Making Skills Everyone's Business

A Call to Transform Adult Learning in the United States

U.S. Department of Education
Office of Career, Technical, and Adult Education

This page intentionally left blank

Making Skills Everyone's Business

A Call to Transform Adult Learning in the United States

February 2015

U.S. Department of Education
Office of Career, Technical, and Adult Education

This report was produced under U.S. Department of Education Contract No. ED-VAE-14-O-5014 with NOVA Research Company. Joseph Perez served as the contracting officer's representative. The views expressed herein do not necessarily represent the positions or policies of the Department of Education. No official endorsement by the U.S. Department of Education of any product, commodity, service, or enterprise mentioned in this publication is intended or should be inferred. For the reader's convenience, this publication contains information about and from outside organizations, including hyperlinks and URLs. Inclusion of such information does not constitute the Department's endorsement.

U.S. Department of Education
Arne Duncan
Secretary

Office of Career, Technical, and Adult Education
Johan Uvin
Acting Assistant Secretary

Division of Adult Education and Literacy
Cheryl Keenan
Director

February 2015

This report is available at: http://www2.ed.gov/about/offices/list/ovae/pi/AdultEd/making-skills.pdf.

Availability of Alternate Formats

Requests for documents in alternate formats such as Braille or large print should be submitted to the Alternate Format Center by calling 202-260-0852 or by contacting the 504 coordinator via email at om_eeos@ed.gov.

Notice to Limited English Proficient Persons

If you have difficulty understanding English, you may request language assistance services for Department information that is available to the public. These language assistance services are available free of charge. If you need more information about interpretation or translation services, please call 1-800-USA-LEARN (1-800-872-5327; TTY: 1-800-877-8339), or email our customer support team at Ed.Language.Assistance@ed.gov.

Contents

This page intentionally left blank

Acknowledgements

The Office of Career, Technical, and Adult Education (OCTAE) staff acknowledges the important contributions to this report made by the following people: Julie Strawn of Abt Associates for her thoughtful analysis and writing; the hosts and participants of the Time to Reskill events listed in Part 3 of this report; the many students and teachers who participated in roundtable and town-hall discussions; OCTAE's Division of Adult Education and Literacy staff who helped coordinate the Time to Reskill events; and our colleagues at the National Center for Education Statistics for their ongoing assistance with the data. Modeling the first of seven strategies for addressing foundation skill development proposed in this report, this work has truly been an effort to "act collectively to raise awareness and take joint ownership of solutions."

This page intentionally left blank

Part 1. Low Skills Limit Opportunity for All

Skills matter. In the past year, a remarkable convergence of data, analysis, and policy informed us of just how much they matter to individuals, their families and communities, and to the economy overall. This report presents a vision for making adult skill development—*upskilling*—more prevalent, efficient, effective, and convenient. This vision rests on an understanding that foundation skills—the combination of literacy, numeracy, and English language as well as employability skills required for participation in modern workplaces and contemporary life—are a shared responsibility of, and value and benefit to the entire community.

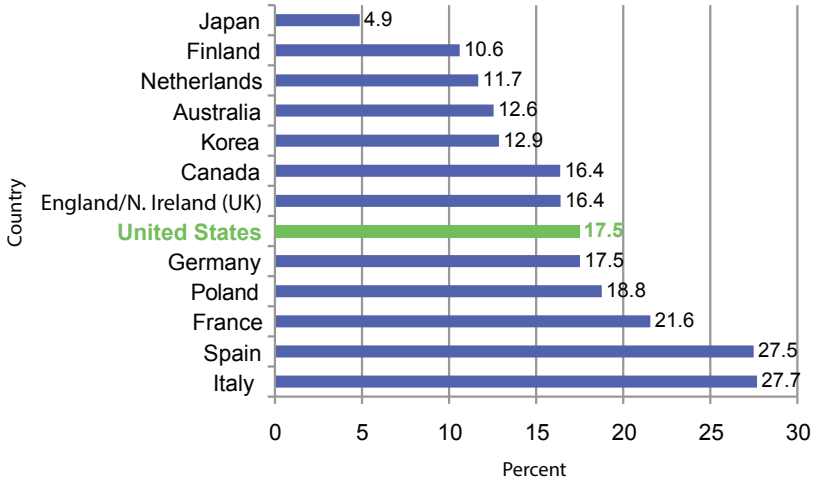
The Organisation for Economic Co-operation and Development's (OECD) *Survey of Adult Skills* (Survey), released in October 2013, directly assessed the cognitive and workplace skills needed for success in the 21st-century global economy and was conducted with nationally representative samples of adults, ages 16 through 65, from 24 countries. The survey draws from a rich background questionnaire to measure relationships among respondents' educational backgrounds, parental educational attainment, work history and skills, occupational attainment, use of information and communications technology, and cognitive skills. It measures these relationships in the domains of literacy, numeracy, and problem solving in technology-rich environments and rates performance in five numbered levels for literacy and numeracy, and in three levels for problem solving. In the United States, a nationally representative sample of 5,000 individuals was surveyed. An additional 5,000 Americans are being surveyed to allow for deeper insights into skill issues affecting unemployed adults (ages 16–65), young adults (ages 16–34), older adults (ages 66–74), and incarcerated adults (ages 16–74). These data will be released in 2016.

The Department of Education (ED) asked the OECD to perform additional analyses of the U.S. data to provide a more detailed understanding of the low-skilled population and suggest policy recommendations. The resulting report, *Time for the U.S. to Reskill?*,[1] found that 36 million adults in the United States have low skills, scoring below Level 2 on the literacy assessment. OECD Survey rankings show that in literacy, numeracy, and problem solving in a technology-rich environment, the United States has a high percentage of low performers (Figures 1 and 2); the skill levels of U.S. adults have remained stagnant over two decades; and the youngest U.S. cohorts are outperforming older cohorts only slightly, unlike in many other industrialized countries. Two-thirds of the low-skilled population, however, are employed, which is nearly 24 million people. At least 3 million low-skilled youth and adults report a desire to improve their skills but, due to a variety of barriers, are not currently engaged, and more than one-third (36 percent) of low-skilled adults who are participating in education and training say they want to do more.

Because the negative effects of low skills ripple through society and the economy in so many ways, raising skills can pay substantial dividends for individuals and families, business and industry, and communities at large.

In President Obama's 2014 State of the Union address, he called for a government-wide review of how federal dollars are supporting skill development for the American workforce. In

Figure 1. Percentage of adults ages 16–65 with low literacy skills, by country: 2012

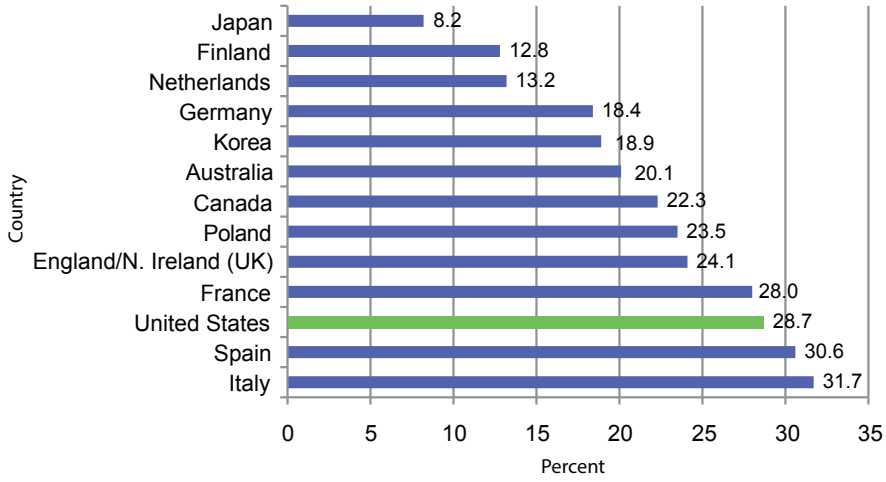


NOTE: The term "low literacy" means "Below Level 2" on the OECD *Survey of Adult Skills*. Level 1 represents literacy proficiency scores of between 176 and 226 out of 500 points. Adults performing at Level 1 can complete simple forms, understand basic vocabulary, determine the meaning of sentences, and read continuous texts with a degree of fluency.

SOURCE: Organisation for Economic Co-operation and Development, *Survey of Adult Skills* (PIAAC) (2012). See "What Adults Can Do at Different Levels of Literacy Proficiency" (Annex B) at http://skills.oecd.org/Survey_of_Adult_Skills_US.pdf.

July 2014, the White House released *Ready to Work: Job-Driven Training and American Opportunity*,[2] which summarized the review and introduced both public- and private-sector commitments. The report is based on the joint report from the departments of Labor (DOL), Commerce, Education, and Health and Human Services (HHS) *What Works in Job Training: A Synthesis of the Evidence*, as well as a thorough review of federally funded education and training programs to identify opportunities for synergy, amplification, and investment. Together, the evidence and opportunities underpin three calls for action:

Figure 2. Percentage of adults ages 16–65 with low numeracy skills, by country: 2012



NOTE: The term "low numeracy" means "Below Level 2" on the OECD *Survey of Adult Skills*. Level 1 represents numeracy proficiency scores of between 176 and 226 out of 500 points. Adults at Level 1 can complete tasks involving basic mathematical processes in common, concrete contexts where the mathematical content is explicit with little text and minimal distractors.

SOURCE: Organisation for Economic Co-operation and Development, *Survey of Adult Skills* (PIAAC) (2012). See "What Adults Can Do at Different Levels of Numeracy Proficiency" (Annex C) at http://skills.oecd.org/Survey_of_Adult_Skills_US.pdf.

1. **Fielding a Full Team.** Bringing 3 million ready-to-work Americans back into jobs after being unemployed for more than six months.
2. **Upskilling America.** Helping 24 million low-wage, low-skilled, hard-working Americans upskill themselves into better jobs.
3. **Developing a Tech Workforce.** Diversifying the ways that Americans of any age, in any part of the country, and from any background can be trained for the half a million jobs that are unfilled today in IT occupations, and hundreds of thousands more that will need to be filled soon.[2]

A joint letter to all governors, signed by the secretaries of Labor, Commerce, Health and Human Services, and Education, was sent following the release of the *Ready to Work* report, and a similar letter to mayors also was sent. These communications emphasize the federal commitment to making workforce development training job-driven and responsive, while encouraging elected officials to use their leadership roles to facilitate system-spanning coordination.

