



**Education Commission**  
of the **S t a t e s**

# The Adult Learning Gap

Why States Need To Change  
Their Policies Toward Adult Learners

## What's Inside:

- Changing Workforce Requirements
- Changing Student Populations
- Barriers to Adult Participation
- Federal and State Financial Aid
- Policies That Encourage Adult Participation



# The Adult Learning Gap

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Their Policies Toward Adult Learners

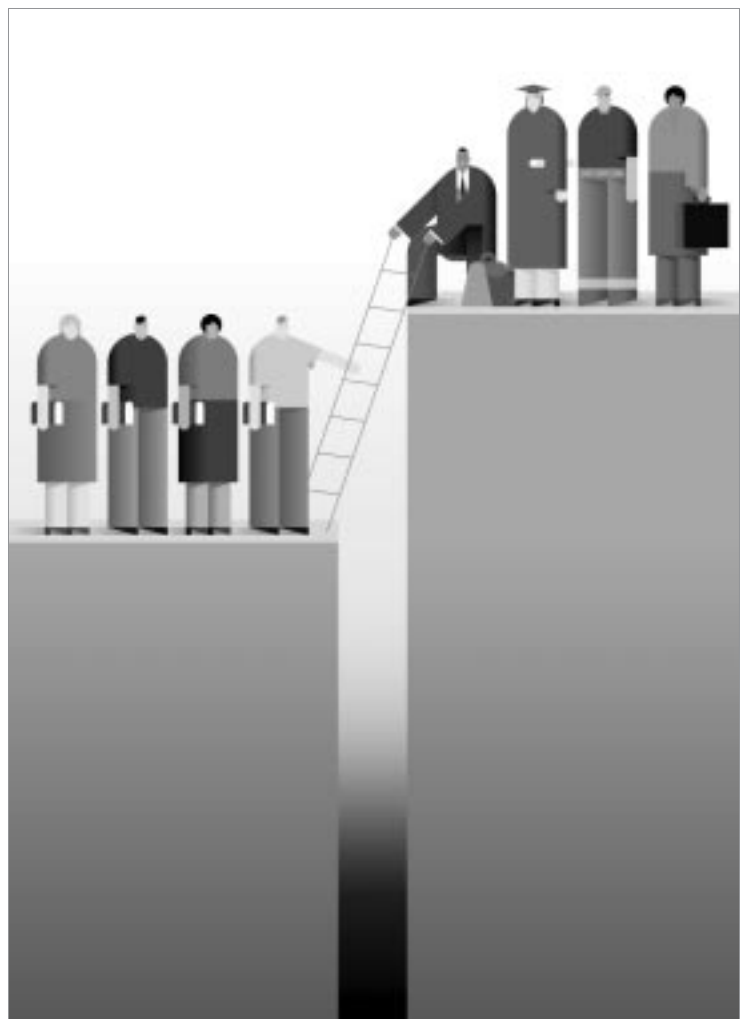
By Alice Anne Bailey  
and James R. Mingle



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The explosive growth over the next decade of our already sizable adult population is the main contributor to the phenomenon commonly known as the “graying of America.” According to the U.S. Census, adults age 25 and older currently constitute 64.6% of the nation’s population, and by 2015, the figure will grow to 66.1% – a gain of more than 23 million adults. Demographers predict this phenomenon will produce reverberations that will be felt for many generations to come.

Much of the increase is due to the aging of the baby-boom generation, those people born between 1946 and 1964, who will begin turning 65 in 2011. Fully 30% of Americans will be age 65 or older by the time

2015 rolls around. And thanks to advances in medicine and technology, older Americans are living longer and more productive lives than ever before. A recent *Parade* magazine survey found that, rather than retire, nearly 70% of people over the age of 45 say they plan to keep working after they reach 65, some by choice and others out of necessity.

With the majority of tomorrow’s jobs likely to be filled by today’s workers, how do we ensure adults at every level on the educational ladder are able to acquire the knowledge and skills they need to keep up with a rapidly changing workplace? What impact will the twin forces of changing demographics and new workforce requirements have on adult

demands for access to postsecondary education and training? What can state policymakers and other leaders do to help accommodate these demands with policies and practices that are more “adult friendly”?

In *The Adult Learning Gap: Why States Need To Change Their Policies Toward Adult Learners*, authors Alice Anne Bailey and James R. Mingle tackle these and other pressing questions. What they find is that the world of work has changed dramatically over the last two decades, but adult education and training has not kept pace with the new organizational demands. The problem is perhaps most acute for adults with lower levels of educational attainment or who are non-English speakers.

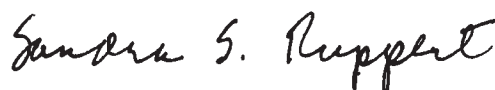
In other words, those who may be most in need of adult education services may also be those who are least well-served by the current educational systems.

At the heart of the matter is the confusing tangle of federal and state financial aid programs and tax reform policies that, as the authors point out, ironically may make it harder rather than easier for many adults to obtain the skills and knowledge they need to get ahead. Fortunately, Bailey and Mingle offer some recommended steps that policymakers and other leaders can take now to educate a growing and more diverse adult population over the next decade.

The Education Commission of the States (ECS) commissioned this paper as part of its Closing the College Participation Gap initiative supported by the W.K. Kellogg Foundation. The initiative aims to assist state policymakers and other leaders in their efforts to expand college access and increase participation, particularly among underserved and disadvantaged populations. A related objective is to examine the role of community colleges in helping to inform and respond to states’ postsecondary education and training needs. ECS is grateful to Alice Anne and Jim for undertaking an examination of this important topic and for their contribution in identifying not only the problems, but also potential solutions.

Several other acknowledgments are also in order. Many thanks go to members of the Kellogg Planning Group and other reviewers who provided comments on an earlier draft of this paper. They are: Gordon Davies, Genevieve Hale, Janet Hansen, Cheryl King, Dennis Jones, Mario Martinez, Dewayne Matthews, Aims McGuinness, Michelle Nilson and Esther Rodriguez. At ECS, Suzanne Weiss, Sherry Freeland Walker and Josie Canales edited the paper and helped to coordinate its publication. Kindle Merrell did the internal layout and desktopping. Designer and illustrator Lex Papesh created the cover and oversaw production. Finally, the W.K. Kellogg Foundation, particularly Gail D. McClure, helped make this paper possible through its generous support of this initiative.

ECS welcomes your thoughts and reactions to this paper.



Sandra S. Ruppert  
Program Director  
Education Commission of the States

**T**he nature of work in the United States is changing dramatically as a result of globalization, increased competition and the transition from an industrial to an information- and service-based economy. Now more than ever, workers must continually learn new skills to adapt to an ever-changing marketplace. Higher levels of education and training are increasingly becoming the prerequisite for not only high-wage jobs but also those that pay just a living wage.

Lifelong learning is becoming a fact of life as demonstrated by the growing number of adult and other nontraditional students found on college campuses. But despite progress in serving adult learners, there remains a significant gap between the need for lifelong learning and the ability to provide and support such programs. It is time for states and employers to ratchet up their support. Without a new level of commitment, American workers will be left behind.

This paper is designed to explore this issue in greater depth and to help state leaders and others in their efforts to close the gap between adult postsecondary education needs and the current levels of participation in adult learning activities. The authors begin with an examination of the changing workplace and the skills and abilities workers need to succeed in this new environment. Next, they discuss the current levels of participation in adult learning activities and identify where the most critical needs for adult education are to be found. Finally, they explore the mixed public policy responses to adult learners, and offer recommendations for how state policymakers and other leaders can expand college access and increase adult participation.

***There remains a significant gap between the need for lifelong learning and the ability to provide and support such programs.***

## Changing Workforce Requirements and Educational Needs

**T**he late 20th century witnessed a dramatic change in the nature of work due to the rapid globalization of business and advancement in technology. Whereas only 7% of the U.S. economy was affected by international competition in the 1960s, the proportion impacted by foreign economies climbed to over 70% in the 1980s and increased further in the early 1990s (Gwynne, 1992). Global free markets are now considered to be one of the most powerful forces affecting U.S. corporations today.

Increased competition from multiple sources means businesses must move quickly and more efficiently to succeed or even survive. More and more, they are using technology to decrease product development time, increase access to needed information and to facilitate internal communication. Technology also has facilitated a significant shift in the U.S. economy from one of industrialism and production to one based on knowledge and information services.

