

## 2

# Demographic Change and Low-Literacy Americans

---

Brad Edmondson

### INTRODUCTION

More than one fifth of Americans over the age of 16 have marginal reading and math skills, according to the 1992 National Adult Literacy Survey (NALS). The 21% to 23% of adults who scored in the lowest level of the NALS<sup>1</sup> would likely be able to pick out key facts in a newspaper article, but they would not be able to draft a letter explaining an error on their credit-card bill. This group includes a subset of roughly 4% of adults who are unable to perform even the simplest literacy tasks.

---

<sup>1</sup>NALS, a project of the U.S. Department of Education's National Center for Education Statistics, was based on 1-hour surveys with a nationally representative sample of 13,600 Americans aged 16 and older, conducted during the first 8 months of 1992. Twelve states surveyed an additional 1,000 adults each to create comparable data for those states, and 1,100 inmates were surveyed in 80 federal and state prisons. Adults received proficiency scores along three 500-point scales, which reflect varying degrees of skill in prose, document, and quantitative literacy. A score of 225 or lower put the respondent in Level 1; a score of 376 to 500 put the respondent in the highest level, Level 5.

The socioeconomic characteristics of this low-literacy population are changing. Much of the research done on this group by social science professionals offers a detailed examination of one aspect of the lives of low-literacy Americans, such as the composition of their families or their transportation arrangements, and how these aspects affect literacy. Although this kind of work is useful, it does not give us an overall portrait of the low-literacy population, or explain how and why it is changing. The purpose of this chapter is to describe the current and future characteristics of the low-literacy population in the United States, and to consider how changes in this population might affect the provision of services for educating these adults. This chapter describes trends among linguistically isolated households and Americans who have not completed high school, as they are described in census data from 1990 and 2000. It also describes the disabled population using data from the 2000 census.<sup>2</sup> In addition, the chapter describes two major demographic trends and discusses the various implications of these trends for future research and policy development in literacy education.

This chapter does not consider demographic trends among Americans who scored in Level 2 of the NALS, even though Level-2 skills are widely considered insufficient for many kinds of skilled employment. The chapter is also too brief to do justice to every nuance and countertrend contained in the complicated relationship between demographics and literacy. The author's goals are to give a broad outline of the demographics of low-literacy Americans, and also to suggest the directions of demographic and geographic change for this group over the next two decades.

The best way to begin to understand this group is to take a step back and put it in a larger social context. Like most population groups, low-literacy Americans are profoundly affected by long-term demographic trends. During the last half of the 20th century, two of these trends had powerful effects on the composition of the low-literacy population. The first change is the baby-boom generation, a huge cohort of 77 million Americans born between 1946 and 1964, which continues to transform our society as it

---

<sup>2</sup>Disability data from the 1990 and 2000 censuses are not comparable because each census measures disability differently. Disability data in 2000 measures the population aged 5 and older with a "sensory disability" (blindness, deafness, or a severe vision or hearing impairment) and a "physical disability" (a condition that substantially limits basic physical activities such as walking or climbing stairs). It also measures the number of Americans aged 5 or older and aged 16 or older with disabilities related to mental functioning, self-care, leaving the home, and employment. The 1990 census measured the population with disability limits to mobility, self-care, or employment.

moves through the life cycle. The second trend is a wave of international immigrants that has moved into certain states, especially California, Texas, and Florida, since 1980. The aging of the baby-boom generation and the influx of immigrants have strong relationships with three demographic variables that are significantly correlated with low literacy: linguistic isolation, disability, and educational attainment.

According to the U.S. Census Bureau, a linguistically isolated household is one in which all members aged 14 and older have at least some difficulty with English. According to the NALS, 25% of Level-1 respondents in 1992 were foreign-born; many foreign-born Americans are likely to have limited English-language skills. As the foreign-born population increases, linguistic isolation will likely be a more common characteristic of the low-literacy population.

Disability is another demographic variable associated with low literacy. More than one quarter (26%) of the NALS Level-1 respondents had physical, mental, or health conditions that kept them from participating fully in work, school, housework, or other activities, and 19% reported having visual difficulties that affect their ability to read print. A factor closely related to disability is age: Older adults are much more affected by disability than younger adults are, and the elderly are also more likely to have limitations in cognitive abilities. One third of the NALS Level-1 adults in 1992 were aged 65 or older.

Age and disability may become more important contributors to the low-literacy population as the huge baby-boom generation ages. Through the sheer weight of their numbers, baby boomers have transformed consumer markets and public policy as they moved through the life cycle. In 2004, the eldest baby boomers were aged 58 and the youngest were 40. In the next two decades, the number of Americans suffering from disabilities related to sensory and cognitive decline could increase as baby boomers move into their 60s and 70s.

The third demographic connection to low literacy is also the most important one. It should hardly be surprising that Americans with weak literacy skills are also likely to have relatively few years of formal education. In fact, more than six in ten adults who scored within Level 1 in the 1992 NALS (62%) had not completed high school. Educational attainment has an overarching importance in determining literacy. In fact, increasing educational attainment dramatically reduces the likelihood that a person will experience linguistic isolation or age-related disability. To judge the most likely changes in the demand for literacy education, it is important to remember that all three of these demographic factors will be working together.

## IMMIGRATION TRANSFORMATION

In 1965, just as the baby boom ended, Congress passed an Immigration Act that made it easier for people from non-European countries to move to the United States. After the act was passed, the number of people who moved to America and got permanent work visas started edging up. Since 1980, the number of legal immigrants to the United States has averaged about 850,000 a year. Another 8 to 10 million immigrants may be in the United States illegally (Fix & Passel, 2001). Immigration now accounts for one third of U.S. population growth, and about 11.5% of U.S. residents, or 32.5 million people, were foreign-born in 2003. In 1960, just 5.4% (9.7 million) were foreign-born.