At the same time as the *Ready to Work* report was released, the president signed into law the *Workforce Innovation and Opportunity Act (WIOA)*,[3] the primary authorizing legislation of federally funded education and training programs. This law replaces the *Workforce Investment Act (WIA) of 1998*, which had been overdue for reauthorization since 2003. Services provided through the "core" *WIOA* programs include adult, dislocated worker, and youth programs; adult education and literacy programs; the Wagner-Peyser employment service; and the rehabilitation act programs. The new law, which will become fully implemented over the next two years, reflects an increased emphasis on the alignment of policies across programs; employer engagement; the accountability and effectiveness of programs; increased access to services, particularly for individuals with barriers to employment; and integrated competitive employment for individuals with disabilities. It also recognizes that high school completion alone is not enough for today's workforce and that postsecondary education and training are essential for adults' success.

The confluence and synergy of these three efforts—the OECD Survey and subsequent analyses, the *Ready to Work* report and evidence synthesis, and the implementation of the new *WIOA*—have the potential to create coordinated

momentum in the United States to address the issue of low skills and make significant progress toward closing achievement gaps for minority adults. There is urgency around helping the nearly 24 million low-wage, low-skilled workers to upskill into better jobs to spur economic development. There are commitments and entrepreneurial interest to create opportunities for improvement for the 8 million individuals with the lowest skills. And there is an immediate quick win to be seized by engaging the 3 million people who want to start learning but face barriers and those who want to supplement their studies with innovative learning options.

This report begins with a deeper look at the data before articulating seven strategies to transform adult learning in the United States, illustrated with "Innovation in Action" vignettes from around the country. It includes a section describing the efforts undertaken by ED subsequent to the OECD Survey to gather facts, analyze trends, and seek input from a broad range of stakeholders in roundtable discussions.

Who Has Low Skills and What Are the Consequences?

- **One in six adults has low literacy skills.** One in three has low numeracy skills (Figures 3–4). Unfortunately, low skills are just as prevalent now as they were 20 years ago.
- **One-third are young.** Low-skilled Americans are more likely than low-skilled individuals in most other industrialized countries to be young (under age 35). Two-thirds of the youngest low-skilled U.S. adults (ages 16–24) are men (Figures 5–6).[4]
- **One-third are immigrants.** Non-English-speaking immigrants in the United States with low-educated parents are 10 times more likely to have low literacy skills (on a test in English) than native-born adults whose parents have at least a high school education (Figure 7). These odds are higher than the average for other industrialized countries, which may reflect differences in the composition of a country's immigrants—but also may indicate that the United States is not integrating immigrants as effectively as other countries through language classes or other services.
- **More than half are black or Hispanic.** Hispanics and blacks are three to four times more likely to have low skills than whites. Thirty-five percent of black and 43 percent of Hispanic adults have low literacy skills compared with only 10 percent of whites. Nearly two-thirds of those in the lowest numeracy skill level are black or Hispanic (Figure 8).
- **People with learning disabilities are twice as likely to have low skills.** Among those with a diagnosed learning disability (LD), 35 percent have low skills compared with 17 percent of those without a diagnosed disability (Figure 9). In numeracy, about half of

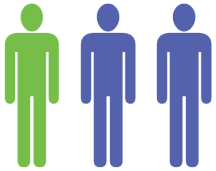
Figure 3. About one in six U.S. adults ages 16–65 had low literacy skills: 2012

Figure 4. About one in three U.S. adults ages 16–65 had low numeracy skills: 2012

Figure 5. One-third of low-skilled U.S. adults ages 16–65 were under age 35: 2012

Figure 6. Two-thirds of the youngest low-skilled U.S. adults ages 16–24 were men: 2012

Figure 7. One-third of low-skilled U.S. adults ages 16–65 were immigrants: 2012



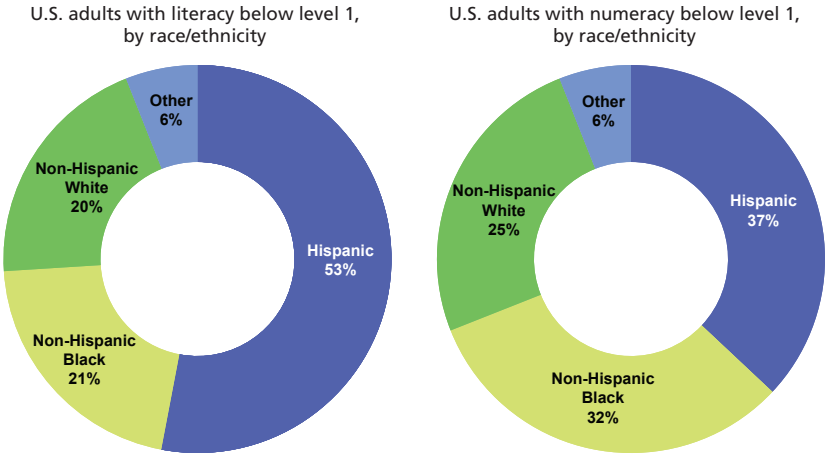
SOURCE: Organisation for Economic Co-operation and Development, *Survey of Adult Skills* (PIAAC) (2012).

those with an LD have low skills compared with just one-fourth of those without an LD.

- **Unlike in many other industrialized countries, young Americans have only slightly higher skills than their parents.** Separate findings from an international assessment of reading and math among 15-year-olds (Programme for International Student Assessment, PISA) suggest that the skills of young adults are unlikely to improve anytime soon, as PISA test scores have not risen over the last decade.[5]

- **Children of less-educated parents are much more likely to become low-skilled adults.** U.S. adults with low levels of education who have parents with low levels of education are 10 times more likely to have low skills than are those who have higher-educated parents (Figure 10). This intergenerational link is much stronger in the United States than in other countries and suggests that skill gaps in childhood persist into adulthood.

Figure 8. Nearly three-fourths of U.S. adults ages 16–65 in the lowest literacy skill level and about two-thirds in the lowest numeracy skill level were black or Hispanic: 2012



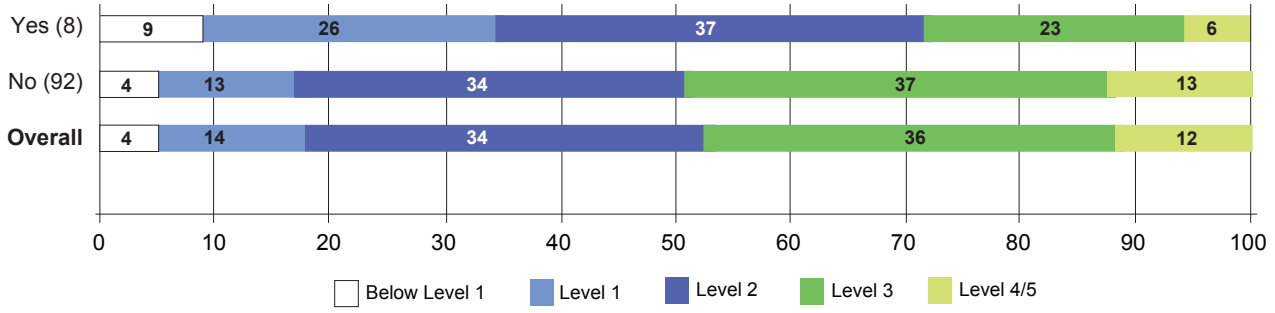
NOTE: The terms "lowest literacy skill level" and "lowest numeracy skill level" mean "Below Level 1" on the OECD *Survey of Adult Skills*. Below Level 1 represents proficiency scores of lower than 176 out of 500 points. See "What Adults Can Do at Different Levels of Literacy Proficiency" (Annex B) and "What Adults Can Do at Different Levels of Numeracy Proficiency" (Annex C) at http://skills.oecd.org/Survey_of_Adult_Skills_US.pdf.

SOURCE: Survey of Adult Skills (PIAAC) (2012).

Statlink http://dx.doi.org/10.1787/888932906008.

- **The majority of those with low skills (more than 60 percent) have completed high school.**[6] The United States has higher levels of high school completion among adults than other industrialized countries but lower than average performance on all of the assessed domains. The relatively high level of educational attainment may mask the troubling weaknesses in basic skills.

Figure 9. Percentage of U.S. adults ages 16–65 at each level of proficiency on the PIAAC literacy scale, by their responses to a question about whether they have ever been diagnosed or identified as having a learning disability: 2012



HOW TO READ THIS CHART: This chart shows that 8 percent of U.S. adults ages 16–65 answered yes to a question about whether they have ever been diagnosed or identified as having a learning disability; 92 percent answered no. Of those who answered yes, 35 percent had low literacy skills; that is, they scored below Level 2. Of those who answered no, 17 percent had low literacy skills.

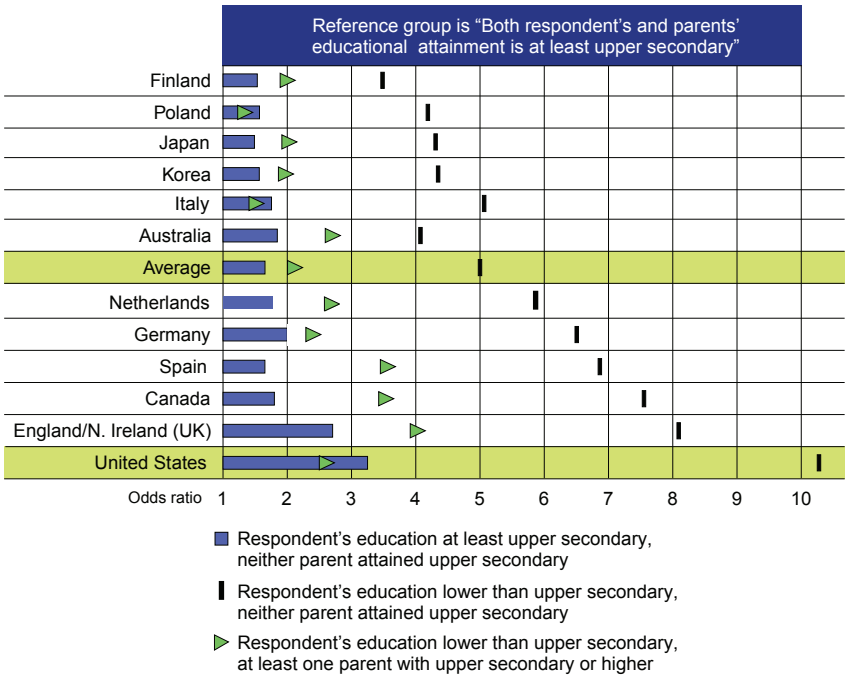
NOTE: Percentages of adults ages 16–65 by their response to a question about whether they have been diagnosed or identified as having a learning disability appear in parentheses.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Program for the International Assessment of Adult Competencies (PIAAC), 2012. See literacy level descriptors in Exhibit B-1 at http://nces.ed.gov/pubs2014/2014008.pdf.