Combined with the effects of the recent economic recession, fierce competition is driving organizations to downsize and employ fewer full-time staff. To focus on only their key products or services and reduce

employee benefit costs, organizations are outsourcing the management of nearly everything else. Organizational structures also are becoming less hierarchical, relying on employees at all levels to participate in decisionmaking and interact as part of a team.

To meet these needs, companies are searching for new hires who embrace learning, are able to train rapidly and can take the initiative to manage more of their own professional development. Employees are being cross-trained and asked to rotate among different positions within the organization to better understand the big picture of the business. Cross-training also allows organizations to be prepared to shift their labor capacity in response to changing market conditions without having to hire additional workers. Constantly changing markets also mean that employees must continually learn new skills and adapt to new job roles quickly to stay ahead of the curve.

All these changes require higher levels of communication and critical-thinking abilities than ever before, especially among the lowest-level employees, who face the biggest hurdles in terms of new job demands versus current skill levels. As production is automated, for

***Between 1980 and 1997, 34 million new jobs were created that required some form of postsecondary education, while about 7 million jobs were eliminated that required only a high school diploma.***

**Without access to adult learning opportunities, employees who are in low-paying, manual-labor positions will be locked out of high-paying careers.**

example, workers are being asked to operate and maintain complex equipment and troubleshoot problems. In fact, such skills and abilities have become so critical that they are more often the basis for hiring, promotion and pay decisions than organizational tenure or position. Yet studies show that employee skills have not kept pace with increased organizational demands. Furthermore, literacy levels are not sufficient for most current job requirements (Sum, Kirsch and Tag-

gart, 2002). (See **Appendix A** for the status of adult literacy in the United States.)

Recent technological developments, as well as the shift from a production-based to an information- and service-based economy, are having a dramatic impact on the need for advanced education. The majority of jobs with the highest rates of growth,<sup>1</sup> such as those in technology and health fields, require some form of postsecondary credential (Bureau of Labor Statistics, 2001). (See **Appendix B** for lists of the fastest-growing and fastest-declining occupations.) In fact, between 1980 and 1997, 34 million new jobs were created that required some form of postsecondary education, while about 7 million jobs that required only a high school diploma were eliminated (Vernez, Krop and Rydell, 1999).

### Reports in This Series

- *Closing the College Participation Gap: A National Summary* (PS-03-01) (includes the U.S. profile)
- *Closing the College Participation Gap: U.S. Profile* (PS-03-02)
- *The Adult Learning Gap: Why States Need To Change Their Policies Toward Adult Learners* (PS-03-04)
- *Narrowing the Gaps in Educational Attainment Within States: A Policymaker's Guide to Assessing and Responding to Needs for Community College Services* (PS-03-03)

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For more information on ECS' Closing the College Participation Gap initiative, contact Sandra Ruppert, program director, at [sruppert@ecs.org](mailto:sruppert@ecs.org) or 303.299.3691.

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Moreover, the fastest-growing occupations are also those that are experiencing the greatest increase in literacy requirements (Barton, 2000). Occupations with the highest rates of decline, such as farmers and ranchers, have literacy requirements below the national average and require little formal education (Barton, 2000; Bureau of Labor Statistics, 2001).

The occupations projected to have the greatest increase in the actual number of job openings (due to a combination of retirement, turnover and growth, as opposed to highest rates of growth), occur at either end of the literacy spectrum as measured by the level of education required (see **Appendices B** and **C**). A polarization in opportunity is clearly emerging. Many of the occupations with the greatest number of openings will be service-industry and manual-labor jobs that:

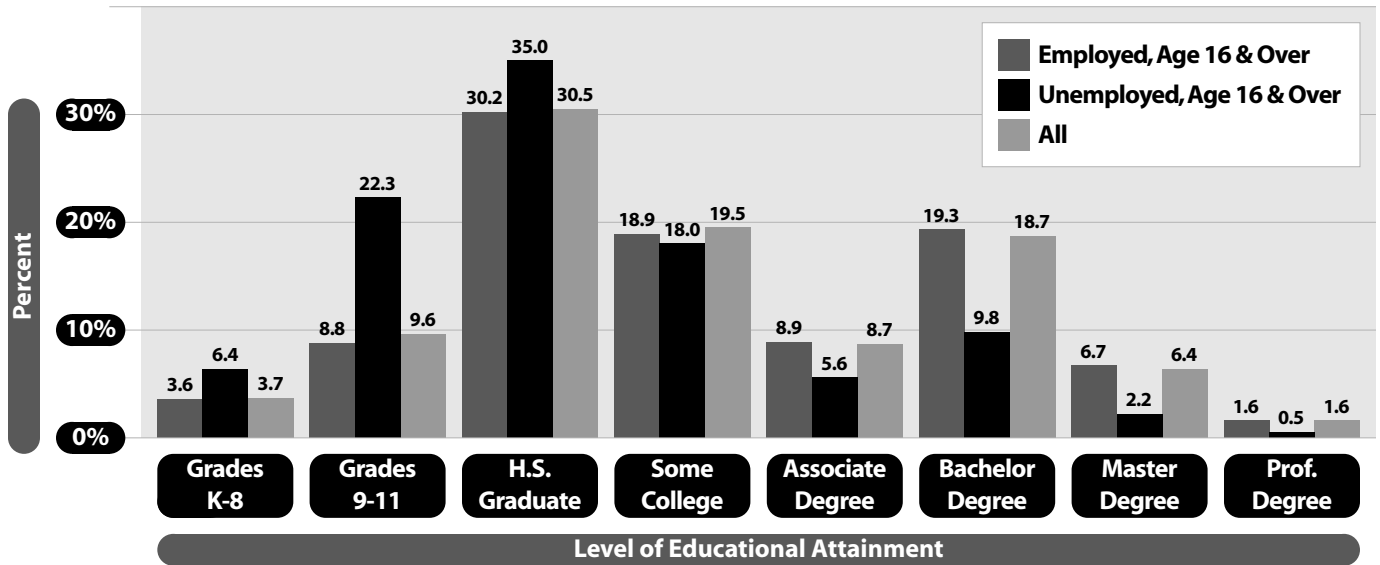
- Provide little opportunity for advancement
- Are associated with low wages
- Are particularly at risk for long-term or frequent periods of unemployment (Barfield and Beaulieu, 1999).

Education is the greatest determinant of one's literacy skills, job status and income level. Literacy and level of education are highly correlated, and literacy increases as education increases.<sup>2</sup> Better-educated individuals have a greater chance of obtaining secure jobs that provide opportunities for advancement, pay high wages and offer greater health and retirement benefits (Barfield and Beaulieu, 1999). Without access to adult learning opportunities, employees who are in low-paying, manual-labor positions will be locked out of high-paying careers. In fact, working adults without a four-year college degree have experienced significant decreases in real income over the past 30 years, while those with a bachelor's degree or more have experienced a steep rise in income level (Barton, 2000).

Given the increased knowledge and skills required by most well-paying jobs, technical training or some form of postsecondary education has become increasingly important in recent decades. Access to education is key to a better quality of life for current citizens and their children. Among adults age 25 and over, 80% of those with a bachelor's degree participated in the labor force in 1999 compared to 65% of high school graduates and 43% of those without a high school credential (National Center for Education Statistics, 2001).

**Figure 1** shows that adults with lower levels of education, particularly those with less than a high school credential, experience higher levels of unemployment, while adults with more education, particularly those with bachelor and master's degrees, experience significantly lower levels of unemployment.

**Figure 1: Highest Level of Educational Attainment of Adult Civilians, by Labor Force**



\*Does NOT include civilians who are currently not in the labor force such as full-time students, retirees and non-working parents or spouses, etc.  
Source: U.S. Census Bureau Current Population Survey (March 2002)

According to a recent study by the Educational Testing Service (ETS), enrolling in an additional 200 hours of education beyond high school (equivalent to about one full-time semester) increases income levels by about \$5,000-\$10,000 per year (Coley, 2000). Completing a bachelor's degree can potentially double one's annual income: Data from the U.S. Census Bureau (2000) show the average annual salary of workers who hold only a high school diploma was \$24,253 in 1999 compared to \$32,563 for workers with an associate's degree and \$45,126 for those with a bachelor's degree.