### Immigrant Characteristics

Recent immigrants to the United States are likely to share several demographic characteristics. For example, most of them come from Latin America and Asia. In 2000, 20% of legal immigrants to the United States came from Mexico, 11% came from the Caribbean, and 16% were born in Central and South America. About one third of immigrants came from Asian countries, and just one fifth came from Europe, Canada, or Africa.

Many recent immigrants tend to be young. More than half of foreign-born Americans are between the ages of 20 and 44, whereas only one third of the general population falls between these ages. The relative youthfulness of foreign-born Americans means that immigrants tend to be family builders. In fact, immigrants have an added incentive to set up households and bear children after they arrive in the United States, because any child born on U.S. soil is legally a U.S. citizen. As a result, immigrants often boost the population twice: once by arriving, and once again by having more children than native-born Americans do. The average lifetime number of children borne by Hispanic women living in the United States is 2.9; for non-Hispanic White women, the average is 2.1 children. This statistic means that non-Hispanic Whites in America no longer contribute much to population growth. By bearing an average of 2.1 children, non-Hispanic White women are merely replacing themselves and their partners. As time goes on, the population boost provided by immigrants and their children will account for a higher and higher share of America's population growth.

Within the foreign-born group, legal aliens are younger than are naturalized citizens. Almost two thirds of legal aliens (62%) were between

the ages of 20 and 44 in 2002, compared with 39% of naturalized citizens and 34% of native-born Americans. The likely reason is the high number of young-adult immigrants since 1990 that have yet to receive their citizenship. In contrast, naturalized citizens are heavily concentrated in the prime working ages. Almost three quarters of naturalized citizens (73%) are aged 25 to 64, compared with just 50% of native-born Americans and 68% of legal aliens. Extending literacy education to recent immigrants might encourage more of them to work toward gaining U.S. citizenship in the hope of achieving the employment gains and other social benefits associated with obtaining one's citizenship.

A final distinguishing characteristic of immigrants is the fact that most of them come to the United States to find jobs (see Capps, Fix, Passel, Ost, & Perez-Lopez, 2003), especially if those jobs are near family members or friends. Because most of the job creation in the United States happens in the largest metropolitan areas, most immigrants have settled there. As the immigrant population continues to grow, however, it is becoming a factor in suburbs and smaller cities as well.

### **How Immigration Changes Communities**

The combination of high immigration and low fertility among native-born Americans has been a factor for more than 20 years, which is long enough to have an impact on other demographic characteristics, such as race. Out of every nine babies born in America, three are born to immigrants and two are Hispanic, Asian, or African American; only four of the nine are non-Hispanic white babies. Demographers use the term *minority majority* to describe a condition when all the minority groups added together—African American, Hispanic, Asian, and the rest—add up to a majority of the population. As the 21st century proceeds, the minority majority is likely to move through the life cycle, just as the baby-boom generation did.

One area where the immigration and differential fertility trends have had a measurable impact is the complex of metropolitan areas around New York City. Every year, about one quarter to one third of people immigrating to the United States pass through New York City, and many of them stay in the region, making it the most ethnically diverse region of the United States. The five counties that make up New York City, plus Hudson County, New Jersey, registered a minority majority in the 2000 census. If current immigration and fertility trends continue, five more counties in the region will achieve minority majority status by the year 2025.

Other areas are also undergoing a demographic transformation due to the impact of immigrants. The state of California reached a minority majority in 2000, due to continued immigration from Latin America and Asia. The state of Texas is projected to reach a minority majority in 2015, due to continued immigration from Mexico. Many of the nation's largest cities, including Detroit, Chicago, and Atlanta, have also been profoundly affected in recent years by immigration from Latin America and Asia (U.S. Bureau of the Census, 2003).

As the immigration and differential fertility trends account for a larger share of America's population growth, smaller cities are also being affected. Many of these places have had very few immigrants until recent years, so a relatively small number of new arrivals can produce a rapid growth rate. However, as the stream of immigrants continues, these small numbers will quickly become much larger.

In 1990, about one third of the population in Jefferson County, Alabama—which includes the city of Birmingham—was African American. However, during the 1990s, carpet mills and other manufacturing plants in the Southeast began hiring laborers from Mexico, Central America, and Asia. As a result, the Hispanic population of Birmingham quadrupled during the 1990s, from 3,800 in 1990 to 12,600 in 2000. In 2000, 42% of the population of Jefferson County belonged to a minority group, with Hispanics and Asians accounting for almost all of the population increase. African Americans and Whites have gotten used to living near each other in southern cities like Birmingham. The next generation of Birmingham residents may inherit a truly multicultural city, with pockets of White, African American, Mexican, Central American, and Asian residents.

The rapid growth of ethnic neighborhoods can happen anywhere, and it sometimes happens for surprising reasons. Fargo, North Dakota has about 90,000 residents. Northern European farmers arrived there about 140 years ago and planted wheat, and the ethnic mix did not change much for the next 130 years. In 1990, only about 260 Fargo residents were African American, but in 2000 that number quintupled to about 1,250. A local church began sponsoring refugees from Somalia in the early 1990s, and those refugees wrote home to tell their family members that North Dakota had cheap housing, plentiful food, and jobs: things that Somalia did not have. In places like North Dakota, where the overwhelming majority of residents are native-born, even small numbers of non-English-speaking immigrants may have a large impact on the demand for literacy training.