- **Two-thirds are employed, and demographic forces make addressing adult skills ever more urgent.** Slow projected growth in the labor force means that most of tomorrow's workforce already is working today.[7] Low-skilled workers tend to be employed in retail and auto mechanics, hospitality and food service, health and social work, manufacturing, and construction.

- **Forty percent of low-skilled Americans have earnings in the bottom fifth of the wage spectrum.** Even though many low-skilled adults are employed, the United States has a higher share of low-skilled adults with low earnings than all but one other industrialized country. Median earnings for adults with skill levels below Level 1 is $20,000; for those with Level 1 skills it is $25,000; and for those with Level 2 skills it is $30,000 (Figure 11). Low family income is associated with a number of other negative educational and economic outcomes, including a much higher likelihood of children not completing high school.[8]

Figure 10. Likelihood of lower literacy proficiency among low-educated adults ages 16–65, by country and respondent's and parents' education level: 2012



HOW TO READ THIS CHART: This chart shows that low-educated adults coming from low-educated families (black line) are more likely to have lower literacy skills than adults who attained higher levels of education or come from better-educated families. In the United States, unlike most other comparator countries, better educated adults coming from low-educated families (blue bar) are more likely to have lower literacy skills than low-educated adults coming from more educated families (green triangle).

NOTES: Estimates based on a sample size less than 30 or that are not statistically different from the reference group are not shown. For more detailed results, see Table E9, Annex E in the source listed below. Odds ratios are adjusted for age, gender, type of occupation, and immigrant and language background. Countries are ranked in ascending order of the odds ratios of respondents scoring at or below proficiency Level 2 when their and their parents' educational attainment is below upper secondary.

SOURCE: Survey of Adult Skills (PIAAC) (2012).
Statlink http://dx.doi.org/10.1787/888932906217.

- **What adults know and can do—not just how many years of education they complete—strongly affects economic growth.**[9] An examination of 40 years of data revealed that higher test scores on international assessments are strongly linked to higher economic growth across countries, even after accounting for a number of other educational and economic factors.

- **Americans with low skills face much higher odds of poor health than their counterparts in other industrialized countries.** Americans with low literacy skills are four times more likely to report having "fair" to "poor" health than those with strong skills. This is twice as high as the ratio across other industrialized countries. Almost one-third (29 percent) of low-skilled adults report having "fair" to "poor" health.

- **Low skills damage a sense of community and shared democracy by limiting civic participation.** Fifty percent of low-skilled Americans do not believe that "people like me" have a say in what the government does—a higher percentage than in many other industrialized countries. And while Americans, in general, volunteer in their communities more than adults in other countries, those with lower skills volunteer significantly less.

Who Would Benefit From Higher Skills?

Individuals and Families

- **The economic payoff to individuals for higher skills is greater in the United States than in almost any other industrialized country.** The OECD skills survey shows that earnings and employment status (Figure 12) are linked strongly in the United States to literacy and numeracy skills, regardless of years of education completed. Secondary analysis of the data[10] shows that an average increase in hourly wages for one standard deviation increase in numeracy skills in the United States is 28 percent, higher than for all the other OECD comparison countries (Figure 13). Further, increasing skills can create a virtuous cycle because individuals with higher skills are more likely to gain access to jobs that give them opportunities to use and practice literacy, numeracy, and problem-solving skills, which in turn reinforces and increases those skills.

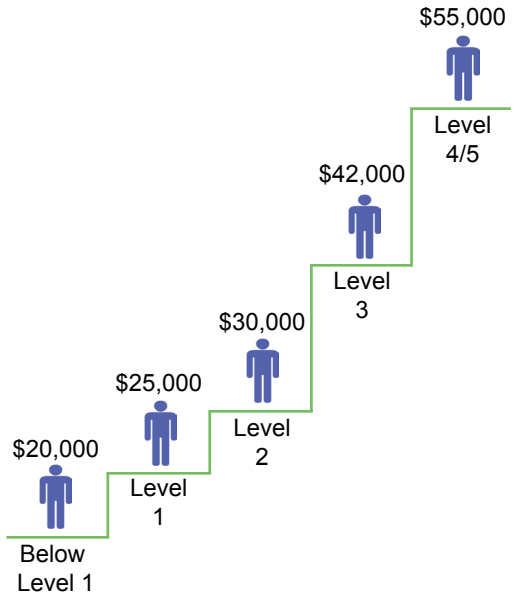
- **Increasing parents' skills can improve education outcomes for their children.** Several studies have found that when mothers with low education levels complete additional education, their children appear to have improved language and reading skills. These quasi-experimental studies have found these effects of increased maternal education only for mothers with a high school education or less who have participated in a variety of education and training services, including high school credential completion, occupational training, and college.[11,12]

- **Higher-skilled adults are healthier, with implications for their ability to work, parent, and participate in their communities.** In addition to the OECD skills survey results on the link between foundation skills and health, numerous other studies have found strong correlations between educational attainment and health. Some important factors explaining this link are that better-educated adults have better information about health, demonstrate stronger critical thinking skills, and engage in healthier behaviors than lower-skilled adults.[13]

Business and Industry

- **Increasing adult skills increases productivity.** Because two-thirds of low-skilled adults are working, helping them improve their skills also helps business and industry improve productivity.[9,14] The OECD findings

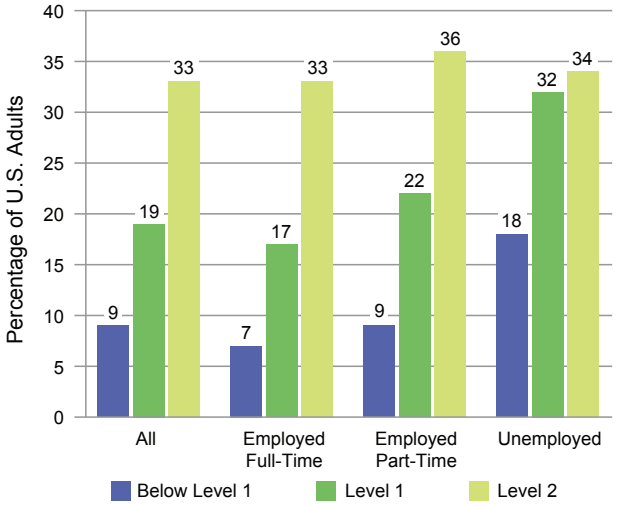
Figure 11. Median annual wages of employed U.S. adults ages 16–65, by literacy proficiency level: 2012



NOTE: Median annual wages are rounded to the nearest thousand dollars.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Program for the International Assessment of Adult Competencies (PIAAC), 2012. See level descriptors in Exhibit B-1 at http://nces.ed.gov/pubs2014/2014008.pdf.

Figure 12. Percentage of U.S. adults ages 16–65 who scored at Level 2 or below on the PIAAC numeracy scale, by employment status: 2012

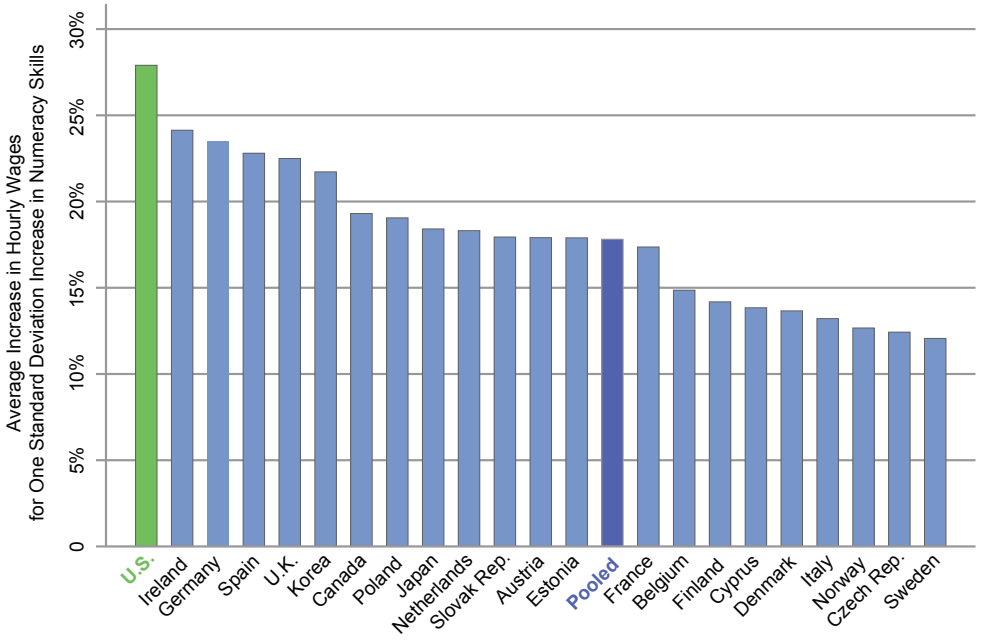


NOTE: There were no significant differences in the percentages of full-time employed, part-time employed, or unemployed U.S. adults ages 16–65 at Level 2 in numeracy. The differences for Level 1 and Below Level 1 are statistically significant.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Program for the International Assessment of Adult Competencies (PIAAC), 2012. See numeracy level descriptors in Exhibit B-3 at http://nces.ed.gov/pubs2014/2014008.pdf.

indicate that the U.S. economy recognizes and rewards skills more effectively than other industrialized countries, resulting in a particularly strong link between skills and productivity.[10]

Figure 13. Average percentage increase in hourly wages of adults ages 35–54 working full-time for one standard deviation increase in numeracy skills, by country: 2012



SOURCE: Adapted (with permission from the authors) from figure 1 in: Hanushek, E. A., Schwerdt, G., Wiederhold, S. & Woessmann, L. (2013, December). Returns to skills around the world: Evidence from PIAAC (Working Paper 19762). Cambridge, MA: National Bureau of Economic Research.

NOTE FROM THE AUTHORS OF THE FIGURE: Coefficient estimates on numeracy score (standardized to standard deviation 1 within each country) in a regression of log gross hourly wage on numeracy, gender, and a quadratic polynomial in actual work experience, sample of full-time employees ages 35–54. Data source: PIAAC.