### Educational Profile of Adults in the United States

The increasing skill requirements of most jobs have led some to propose that a General Educational Development (GED) credential or a high school diploma is insufficient for success in the labor market and that policymakers and state education systems should focus on encouraging adult learners to obtain a postsecondary credential (Reder, 1999). Approximately 13% of all adults who either are in the labor force or are unemployed and seeking to enter the labor force have not completed high school, and 30% have not enrolled in any form of postsecondary education (Figure 1). Among the unemployed, 29% have not completed more than an 11th-grade education.

Furthermore, while the occupations with the highest rates of growth – those that can also provide increases in real income – require at least a bachelor's degree, only about 28% of all adults have earned one. A recent analysis of participation rates based on U.S. Census 2000 data by the Education Commission of the States

(ECS) estimates that if all states enrolled adults age 25 and older at the rate that California, the highest-performing state, does, an additional 3.4 million adult students would enter the postsecondary degree system (ECS, 2003). But not all students are academically prepared for regular postsecondary study; even among those who currently seek a college degree, about 30% require remedial education in one or more subjects to do college-level work (Barton, 2003). Additionally, 15-17% of all undergraduates currently possess literacy skills that are below Level 3 on the National Adult Literacy Survey (NALS) scale (Reder, 1999). (See **Appendix A** for a discussion of the NALS.) A greater investment in remedial support services may be needed.

### The Changing Student Population

Most adults, independent of their prior level of education, will likely require some retraining or additional education during their working lives. In fact, the total size of the adult population enrolled in postsecondary education has been growing steadily over the past 20 years. Adult participation in postsecondary education increased by 60% from 1985 to 1996 (National Center for Education Statistics, 1996). The largest increases in participation during the last decade have occurred in the 25-34, 45-54 and 55-64 age groups (see **Appendix D**).

“Traditional” college students once were considered to be young adults between the ages of 18 and 22. These types of students lived on campus, were enrolled full time and financially supported by their parents. Yet the National Center for Education Statistics (NCES) estimates that 43% of all undergraduates today are over the age of 25 (Horn, Peter, Rooney, and Malizio, 2002).



They are part of the overwhelming majority (73%) of undergraduates currently enrolled in two- or four-year colleges and universities who are considered “nontraditional” students based on a variety of factors.

Community colleges, traditionally seen as the education provider of choice for working adults, are currently experiencing some of the highest levels of demand in their history. Due to the recent economic downturn, a highly competitive job market and the increased skill requirements of most job roles, many adults who do not have at least a two-year degree are returning to seek one. Furthermore, professionals with four-year degrees also are returning to community colleges for career growth and skill development; approximately 8-12% of all community college students already hold a four-year degree. Adult students also are seeking short-term training in courses offered by community colleges to meet welfare-to-work requirements (Evelyn, 2001). This change in the student population reflects the growing demand among working adults for formal degrees, basic skills education and career retraining. It also reflects a growing societal need for “lifelong learning” as a legitimate and necessary activity throughout all stages of adulthood.

### “Nontraditional” Students Are Now the Norm on College Campuses

An overwhelming majority (73%) of today's undergraduates enrolled in two- or four-year colleges and universities are considered “nontraditional” because they meet one or more of the following criteria:

- Are over 22 years old (the average undergraduate is 26)
- Are financially independent from their parents (51%)
- Attend part time (48%)
- Delayed their enrollment after high school (46%)
- Work full time while enrolled (39%)
- Have dependents of their own (27%).

*Source: National Center for Education Statistics (2002). The Condition of Education 2002. U.S. Department of Education.*

## Critical Needs in Adult Education

“Adult learning activities,” as defined by the U.S. Department of Education, include adult basic skills education (e.g., literacy or general education development), work-related training, English as a Second Language (ESL) programs, personal interest (“enrichment”) courses, apprenticeships (typically delivered through trade unions) or credential programs (Creighton and Hudson, 2002; Kim and Creighton, 2000). Credential programs can be either full time or part time and provided by either postsecondary institutions or other types of providers. More than 48% of adults age 18 and over (approximately 90 million people) participated in one or more of these types of adult learning activities in 1999<sup>3</sup> (see **Appendix D**).

“Adult education” is a broad and sometimes confusing category of activities. It includes participation in any of the activities listed above by individuals age 16 and older who are not enrolled in elementary or secondary education *with the exception of* those ages 16-24 who are enrolled full time in credential programs. In other words, as measured by the Department of Education, adult education does not include what is still considered by many to be “traditional” patterns of postsecondary participation.

While the percentage of adults who enroll full time or part time in credential programs at colleges and universities declines as individuals age, participation in other types of adult learning activities, particularly workforce training, continues. Among those who participated in adult learning activities in 1999, the largest percentage were involved in either work-related training programs (22.2%) or personal-development classes (also 22.2%) (see **Appendix D**). Work-related training can encompass a wide array of activities that reflects various adult learning needs, such as:

- “Qualifying” training for young adults who are preparing for work
- Continuing education and training to upgrade skills and increase job mobility among the employed
- Retraining for workers displaced from their jobs
- “Second-chance” training for adults, typically high school noncompleters, who have fallen out of a normal developmental progression and require basic education or ESL training.

### Barriers to Adult Participation

Older students, particularly those who are single parents, are more likely to work full time and have family responsibilities that compete for their time, energy and financial resources. They also face added difficulties

that traditional students do not, including child care and class schedules that may conflict with work schedules. Additionally, older students who delay their education after high school may be academically unprepared, with low confidence in their scholastic abilities. Adult students also may require greater or customized orientation and support services. Consequently, older students may be less likely than traditional students to remain enrolled after the first year or complete their degree within five years (Horn, 1996; Choy, 2002).

### **GED and Basic Skills Education**

Significant benefits accrue to adults who return to school to complete a GED. They typically earn about 15% more a year and attain higher-level careers than those who do not complete high school (Cain, 2003). Additionally, GED earners are three to four times more likely than high school dropouts to enroll in college-level study (Boesel, Alsalam, and Smith, 1998). Once enrolled, they perform as well as students who earned a high school diploma, having similar grades at both the associate and bachelor's levels (Reder, 1999).

Generally, participation in all types of adult education increases as the level of prior education increases (Creighton and Hudson, 2002; Kim and Creighton, 2000). Yet, the U.S. population faces a significant crisis in that the educated are becoming more educated, widening the gap between the "haves" and the "have-nots." Therefore, increasing adult participation in basic education and GED courses, combined with programs that support their transition into postsecondary study, is key to increasing the number of vocational, associate and bachelor's degree earners.

There is, however, a large void to be filled. Based on current patterns of participation, those who are most in need of adult education, particularly high school dropouts (about 10% of all U.S. adults), are also those who receive it the least often. Only 1.9% of the adult population in 1999 participated in basic skills education programs (see **Appendix D**). And in 2002, only about 655,514 of the 9,206,000 adults over age 16 who had dropped out of high school before the 12th grade (about 3.4%) earned their GEDs.<sup>4</sup>

Even though 65% of all adults enrolled in GED programs state their motivation for attending is to enroll in postsecondary education, only about 30-40% of those enrolled in these programs actually complete an associate or bachelor's degree, as compared to about 65-70% of those with a high school diploma (Boesel et al., 1998; Reder, 1999). This difference in achievement is typically attributed to differences in lifestyle – not ability – as GED holders are more likely to work full time, have family responsibilities and have less self-confidence in their ability to succeed in higher education. Greater support

is needed to aid in the transition from GED programs to postsecondary education and to ensure students' retention once enrolled.

The payoff from greater investment in adult education and support programs is potentially exponential. In a recent article on the critical nature of adult literacy, Thomas Sticht (1998) asserts that the accomplishment of national education goals aimed at children depends primarily on achieving greater levels of literacy among adults. For example, literacy levels among children increase as parents' education levels increase (Kaestle et al., 2001), and the greatest determinant of academic achievement is the parents' level of education (Vernez et al., 1999).

