidence reveals a persistent and widening income gap between well-educated workers and less-educated workers. If the United States is to continue to support broad-based economic progress and a growing middle class, it is imperative that workers engage in the lifelong learning that equips them with the skills today's competitive economy requires.

Policymakers can play a central role in improving the structure and management of lifelong learning programs in their states. Without this intervention, many individuals, particularly those with limited formal education, will be trapped in lower-income jobs with little chance for advancement. Moreover, small companies without the resources to invest in employee training will find it increasingly difficult to compete in today's marketplace.

Working in partnership with the private sector and education and training institutions, policymakers should consider several specific strategies for addressing the gaps in our lifelong learning system:

1. Provide Better Information About Lifelong Learning Opportunities

State governments, working with educational institutions, should make a commitment to improving the quality of information about employment and training opportunities in their states.

Several states, using Workforce Investment Act funds, make available useful information about education and training programs via the Internet. In New Jersey, the State

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Employment and Training Commission and the John J. Heldrich Center for Workforce Development developed the New Jersey Consumer Report Card, which uses the latest Web site design innovations to make it easy for any individual to “comparison shop” for the training that best fits their needs. The New Jersey Consumer Report Card (www.njtrainingsources.org) is fully integrated with an online application that streamlines the creation of an “eligible training provider” list. It facilitates cooperation between providers, local Workforce Investment Boards, and the state. The Consumer Report Card publishes general and outcomes-based results on training providers. This service encourages customer choice, enabling users to compare similar programs and to view the specific information they need through the speed and ease of an online database.

In a project funded by the New Jersey State Employment and Training Commission and the New Jersey Department of Education, the Heldrich Center, with local Workforce Investment Boards and community colleges, identified occupations and required skills, abilities, and credentials for eight key industries in New Jersey. The results of this project are industry reports and a Web site (www.NJNextStop.org) — aimed at students, parents, and school staff — with useful career information and resource links.

2. Assess the Quality of Education and Training Institutions

The proliferation of learning opportunities increases the importance of developing stronger systems

to monitor quality and report on performance. Quality may suffer as the cost of entering the education and training business declines, especially in the area of e-learning. The public sector needs to support robust, meaningful accreditation processes to ensure the integrity of education and training programs.

Postsecondary education has been self-regulated throughout U.S. history by regional and national accrediting bodies. Institutions must be accredited to qualify for federal financial aid and tuition reimbursement. Traditional accreditation focuses on the qualifications of staff and faculty and other support services rather than on learning outcomes (National Governors Association, 2001). Some accrediting agencies are beginning to look at measuring the quality of institutions by testing acquired knowledge. This emphasis on educational outcomes, as opposed to inputs, may be more aligned with emerging industry/sectoral skills and knowledge standards desired by employers. State policymakers need to work with accrediting agencies to encourage these trends.

State governments also need to develop tactics to prevent the emergence of e-learning “diploma mills.” Oregon has been a leader in developing systems for curbing non-accredited institutions. South Dakota enacted a law in early 2001 that requires all of its degree-granting institutions to be accredited by an agency recognized by the U.S. Department of Education (Hebel & Foster, 2001).

The American Society for Training and Development has proposed a

The public sector needs to support robust, meaningful accreditation processes to ensure the integrity of education and training programs.

Standards must be set for learners, too. Policymakers should collaborate with educational institutions in their states to encourage competency-based curricula that test learners on the skills and knowledge gained during training.

new independent certification for e-learning courses. ASTD's e-learning courseware certification institute sets professional and industry standards for courseware development and evaluates existing courseware for certification according to these standards. A list of certified courses is then made available to users via ASTD's Web site.

Standards must be set for learners, too. Policymakers should collaborate with educational institutions in their states to encourage competency-based curricula that test learners on the skills and knowledge gained during training. Emphasizing competency tests also requires the development of standard knowledge and skills sets for particular occupations or industries. Computers and technology in education could provide the tools that integrate outcome measures with self-directed learning. E-learning approaches, such as "modularized" instruction, enable learners to move through discrete units of educational material at their own pace. One moves on to new units after successfully completing sections of material — measured by a standardized test. Learning by module is advantageous for those who may take courses periodically over a number of years, rather than complete a degree program all at once.