- **Because higher-skilled workers are also likely to be healthier, helping adults improve their skills indirectly raises productivity.** A recent study of minority men's health, for example, found that lower worker productivity due to illness and premature death cost the economy over $450 billion in a four-year period.[15]

- **Increasing skills expands access to employment and better-paying jobs, creating new customers for products and services.** Because consumer spending is a principal driver of U.S. economic growth, increasing access to work and better pay benefits not only individuals but also business and industry. Helping low-skilled adults increase their skills can in turn fuel consumer spending and will raise their employment, earnings, and purchasing power.

Communities

- **Low-skilled Americans are motivated to get ahead.** An impressive 42 percent of adults scoring at Level 1 on the survey and 32 percent of those scoring below Level 1 participate in education and training. And, as noted earlier, there is pent-up demand for education and training among low-skilled adults, suggesting that if more quality, relevant, and convenient opportunities for increasing skills were available, even more adults would take advantage of them. Responding to this unmet demand for service would pay not only economic but also social dividends for communities.

- **Raising adult skills could lift community educational attainment for the next generation as well.** Helping parents increase skills can translate into better school performances by their children, as the research described above indicates.

- **States with better-educated workforces have higher economic growth and higher wages.** At the regional level, research has found that increased educational attainment not only makes workers more employable but also has the ripple effect of creating demand for complementary, entry-level workers and promoting entrepreneurship.[16,17]

- **Raising adult skills could potentially save communities substantial amounts in healthcare costs.** Adults with limited health literacy are hospitalized and use emergency services at significantly higher rates

than those with higher skills. Reversing that trend is estimated to generate savings nationally of between $106 and $238 billion annually.[18]

- **Integrating immigrants may benefit communities economically.** For example, research has found that those nations that are better at integrating immigrants in a range of ways also have higher levels of economic competitiveness, are more innovative, and have higher rates of entrepreneurship.[19]
- **Raising adult skills could result in more civic engagement in communities.** Higher-skilled adults volunteer more and have more confidence in their ability to affect government actions than lower-skilled adults.

Part 2. Strategies

To seize the momentum to address foundation skill development represented by the synergy of *WIOA,* the *Ready to Work* report, and the data from the *OECD Survey of Adult Skills*, this report identifies seven key and interrelated strategies. Together, these strategies can create the transformed infrastructure and delivery modes that are required to meet the goals of expanding access, closing achievement gaps, assisting workers to advance, and transitioning learners to credit-bearing postsecondary or occupational training.

Strategy 1: Act Collectively to Raise Awareness and Take Joint Ownership of Solutions.

As described in Part 1, the *OECD Survey of Adult Skills* reveals a strikingly diverse low-skilled population in the United States. The 36 million low-skilled Americans are youth, and they are adults; they are white, black, Hispanic, and from many other backgrounds; they are native-born and they are immigrants; most work, though a third do not; and more than half have a high school diploma. Because of this diversity—and because foundation skills connect to so many social and economic priorities—addressing the skills crisis really is everyone's business. The problem requires multifaceted solutions that no one public or private partner can successfully implement alone; these solutions must be tailored to regional and community needs and circumstances. Consequently, the first and overarching strategy of this national call to action is for stakeholders to act collectively to raise awareness that transforming learning opportunities for youth and adults is a means of reaching shared goals.

To be effective, collective action must be more than rhetoric about collaboration. It requires community involvement and commitment; structure; funding to create, staff, and maintain partnerships; a sharp focus on how a partnership's actions will change opportunities and outcomes for low-skilled individuals; shared measurement; and a clear sense of shared responsibilities and benefits among partners. Partnering is not easy, and too many current policies inadvertently discourage it. Therefore, collective action also must be backed up by public and private funding and accountability policies that create incentives and requirements for such action. *WIOA* requirements for alignment and integration across programs, through a unified state plan and common performance measures (see Strategy 5), will assist with these incentives, but federal programs alone are not enough; they must work in concert with private, faith-based, and philanthropic efforts. This is why the theme of partnerships and collective action runs through all seven of the strategies in this call to action.

The collective impact approach seeks to unite an array of public and private partners behind a commonly developed agenda for tackling a specific, place-based, shared challenge. Partners define shared goals, agree on how to measure results, and establish the roles of each partner in achieving agreed-upon outcomes. A "backbone" coordination organization keeps lines of communication open, builds relationships and trust among the partners, and takes the lead in coordinating everyone's joint and complementary efforts.[20,21] Collective impact models plan for the sustainability of the network as well as the developmental growth of the participants. A goal of addressing youth unemployment, for example, may have immediate steps and objectives, but also requires mid-term and long-term plans for ensuring stepping stones to further advancement and job exploration, such as establishing leadership development programs and creating an ongoing supply of internship opportunities or AmeriCorps positions.

The collective impact has the potential to address the holistic, quality-of-life issues that are tightly interrelated for individuals and for communities: Skills, education, income, health, social mobility, children's academic success and well-being, and civic engagement. The OECD Survey and reporting provide stark new data that reinforce the understanding that these quality-of-life issues reverberate across the lifespan, across generations, and across communities. An important goal of this call to action is to help stakeholders at all levels of government and society understand the connection between low skills and larger goals, such as revitalizing communities, increasing economic growth, improving health, closing achievement gaps, meeting business workforce needs, increasing college

ED's Office of Career, Technical, and Adult Education (OCTAE) has invested $1.2 million in a place-based, collective impact model of networks in five sites serving immigrant integration goals. While adult education programs are at the center of the network to address the linguistic needs of participants, other partners include community colleges, social service agencies, employers, citizenship services, professional certification services, and more. Together, these networks are working to maximize the impact of all the coordinated efforts to improve life in the receiving community.

and credential completion, and integrating immigrants into society.

Elected officials are important spokespeople and champions of collective impact models, using their convening and goal-setting powers to energize and prioritize system-spanning initiatives. In 2014, more than a dozen governors proposed new legislative and budget action to address workforce skills.[22]

The Obama administration and ED are committed to leveraging federal funds in place-based initiatives that can support collective impact and address challenges practically, meaningfully, and locally. Programs that support this effort include Promise Neighborhoods and Promise Zones, Choice Neighborhoods, My Brother's Keeper, Performance Partnership Pilots for Disconnected Youth, and more. Raising skills and building pathways to career advancement build capacity in the community to sustain the improvements after demonstration projects and grant funding conclude.

Innovation in Action

1. A promising two-generation initiative is Tulsa, Oklahoma's CareerAdvance®, which is led by the Community Action Project with partners from workforce development, postsecondary education, public schools, human services, and healthcare. CareerAdvance® provides career pathways education and training—with contextualized foundation skills support, financial literacy services, and career coaching—to the parents of children enrolled in Early Head Start/Head Start. The program also provides performance incentives to parents for good attendance and achievement in education, not only to support their success but also because of research showing that boosting low-income families' income by even a modest amount can raise children's academic achievement. Although the adult education field has longstanding family literacy efforts, CareerAdvance® and others in the new wave of two-generation models focus much more intensely on raising parents' foundation and job skills as well as other social and income supports. A key motivation behind CareerAdvance® is research showing that the gains made in early childhood programs can fade after entry to school; the program hopes that increasing parents' skills will improve family economic well-being and, as a consequence, help sustain children's academic gains after they begin school.[23]
2. Partners for a Competitive Workforce, in the tri-state region that includes Cincinnati, brought together two longstanding workforce development partnerships (Employers First and the Greater Cincinnati Workforce Network) and involved businesses, workforce investment boards, chambers of commerce, secondary and postsecondary educational institutions, community organizations, and philanthropy. The partnership's overarching vision is for employers to have the talent they need to compete and for people to have the skills to get good jobs and advance in their careers. The partners agreed on three strategic priorities: (1) connect businesses with qualified workers; (2) align education with employer needs through sector strategies; and (3) improve work readiness services to help individuals obtain and retain gainful employment. They are aligning and coordinating regional efforts toward these common goals, including developing career pathways in three high-demand sectors—advanced manufacturing, healthcare, and construction.[24]
3. Though not using a formal collective impact model, New York state's 35 Literacy Zones take a holistic, multi-generational approach to working with parents and children and provide career navigation and other supports to adult learners. Operating in rural and urban settings, state grant-supported Literacy Zones bring together a tightly coordinated network of educational, social, refugee settlement, and career service providers within high-poverty, low-literacy communities to increase foundation and English language skills from birth through adulthood. The three Syracuse Literacy Zones, for example, involve over 70 community partners.[25,26]

Strategy 2: Transform Opportunities for Youth and Adults to Assess, Improve, and Use Foundation Skills.

The OECD Survey found that the United States has higher than the international average participation rates in formal, informal, and employer-sponsored education and training at all literacy levels, although those who have more literacy participate more. Among the low-skilled, 42 percent of adults scoring at Level 1 and 32 percent of those scoring below Level 1 report participating in education and training programs. This strategy focuses on ways to increase the rates of participation in education for youth and adults who have low foundation skills, those who want to get started, and those who are participating but want to do more. Expanding access to learning in new and innovative ways is key to helping busy adults balance competing time commitments and a fast-changing landscape of employer-valued skills.

Many learners want to study on their own or cannot commit to regular attendance, even for an online class. They may face participation barriers, such as limited program capacity or inconvenient scheduling. For these learners, a strategy may be to provide high-quality, engaging content that results in demonstrable mastery of skills and competencies accompanied by credible, portable micro-credentials, such as badges or certificates. Such competency-based models may be especially effective for adults with high school diplomas. For those with very low basic skills, however, such offerings need to be paired with assistance[27] to ensure that success is within their reach. Models to make that assistance available on demand could include online instructors available through telephone, instant messaging, or video chat (similar to retail assistants on e-commerce sites); drop-in labs with facilitators or tutors in community spaces or at workplaces; and peer tutors available through linked social media sites.

"Access" can refer to many things in this context, including the capacity of programs to serve more students; the Internet via broadband or wireless service; learning content at various literacy levels or in alternative formats; computer equipment, devices, and assistive technology; digital literacy; and more. Barriers to learning can exist when any of these are not available, convenient, relevant, or affordable.

Digital literacy itself, however, remains a hurdle for many low-literate adults. The OECD Survey found that of adults with below Level 1 literacy, 44 percent report having no computer experience and 16 percent failed a simple digital literacy screening assessment. For adults with Level 1 literacy, the percentages were 15 and 10 percent, respectively.[6] A survey of how services are delivered through American Job Centers[28] found that the lack of technological literacy is still a significant barrier to delivering more services to job seekers virtually or through blended models. Bridging this digital literacy divide is critical to ensure that low-skilled youth and adults can benefit from efforts to provide more self-access learning options.