### **Why Immigration Will Continue**

In the 2000 census, Hispanics made up 13% of the U.S. population, African Americans 12%, non-Hispanic whites 69%, Asians about 4%, and American Indians and other races about 2%. In 2025, if current trends continue, non-Hispanic whites will make up only 62% of the U.S. population. African Americans will increase to 13% of the population, Hispanics will be 18%, and Asians will be about 6%. Of course, these forecasts could change if Congress decides to drastically restrict the flow of immigrants, but that is unlikely to happen. Large numbers of immigrants will continue to come to the United States for the foreseeable future, for reasons of both supply and demand.

On the supply side, conditions such as famine, war, and dictatorship in a large number of unfortunate countries result in waves of refugees leaving their home countries for the United States. Since 1985, about 100,000 people a year have been granted political asylum in the United States (INS, 2002). And even in relatively stable countries such as Mexico and China, where asylum is not the ordinary reason for immigration, the economic benefit of moving to the United States can be compelling.

The demand side reveals even more powerful reasons why immigration will continue. If our borders were suddenly closed to new immigrants, the United States would immediately experience severe labor shortages in low-wage industries like agriculture, hospitality, and food processing. We would also see shortages in high-wage industries such as software design and entertainment (INS, 2002). America's economic leaders know that immigration is crucial to economic growth in this country, and they are using their influence to ensure that our borders remain open.

### **Immigration and Income**

Opponents of immigration warn that keeping our borders open will worsen social problems in the United States by increasing the numbers of unemployed people and driving down wages. Yet only one portion of the foreign-born population is unskilled. In fact, the educational attainment of foreign-born Americans looks like a reverse bell curve. There are many unskilled low-wage workers among the foreign-born, but there are also many very highly skilled, highly paid immigrants working as software engineers, set designers, and physicians.

One study found that even a large influx of unskilled immigrants might not have any measurable effect on a city's wage levels. In the summer of

1980, during the Mariel boatlift, about 125,000 Cuban immigrants arrived in Miami. This represented a 7% increase in the size of Miami's labor force. Moreover, most of the new arrivals were unskilled. Yet an analysis of unemployment levels and wages in Miami and three other metropolitan areas between 1976 and 1984 found that this influx did not increase unemployment or decrease wages for other workers in Miami (Card, 1990). The Mariel boatlift study concluded that Miami's unique characteristics, such as a large number of jobs for unskilled workers and a large network of services for non-English speakers, might have caused the rapid absorption of workers.

More recently, another study found evidence that Hispanic immigrants have driven down wages for low-skilled jobs in the largest U.S. metropolitan areas. This study compared 1990 census data from 38 metropolitan areas with large concentrations of immigrants and found that immigrant men who have been in the United States for less than 5 years have a disproportionate impact on wages in the industries where they hold jobs (Catanzarie, 2003). Although recent immigrant men did not comprise more than 5% of the population in any of the metropolitan areas she studied, Catanzarie found that this group often comprised more than one quarter of the labor force in what she calls "brown collar" occupations,<sup>3</sup> such as janitor, roofer, construction worker, gardener, and dishwasher. When many Hispanic immigrants work in a given occupation, she says, the job will pay less than others that require similar skills but employ fewer recent arrivals.

Hispanic immigrants drive down wages for the simple reason that they are willing to work for less, says Catanzarie. They are willing to work for less because they live at the margins of society. Hispanic immigrants are unlikely to defend their rights in the workplace because many of them are living in the United States illegally. Even legal immigrants are at a severe disadvantage if they lack English literacy skills. Providing amnesty for illegal aliens, enforcing minimum-wage standards, and implementing other measures designed to raise the social status of immigrant workers would also benefit native-born workers in the same industries, she says.

Foreign-born Americans with low incomes already dominate literacy education in many areas, and their numbers will likely increase in years

---

<sup>3</sup>Catanzarie defines "brown collar" as "occupations where immigrant Latinos are over-represented, largely in low-level service, construction, agriculture, and manufacturing jobs, including waiters' assistants, gardeners and groundskeepers, cooks, farm workers, and painters, in metropolitan areas such as Anaheim-Santa Ana, Chicago, Fresno, Jersey City, Los Angeles, New York City, and San Diego" (Catanzarie, 2003, p. 1).

to come. It is important to remember, however, that they are only one segment of the entire foreign-born population. Only 34% of U.S. households headed by a foreign-born person have incomes of less than \$25,000, compared with 29% of all U.S. households. Some low-income households headed by a foreign-born person contain multiple earners working for very low wages; in households like these, the combined income may conceal the very low per capita earnings of each worker. But still, households like these are only one segment of a large, diverse, and growing population group.

In fact, immigrants to the United States are concentrated at both the low and high ends of the income scale because the rewards of immigration from Asia and Latin America are greatest for the least-skilled and the most-skilled workers. A Central American farmer with only a few years of schooling has limited job options if he moves to the United States. But even if the wages of the menial job he can get are low by U.S. standards, he will earn much more washing dishes in Los Angeles than he would in Mexico City. At the other end of the skills spectrum, a software engineer educated in India will earn much more in Boston than he would in Bombay. However, a middle-class office worker in Seoul will not see a huge boost in his standard of living if he moves to San Francisco, and the relatively smaller rewards for this worker are likely to be outweighed by the considerable cost and disruption of moving to America.

### **Limits of Demographic Data**

The low-income, little-educated segment of the foreign-born is the segment that concerns literacy educators. This segment is highly concentrated within specific groups. For example, Hispanic foreign-born households are among the poorest in America. More than four in ten (42%) Hispanic foreign-born households earned less than \$25,000 in 2001. Within the Hispanic foreign-born group, South-American-born householders are the least likely to have low incomes, with 31% earning less than \$25,000 a year. Central-American-born families are more likely to be poor (39% earning less than \$25,000), Caribbean-born Hispanics are even more likely (44%), and Mexican-born Hispanics are most likely to have low incomes (45%).