Computer-based instruction also facilitates the application of outcome measures across institutional, geographic, and other boundaries. The Commission on Technology and Adult Learning, a joint effort of the American Society for Training and Development and the National Governors Association, concluded that the traditional, institution-based approach to credentialing is not a

"viable approach" in this environment "where learning is increasingly self-directed and comes from a wide variety of sources" (American Society for Training and Development and National Governors Association, 2001). Moreover, "traditional educational credentials shed little light on precisely what an individual knows and is able to do" (American Society for Training and Development and National Governors Association, 2001). The Commission recommended creating a new system in which "credentials are earned for demonstrating knowledge and skill regardless of the source of the learning" (American Society for Training and Development and National Governors Association, 2001). This would require the partnership of public and private sector institutions to develop useful outcome-based measures and standards:

Learning providers of all kinds, including postsecondary educational institutions, should be able to describe learning outcomes in ways that are more useful for learners and employers — and more compatible with e-learning and modular instruction. This means using credentials that describe what people know and are able to do rather than merely listing courses taken, programs completed, or credits earned (American Society for Training and Development and National Governors Association, 2001).

In order for this strategy to succeed, providers would need online tools for documenting learners' knowledge and skills and making them accessible to employers, educators, and training providers, while still protecting individuals' rights to

privacy. This could be implemented by using an encrypted database of individual transcripts or portfolios. An example of this approach may be found in the SCANS 2000 Career Transcript System, which enables workers to document their knowledge and skills. This system was funded by the U.S. Department of Labor and implemented by Johns Hopkins University's SCANS 2000 Center and the Association of Joint Labor/Management Educational Programs (Johns Hopkins University, n.d.). Such "portable credentials" presumably will help employers in hiring and training employees, in assisting workers applying for jobs and in pursuing education and training opportunities, as well as helping the education and training establishment develop more effective programs of study for individuals and firms.

3. Organize Training Around Business Sectors

Sectoral skills standards, based on industry needs, help education and training institutions plan for and meet employer needs. They may also benefit individuals by creating recognized credentials that individuals can use as they move from one job to the next. State governments should encourage active engagement of clusters of firms and the educational and training establishment to develop lifelong learning solutions that meet the needs of key businesses.

Illustrations of this sector-based training approach may be found in many communities around the nation. An example of a successful strategy was developed in rural Napa County, California, by the Napa County Job Connection. Working

with partners in the public and private sectors, the local job training agency developed sectoral skills standards and then delivered related training to local workers. Through meetings with county officials and educators, employers from several industry clusters identified the core skills required of employees, developed clear job descriptions and career ladders, and agreed on appropriate curricula for training courses. Service providers, in collaboration with the One-Stop Career Center, then delivered the training. Existing clusters include hospitality and tourism, technology, and construction (John J. Heldrich Center for Workforce Development, 2001).

Employers in the airport industry in Dallas/Fort Worth, Texas joined together and worked with Workforce Investment Boards to respond to sectoral labor shortages in the late 1990s. In 1997-1998, Dallas/Fort Worth airport employers had difficulty finding and retaining employees. In response, they realized they needed to recruit and train workers from populations such as youth, women, welfare recipients, and workers with disabilities. The employers established the Dallas/Fort Worth Coalition with members from area employers, three Workforce Investment Boards, community colleges, and Dallas Area Rapid Transit. Together, they addressed the transportation, child care, and training issues that prevented these populations from gaining and retaining employment and solved the labor shortage problem that was facing Dallas/Fort Worth airport employers (John J. Heldrich Center for Workforce Development, 2001).

State governments should encourage active engagement of clusters of firms and the educational and training establishment to develop lifelong learning solutions that meet the needs of key businesses.

Policymakers should urge the federal government to reform student aid programs to encourage and support lifelong learning.

4. Allocate Resources to Serve the Needs of Working Adults

Government-sponsored, low-interest loans and grants serve millions of Americans who pursue postsecondary degrees. Unfortunately, federal loans are limited to students who attend postsecondary education at least half-time (six credits), an option not realistic for most working adults.

Policymakers should urge the federal government to reform student aid programs to encourage and support lifelong learning. In its report, *Lifetime Learning and Student Aid for Working Adults*, FutureWorks (2001) made several valuable recommendations:

- Alter the need formulas for federal Pell Grants or Supplemental Education Opportunity Grants to expand eligibility for lower-income and lower-skilled working adult students. Lower-wage workers would benefit more from grant programs than loan programs given the high cost of pursuing higher education.
- Make student loans available for working adults who can only attend school on a part-time basis. Under current law, a student must be enrolled in six credits or more (two courses per semester) to qualify for a Federal Direct Loan.
- Educate working adults on available financial resources for higher education.
- Provide funds from federal student financial aid for short-term education and training programs.