Given libraries' critical service role for digital literacy and Internet connectivity in communities across the country, OCTAE and the Institute of Museum and Library Services (IMLS) teamed up to show national leadership for encouraging more local partnerships. In June 2014, the two agencies released a Dear Colleague letter to launch a series of joint activities and showcases, particularly around the provision of digital literacy assistance.

Libraries remain reliable Internet access points and sources of in-person computer training in most communities, with approximately 17,000 branches and an average of nearly 20 public computer stations per outlet.[29] In 2009, over 77 million people, or nearly one-third of the U.S. population ages 14 and older, used a public library computer or wireless Internet. In fact, education was cited by 42 percent of responders as the main reason patrons used library computers, and 24 percent of those users reported taking online courses or working on online assignments. In addition, employment and career-related activities were cited by 40 percent of responders, 76 percent of whom were looking for jobs, as the reasons they went to the library.[30] Librarians and volunteers are providing frontline digital literacy tutoring and assistance to patrons of all ages, and many literacy programs offer classes in libraries.

In forecasting key trends and challenges in postsecondary education, expanding access and keeping education relevant are designated in the *2014 NMC Horizon Report* as "wicked" challenges due to the complexity and interrelatedness of the variables involved in identifying solutions. One variable is Internet access. Across the country, municipalities and community development coalitions and champions are calling for more universally available low- or no-cost Internet access as a critical infrastructure condition to expanding services. Although connectivity rates are rising steadily in all neighborhoods and among all sectors of the public, there remain areas and segments of society without affordable service, including rural areas and high-poverty inner-city neighborhoods; Internet use also remains lower among adults with low education, seniors, and individuals with disabilities.[31] Without reliable, affordable, widespread, and

In coordination with the administration's ConnectEd efforts to bring more connectivity to schools, OCTAE is working to inform adult education programs, teachers, and learners about low-cost Internet options, such as those brokered by www.EveryoneOn.org, that can turn classrooms, public housing community centers, and community-based organizations into Internet access hot spots and provide in-home access to low-income families.

robust access to the Internet, children, families, and communities are left behind as public school, civic, government, health, social services, commerce, and learning content moves online.

A growing supply of excellent digital learning content is becoming available as open education resources (OER), meaning they can be used, shared, and modified to fit various learning scenarios free of charge. With such a proliferation of content, it is becoming more important to help educators find the best materials. Several sites are filling this need, including the Federal Registry of Educational Excellence, which draws on the many digital learning objects created by federal agencies as well as other public and private entities. OERCommons is a site that offers tens of thousands of peer-reviewed, cataloged learning objects, searchable by Common Core standards and grade-level bands, including adult education and adult English as a Second Language (ESL). The single largest OER effort currently in the adult education and job training field is the federal DOL's $2 billion Trade Adjustment Assistance Community College and Career Training (TAACCCT) grant program, which requires all community college grantees to share the resources developed using these funds. DOL is constructing a searchable repository at SkillsCommons to curate the content and enable more efficient re-use. Additionally, DOL has announced an investment in an online skills academy that would make available complete high-demand career pathways, built upon TAACCCT-developed open-source content, that lead to competency-based credentials.

With so much content available, innovative technologies, smartphone applications, adaptive assessments, and learning platforms hold the potential to enrich and enable classroom and supplemental instruction at home or on the go; just-in-time peer and instructor support and encouragement; and diagnostic assessments to mark progress.[32]

Instructional and programming models to expand learning access and make options more convenient and achievable include accelerated learning, adding more distance education options to existing programs, and creating freely available learning opportunities with assistance on demand, as needed. Accelerated learning allows students to skip content they have already mastered based on assessments of their prior learning. Frequent, fine-grained, diagnostic assessment data can more accurately determine a student's current skills and knowledge, as well as gaps, and then can be used to either recommend content for instructors or, if in a fully online system, deliver and reassess targeted content. The Council for Adult and Experiential Learning (CAEL) has studied the value and impact of prior learning assessments (PLAs) extensively for adult college-going students. From a study of 48 institutions using a variety of PLA methods, findings indicate that adults who are able to accrue credits through PLAs have higher graduation rates and greater persistence and need less time to complete their degrees.[33] Acceleration through PLAs is rarely applied below the postsecondary level but might be used to great effect to jumpstart an adult's transition from basic skills into college.

Other forms of accelerated programming include modularized content; intense, short-term courses that compress schedules, such as bridge classes and boot camps; and co-requisite scaffolding that allows students to receive instructor assistance while attempting challenging courses, thereby bypassing developmental education classes.[34] Online, modularized, competency-based education has been described as a "disruptive" educational innovation with "the potential to drive down costs, accelerate degree [and credential] completion, and produce a variety of convenient, customizable, and timely programs for the emergent needs of our labor market."[35] Providing more avenues for more students to complete micro-credentials, industry-recognized credentials, and degrees is critical to their career advancement and is particularly relevant to adults with high school diplomas or some college credits.

States and programs are experimenting with models to expand the capacity of existing adult education programs in order to serve more students through the use of distance education. Arizona has tested and is expanding a model to triple the number of students a teacher can serve by moving two-thirds of the instructional time to self-study online modules and reserving in-person class time for the facilitation of self-directed learning habits and skills. Other states

have expanded their distance-only class instruction, offering fully online courses facilitated by teachers proficient in online teaching. OCTAE created a distance education planning tool, the Who's Online Where Index, for states and programs to use data that indicate by county where there is likely to be sufficient broadband Internet access, in homes and community anchor institutions, such as public libraries or one-stop centers (one-stops).

Unions and labor-management organizations have pledged their support to help address the access challenge. To date, 45 organizations have committed to providing access to their training programs to community members and, in some cases, at their training facilities. These training programs cover such topics as English literacy, regulatory and safety training, and occupational career advancement. Arrangements such as these can leverage the credibility of unions for promoting skills matching and performance- and competency-based learning and be used to solicit recognition of the associated micro-credentials and certificates of performance by area employers.

Realizing the potential of innovations to increase access and engagement with upskilling opportunities will require the coordination of funders, education and training providers, businesses, and educational entrepreneurs working together to bring promising models to scale on the go, in classrooms, workplaces, and communities. A national research, development, and evaluation agenda can help nurture and validate these innovations as they are implemented with various subgroups, communities, and delivery scenarios, as well as test new ideas to further improve programs and models. Given the many variables in this complex challenge of access, part of the solution must be to help learners and job seekers find and connect immediately to the programs and options that best fit their needs and to any supports for which they may be eligible. The new responsibilities of the *WIOA* partner-funded one-stops include this case management or navigator role (see Strategy 5).

Through philanthropic and federal efforts and advance market commitments from employers, a technology-enhanced ecosystem of basic skill and job-readiness opportunities is taking shape. Jobs Madness announced the winners of $100,000 in prize money at the October 2014 Close It Summit with innovations aimed at helping to upskill youth and adults. And the DOL announced a $25 million effort to repurpose open-source content into an online skills academy that will offer complete career pathways.

Innovation in Action

1. In Washington, the Service Employees International Union (SEIU) Healthcare NW Training Partnership found that its online continuing education classes for home healthcare workers were very popular. Building on that finding, the union is about to debut a new entry-level online learning experience that uses a flipped classroom model and will award digital badges to students as they master specific skills. For example, students might use the online component—which could be delivered on a smartphone—to learn the eight steps for hand washing for healthcare workers and then use classroom time to focus on demonstrating those skills. One strong advantage of the online format is that the SEIU can make it available in 12 different languages. Technology also can be used to support student success in other ways, such as through online coaching and tutoring or social-media-based peer and advisor support.[36]
2. The Mayor's Commission for Literacy in Philadelphia is expanding digital learning opportunities through its myPLACE online classes and three new myPLACE campuses, as well as through its Digital On-Ramps project, which allows learners to create Web-based, portable, digital portfolios that they can make available to employers or share with education and training providers as they move through different services. The city hopes that the myPLACE online classes will greatly expand access to foundation skills instruction and that myPLACE campuses will provide the assessments and ongoing support learners need to succeed in online formats. Keyspot computing centers, a network of community-based organizations, provide additional access to computers and the Internet for learners.

Strategy 3: Make Career Pathways Available and Accessible in Every Community.

Career pathways are a series of connected education and training strategies and support services that enable individuals to secure industry-relevant certifications, obtain employment within targeted occupational areas, and advance to higher levels of future education and employment in those areas. As such, career pathways present a particularly promising strategy to help low-skilled youth and adults improve their foundation skills while acquiring marketable skills and industry-recognized credentials. Momentum to build high-quality career pathways systems that provide low-skilled adults with the on-ramps to opportunities for both improving foundation skills and acquiring

marketable skills has spread throughout the nation. Still, much work remains to be done to ensure that adequate career pathways opportunities aligned with state and regional economies exist for low-skilled youth and adults in every state.

Although few career pathways, bridge, and integrated programs have been rigorously evaluated, there are data to support their efficacy. States and colleges generally report positive outcomes for students from these efforts—higher retention, course completion, and attainment of college credits and credentials by program participants—than for comparable students in traditional adult or developmental education courses and programs. For example, a recent analysis of student transitions in Minnesota's FastTRAC initiative found that more than four times as many FastTRAC participants enrolled in college credit courses within one year of starting the program as did other adult education students (60 percent versus 14 percent), and nearly twice as many FastTRAC students skipped developmental education upon entering college as did regular adult education students (69 percent versus 39 percent).[37]

The Health Profession Opportunity Grant (HPOG) program is run through the HHS Administration on Children and Families. It provides education and training to Temporary Assistance for Needy Families (TANF) recipients and other low-income individuals for healthcare occupations that pay well and are in high demand. HPOG participants are eligible for support services and enroll in a variety of training and education programs that result in employer- or industry-recognized certificates or degrees. The most common training programs include those for nurse's aides, home health aides, licensed and vocational nurses, registered nurses, medical assistants, pharmacy technicians, and phlebotomists. Many programs have been designed as career pathways—connecting progressive levels of education and training with employment opportunities. In 2010, five-year grants were awarded to 32 grantees in 23 states. As of October 2014, HPOG had enrolled over 31,000 individuals. Over 17,000 of those have completed at least one healthcare course enrollment, with average starting wages of approximately $12.65 per hour. Many of those who have enrolled but not yet completed are active participants in the program and are expected to achieve success. Many promising practices and success stories have arisen from the program and are shared in a vibrant online community.