Although broad statements like these are useful for surveying the field, it is dangerous to rely on them when making program or policy decisions. Significant differences are hidden within broad categories. For example, the Caribbean population includes some of the nation's poorest groups:

37% of Dominicans, Haitians, and Puerto Ricans in the United States live in poverty. However, the Caribbean designation also includes the wealthiest Hispanic subgroup, Cubans, with only 20% living in poverty. Cubans are relatively more affluent than other Caribbean subgroups for several reasons, including the relatively high educational attainment of 1960s refugees from Castro's regime and strong support networks among Cuban Americans in Miami. Within the Cuban subgroup, poverty is much higher among those living in Jersey City, New Jersey than it is among those living in Miami. Poverty is almost nonexistent among Miami Cubans who have lived in the United States for more than 10 years.

Another important limiting factor on census statistics is that they miss significant portions of low-income and minority groups. The error rate is extremely high for Mexicans and Central Americans because so many immigrants from these countries—as many as four million, by some estimates—are in the United States illegally, and are therefore likely to avoid U.S. government employees carrying clipboards (Fix & Passel, 2001). For all of these reasons, it is crucial for educators to go beyond demographics and understand the literacy effects of immigration one household at a time.

## LINGUISTIC ISOLATION

A major implication of the immigration trend that is of interest for literacy educators is that it results in a significant share of households in many parts of the United States having difficulty with English. More than one in five households in Miami do not have a member who understands English well, for example. That proportion is one in seven in Jersey City, New Jersey. It is not just a problem in big cities, either: More than one in ten households in Garden City, Kansas speaks Spanish but not English, because a big meat-packing plant, which is just outside of town, employs a large number of Spanish-speaking immigrants.

According to the Census Bureau, a U.S. household is in “linguistic isolation” if none of its members over the age of 14 speaks English “very well.” Households in this category grew rapidly in the 1990s, according to the decennial census counts of 1990 and 2000. While the total number of U.S. households increased 15%, from 92 million to 105.5 million, the number of households in linguistic isolation increased 49%, from 2.9 million to 4.3 million. The proportion of all U.S. households in linguistic isolation increased almost a full percentage point during the 1990s, to 4.1%.

### Isolation Concentration

Linguistic isolation is geographically concentrated. Half of all isolated households in the United States are in 3 states: California (with 1.1 million isolated households), New York (with 545,000), and Texas (533,000). Isolated households make up more than 5% of all households in 10 states, but they make up less than 2% of the population in 27 states. The 10 states with the highest proportion of isolated households are also the states that were most affected by immigration in the 1990s: Arizona, California, Florida, Hawaii, Nevada, New Jersey, New Mexico, New York, Rhode Island, and Texas.

States with the lowest proportion of linguistically isolated households, such as West Virginia (where 0.3% of households do not speak English) and Montana (0.7%), tend not to have large metropolitan areas or other places where a stranger can quickly find a job. Some states with moderate rates of linguistic isolation are actually comprised of a large metropolitan area where many immigrants settle, surrounded by an expanse of rural and small metropolitan areas where nearly everyone speaks English. In Illinois, for example, an average of just 2.2% of households have difficulty with English, but the linguistic isolation rate within Illinois ranges from 4% in the city of Chicago to just 0.1% in rural Woodford County. Linguistic isolation is found wherever new immigrants are found.

Linguistic isolation is also concentrated by native language. The proportion of non-English-speaking households in the United States that speak Spanish<sup>4</sup> increased from 54% in 1990 to 59% in 2000, due to the dominance of low-income families from Mexico and Central America in the immigrant stream of the 1990s. The number of linguistically isolated Spanish-speaking households increased 61% during the 1990s, from 1.6 million to 2.6 million. There are nine states where the vast majority of linguistically isolated households are Spanish-speaking: In Arizona, Arkansas, Colorado, Florida, Idaho, Nevada, New Mexico, Texas, and Wyoming, the Spanish-speaking proportion is 70% or greater.

Arkansas is the only state on that list that is neither a major immigrant center (such as Texas and Florida) nor a former territory of Spain. Moreover, only 36% of Arkansas' non-English-speaking households were Spanish-speaking in 1990. However, during the 1990s, a stream of Mexican and Central American workers began flowing into Arkansas to take jobs in services and manufacturing, such as textile mills. The number of Hispanic

<sup>4</sup>In the 2000 census, the Spanish-language category also includes those who speak Ladino.

households in Arkansas increased more than 50% during the 1990s, from 19,000 to 41,000, whereas the total number of households in the state increased just 17%. This trend was apparent throughout the Southeast. The number of Hispanic households in North Carolina increased from 69,000 to 170,000, and the number of Spanish-speaking linguistically isolated households in North Carolina increased from 5,000 to 44,000. In Georgia, the overall number of Hispanic households increased from 71,000 to 181,000, and the number of such households having trouble with English increased from 8,000 to 44,000. Literacy educators in the Southeast must adjust their programs to serve this new population.

### **Asian Isolation**

Linguistically isolated households that speak an Asian language are even more geographically concentrated than are Spanish-speaking isolated households. There are 805,000 U.S. households that speak an Asian language<sup>5</sup> but have difficulty with English: 37% of them (301,000 households) are in California, and another 12% (98,000) are in New York. The number of Asian-speaking isolated households increased 55% during the 1990s, which is similar to the rate of increase for Spanish-speaking isolated households. There was also a similar broadening of the Asian-speaking isolated population into new areas during the 1990s. There were 11 states where the number of linguistically isolated Asian-speaking households more than doubled: Connecticut, Delaware, Florida, Georgia, Kentucky, Nebraska, Nevada, New Hampshire, North Carolina, South Carolina, and South Dakota. This list includes major immigration centers (Florida) and southeastern centers of manufacturing employment (Georgia, Kentucky, the Carolinas), but it also reflects the spread of recent immigrants away from major immigration centers (e.g., from New York City to Connecticut, or from California to Nevada).