### **Changing Demographics: English as a Second Language (ESL) Needs and Differences in Academic Achievement**

The ethnic and racial makeup of the U.S. population is changing dramatically, impacting the composition and training needs of adult learners. Immigration has increased significantly in the past 30 years, growing from 9.6 million foreign-born Americans in 1970 to 28.4 million in 2000. The U.S. Census (Lollock, 2000) found that about 11% of the population was foreign born in 2000, while 18% reported speaking a primary language other than English. Despite its low percentage overall, participation in ESL is increasing at a faster rate than any other type of adult education. Shortages of available seats in courses to meet the demand are often reported (Kim, Collins, and McArthur, 1997). Even though less than 1% of adults participated in formal ESL courses in 1999, this may underestimate the true need. Most of those who are in need of ESL, but who do not participate, report being unaware of where it is offered or that it is available at all; the majority of those who do participate hear about programs through word of mouth (Kopka, Schantz, and Korb, 1998). More effective marketing, both in English and in other languages, particularly Spanish, is needed to meet current demand.

Another factor influencing adult education is the growing need for basic skills education among Hispanics, 30% of whom currently do not complete high school<sup>5</sup> (Vernez et al., 1999). Hispanics are now the largest and fastest-growing minority population, constituting over 50% of all foreign-born Americans (Schmidley, 2001) and 13% of the total U.S. population (African Americans are a close second at 12.7%). Hispanic immigrants have a higher birth rate than native-born Americans; as a result, they are expected to

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**The ethnic and racial makeup of the U.S. population is changing dramatically, impacting the composition and training needs of adult learners.**

double in number between the years 2000 and 2015 (Vernez et al., 1999). During that same time, the non-Hispanic white population is expected to decrease in number from 70% to 58% of the U.S. population.

Perhaps of greatest concern are immigrants from rural Mexico, who have very limited education and literacy levels in their native language<sup>6</sup> (deCossio, 1999; Lollock, 2000).

Because their literacy skills are so low, many Mexican immigrants are ill-prepared for basic education, even when offered in a bilingual format; a foundation in their native Spanish is required before they can master the content of courses taught using a mixture of first and second languages (deCossio, 1999). This is significant given the fact that more than 25% of all documented immigrants and 50% of Hispanic immigrants come to the United States from Mexico (Schmidley, 2001). Mexican immigrants have significantly lower

levels of education prior to arriving in the United States than any other immigrant group. Only 34% of immigrants from Mexico have completed high school. In contrast, 81% of immigrants from Europe, 84% of immigrants from Asia and 80% of immigrants from South America have completed high school (Schmidley, 2001).

While the educational attainment of all racial and ethnic groups has increased over time, significant gaps still remain between Hispanics and blacks, on the one hand, and whites and Asians on the other. Gains have been made in high school completion rates, but not in the postsecondary participation gap that exists between racial and ethnic groups. In 2001, 58% of all 25- to 29-year-olds had completed some college; however, of that group, 65% of whites compared to 51% of blacks and 32% of Hispanics had done so (National Center for Education Statistics, n.d.). In fact, the gap in highest level of educational attainment between whites and Hispanics has increased in the past 25 years, and the differences between whites and Asians versus blacks are expected to continue to increase over the next 15 years (Vernez et al., 1999).

adult learning for a variety of reasons. A recent national survey of public opinion on higher education, conducted by *The Chronicle of Higher Education*, shows that the public is well-satisfied with the current level of access adults have to higher education as well as with the quality of education received at U.S. institutions (Selingo, 2003). Despite data that increasingly show postsecondary education to be a necessity to success in the labor market, only half of Americans see a four-year degree as essential, although responses differed by age and ethnicity.<sup>7</sup>

## Public Policy Responses to Adult Learners

Much of the nation's current postsecondary education policy was formulated as a response to the baby-boom generation reaching college age during the 1960s and 1970s. Beginning in the late 1950s, there was a considerable amount of federal and state legislation aimed at educating this huge population bulge. States opened new public universities and expanded existing ones. States also absorbed municipal and private institutions into public systems. Open-door community colleges were built from the ground up. The federal government, beginning in 1957

with National Defense Loans and continuing in 1965 with the Higher Education Act, established the foundation upon which current higher education policy still rests. From these historical roots, federal and state governments have continued to craft public policies with interests and dollars centered on students who enroll straight from high school, attend full time and are financially dependent on their parents.

Federal and state policymakers may resist greater commitment to

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Another reason is that opinion about who should bear the biggest burden in paying for college has shifted from the public to the individual over the past few decades. In the 1960s, most Americans believed that federal and state governments should pay the largest share of a college education. Congress responded by passing the first Higher Education Act in 1965, which included provisions for a range of large-scale grants and loans. States responded similarly by spending millions of dollars to build public campuses and subsidize the bulk of student attendance costs. Today, however, nearly two out of three Americans say students and their families, whom they perceive as the direct beneficiaries of the advantages that accrue from a college degree, should pay the largest share of a college education (Selingo, 2003). Only 11% and 17% said the states and federal government, respectively, should pay the largest percentage of college costs. The perception of higher education has been transformed from a public good to a private one.

Additionally, policymakers and their constituents may also believe that the public's obligation is to offer education *only once*. Like a vaccination, if it doesn't take the first time, it may never take. "Remediation" is viewed as having to pay for something twice and, therefore, as inefficient.

### **Federal and State Financial Aid Programs**

Efforts directed toward meeting the financial needs of adult students have ironically been a double-edged sword. Title IV of the Higher Education Act of 1965, as amended, provides the primary support for financial aid at the federal level. Since the early 1970s, this program has steadily broadened to encompass more and more students under its umbrella, including adult learners. The Pell Grant program<sup>8</sup>, as the primary federal vehicle for delivery of need-based aid, is a good example of a program that has adjusted to the rising tide of adult college students. Eligibility has broadened to the point that in 2000-01, the majority of Pell Grant recipients were categorized as independent.<sup>9</sup>

Unfortunately, the result of this expanded eligibility, combined with a philosophy that students should carry an increasing share of the cost of their own education, has been a diminution of the purchasing power of the Pell Grant as appropriations have failed to keep up with rising costs. Tuition increased by an average of 15% between 1990 and 2000, and has gradually outpaced the rate of inflation each year. Loans continue to replace grants as the primary source of student aid. Borrowed money now represents 59% of all aid, as compared to 41% in 1980 (Brownstein, 2001), and has increased among all students at all income levels (King, 2000).

The Pell Grant program also has been responsive to adults who are attending part time by allowing students who take as few as two courses to be eligible for limited grants. But this still leaves many adults who take a single course at a time ineligible. The current federal programs also discriminate against distance-learning providers and individuals taking courses from multiple institutions simultaneously (Southern Regional Education Board, 2002b). Such students tend to be adult learners.

In 1997, the federal government initiated a new approach to college aid through tax credits, education savings accounts and student loan interest deductions. These tax credit programs along with Title IV programs now benefit seven of every 10 undergraduates, according to a recent study by the U.S. General Accounting Office (2002). The largest of these programs – the Hope Scholarships – provides tax credits for the families of students who are attending the first two years of college on at least a half-time basis. The Lifetime Learning Credit is aimed at older students and working adults. In 2003, the maximum credit increased to \$2,000 per tax filer (20% of

qualified higher education expenses up to \$10,000). Benefits are phased out for single filers above \$41,000 and joint filers above \$82,000. Despite the benefits, these scholarship and credit programs have no applicability to low-income individuals (U.S. General Accounting Office, 2002) and have been criticized for their irrelevancy to students with real need.<sup>10</sup>

The primary federal education program serving adults not seeking college degrees is the Workforce Investment Act of 1998 (WIA). WIA includes support for retraining programs for out-of-work citizens, adult literacy programs and career centers aimed at coordinating the wide variety of workforce preparation activities of the U.S. Department of Labor. The size of federal programs aimed at traditional degree-seeking students, however, is at least 10 times greater than the size of those aimed at nondegree education and training for adults, who are the primary clients of Department of Labor programs.<sup>11</sup>

Nor have state aid programs kept pace with changing student populations and their needs. Most state financial aid in the 1960s and 1970s was awarded based on financial need in hopes of reducing economic disparity. In the 1990s, however, academic merit became an increasingly larger factor in determining state financial aid eligibility. Georgia's well-known Helping Outstanding Pupils Educationally (HOPE) program has served as the model for similar programs throughout the country. The majority of these state programs are targeted at recent high school graduates who enroll directly in postsecondary programs.<sup>12</sup> For example, to qualify for Georgia's HOPE scholarship, students who graduated from high school prior to 1993 or who delay their postsecondary education need to enroll in college, complete a year of full-time study and earn a 3.0 grade point average to qualify for a HOPE scholarship for the next year. This is a large hurdle for low-income and working adults seeking to earn a two- or four-year degree.