- Provide financial aid for preparatory and remedial classes that may be necessary for lower-skilled workers to pursue higher education.
- Connect the post-employment retention services allowed under Temporary Assistance to Needy Families with dislocated worker services under Title I of the Workforce Investment Act to expand opportunities for continuous learning for a large segment of the working poor who are subject to intermittent periods of unemployment.
- Adjust the education tax credit system to make it more accessible to lower-income workers, who often earn too little to take advantage of non-refundable credits. Making education credits refundable, in a manner like the Earned Income Tax Credit, would benefit these workers.
- Use tax provisions to encourage employers to spend more of their education and training dollars on lower-skilled and lower-wage employees.

Americans who work for firms that provide tuition support for employee education and training can further their education at little or no cost. However, for millions of Americans — those without college degrees or who work in firms without tuition assistance programs — support is limited. State governments can help fill this gap by offering state-based tax credits for adults who enroll in approved learning programs. A number of states, including Delaware, Georgia, Illinois, Michigan, Minnesota, Ohio, and Virginia,

already offer financial aid to students who attend less than half-time

Finally, state governments should increase their commitment to helping lower-income and poorly educated adult workers get the additional education they need. Temporary Assistance to Needy Families and Workforce Investment Act funds should be used to encourage lower-income workers and welfare recipients to pursue secondary and postsecondary education and training. States should consider increasing investments in basic literacy education for all who need it. Literacy is the gateway to lifelong learning, but many adults who need basic education services will not obtain them without government support.

E-learning technologies can be helpful, especially for individuals with lower literacy skills who are often left behind in a one-size-fits-all approach. Several states, including New Jersey, have used Temporary Assistance to Needy Families funds to establish basic skills education and training that utilizes modern computer technology to deliver self-paced learning opportunities. In order to develop effective programs, however, states must use their purchasing power to shape the marketplace so that appropriate software is developed for those with limited reading abilities.

Final Comments

Knowledge has replaced seniority as the primary determinant for employment stability and career advancement. Workforce skills have become the core criteria for regional and global economic development.

States are the logical point of intersection to connect the many pieces in the lifelong learning equation and provide a simple and easily accessible way for all workers to blend learning and earning throughout their careers.

Policymakers' actions can provide the catalyst to:

- Bridge the digital and literacy divide that prohibits millions of Americans from gaining further education and skills training;
- Connect adult and postsecondary education options into a value-added, credentialed pathway for lifelong learning;
- Enlist the support and active participation of employers to foster a holistic strategy for balancing work and education;
- Provide information and increase awareness of an individual's responsibility for career management; and
- Establish standards and enforce learner protection in the evolving business of lifelong learning.

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Appendix A. List of Work Trends Reports

The following is a list of Work Trends reports published by the Heldrich Center as of April 2005. Copies are available at www.heldrich.rutgers.edu.

A Workplace Divided: How Americans View Discrimination and Race on the Job (January 2002)

At a Crossroads: American Workers Assess Jobs and Economic Security Amid the Race for President (October 2004)

Balancing Work and Family (February 1999)

The Disposable Worker: Living in a Job-Loss Economy (July 2003)

The Economy and Job Security (September 1998)

Holding On: Americans Assess a Changing Economic Landscape (May 2001)

Laid Off: American Workers and Employers Assess a Volatile Labor Market (April 2004)

Making the Grade: What American Workers Think Should Be Done to Improve Education (June 2000)

Nothing but Net: American Workers and the Information Economy (February 2000)

Restricted Access: Work Trends Survey of Employers About People with Disabilities (March 2003)

Second Wind: Workers, Retirement, and Social Security (September 2000)

Standing on Shaky Ground: Employers Sharply Concerned About Terrorism (February 2002)

Taking Stock of Retirement: How Workers and Employers Assess Pensions, Trust, and the Economy (May 2002)

Who Will Let the Good Times Roll? A National Survey on Jobs, the Economy, and the Race for President (September 1999)

Work and Family: How Employers and Workers Can Strike the Balance (March 1999)

Workers Respond to Terrorism and its Impact (October 2001)

Working Hard but Staying Poor: A National Survey of the Working Poor and Unemployed (July 1999)