Why was there rapid growth in Asian-isolated households in Nebraska, New Hampshire, and South Dakota? The answers are not clear, but the absolute numbers are small enough that it could be due to changes in just a few neighborhoods. In Nebraska, the number of Asian-isolated households increased from 798 to 1,852; in New Hampshire, from 513 to 1,091; and in South Dakota, from 193 to 427.

---

<sup>5</sup>In the 2000 census, Asian languages include Chinese, Korean, Japanese, Vietnamese, Hmong, Khmer, Lao, Thai, Tagalog or Pilipino, the Dravidan languages of India (such as Telegu, Tamil, and Malayalam), and other languages of Asia and the Pacific, including the Philippine, Polynesian, and Micronesian languages.

The proportion of Asian households that are linguistically isolated ranges from 13% (in Wyoming) to 39% (in New York), but in most states the proportion is between 20% and 30%. Moreover, the proportion of all Asian households in the United States that are linguistically isolated declined during the 1990s, from 30% to 29%. The reason is that Asian immigration to the United States in the 1990s was not dominated by a stream of people with little formal education, as Hispanic immigration was. Asian immigrants to the United States were far more likely than Hispanic immigrants to have the equivalent of a high school diploma or some college experience.

The influence of Asian immigrants was strong in neighborhoods like Oak Tree Road in Iselin, New Jersey, an aging area of strip shopping centers that was transformed during the 1990s by Asian-Indian shopkeepers. Relatively few of Iselin's newcomers needed literacy training, however. Asian households that are isolated tend to be concentrated in areas with all-encompassing Asian neighborhoods, such as New York's Chinatown.

### **Indo-European Isolation**

About 6.38 million U.S. households speak a non-English language that is neither Spanish nor Asian. This group includes 5.51 million households that speak an Indo-European language other than Spanish, and 869,000 households that speak some other language, such as an African or Native American tongue.<sup>6</sup> The number of U.S. households that speak a non-English language that is neither Spanish nor Asian increased 20% during the 1990s, and the proportion that are linguistically isolated increased slightly, from 14% to 15%.

About 855,000 households in the United States contain Indo-European language speakers who have trouble with English. They are concentrated in New York (with 174,000 Indo-European isolated households), California (113,000), Florida (69,000), Illinois (68,000), New Jersey (56,000), and Massachusetts (52,000). This list reflects the tendency of European immigrants to settle in Northeastern and Midwestern cities. Some of the

---

<sup>6</sup>In the 2000 census, "Other Indo-European languages" includes most languages of Europe and the Indic languages of India. These include the Germanic, Scandinavian, Romance (excluding Spanish), Slavic, Celtic, Greek, Baltic, and Iranian languages. The Indic languages include Hindi, Gujarathi, Punjabi, and Urdu. "All other languages" includes languages that are Uralic, such as Hungarian; Semitic, such as Arabic and Hebrew; languages of Africa; native North American languages, including the American Indian and Alaska native languages; and some indigenous languages of Central and South America.

linguistically isolated Indo-European households are immigrants from former Soviet-bloc countries who came to America when the Soviet Union collapsed in 1989–1990. However, a large proportion of this group are probably foreign-born Americans who have been in the United States for many years and have never learned English, relying instead on family and neighborhood connections to get by.

The future size of the linguistically isolated population depends as much on the success of literacy training programs as it does on demographic trends. So far, the success of literacy education for immigrants has depended largely on the education they receive before they arrive in the United States. Immigrants who arrive in the United States before the age of 12 eventually acquire English literacy skills that are comparable to native-born Americans, according to an analysis of NALS data by Greenberg and her colleagues (Greenberg, Macias, Rhodes, & Chan, 2001). Immigrants who arrived after age 12 and had substantial levels of formal education in their native countries were also likely to become biliterate. However, teenaged and adult immigrants who arrived in the United States with low levels of formal education were found to have low rates of participation in classes that would have improved their English skills, according to the study.

Whether or not the linguistically isolated population grows in the next decade depends on whether or not literacy educators can find ways to extend English training to the largely unserved group of recent immigrants who have had little formal education of any kind, and who may be unable to read or write in their native languages. A key question for literacy educators is whether their teaching methods take into account the varying levels of literacy in their students' native languages.

## **DISABILITY**

More than one quarter of the NALS Level-1 population (26%) in 1992 had physical, mental, or health conditions that kept them from participating fully in work, school, housework, or other activities. In addition, 19% of NALS Level-1 respondents reported having visual difficulties that affect their ability to read print. Unfortunately, the 1990 and 2000 censuses measured disability differently, so we cannot use this data source to measure trends in the disabled population. However, the 2000 census counted 49.7 million people with some type of long-lasting condition or disability, which is almost one in five Americans aged 5 and older (19.3%).

The 2000 census measured disability in several ways:

- 9.3 million people had a sensory disability involving sight or hearing.
- 21.2 million had a condition that limited basic physical activities such as walking, lifting, or carrying.
- 12.4 million had a physical, mental, or emotional condition that limited their ability to learn, remember, or concentrate.
- 6.8 million had a physical, mental, or emotional condition causing difficulty in dressing or getting around inside the house.
- 21.3 million people aged 16 to 64 had a condition affecting their ability to work at a job. These 21.3 million people represented almost one in eight Americans aged 16 to 64.