Certain design features in career pathways programs and systems appear to support success for low-skilled adults. But these design features are often beyond the provisions of any one education or training entity. For example, early and ongoing academic and career counseling so that low-skilled adults understand all possible options from both investment and payoff perspectives; bridge courses; concurrent enrollment (participation in both foundation and occupational skills instruction); contextualization of foundation skills instruction to real-life occupational skills demands (or building appropriate foundation skills instruction explicitly into occupational training); program designs that promote accelerated completion timelines (e.g., intensive programs, competency-based instructional models); and case management/supportive services (as needed) are among the approaches that available data suggest assist low-skilled adults in the attainment of both improved foundation skills *and* marketable credentials. The importance of leveraging partnerships to ensure that these important features are brought to bear on state, regional, and local career pathways development cannot be overstated.

Indeed, important lessons from the limited research available on such interventions suggest that any one individual intervention often has modest effects; the most promising approaches are multifaceted.[38–42] Professional development for instructors to become proficient with the new requirements and ways of collaborating across programs and providers is also critical.

Efforts to build state-level career pathways systems that are responsive to the needs of low-skilled learners while articulating the way to and through higher education date back more than a decade and, when examined collectively, demonstrate the tremendous progress that can be made through leveraged public, private, and philanthropic resources. Initially, these efforts were supported primarily by public and philanthropic competitive

grants. For example, foundations created important multistate initiatives that furthered the development of career pathways systems, such as Breaking Through, Shifting Gears, and Accelerating Opportunity. Likewise, the federal government has focused competitive grant and technical assistance resources on career pathways serving low-skilled youth and adults. Through initiatives such as the HPOG, the Innovative Strategies for Increasing Self-Sufficiency demonstration, the Workforce Innovation Fund, and TAACCCT grants, as well as technical assistance efforts like Moving Pathways Forward, the federal capacity to expand and improve career pathways offerings at state and local levels has grown. As the knowledge base relative to career pathways has grown as well, more focused public policy has emerged.

In April 2012, DOL, ED, and HHS published a joint letter promoting the career pathways approach to education and training as "efficient and customer-centered." More recently, *WIOA* codified a definition of career pathways as "a combination of rigorous and high-quality education, training, and other services" that align with the skill demands of state and local economies; prepare individuals to be successful in a range of secondary and postsecondary education options; include academic and career counseling; include, as appropriate, concurrent and accelerated program designs; and help individuals to enter or advance within a specific occupation or occupational cluster. At the signing of the *WIOA*, the president also announced further reforms in the way federal programs train and retrain workers.

OCTAE is supporting state-level career pathways systems development through two projects. The first, Moving Pathways Forward, is providing technical assistance and coaching to 13 states on aligning state adult education and workforce policies and developing cross-agency and industry partnerships, and all states are expected to benefit from materials shared on an interactive, Web-based information exchange. The second project, Advancing Career and Technical Education, is providing technical assistance and coaching to five states to build the capacity to integrate career and technical education (CTE) programs of study within their career pathways systems.

In order to increase access to high-quality education and training, the *Ready to Work* upskilling effort aims to stimulate new investments in an online skills academy that will use technology to offer open online courses of study to help learners earn credentials through participating accredited institutions. These investments also will expand access to curricula designed to shorten the time it takes to complete training, enabling learners to efficiently develop skills in demand by employers. Another goal of the new upskilling effort is to build partnerships across the public and private sectors to provide opportunities for low-wage and entry-level workers to gain both the foundation and occupational skills required to be competitive in the workforce. Such partnerships can both assist in and benefit from a focus on making career pathways available and accessible in every community (see more in Strategy 6).

Career pathways offer a strategy for improving both the foundation skills of low-skilled adults and the nation's overall economic prosperity by preparing more workers for high-demand occupations. They present an opportunity for public, private, and philanthropic entities to leverage resources for the betterment of all.

Innovation in Action

1. With nearly $38 million in philanthropic, federal, state, and other private resources, Accelerating Opportunity (AO) has been the largest multistate career pathways initiative, working in seven states to help low-skilled adults enter higher-wage jobs faster by integrating adult basic education, developmental education, and career and technical training. Modeled on Washington state's successful I-BEST initiative, AO began with 33 colleges in 2001 and has since grown to 78 colleges offering 151 pathways that integrate the instruction of foundation and job skills. Kentucky and Louisiana have taken the AO model statewide, and Illinois has scaled the program from 8 colleges to 18, with plans to expand it eventually to most of its 48 community colleges. Across AO sites, 5,391 students have earned 6,352 credentials, with 37 percent of all AO students earning 12 or more college credits. About 60 percent of AO students have high school diplomas or GEDs®, a figure comparable to the share of low-skilled adults in the OECD Survey who have high school credentials. An evaluation of AO is under way, with interim implementation findings expected in 2015 and final implementation, impact, and cost-benefit reports expected in 2016. Emerging early lessons include the central importance of getting college leadership, faculty, and staff across adult, developmental, and career and technical education to buy into the career pathways integrated model.

2. Developed by the National College Transition Network and the System for Adult Basic Education Support, Integrating Career Awareness (ICA) is an in-depth career-awareness curriculum designed to help adult education instructors of intermediate-level students understand and demonstrate in the basic skills classroom the critical link between education and careers. Texas has experienced early success in implementing ICA through pilot projects and, with funding from a *WIA* incentive grant, embarked on implementing ICA statewide. The plan involved training 2,850 teachers and counselors, 650 administrators, and 390 paraprofessionals across the state. Working through its professional development system, the state began training master ICA trainers at regional levels and key trainers at local levels who would implement ICA in the classroom and then train other local staff. ICA training begins with an in-person workshop or facilitator-led online course; follow-up training activities (held via webinar) target areas that faculty have identified via online surveys as needing additional support.[43]

Strategy 4: Ensure That All Students Have Access to Highly Effective Teachers, Leaders, and Programs.

Ultimately, success in helping low-skilled youth and adults enrolled in programs to reach higher levels of education and employment hinges on what happens between students and teachers. No matter how strong the community partnership or how well designed the strategy, if teachers of foundation skills are not engaged, prepared, and supported by effective leaders and programs to deliver high-quality instruction, student outcomes are unlikely to improve.

The conditions that lead to highly effective teachers, leaders, and programs are not definitively articulated in research, yet there are emerging areas of understanding. Requirements in *WIOA* to conduct evaluations of programs (through state leadership funds) and the system overall (through national leadership funds) on a regular basis will greatly enhance the knowledge base.

A scan of the literature on teacher effectiveness—much of it conducted in k–12 settings—was conducted to identify key elements that may apply to adult education. Among the findings are that teacher effectiveness is one of the most important factors in student achievement, that there is substantial and persistent variation in achievement growth among students of different teachers with identifiable characteristics, and that this relationship may be even more important for students with disadvantages.[44–50] The part-time nature of the foundation skills workforce (see sidebar on page 17) has practical implications for efforts to provide professional development and educate instructors on the new requirements under *WIOA*. Because many part-time instructors juggle multiple jobs and work on short-term contracts, they may be less available to participate in sustained professional development and less connected to a professional learning network. Reaching them with professional development requires flexible offerings in convenient and effective segments. The research on learning among professional adults indicates that blended learning models—supporting online learning with some instructor- or peer-led interactions and dialogue—are more effective than in-person-only models or as effective.[51] The use of distance technology for teacher learning has the additional benefits of upskilling teachers in the models of online learning and integrating technology into instruction that they then can replicate and support with their students.

WIOA makes it clear that the teaching and training workforce must adapt to the rapidly evolving adult skills reality, such as the growing emphasis on college- and career-preparation, emphasis on transition to credit-bearing college-level coursework, new high school equivalency exams linked to rigorous college- and career-readiness standards, career pathways and integrated teaching models, employer engagement, and requirements for technology integration.

The emphasis on challenging content standards for all adult students, for example, provides a clear goal: To enable adults served by the adult education system to meet challenging academic content standards in at least reading/language arts and mathematics, consistent with state-adopted academic standards for their k–12 systems. College- and career-readiness standards for adult education[52] are intended to provide a focus for coherent improvement

in all components affecting teaching and learning: Curriculum, instruction, professional development, program leadership, student assessment, and program monitoring and accountability. They can ensure coherence among all programs and also can play a critical role in linking all of these elements to overall efforts for preparing an educated and skilled workforce. College- and career-readiness standards that define what adult students need to know in order to be prepared for the rigors of postsecondary training, employment, and citizenship are crucial in providing all students at all levels the opportunities to acquire the necessary skills to pursue their long-term career aspirations and goals. Additionally, they provide a common vocabulary and shared understanding among educators and the business community to enhance cooperation and articulation between career pathways steps and academic milestones.

To assist teachers and administrators in keeping up with these developments, *WIOA* requires spending state leadership monies on the alignment of services with one-stop partners to include the development of career pathways, delivery of professional development, availability of technical assistance to use evidence-based practices, and monitoring and evaluation of effectiveness (Section 223(a)(1)). *WIOA* also offers an extensive list of permissible activities aimed at improving and maintaining program effectiveness and high-quality standards.

In recent years, OCTAE has undertaken several systemic change efforts in the areas of evidence-based reading instruction, standards-based education, math and numeracy instruction, technical assistance for the development of career pathways models, and data quality. A recent investment has been made in teacher effectiveness itself, with funding for research into state teacher data, an environmental scan of the literature on what makes an effective foundation skills teacher, and efforts to identify the conditions for the success of programs that support effective teachers.

The STudent Achievement in Reading (STAR) initiative for the training of teachers on evidence-based reading instruction is one of the longest-running investments by OCTAE, having been continuously funded since 2001 and now being implemented in 21 states. Research from Minnesota's STAR implementation[53] shows how this intervention has had a positive impact on student outcomes as well as spurred supportive programmatic changes. A continuous investment in standards-based education since 2003 is manifest in a current project that is reaching teams in 38 states with technical assistance and in 12 states with intense training and coaching to implement college- and career-readiness standards sustainably and at scale. The Literacy Information and Communication System (LINCS) Website and regional professional development centers have become a consolidated platform for the dissemination and delivery of professional development opportunities. This coordinated system pairs self-access online learning courses and resources, including an online community of practice, with professional development opportunities delivered in cooperation with state programs. By creating more self-access, freely available resources and opportunities aligned to state program improvement efforts, more teachers and programs will have the ability to benefit from high-quality professional development.

National data show that 78 percent of paid adult education teachers, and nearly half of program administrators, are employed part-time. Volunteers account for 5 percent of the teaching workforce, leaving only 17 percent of adult education teachers working full-time. Developmental education faculty in colleges are similarly likely to be part-time or adjunct, with only 21 percent of all developmental courses taught by full-time faculty.[54] Seventy-nine percent of adjuncts report not receiving health insurance through their employers, and an even higher percentage lack retirement benefits.