State spending on merit scholarships tripled in the 1990s. To date, 12 states have implemented merit-based programs that do not take financial need into account to award grants to students, and most have no income cap. Of these states, the average spending on need-based aid in 2000-01 was about \$308 million, which was only one-third of the \$863 million average

***Policymakers and their constituents may believe that the public's obligation is to offer education only once. Like a vaccination, if it doesn't take the first time, it may never take.***

***The size of federal programs aimed at traditional degree-seeking students is at least 10 times greater than the size of those aimed at nondegree education and training for adults.***

funding for state merit programs (Heller and Marin, 2003). Georgia's HOPE program is now twice as large as the federal Pell Grant program in the state (Heller and Marin, 2003). But most students using these merit programs are from high-income, well-educated households who would have attended college regardless. The HOPE scholarship has functioned well as an incentive to keep high school students within the state's college and university system (Dynarski, 2000). But it has not helped the financially needy as much as other aid programs have, nor has it helped adult learners.

## A Public Policy Agenda for Adult Learners

In a recent report by the State Higher Education Executive Officers (SHEEO) and the Council on Adult and Experiential Learning (CAEL), authors Voorhees and Lingenfelter (2003) outline five areas in which states could develop policies that encourage adult participation (see **Appendix E**). Particularly notable within these five areas is their call to:

- Collect and use data on adult participation for strategic planning
- Provide taxpayer support for instruction at employer sites
- Make financial aid available for part timers
- Support remedial education.

In the following section, the authors of this paper elaborate on some of Voorhees and Lingenfelter's recommendations and offer additional ones.

### Tracking Adult Participation

The **Southern Regional Education Board** (2002a) revised its "Education Goals" in June 2002 to include two explicit mentions of adults: that "adults who are not high school graduates participate in literacy and job-skills training and further education," and that "the percentage of adults who earn postsecondary degrees or technical certificates exceeds national averages."

The **National Center for Public Policy and Higher Education** in its "Measuring Up" state report card series included adults in measures of "participation" and "adult skill levels" as well as "benefits."

The **National Center for Education Statistics** has established a Lifelong Learning Task Force to help the center determine whether and how it should develop a data-collection and reporting system on lifelong learning (see NCES, 2000, Working Paper No. 2000-16a).

## 1. Establish goals for adult learning

In recent years, national and regional organizations have begun to track and monitor adult participation rates by state. But too few states have established definitive goals for adult learning. States should:

- Set targets for reaching a high level of postsecondary participation of adults and ensure every region within the state has an appropriate goal
- Monitor performance and participation, and aggressively market basic literacy and English as a Second Language programs to the full cohort of adults in the state who need these services
- Pay for performance by adult education providers, which without such incentives these programs may continue to stagnate
- Monitor social indicators that track the health and well-being of their population as a whole, including measures of personal income, health and civic engagement.

## 2. Increase the level of support for providers of adult learning

State funding policies are embedded in a long tradition that provides increasingly higher levels of public subsidy as one moves up the three major tiers of public education providers: community and technical colleges, regional universities, and research and land-grant universities. This is based on different assumptions regarding faculty salaries and workload, with the expectation that faculty in four-year institutions would conduct research and command higher salaries. Community college faculty, who are the major providers of adult learning, have higher workloads and lower pay and typically work part time without benefits. (Two-thirds of all community college faculty fall into this category.)

A typical response in the four-year sector to declines in state support is to raise tuition. Not so in community colleges, which often are constrained by state policy and an internal philosophy that keeps prices low. With their faculty workforce already highly productive, community colleges are faced with few options for increasing access. If the state, for whatever reason, does not increase its commitment to adult learners, it may be time for new approaches based on higher overall tuition pricing (or differential pricing for high-cost/high-economic-return programs) combined with compensatory financial aid for part-time working adults. States and community colleges also must do a better job of increasing consumer awareness of the tax credits and tuition reimbursement options available.

Continuing education is another area long neglected in state funding policies. Most providers must operate on

a cost-recovery basis, which dramatically limits the types of programs that can be offered. Programs in which employers pay the cost are the most popular; for example, the business, engineering and medicine fields have extensive continuing education offerings. Other socially valuable fields such as social work, teacher education and criminal justice tend to be neglected.

Finally, states need to dramatically increase their commitment to adult basic education, GED and ESL preparation. The demand for these services far exceeds our current delivery capacity.

### **3. Increase the amount of financial aid and tuition assistance for adults**

Beyond traditional sources of aid – namely, grants and loans – there are untapped opportunities to aid adults through the tax system and through greater commitment from employers. States should provide

tax incentives to employers. The federal government should expand its commitment to saving mechanisms and “lifelong learning accounts” (see **Box 1**).<sup>13</sup> Private scholarship entities should also increasingly target their dollars at working parents.<sup>14</sup>

State aid should be more widely available for adult learners by refocusing aid on need-based programs that extend eligibility to adults taking both credit and noncredit courses, including those students taking only a single course at a time (see **Box 2**).

Most important, states should renew their commitment to need-based aid and move away from merit-based programs. The primary beneficiaries of merit programs are students who will most likely attend college without public subsidies.

Another underused source of aid is tuition reimbursement by employers. The U.S. Department of Labor

## **Box 1. Lifelong Learning and Individual Development Accounts**

The concept of Lifelong Learning Accounts (LiLAs) or Individual Development Accounts (IDAs) is simple. Through a variety of mechanisms and contributors, dollars are set aside in savings accounts for future use by adults to pay for upgrading of skills, retraining and career change. The Council for Adult and Experiential Learning (CAEL) has been a pioneer in their development. See <http://www.cael.org/lilas.asp>.

CAEL currently is carrying out a three-year demonstration of LiLAs in multiple locations and industries. LiLAs would work in a similar fashion as employer-based 401(K)s. Employees could elect to contribute a tax-exempt portion of their paychecks each pay period to an education savings account, and employers would be expected to match the employee’s contribution amount up to a cap (\$500 per year in the demonstration project). Employers would receive a tax credit for the total portion of contributions made for their employees (up to \$500 per employee). Third-party matches also are encouraged, which, in combination with the employer contribution, could double or even triple the student’s contribution.

CAEL’s demonstration projects include the restaurant industry in Chicago and the manufacturing and public sectors in Fort Wayne, Indiana. Plans call for a third demonstration project in the allied health care sector in San Francisco.

Individual Development Accounts or IDAs are special accounts that encourage low-income populations to save a portion of their income each pay period to build their financial assets, become upwardly eco-

nomically mobile and attain a greater quality of life. Account holders are rewarded for deposits made to savings accounts through the use of matching funds provided by various private and nonprofit organizations. The assets developed using IDAs can be used for home mortgage/down payments, business start-up costs or education and training fees.

The Corporation for Enterprise Development ([www.cfed.org](http://www.cfed.org)) is a nonprofit organization that supports the IDA Network ([www.idanetwork.org](http://www.idanetwork.org)) and other pilot projects supported by the U.S. Department of Health and Human Services, as well as private foundations. States also are involved in these accounts through “welfare-to-work” plans.

Although asset-building programs are not new (The Homestead Act, GI Bill, IRAs, 401(K)s, and home mortgage interest tax deductions, for example), IDAs are unique in several ways and have become increasingly popular since the early 1990s. As of April 2002, IDA programs existed in some form in 46 states, and over 10,000 citizens were actively using IDA accounts in about 400 communities. At the end of 2002, this number had doubled: More than 20,000 IDAs had been opened through over 500 community partnerships nationwide. An additional 30,000-40,000 participants are expected to open individual accounts by the end of 2003 as part of the Assets for Independence demonstration program. For examples of the variety of programs being operated, see [www.idanetwork.org](http://www.idanetwork.org).