The disabled population is spread much more evenly across the United States than are recent immigrants, but there are some regional patterns worth noting. The five states with the highest rates of disability among the population aged 5 and older are all in the Deep South and Appalachia: West Virginia (24.4% have a disability), Kentucky (23.7%), Arkansas (23.6%), Mississippi (23.6%), and Alabama (23.2%). The state with the highest proportion of elderly residents, Florida, ranks sixth (22.2%). This is remarkable, because disability rises sharply with age. Whereas 19.3% of all Americans are disabled, 41.9% of those aged 65 and older have some form of disability.

### **Disability and Education**

The distinguishing characteristic of the five highest-disability states, other than their location in the South, is low educational attainment. All five are among the top seven U.S. states with the highest proportion of adults who have not completed high school. In contrast, Florida's elderly population is far above the national elderly averages for affluence and education.

States with the lowest disability rates are also among those with the highest rates of educational attainment. The state with the lowest disability rate—Alaska, where just 14.9% of the population aged 5 and older has a disability—also has the highest rate of high school graduation, with 86.8% of state residents aged 18 and older having a high school diploma. The other states in the top five for low disability rates—Utah, Minnesota, Wisconsin, and Nebraska—all have graduation rates that are far above the national average. The most likely explanation is that higher educational

attainment creates opportunities and awareness that reduce the incidence of long-term disability.

The education connection remains strong for disability rates within the older population segment. The top five states with the highest proportion of disabled among the population aged 65 and older are Mississippi, Alabama, Kentucky, Arkansas, and West Virginia. The five states with the lowest elderly disability rate are Wisconsin, Minnesota, Connecticut, Nebraska, and Delaware.

The education–disability connection is not as strong for one type of disability that is directly associated with low literacy, however. The proportion of adults who suffer from a sensory disability (sight and hearing) is 2.3% in the working ages (16 to 64) and 14.2% among the elderly (aged 65 and older). The population of sensory-disabled Americans closely follows overall population distribution patterns. The top five states for the total number of sensory-disabled persons are also the top five for total population: California, Texas, Florida, New York, and Pennsylvania. However, within the disabled population, the numbers show a different pattern.

Within the overall total of disabled persons, the proportion that has sensory difficulties is 12% for working-age Americans and 34% for the elderly. The state with the highest rate of sensory difficulties within the disabled population is Alaska, where 21% of the working-age disabled and 45% of the elderly disabled have sensory problems. Other states with the highest proportion of sensory disability also tend to have low overall disability rates, including Wyoming, Montana, and Idaho. Although these proportional differences are relatively small, they are intriguing.

### **Disability and Aging Boomers**

The five most populous states also have the largest absolute number of residents with mental disability, defined as chronic difficulty with concentrating, remembering, or learning. Mental disability may become more important to literacy educators as the baby-boom generation ages. The proportion of all adults who suffer from a mental disability is 3.8% in the working ages but 10.8% for those aged 65 and older, due to a rapid increase in the incidence of Alzheimer's Syndrome and other forms of cognitive decline that are due to organic brain disorder. The big question, for both literacy educators and for society in general, is whether these rates will hold steady or decrease when the aging baby-boom generation pushes the number of elderly American to historic highs.

The Census Bureau projects that the total U.S. population will increase about 4% in each 5-year period between 2005 and 2025 but that the population aged 65 and older will increase much more rapidly, due to the steady movement of the baby-boom generation into this group. The population aged 65 and older is projected to increase 9% between 2005 and 2010, 16% between 2010 and 2015, 17% between 2015 and 2020, and 17% between 2020 and 2025. The number of elderly Americans is projected to increase from 35 million in 2000 to 62.6 million in 2025, when the baby-boom generation will be between the ages of 61 and 79. If the rates of mental disability hold steady, the number of elderly Americans who will be unable to think clearly would increase from 3.6 million in 2000 to 6.7 million in 2025.

The future may not conform to this straight-line projection, however. Numerous gerontological studies have found that a person's likelihood of developing mental disability in old age can be greatly reduced by regular physical activity, proper diet, and regular exposure to new experiences and mental challenges. Researchers are also finding that the likelihood that a person will follow these good health practices into old age is closely related to their educational attainment. The more education a person has, the better their health practices are likely to be.

High educational attainment is one of the defining characteristics of the baby-boom generation. Thanks to the rapid postwar expansion of higher education, boomers became the first U.S. generation to send a majority of their members to college—and the shift has become the rule for generations following the baby boom. Fifty-seven percent of baby boomers and younger adults (aged 25 to 54) have attended some college. Among today's adults aged 65 and older, only 35% have attended college.

The number of elderly Americans who suffer from a mental disability will almost certainly increase in the next two decades, simply because of a huge increase in the elderly population. However, the rate of elderly mental disability is also likely to go down, due to the fact that the generation currently entering old age has followed better health practices throughout their lives. Under these conditions, a small increase in the number of mentally disabled elderly adults would constitute a huge victory.

The proportion of adults aged 65 and older who participate in Adult Basic Education (ABE) programs is currently very low. As the baby boomers create a new generation of elderly with higher educational attainment, the utilization of ABE programs among the elderly may remain at a low level. Yet the number of elderly adults who suffer from cognitive impairment due to organic brain disorders will also certainly increase, given the

rapid increase in the elderly population. Under these conditions, we can expect increased need for forms of ABE that work closely with gerontologists and physicians to help formerly capable adults cope with cognitive losses associated with aging.

## HIGH SCHOOL DROPOUTS

Educational attainment is the demographic characteristic with the greatest correlation to literacy. Almost two thirds of NALS Level-1 respondents (62%) have not completed high school. Other factors are also associated with low literacy, such as disability and linguistic isolation, but the correlation between these factors and literacy problems decreases as a person's educational attainment increases.