Foundation skills teachers and program designers need more than professional development in basic skills instruction, however. The vision for rigorous, effective, and integrated education and training codified in *WIOA* will demand a great deal of change and professional development of the instructors and administrators in the programs. Adult education and CTE teachers need opportunities to learn about the realities of the industries and businesses for which they are preparing students. Across the country, creative arrangements are being made for teachers to experience internships at businesses and to embed foundation skills classes at workplaces. Many existing investments are in place to assist with these changes, and OCTAE is committed to leveraging national

leadership funds and technical assistance to help meet this challenge. Diversified public and private investments and commitments at the state and local levels also must be sought to provide for consistent, reliable funding streams that can allow program infrastructure and teaching capacity investments to be sustained and result in continuous improvements and better student outcomes.

Innovation in Action

1. Private, nonprofit organizations often have more latitude to pursue a strategy of prioritizing full-time teaching positions than local public adult and developmental education programs. The Greater Pittsburgh Literacy Council (GPLC) grew from just two staff members in the mid-1980s to 40 full-time employees and many volunteers in 2012 and has an explicit policy of hiring only full-time staff (with rare exceptions at staff request). GPLC provides services to 8,000 students annually and has 12 area offices in community centers, churches, and social agencies. In Colorado, when a new director arrived at the Durango Education Center (DEC) in 1999, there were no full-time staff other than the director and assistant director. DEC decided to diversify funding sources and raise new revenue to create full-time teaching positions, add health and dental benefits, and increase pay. Retirement benefits were added later for those staying at least two years. DEC credits these changes with virtually eliminating staff turnover. Having full-time staff also has allowed them to expand hours and programs, which has led to nearly tripling the number of students served. DEC also believes having more full-time staff has led to higher student test scores and GED® attainment, and those better outcomes in turn have attracted additional funding.[55]
2. Performance pay, while not addressing the problem of part-time jobs, can provide an incentive for focusing on improved student outcomes and can sometimes attract support for higher teacher pay in a way that simple pay raises may not. For example, City Colleges of Chicago has begun paying adult education teachers performance bonuses when their programs reach or exceed overall targets for student achievement and enrollment. Teachers received the first round of these bonuses in September 2013. The amount of the potential bonuses will rise each year, along with the targets, and by 2016 could amount to as much as 7 percent of teacher base pay.[56]

Strategy 5: Create a "No Wrong Door" Approach for Youth and Adult Services.

Youth and adults with low skills do not have time to waste; they need to understand the available options for skill development and local labor market demand from their first encounter with the adult education and workforce development system. They need to be directed to programs that are convenient and good fits for their goals and to be connected to all services for which they are eligible. Co-location of services can facilitate quick referrals. As noted above, "wrap-around" or support services were identified as critical to students' persistence and success in career pathways programs; ensuring that students have these supports from the start can boost persistence.

Partnerships and collaboratives that are doing this work well strive to create a "no wrong door" approach—that is, the ability of a client to engage any cooperating service provider and get connected to the best match of services for that individual. This type of service puts the onus of coordination and service matching on the providers rather than the individual. It requires a new mindset for service providers that values improved student outcomes across a collective system rather than enrollment and retention in particular programs. As *WIOA* implementation efforts unfold, federal agencies will be clarifying and emphasizing the extent to which it allows and encourages integration of adult education, CTE, workforce development, and social services programming and performance reporting.

The mandate within *WIOA* for each state to submit a unified plan that coordinates and aligns services of the core programs will be a game changer. These unified plans, covering four years of activities, are required to be submitted in early March 2016 and include a strategy "for aligning the core programs, as well as other resources available to the state, to achieve the strategic vision and goal" of training and preparing a skilled workforce (*Title I(A)*, Section 102). The creation and subsequent administration of the unified plan is the responsibility of each state's workforce development board. Under *WIOA*, these boards have required and eligible partners that include elected officials; business, union, education, and training representatives; community colleges; and other service providers serving as one-stop partners.

WIOA also specifies "considerations" to be made by the state in funding eligible local providers (*Title II(C)*, Section 231(e)). These provider characteristics and competencies include required alignment to the state and local plans'

goals and cooperation with one-stop partners and other local resources in the community, such as workforce investment boards, business, industry, and labor organizations, community-based and nonprofit organizations, as well as intermediaries for the development of career pathways. Specifying this level of local cooperation as an eligibility requirement will help establish a new norm of cross-system partnerships and integration.

WIOA positions one-stop centers as the primary hubs for education and training services and includes a long list of federally funded youth and adult service providers as required partners for the one-stop infrastructure costs and administration. One-stops, both physical locations and digital access points, now will be charged with making sure youth and adults receive "information on the availability of the career services…regardless of where the individuals initially enter the statewide workforce development system" (*Title I(B)*, Section 121(e)(2)(B)(II)), essentially codifying the "no wrong door" approach.

The *Ready to Work* report and the commitments articulated in it showcase coordinated interagency service strategies and model interagency partnerships at the federal level. The multi-year, multi-agency task force on career pathways is an example that has—through shared definitions and technical assistance—been a catalyst for state career pathways efforts. Similarly, the ongoing Interagency Working Group on Youth Programs (IWGYP), which is composed of representatives from 18 federal agencies that support programs and services focusing on youth, models cross-system collaboration to bring all available resources to bear to serve youth with multiple barriers to employment and academic success.

Despite federal statements on collaboration, perceived barriers sometimes inhibit action as much as real ones do. Federal offices and national advocates have published fact sheets and policy guidance to clarify policy, correct misconceptions, and showcase promising practices. For example, the Federal Interagency Reentry Council has published a series of "myth busters" to clarify returning citizens' rights and responsibilities.

Waivers, performance partnerships, and other special initiatives that create more flexible federal and state policies all can expand the evidence base of effective approaches to serve low-skilled youth and adults. For example, DOL-granted waivers have allowed localities to expand on-the-job training (OJT) and customized training for small businesses by lowering the required employer match. Another approach is letting selected place-based initiatives combine multiple funding streams into one flexible funding pool aimed at achieving specific, cross-system, shared goals, such as the Department of Housing and Urban Development's (HUD) Moving to Work demonstration project (see Innovation in Action on page 21). The newly enacted Performance Partnership Pilots for Disconnected Youth, which launched in November 2014, will fund up to 10 pilot sites in which communities will blend competitive and formula grant funding they receive from the DOL, ED, HHS, the Institute for Museum and Library Services, and the Corporation for National and Community Service to serve low-income youth who are either homeless, in foster care, involved in the juvenile justice system, unemployed, or not enrolled in or at risk of dropping out of an educational institution.

State legislation and policy also can be realigned to facilitate system-spanning coordination. The ability to access on-the-job and unemployment work-sharing funds (see Strategy 6) for incumbent workers is one example of the role of state policy. Others include adjusting the age of compulsory education to serve more youth in the k–12 system, designating adult schools as eligible charters, and allowing state merit scholarship funds to be accessed by older youth and adults who have returned to school and meet the criteria.

One successful strategy being used by states and localities to scale up effective models for low-skilled youth is to adopt policies that allow k–12 per-pupil education funding (known as average daily attendance, or ADA, funds) to follow youth who have dropped out into alternative settings, such as adult education or dropout recovery charter

schools and dual enrollment, community college-based programs. Wisconsin, California, Washington, Oregon, and Texas are among the states implementing this strategy. Policy changes to support this approach include raising the upper age limit for ADA eligibility, increasing flexibility for the use of those funds, and allowing ADA resources to support the completion of high school equivalency credentials in addition to regular high school diplomas.[57] Federal efforts, such as YouthBuild USA and various other youth service and conservation corps initiatives, are scaling up with the help of ADA resources.[58]

For many low-income immigrants, the cost of education and training, especially for postsecondary programs, is a barrier to increasing their English language, foundation, and occupational skills. States can take steps to make education and training for immigrants more affordable through policy changes that extend in-state community college and university tuition to some (such as those who have received Deferred Action for Childhood Arrivals [DACA] status) or all undocumented students. At least 20 states allow in-state tuition to undocumented immigrant students, either via action of state legislatures or policy by state university systems. Several other states have extended in-state tuition for students who meet certain conditions, such as DACA recipients or U.S. citizen students with unauthorized parents.

Immigrants and refugees who are highly educated in their native languages and hold professional degrees often need help acquiring proficiency in English and navigating the educational, licensing, and credentialing hurdles to gain the right to practice their professions in the United States. The Welcome Back Initiative is a national network of centers in eight states that identify foreign-trained health professionals within immigrant communities, analyze their needs, and develop service models to assist them in practicing their professions. These centers act as intermediaries between state and local licensing boards, working to create more transparency and flexibility across boards, accreditors, and state policies. Immigrants also can apply for a credential evaluation to determine what they need to do to supplement their existing credentials and professional licenses to obtain U.S. equivalents. Expanding these services and making them more affordable benefits the whole community by adding diversity to the professional workforce as well as making better use of available human capital.[59]

A number of states have created state-level partnerships that support the educational and labor market success of low-income TANF or Supplemental Nutrition Assistance Program (SNAP) recipients. For example, Arkansas, Kentucky, Maine, Nebraska, Oklahoma, and Pennsylvania all use TANF resources to provide intensive advising and other supports (including, in Kentucky, work-study jobs) to low-income parents in a range of adult education and CTE programs.[60] Several states, including Minnesota, Rhode Island, South Carolina, and Washington, operate "third-party match" programs in which community colleges and other nonprofits can claim federal reimbursement of 50 percent for expenses incurred serving SNAP participants.[61–63]

Policy alignments, such as these, put the difficult service coordination work behind the scenes for individuals seeking assistance and allow a more seamless, tailored set of services and opportunities to be made available to individuals. For participants, this can mean less wasted time in programs that are not a good fit and quicker-to-completion trajectories. The work is not easy. State policies require coordinated action and persistent champions. The implementation of *WIOA*, for example, will take several years to be fully realized, and many programs will struggle to meet the new requirements, establish productive partnerships, and coordinate services to eliminate duplicative and outdated offerings. The federal agencies implementing *WIOA* are coordinating their efforts from the beginning and planning coordinated technical assistance to support states and local programs to shift to this new operating model.