*Source: Council on Adult Experiential Learning (2002a)*

## Box 2. Financial Aid Programs Aimed at Adult Learners: State Examples

- The **Illinois** Board of Higher Education provides *Monetary Award Program* (MAP) grants to part-time students with demonstrated financial needs. Specific test scores or GPAs are not required and do not need to be reported on the application. The *Incentive for Access Program* can be used in addition to MAP grants and can be applied to books, computers or any educational expense.
- The **Maryland** Higher Education Commission has reorganized its financial aid administration process and extended need-based financial aid grants to part-time students in hopes of increasing the number of nontraditional students attending college. An increase of \$2 million was made available to support the education of 4,000 part-time students between 1999 and 2001.
- The **New Mexico** Commission on Higher Education has several grants for part-time students, including *Child Care Grants* available to both undergraduate and graduate students that do not have to be repaid in any way. Other grants for part-time students include the *Legislative Endowment Scholarships* (\$1,000 a year for students enrolled in two-year institutions and \$2,500 a year for students enrolled at four-year institutions), as well as *Student Incentive Grants*, which are awarded to low-income students with demonstrated financial need who enroll at any New Mexico institution.
- The **Delaware** Higher Education Commission and Economic Development Office helped to create the *Delaware Governor's Workforce Development Grant*, which provides financial aid to part-time students who work for small employers that do not provide tuition assistance. Colleges and universities have agreed to lower tuition by 10% for participating students, and the grant pays 65% of tuition (provided directly to the student and not the institution) up to a cap of \$1,500 per year. Employers may opt to cover the remaining 25% of tuition. Student eligibility is determined by individual income level; for married students, income is assessed for the student only and not the total household.
- **Vermont's** unique *Non-Degree Grant* program supports students with demonstrated financial need who enroll in courses that do not count toward degrees but that will improve their employability or encourage further study. Unlike most financial-aid programs, which require formal admission and enrollment, this program provides a "kick start" for students to enroll quickly and easily in electronic courses. See [http://www.vsac.org/paying/pw\\_pay2.htm](http://www.vsac.org/paying/pw_pay2.htm).

Source: Council on Adult Experiential Learning (2002b)

(2002) reports that only 38% of private-sector employers provided work-related education assistance benefits in 2000, and only 9% provided non-work-related benefits. Professional employees were more than twice as likely to be eligible for these benefits as were blue-collar and service employees.

Given the growing size of America's immigrant population, new policies, such as those recently adopted in Washington and Utah, that allow students regardless of immigrant status to attend college at in-state rates are a step in the right direction. At a minimum, the broader issue of immigration policy in this country is one that warrants far more public debate than it has received to date.

Finally, state government itself should set the example by significantly increasing its commitments to its own employees. The U.S. Department of Labor Statistics (1998) reports the widespread availability of job-related education assistance (87%), but no data are available on the level of utilization (which can be constrained by budgets). Nonjob-related education assistance was available in fewer than half (46%) of state agencies.

### **4. Increase state commitment to adult literacy and ESL, and reorganize the delivery of services**

Currently, few states make significant commitments to these activities. Rather, they depend primarily on monies that the federal government provides and that state departments of education and/or workforce development offices manage. What is needed is a broader and more coordinated commitment involving postsecondary partners.

For example, in 2000, Kentucky vested planning responsibilities for adult education in the Kentucky Council for Postsecondary Education. At the same time, it increased its state commitment to GED attainment and provided tax incentives for employers to encourage employee involvement. The result is that the state has dramatically increased high school completions. In addition, the Kentucky Virtual University is leading an effort to use technology to deliver adult literacy services (<http://www.kyvae.org/>).

This nation's daily life is becoming more complex as information technology and advanced communications are used increasingly within the home, at the workplace and in the community. Today's adults, in addition to being today's workers, are also today's voters, parents and healthcare patients. Their increased educational attainment levels will reap multiple societal benefits – improved earnings and health, increased productivity and tax revenues, less dependence on social programs, reduced crime, greater voter participation and civic engagement and better parenting – all of which can be linked to a stronger national economy (Newburger and Curry, 1999; Sum et al., 2002; Vernez et al., 1999).

A nation's success rests upon the foundation of education. This is not news. A growing awareness of this has been seen from many sectors of the American public: from students who have come knocking at college doors, from parents who have paid the bills, and from policymakers who have responded with legislation and support. Nevertheless, many state leaders may not be aware of the size and importance of the adult popula-

tion that needs and seeks education. Whether it is a high school dropout seeking a GED, a laid-off worker looking for retraining, a single parent struggling for financial independence or a recent immigrant striving to learn English, the needs of adult learners are great. Particularly critical is this last-mentioned group of undereducated immigrant populations. Without a much greater effort on their behalf, this nation will be faced with a widely divided society on both social and economic grounds.

Policymakers have recognized the critical nature of education for the young. Now it is time for them to turn their attention in equal measure to the much larger population of working adults, whose future prosperity and effectiveness as parents and citizens are dependent on increasing access to education.

“Lifelong learning” is more than a popular slogan from the education community; it is a national necessity. The United States will not be able to maintain its standard of living and quality of life without a more concerted effort to engage all citizens in effective education and training programs throughout their adult lives.



- <sup>1</sup> While the actual number of these jobs is small in comparison to the total job market, they are an indication of the direction that industry is taking, and paint a preliminary picture of what the future U.S. job market may look like.
- <sup>2</sup> There is a wide distribution in literacy skills, however, even among those with the same postsecondary credential; for every degree group, those with higher literacy skills earn more and have higher-status job positions than those with lower literacy scores (Barton, 2000). Therefore, literacy and education both contribute to quality of life.
- <sup>3</sup> This compares with the approximately 15 million students enrolled full time and part time in degree-credit programs in colleges and universities (Kim and Creighton, 2000).
- <sup>4</sup> A recent study based on 1995 data found similar results: Only 5% of all high school dropouts had enrolled in a GED program and only 9% had participated in any type of basic skills course (Kaestle, Campbell, Finn, Johnson, and Mikulecky, 2001).
- <sup>5</sup> This compares to 6.9% of whites and 13% of African Americans (Vernez et al., 1999).
- <sup>6</sup> Less than 50% of Mexican immigrants have completed a 9th-grade education, typically because young adults are needed to work to help support their families (deCossio, 1999).
- <sup>7</sup> Eighty-two percent of Asian Americans believe a college degree to be essential, while only 48% of white respondents do. Interestingly, more black and Hispanic respondents (60% and 59%, respectively) see a four-year degree as essential than do whites, despite their low participation rates in postsecondary education overall. Age also had a significant impact on one's perception of the value of higher education; 39% of those born before 1940 viewed a degree as essential, compared with 62% of those born after 1970 (Selingo, 2003).
- <sup>8</sup> Pell Grants were created in 1972 as a result of amendments to the Higher Education Act of 1965 as a means of democratizing access to higher education for low-income students. Congress determines the maximum and minimum awards through statute each time it reauthorizes the program, which occurs about every 5-6 years. The basic formula used to determine the size of grants for individual students is Maximum Pell Grant – Expected Family Contribution = Pell Award. For an excellent review of the Pell Grant program, see King (2000).
- <sup>9</sup> Independent students constituted approximately 57% of all recipients in 1999-2000 (NCES, 2000). Independent students must be one of the following: (1) 24 or over, (2) married or (3) have dependents.
- <sup>10</sup> Dynarski (2000) claims that Lifelong Learning Credits and federal Hope Scholarships are of little use to low-income students because (1) income caps for eligibility are set so high that less than 10% of U.S. taxpayers meet them, (2) any need-based award is deducted from eligible scholarship awards or taxable expenses and (3) only those households that earn enough to pay taxes in the first place can take advantage of the programs.
- <sup>11</sup> Given the vast array of federal education and training programs, exact comparisons are difficult. President Bush's proposal for FY2004 includes in excess of \$62 billion in student aid for traditional college goers. This compares to a proposed \$584 million for adult literacy grants to states and an additional \$3 billion in Department of Labor training programs aimed at adults.
- <sup>12</sup> For example, about 77% of all Georgia HOPE funds are distributed as merit-based scholarships to students who enroll in formal degree programs as compared to the 23% that is distributed in the form of noncompetitive grants for technical and vocational study. More than 80% of HOPE scholarship students attend four-year colleges and universities, where about 90% of all merit-based aid is spent. Only 10% of merit-based scholarships are used by students to enroll in two-year degree programs, and less than 1% is used by students to attend a technical institution (Heller and Marin, 2003). Funds cannot be used for continuing education.
- <sup>13</sup> Kentucky's Tuition Discounts and Employer Tax Credits program provides discounts to full-time employees who complete high school equivalency diplomas and gives tax credits to businesses that assist their employees. GED recipients who qualify can receive discounts of \$250 per semester, and employers are encouraged to provide employees with paid release time to complete GEDs. See [http://adulthood.state.ky.us/GED\\_Incentives\\_Employer\\_Tax\\_Credit\\_Flyer.doc](http://adulthood.state.ky.us/GED_Incentives_Employer_Tax_Credit_Flyer.doc).
- <sup>14</sup> An example is the Arkansas Single Parent Scholarship Fund.