The good news for literacy educators is that gains in the educational attainment of Americans during the last half of the 20th century were remarkable. In 1950, 67% of Americans aged 25 and older did not have a high school diploma, including 69% of men and 65% of women. Massive public investment in education drove the proportion of dropouts to 57% of all adults aged 25 and older in 1959, 47% in 1968, 37% in 1975, 27% in 1984, and 16% in 2002, according to the Current Population Survey. The gender gap has also been erased: according to the Current Population Survey, 84% of all men and 84% of all women over age 25 are now high school graduates (including GED holders).

However, the rate of increase in the proportion of high school graduates began slowing in the 1980s, and between 1993 and 2002 the rate increased only four percentage points. Perhaps this means that the curve of high school graduation rates is becoming asymptotic as it approaches 100%. The remaining 16% of American adults who are high school dropouts may form a hard core that will be particularly tough to reach.

It is also possible that the plateauing of the proportion of high school graduates is due in part to the fact that literacy education programs have not adapted to a changing client base. The wave of immigration that began in the 1980s has created a new core population of low-literacy adults, and literacy educators face new challenges in helping them achieve high school graduation or its equivalent. For example, looking at state rankings of the proportion of high school dropouts in different age groups shows the shift in characteristics of the low-literacy population. In 1980, when America's 14 million foreign-born residents comprised just 6% of the U.S. population, high school dropouts were most prevalent in southern states that had

been struggling for generations with entrenched poverty. Although these same southern states still have the highest dropout proportions, a new generation of adults with little formal education has emerged in states that are accepting large numbers of immigrants.

### **Dropout Geographics**

The America that is emerging is a land where low-literacy groups persist—and even grow—while the bulk of the population grows more educated. Between 1990 and 2000, the number of Americans aged 25 and older increased by 23.3 million. However, the national number of high school dropouts decreased by 3.6 million, as older adults with less education died and were replaced by a new generation of elderly that had more education.

The dying-off of less-educated elderly combined with growth in the number of less-educated immigrants produced large shifts in state educational attainment levels during the 1990s. The national proportion of high school dropouts among all adults aged 25 and older decreased from 25% in 1990 to 20% in 2000, according to the decennial censuses.<sup>7</sup> Moreover, the dropout proportion decreased in every state, but it dropped 10 percentage points (from 36% to 26%) in Kentucky, and it dropped nine percentage points in Mississippi, Tennessee, Arkansas, and West Virginia. Meanwhile, the proportion dropped only one point (from 24% to 23%) in California, and only two points in Alaska, Nevada, Arizona, and Colorado.

The shift is also apparent in the numbers for different racial and ethnic groups. Between 1990 and 2000, the proportion of African Americans aged 25 and older who are high school dropouts decreased nine percentage points, from 37% to 28%, but the proportion of dropouts among Asian adults decreased only two points, from 22% to 20%, and the proportion among Hispanics also decreased only two points, from 50% to 48%.

In the next few decades, the interplay of generational transition and immigration should dampen the demand for literacy education in Southeastern states and increase it in the Southwest and in the nation's largest

---

<sup>7</sup>The 2000 census estimate of the proportion of adults who are high school graduates is drawn from a sample of one U.S. household in seven. The 2002 Current Population Survey (CPS) estimate of the high school graduate proportion cited earlier, which is substantially different from the 2000 census estimate, is drawn from a much smaller group—a nationally representative sample of 60,000 households. Moreover, the census estimate is for the year 2000, and the CPS estimate is for 2002. The two sources are not comparable.

urban areas, where low-literacy immigrants congregate. These two trends should also decrease the need for literacy education among the African American population, where educational attainment is increasing rapidly, while increasing the need for literacy education among the Hispanic population where educational attainment has been stable or declining.

## **SUMMARY OF FINDINGS**

One effect of changing demographics should be growing regional diversity in the types of literacy services that will be in demand. English for Speakers of Other Languages (ESOL) programs will be the dominant need in areas where large numbers of immigrants are displacing an aging native-born population, such as in California and the urban Northeast. Both basic literacy and ESOL will be in demand in Florida, where a native-born population with aging-related losses in cognitive ability is combined with a large number of immigrants. Also, literacy educators in areas of the United States where the population is stable and “aging in place,” including most nonmetropolitan areas, will need to develop programs in tandem with gerontologists to serve elderly clients whose life skills are compromised by age-related organic brain disorders.

### **Immigration Isolation**

Immigration has been an important component of population growth in the United States for more than 20 years; in fact, immigrants and their children now account for most of America’s population growth. The immigration wave has several points of significance for literacy educators. First, more than 80% of recent immigrants come from countries where English is not the native language. Second, immigrants tend to be young adults who seek employment and raise families. Third, a large segment of recent immigrants to the United States has arrived with little in the way of formal education or job skills. Fourth, immigration can change the population characteristics of a city or neighborhood relatively rapidly, so providers may not notice that new needs have arisen in their communities.

Immigration is likely to continue at high levels for two reasons: first, because it is an essential source of workers in many industries, and second, because for the indefinite future the United States will remain a very attractive place for immigrants for both economic and sociopolitical rea-

sons. However, research indicates that low-wage, unskilled immigrants drive down wages in industries where they congregate. This happens for two reasons: They will accept lower wages, and lax enforcement of labor laws allows employers to pay them less than minimum wage. It follows that literacy education and other efforts to “mainstream” unskilled immigrants could be an effective component in campaigns to increase wages in construction, hospitality, agriculture, and other industries.

The number of households that do not have a member who speaks English increased from 2.9 million in 1990 to 4.3 million in 2000. “Linguistic isolation” is a geographically concentrated phenomenon. Half of all U.S. households in isolation are in California, New York, and Texas, yet more than half of U.S. states do not have significant clusters of isolated households. Six in ten linguistically isolated households speak Spanish, and growth in Spanish-speaking isolated households has been particularly rapid in the Southeastern states such as North Carolina and Georgia.

### **Disability**

The proportion of adults who have a disability increases sharply with age, but it also appears that disability rates are sharply lower among elderly populations that have high educational attainment. In the future, two countervailing trends will determine the impact of disability on literacy education. First, the number of elderly Americans will increase rapidly in the next 20 years, as the huge baby-boom generation (now aged 40 to 58) moves through the last third of its life. Yet baby boomers have much higher educational attainment than previous generations did, and boomers have also shown a strong lifelong interest in exercise, proper diet, and other forms of preventive health care.

As the number of elderly Americans increases, it is safe to assume that there will be some increase in the number of elderly whose literacy skills are compromised due to cognitive decline. Yet the improved health status of elderly Americans is also likely to mitigate this increase. The complex and unprecedented nature of the aging baby boom makes it impossible to say exactly how much the improving health status of elderly Americans will benefit society in the next two decades. This phenomenon, which was named “the compression of morbidity” by Dr. James Fries of Stanford University in 1980, has become one of the hottest research topics in the field of gerontology (Fries, 1980; Olshansky, Hayflick, & Carnes, 2002). Literacy educators should follow this research closely.

### **Educational Attainment**

The best demographic indicator of literacy is the high school graduation rate, and the proportion of U.S. adults with high school diplomas increased sharply between 1950 and 1990. However, the rate of increase slowed markedly in the 1990s, as a large number of immigrants with little formal education entered the United States. Because the flow of low-skill immigrants and the aging of less-educated generations are both likely to continue, literacy educators should notice a shift in the characteristics of their clients in the next few years. States that have had extremely high dropout rates, such as Alabama and Kentucky, are seeing dramatic gains in educational attainment as less-educated generations die off. At the same time, states that are accepting large numbers of low-skill immigrants, such as Texas and California, are seeing little or no improvement in the proportion of adults who have a high school diploma.

### **CONCLUSION**

In the next two decades, changes in the low-literacy population in the United States will be driven by two long-term demographic shifts. The first is the aging of the baby boom, a generation that is much more educated than preceding generations were. The baby boom is a massive population phenomenon, and the striking gain in educational attainment among boomer cohorts will drive the overall number of low-literacy adults down as they replace less-educated generations. Although boomers will acquire more disabilities as they age, they may not acquire as many disabilities as their parents did. The disabilities of aging baby boomers should be lessened by the higher educational attainment of this generation, which leads to better preventive health practices.

While boomers replace the low-literacy elderly, a second demographic shift is creating new challenges for literacy educators. The least-educated segment of immigrants to the United States are forming a new core of workers with little formal education in states like California, Texas, Nevada, and Florida. The gap in educational attainment between some new immigrants and the mainstream is daunting. According to the U.S. Department of Education's Office of Educational Research and Improvement (1999), the "status drop-out rate" for all 25- to 34-year-olds—that is, the proportion that was neither enrolled in school nor had graduated from high school—was 11.9% in 1997. However, the rate was 30.8% for 25- to

34-year-olds who were born outside the United States, and it was 60% for foreign-born Mexicans in this age group. By way of contrast, the status dropout rate for foreign-born Asians aged 25 to 34 was below the national average (10.7%).

The challenges involved in reaching these new clients are considerable. Many low-wage immigrants are here illegally, and therefore they avoid any programs or classes that appear to involve government employees. Even those willing to participate may have less than the equivalent of an elementary-school education. Yet the challenge must be met. One of the most cherished aspects of life in the United States is giving people who were born in poverty the opportunity to acquire a good job, a home of their own, and a better life for their children. To keep this dream alive, new methods must be found to bring a new generation into the mainstream.

## REFERENCES

- Capps, R., Fix, M., Passel, J., Ost, J., & Perez-Lopez, D. (2003, October). *A profile of the low-wage immigrant workforce*. Washington, DC: The Urban Institute.
- Card, D. (1990, January). The impact of the Mariel boatlift on the Miami labor market. *Industrial and Labor Relations Review*, 43(2), 245–257.
- Catanzarie, L. (2003). Wage penalties in brown-collar occupations. *Latino Policy & Issues Brief*, 8, September 2002, Chicano Studies Research Center, University of California Los Angeles. See also “Hispanic Newcomers Skew Wages,” *The Wall Street Journal*, August 19, 2003, p. 2.
- Fix, M., & Passel, J. (2001, August 2). *U.S. Immigration at the beginning of the 21st century: Testimony before the Subcommittee on Immigration and Claims, Committee on the Judiciary, U.S. House of Representatives*. Washington, DC: The Urban Institute.
- Fries, J. F. (1980). Aging, natural death, and the compression of morbidity. *New England Journal of Medicine*, 303, 130–135.
- Greenberg, E., Macias, R., Rhodes, D., & Chan, T. (2001, August). *English Literacy and Language Minorities in the United States*, NCES 2001-464. Washington, DC: National Center for Education Statistics.
- Immigration and Naturalization Service. (2002). *2002 Yearbook of Immigration Statistics*, Tables 4, 5. Springfield, VA: National Technical Information Service.
- Olshansky, S. J., Hayflick, L., & Carnes, B. A. (2002). Position Statement on Human Aging. *Science of Aging Knowledge Environment* 2002, p. 9-9.
- U.S. Bureau of the Census. (2003). *Projected state populations by sex, race, and Hispanic origin, 1995–2025*. Washington, DC: Author.
- U.S. Department of Education’s Office of Educational Research and Improvement. (1999). *High School Dropouts by Race-Ethnicity and Recency of Migration*. In *The Condition of Education: 1999*. Washington, DC: National Center for Education Statistics.