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## Appendix A: Adult Literacy in the United States: The 1992 National Adult Literacy Survey

The Adult Education Amendments of 1988 required that the U.S. Department of Education produce a Congressional report on the status of adult literacy in the country. In response, the National Center for Education Statistics established the National Adult Literacy Survey (NALS), a large-scale survey of a representative sample of over 13,000 adults to determine the nation's literacy, defined as the ability to use printed and written materials to function in society, including a range of information-processing tasks performed at work, at home and within the community.

The survey concentrated on three main areas of literacy:

- 1. Document** – Ability to locate and use information found in everyday materials such as job applications, street maps, bus schedules, etc.
- 2. Prose** – Ability to locate and understand information contained in written text such as newspaper articles, household appliance instructions, poems, etc.
- 3. Quantitative** – Ability to perform basic mathematical operations required by daily activities such as balancing a checkbook, figuring a tip, filling out an order form, etc.

Participants were given a standard set of text-based materials and asked to perform several literacy tasks; based on their scores, which ranged from 0 to 500, they were classified into one of five categories:

- **Level 1 (0 to 225).** Individuals performing at Level 1 may be able to locate information in a piece of text that matches the information given the instructions when no distracting information is present; they may be able to identify the country mentioned in a newspaper article, sign their name on a form or identify the meeting time on a memo.
- **Level 2 (226 to 275).** Individuals performing at Level 2 may be able to locate the correct information in a piece of text when other distracting or irrelevant information is also included; they may be able to interpret an appliance warranty, locate a specific intersection on a map or determine the difference in price between two comparable clothes items.

- **Level 3 (276 to 325).** Individuals performing at Level 3 may be able to integrate different pieces of information contained in lengthy text; they also may be able to match information in a set of instructions with the information within a text when slight inference is required. Individuals performing at this level may be able to write a brief letter or determine the difference in price between a regularly priced item and the same item with a 10% discount.
- **Level 4 (326 to 375).** Individuals performing at Level 4 may be able to integrate information in written text and make inferences based on the statements they read; they may be able to contrast two viewpoints in different editorials.
- **Level 5 (376 to 500).** Individuals performing at Level 5 can identify specific information in densely written text that contains a large amount of distracting information. They may be able to extract a subset of relevant information from a table to compose an essay and summarize the different approaches that two lawyers may use to sway a jury to reach different conclusions.

The study found that adult literacy was widely distributed. On average, the adult population performed within the upper end of Level 2 on all three scales. About 22% of adults fell into Level 1, 27% were classified in Level 2, 31% in Level 4, 16% in Level 4 and only 3% were classified at Level 5 on each of the scales (Kirsch, Jungeblut, Jenkins and Kolstad, 1993). This means that over 50% of adults are classified in the lowest two literacy levels and have a limited repertoire of reading and problem-solving skills. While employed adults generally read at higher levels of literacy than those who are unemployed, approximately 40-50% of employed adults still perform at these lowest two levels of literacy (Sum et al., 2002; Sum, 1999). Yet studies of current job requirements show that the U.S. labor force needs to function at a minimal literacy skill level of 3 on the NALS scale (Sum et al., 2002). Although the survey was conducted in 1992, it is the most complete literacy study that has been conducted, and therefore the best estimate of adult literacy to date; the survey is being conducted again in 2003 as part of the National Assessments of Adult Literacy and an updated picture is expected to be published in 2004. More information can be found at [www.nces.ed.gov/naal](http://www.nces.ed.gov/naal).

## Appendix B: Occupations with the Highest Rates of Growth and Decline, 2000-10

### Fastest-Growing Occupations, 2000-10 (\*in thousands of jobs)

Occupation	2000	2010	Percent Increase	Education Required
Application Software Engineers	380*	760	100%	Bachelor's degree
Computer Support Specialists	506	996	97%	Associate's degree
Systems Software Engineers	317	601	90%	Bachelor's degree
Network and Systems Administrators	229	416	82%	Bachelor's degree
Network and Data Communications Analysts	119	211	77%	Bachelor's degree
Desktop Publishers	38	63	67%	Postsecondary Vocational Certificate
Database Administrators	106	176	66%	Bachelor's degree
Personal Home Health Care Aides	414	672	62%	Short-term, on-the-job training
Systems Analysts	431	689	60%	Bachelor's degree
Medical Assistants	329	516	57%	Moderate-term, on-the-job training

Source: U.S. Department of Labor, Bureau of Labor Statistics (2001).

### Fastest-Declining Occupations, 2000-10 (in thousands of jobs)

Occupation	2000	2010	Percent Increase	Education Required
Farmers and Ranchers	1,294	965	-25%	Long-term, on-the-job training
Order Clerks	348	277	-20%	Short-term, on-the-job training
Tellers	499	440	-12%	Short-term, on-the-job training
Insurance Claims and Processing Clerks	289	231	-20%	Moderate-term, on-the-job training
Word Processors and Typists	297	240	-19%	Moderate-term, on-the-job training
Sewing Machine Operators	399	348	-13%	Moderate-term, on-the-job training
Dishwashers	525	483	-8%	Short-term, on-the-job training
Switchboard/Answering Service Operators	259	218	-16%	Short-term, on-the-job training
Loan Interviewers	139	101	-28%	Short-term, on-the-job training
Computer Operators	194	161	-17%	Moderate-term, on-the-job training

Source: U.S. Department of Labor, Bureau of Labor Statistics (2001).

## Appendix C: Occupations with the Greatest Number of Projected Job Openings and Their Educational Requirements, 2000-10

### Occupations with the Greatest Number of Openings, 2000-10 (in thousands)

Occupation	2000	2010	Change in Number	Education Required
Food Preparation and Serving Workers (e.g., fast food)	2,206	2,879	673	Short-term, on-the-job training
Customer Service Representatives	1,946	2,577	631	Moderate-term, on-the-job training
Registered Nurses	2,194	2,755	561	Associate's degree
Retail Salespersons	4,109	4,619	510	Short-term, on-the-job training
Computer Support Specialists	506	996	490	Associate's degree
Cashiers	3,325	3,799	474	Short-term, on-the-job training
Office Clerks	2,705	3,135	430	Short-term, on-the-job training
Security Guards	1,106	1,497	391	Short-term, on-the-job training
Applications Software Engineers	380	760	380	Bachelor's degree
Waiters and Waitresses	1,983	2,347	364	Short-term, on-the-job training

Source: U.S. Department of Labor, Bureau of Labor Statistics (2001).

### Percent Increase in Projected Total Number of Jobs By Level of Education Required, 1996-2006

Level of Education Required	Increase in Total Number of Jobs
Short-term, on-the-job training (with high percentage of part-time positions)	+24%
Long-term, on-the-job training	+9%
Postsecondary vocational preparation	+7%
Associate's degree	+22%
Bachelor's degree	+27%
Master's degree	+15%
Professional degree	+18%
Doctoral degree	+19%

Source: Burton, P.E. (2000).

**Appendix D: Percentage of Adults Age 18 and Over Who Participated in Learning Activities in the Past 12 Months, By Educational Attainment and Age: 1991, 1995 and 1999**

**Percent Increase in Projected Total Number of Jobs  
By Level of Education Required, 1996-2006**

Educational attainment and age	1991 Total <sup>1</sup>	1995 Total <sup>1</sup>	1999					
			Total <sup>1</sup>	Type of adult learning activity <sup>2</sup>				
				Basic Skills	Credential <sup>3</sup>			Work-Related
				Full-Time	Part-Time			
<b>Total</b>	<b>37.9</b>	<b>44.3</b>	<b>48.1</b>	<b>1.9</b>	<b>6.5</b>	<b>9.3</b>	<b>22.2</b>	<b>22.2</b>
Educational attainment Grade 8 or less	<b>8.0</b>	<b>10.9</b>	<b>14.9</b>	<b>4.7</b>	<b>0</b>	<b>0.7</b>	<b>1.6</b>	<b>6.5</b>
Grades 9-12 <sup>4</sup>	<b>16.1</b>	<b>23.5</b>	<b>25.8</b>	<b>7.6</b>	<b>1.4</b>	<b>4.7</b>	<b>6.4</b>	<b>10.3</b>
High school diploma or equivalent	<b>26.7</b>	<b>33.0</b>	<b>38.6</b>	<b>1.3</b>	<b>3.9</b>	<b>6.5</b>	<b>16.6</b>	<b>17.6</b>
Some college, including vocational/technical	<b>52.6</b>	<b>58.7</b>	<b>58.9</b>	<b>0.8</b>	<b>13.9</b>	<b>13.7</b>	<b>24.3</b>	<b>26.1</b>
Bachelor's degree or higher	<b>56.5</b>	<b>62.1</b>	<b>64.8</b>	( <sup>5</sup> )	<b>5.6</b>	<b>11.9</b>	<b>37.7</b>	<b>31.9</b>
Age 18-24	<b>69.1</b>	<b>68.3</b>	<b>69.9</b>	<b>8.9</b>	<b>35.0</b>	<b>13.8</b>	<b>16.7</b>	<b>22.5</b>
25-34	<b>42.2</b>	<b>53.0</b>	<b>60.3</b>	<b>2.2</b>	<b>7.5</b>	<b>15.7</b>	<b>29.7</b>	<b>25.2</b>
35-44	<b>46.6</b>	<b>51.0</b>	<b>51.7</b>	<b>0.9</b>	<b>2.2</b>	<b>10.6</b>	<b>28.7</b>	<b>25.1</b>
45-54	<b>33.3</b>	<b>47.0</b>	<b>49.5</b>	<b>0.7</b>	<b>1.7</b>	<b>7.7</b>	<b>27.0</b>	<b>24.6</b>
55-64	<b>23.0</b>	<b>28.2</b>	<b>35.2</b>	<b>0.4</b>	<b>0.3</b>	<b>4.8</b>	<b>18.9</b>	<b>17.3</b>
65 and above	<b>10.5</b>	<b>15.2</b>	<b>18.7</b>	<b>0.3</b>	<b>0.3</b>	<b>1.2</b>	<b>3.4</b>	<b>14.5</b>

Source: National Center for Education Statistics. National Household Education Surveys Program 1991, 1995, and 1999: Adult Education Survey. Washington, DC: U.S. Department of Education.

<sup>1</sup> Estimates include participation in basic skills, work-related, credential programs, English as a Second Language, personal interest courses, apprenticeships or participation in credential program full or part time. Adults who participated in apprenticeships and programs for English as a Second Language are included in the totals but are not shown separately.

<sup>2</sup> Percentages may not add to totals because individuals may have participated in more than one type of adult learning activity.

<sup>3</sup> Includes credential programs provided by either postsecondary institutions or other types of providers.

<sup>4</sup> In 1995 and 1999, includes adults whose highest education level was grades 9-12 who had not received a high school diploma; in 1991, includes only adults whose highest education level was grades 9-11.

<sup>5</sup> Only adults who had not received a high school diploma or equivalent, who received a high school diploma in the past 12 months, or who received a high school diploma in a foreign country and did not have a bachelor's degree were asked about their participation in basic education/General Education Development activities.

## Appendix E: Continuum of State Policies That Influence Adult Participation

### State Higher Education Executive Officers/Council for Adult and Experiential Learning Study

Policy Area	← Discourages	Neutral	Encourages →
<b>Overall Strategy for Adult Participation</b>	<ul style="list-style-type: none"> <li>• State polices do not specifically target adult participation</li> <li>• State policies are designed to serve 18-22-year-olds but not others</li> </ul>	<ul style="list-style-type: none"> <li>• Market forces determine which institutions serve adult students</li> </ul>	<ul style="list-style-type: none"> <li>• State creates and/or refines structural and academic policies to encourage adult participation in education</li> </ul>
<b>Data Systems and Evaluation</b>	<ul style="list-style-type: none"> <li>• State does not report adult participation rates</li> <li>• Institutions are penalized when part-time student behavior does not meet performance benchmarks established for full-time student behavior, e.g., graduation and retention rates</li> <li>• State does not report on economic returns for participation in postsecondary education</li> </ul>	<ul style="list-style-type: none"> <li>• State reports adult participation rates but does not utilize this information</li> <li>• State recognizes that many adult learners meet their needs by attending several institutions and that some may not need to pursue a formal degree</li> </ul>	<ul style="list-style-type: none"> <li>• State collects and uses data on adult participation for strategic planning</li> <li>• State maintains systems to track the migration of students between institutions and sectors</li> <li>• State develops a system for defining the educational needs of its adult population (basic education, degree attainment, specific competencies) and a strategy for meeting them</li> <li>• State routinely reports the economic returns for participation in postsecondary education</li> <li>• State reports systematic follow up of job placement rates and employer satisfaction with learning outcomes by program</li> <li>• State agencies link data systems to connect education and employment data</li> </ul>
<b>Interagency Cooperation</b>	<ul style="list-style-type: none"> <li>• No established relationship exists between higher education and state economic development, human services or adult literacy entities</li> </ul>	<ul style="list-style-type: none"> <li>• Representatives from higher education and state economic development, human services or adult literacy entities meet routinely but do not coordinate programs or initiatives</li> </ul>	<ul style="list-style-type: none"> <li>• Collaborative programs by higher education and state agencies address identified workforce needs</li> <li>• Collaborative efforts extend opportunities for education and training for welfare recipients</li> <li>• Collaborative programs by higher education and state agencies address identified literacy needs among adults</li> <li>• State agencies work collaboratively with community-based organizations, "one stops" and employers to communicate common information on support and training and education opportunities</li> </ul>



Appendix E: (Continued)

Policy Area	← Discourages	Neutral	Encourages →
<b>Fiscal and Financing Policies</b>	<ul style="list-style-type: none"> <li>• Taxpayers support only classes provided on-campus or state-designated sites (no alternative sites permitted)</li> <li>• Financing systems lack flexibility to develop distance learning or other innovative instructional approaches; no taxpayer support provided for distance education classes</li> <li>• State financial aid is available only for full-time students</li> <li>• State policies require tuition payment prior to class/program enrollment</li> </ul>	<ul style="list-style-type: none"> <li>• State policies permit institutions to develop tuition-payment schedules based on employer reimbursement</li> </ul>	<ul style="list-style-type: none"> <li>• Taxpayer support is available for instruction at employer sites</li> <li>• Appropriate financing is provided for innovative learning strategies</li> <li>• State financial aid is available for less than full-time students</li> <li>• Aid is targeted to students in fields where there are worker shortages</li> <li>• State policies permit direct support for priority groups of adult learners, from a specific company or employment field</li> </ul>
<b>Academic Policies</b>	<ul style="list-style-type: none"> <li>• Remedial or “refresher” classes are not available and/or are not supported by taxpayers</li> <li>• No dialogue exists with businesses to meet literacy needs of undereducated adults</li> <li>• Credit awarded for distance-education classes is not accorded the same academic standing as “regular” classes</li> <li>• Program approval process routinely spans six or more months</li> <li>• Four-year institutions are not required to have articulation agreements in place</li> </ul>	<ul style="list-style-type: none"> <li>• Four-year institutions are required to develop and maintain articulation agreements with community colleges throughout the state</li> </ul>	<ul style="list-style-type: none"> <li>• Remedial classes are widely available to learners and appropriately supported</li> <li>• Remedial providers are encouraged to work with businesses to meet literacy needs of undereducated adults</li> <li>• State policy encourages the use of distance education; especially requests from institutions to speed responses to specific training or worker education needs</li> <li>• Articulation agreements are widely disseminated</li> <li>• State actively monitors and enforces articulation agreements</li> <li>• Program approval process is streamlined</li> </ul>

Source: Voorhees, R., and Lingenfelter, P. (2003). *Adult Learners and State Policy*. Denver, CO: State Higher Education Executive Officers.