Innovation in Action

1. Launched in 2006, Opportunity Chicago (OC) marshaled public and private resources and services from across the education, workforce, human services, and housing sectors to help 5,000 public housing residents prepare for and enter employment over a five-year period. Importantly, OC sought to permanently increase the capacity of the public workforce development system to serve individuals with low skills and other employability barriers by creating or expanding contextualized literacy and occupational bridge programs, employer-sector training partnerships, and transitional jobs, as well as case management and support services. A nonprofit intermediary, the Chicago Jobs Council, managed the initiative, and a strategic group of stakeholder advisers set targeted directions and oversaw its implementation. OC surpassed its goals, placing nearly 5,200 public housing residents in jobs despite a deteriorating economy and raising more than $27 million in public and private resources (its initial goal was $23 million) to fund services. One important lesson from OC is that employers responded more positively when public housing residents were "mainstreamed" into the general pool of workers being trained for targeted industry sectors rather than placed in jobs through separate, public housing-specific channels. An independent evaluation of Opportunity Chicago found impressive results. The initiative served 6,743 public housing residents, with 77 percent gaining employment, more than half retaining employment for at least two years, and half increasing their earnings. Nearly one in four of those who were employed after the program had not worked in the two years prior to participating in the initiative.[64,65]
2. One critical ingredient in OC's success was the fact that the Chicago Housing Authority is a Moving to Work (MTW) site. MTW is a HUD demonstration program that allows selected public housing authorities to pool certain federal housing funds and exempts them from many federal rules. MTW is designed to test innovative strategies that use resources more efficiently, help residents find employment and become self-sufficient, and increase housing choices. In Chicago, this flexibility was especially helpful in prioritizing funding for support services that enabled residents to participate successfully in education, training, and employment programs. MTW also helped motivate residents to participate in services because the demonstration agreement allowed the housing authority to require residents to work or engage in activities leading to work. An evaluation of MTW performance is currently under way.

Strategy 6: Engage Employers to Support Upskilling More Front-Line Workers.

The fact that so many low-skilled adults are employed offers ready-made routes to reach them with learning opportunities through their employers. Currently, business and industry outspend the federal workforce development system on employee training by as much as 25 to one, with some reports estimating the investment to be up to $450 billion each year.[66] From compulsory safety and regulatory training to tuition reimbursement, private industry is already in the upskilling business. Making that training pay off for both businesses and workers is incredibly important. Through an initiative with the Aspen Institute, the administration recently launched Upskill America to highlight the strategies employers across the country are using to turn front-line jobs into stepping stones for advancement.

The *Ready to Work* report suggests a three-pronged approach to supporting low-income workers to learn while they continue to earn: (1) modernizing and greatly expanding the availability of apprenticeships and on-the-job training (OJT) opportunities; (2) incentivizing and providing technical assistance to improve the efficacy of employer investment in skills and training for low-skilled and entry-level workers; and (3) investing in universally available, low-cost online learning tools and skills assessments, as discussed in Strategy 2.

To pursue the president's goal of doubling the number of Registered Apprenticeships within five years, the Obama administration is coordinating across agencies and across public-private partnerships to create new models; attract more diverse candidates, especially women; build excitement through a competition; and galvanize higher education institutions' involvement through the Registered Apprenticeship-College Consortium (RACC). In December 2014, ED issued guidance on using federal student aid to support apprenticeship training that occurs at institutions of higher learning. That same month, the Obama administration launched a new $100 million American Apprenticeship grant competition focused on expanding high-quality apprenticeship programs and spurring innovation to expand the apprenticeship model to new, high-demand fields. *Ready to Work* notes that the return on an individual's investment in Registered Apprenticeship completion is $300,000 more in earnings over his or her working life.[67]

Other sources of public funds to assist with workforce training include OJT and work sharing (see Innovation in Action on page 23 for examples). OJT, which is funded under *WIOA* and other federal programs and subsidized by some states, gives employers temporary wage subsidies for hiring individuals and providing them occupational training on the job. "Of the many employment strategies evaluated, on-the-job training has had the most consistently positive results for increasing the earnings of disadvantaged workers," according to a comprehensive review of research on publicly funded training.[68] The report cites experimental studies that found OJT significantly increased the earnings of welfare recipients in 16 federal job-training programs, as well as in two state welfare-to-work demonstrations.

OJT is a proven approach for increasing the relevance and effectiveness of training, as well as participation in and completion of it, but it is underutilized, especially for lower-skilled workers. One barrier is the perception by employers that OJT is too bureaucratic and difficult to use. States and localities can expand OJT by devoting staff and funding to marketing it to employers, as well as by streamlining policies and processes to make it business-friendly. A second barrier to using OJT to help low-skilled individuals is that it often has been reserved for better-educated job seekers with work experience. States and localities can broaden access to OJT by combining it with *WIOA*-funded pre-employment training that integrates foundation and technical skills.

Work sharing, also called short-time compensation, allows employers to respond to slowdowns in business by reducing workers' hours instead of laying off employees. In the 28 states with work-sharing programs, the employer files a plan with the workforce agency, and affected workers can receive prorated unemployment benefits to help compensate them for reduced work hours. Eligible work-sharing employees can participate in education and training approved by the state unemployment insurance (UI) agency during the hours that they are not working.[69] Federal work-sharing legislation enacted in 2012 modernized policies and provided for the federal government to temporarily cover 100 percent of the cost of UI benefits for work sharing and to offset the costs of creating new programs. State legislatures were required to adopt work-sharing programs before the end of 2014 to qualify; as of January 2015, 28 states and the District of Columbia had done so.[70] Training during work sharing is a relatively new concept in the United States but is more commonly used in Germany and Canada.

To assist with the new requirement in *WIOA* for workforce development and adult education programs to engage with local and regional employers, OCTAE has released an online Employer Engagement tool kit to help bridge the worlds of business and adult education. Education program personnel can learn the language of business and how to conduct and benefit from employer engagement. Employers can find tips on how to coordinate efforts with local education providers. The tool kit shares vignettes of promising practices where employers are successfully incorporating foundation skill development into their talent management strategies.

The second approach called for in the *Ready to Work* report, increasing the efficacy of employer investment in training, recognizes that while there is a great deal of investment in training underwritten by the private sector, little of it is foundation skills training that could assist entry-level and low-skilled workers to advance on the job. Examples of where this is happening, however, include investments underway in two large employers. Walmart makes a fully online Career Online High School available for its associates and includes the option of earning one of eight industry-recognized certificates along with the diploma. McDonald's instituted a program called English Under the Arches to advance Spanish-speaking line workers into management positions. This highly contextualized curriculum is delivered by contracted educators on site as a blended learning, cohort model, incorporating both English literacy and job-specific skills to enable individuals to move into management positions.

Making the connection explicit between skill gains and job payoffs is in everyone's interest. Tackling this issue requires both public- and private-sector cooperation. Launched with the *Ready to Work* report was a public-private partnership-funded challenge called Jobs Madness to incent educational entrepreneurs to develop solutions to accelerated career pathways, upskill low-skilled workers, and connect education to employment. Similarly, Burning

Glass Technologies produced maps for the report that illustrate job ladders within particular sectors based on data from workers' actual progressions. These maps illustrate average pay advances per skill gain and projections of job growth.

Employers, too, can take steps to help workers commit to and persist in education and training courses by offering flexible blended models on site in partnership with education providers, making learning rooms with computers available for worker use before and after shifts, encouraging peer and cross-level tutoring among the workforce, making tuition reimbursements available for workers below the postsecondary level, restructuring positions to include skills progressions, and setting predictable schedules for workers that will facilitate class attendance. Employers, in collaboration with adult education providers, also are named as eligible providers under *Title II* of *WIOA*. This means that local solutions could be crafted between programs and businesses to offer courses at the worksite or to company-based cohorts, opening possibilities for highly contextualized career pathways and integrated education and training programs.

Innovation in Action

1. The English Works Campaign is an example of what an upskilling compact might look like. This campaign is a successful model and has called upon business, labor, community, and government leaders to dedicate the needed public and private resources to create a sustainable, high-quality English language learning system that addresses the needs and interests of immigrant workers and their employers. The Massachusetts Immigrant and Refugee Advocacy Coalition, in partnership with the National Partnership for New Americans, and in coordination with relevant federal agencies, including ED, has committed to identifying, training, and assisting five states or metropolitan regions with high concentrations of or rapid growth in immigrant and refugee families in the next year with the replication and scaling of the English Works Campaign. The commitment entails replicating this campaign by identifying five additional states and regions, training these states and regions, coaching the creation and implementation of business-education partnerships, sharing best practices of these public-private partnerships, and creating a national learning community.
2. In 2012, the Wadhwani Foundation launched the Race to a Job (RTAJ) Initiative. The mission of RTAJ is to enhance student employability while reducing learning times and costs and improving completion. Wadhwani is pioneering a learner-centric, massively open online system delivered in a hybrid model that scales existing successful workforce development programs in collaboration with community colleges, community-based organizations, training unions, and industry partners. Wadhwani rolled out two pilot partnerships in 2013. Anne Arundel Community College (AACC), in Arnold, Md., a part of the National STEM Consortium, is working with RTAJ to transform its Cyber Technology Certificate program designed to prepare entry-level cyber technology workers for career pathways in IT. The AACC student profile is immensely diverse, and the focus is on job seekers with little prior education. The industry certifications it grants include CompTIA (A+, Security+, Net+) and Cisco (CCNA). Wadhwani also is partnering with the Borough of Manhattan Community College of City University of New York and the 1199 SEIU Training and Upgrading Fund in New York to digitize its medical assistant specialist curriculum with an aim to upgrade skills and help workers gain stackable credentials. Other collaborators include New York City Small Business Services, the Community Health Care Association of New York State, and the New York Alliance for Careers in Healthcare.

Strategy 7: Commit to Closing the Equity Gap for Vulnerable Subpopulations.

Within the low-skilled population in the United States, there is great diversity and groups of particular vulnerability that deserve deliberate, targeted outreach and service strategies. The OECD data reveal shockingly stubborn achievement gaps that persist in America across ethnic, racial, and income groups. The impact on individuals from families headed by parents with low educational attainment is stronger and longer lasting in the United States (see Figure 10) than in other industrialized countries. Although k–12 performance is improving and these gaps are narrowing, disproportionate percentages of individuals with low skills among minorities remain a reality within the adult population surveyed. The OECD's first recommendation to the United States was to tackle this problem deliberately "in the interests of equity and social cohesion."[1] This strategy, although appearing as the seventh, is in many ways the most important. The findings shared here shake the belief that it is possible to achieve the American dream of upward mobility and that the U.S. educational system is fair and offers second chances. These stubborn achievement gaps and areas of stagnant achievement are warnings that the ladder of opportunity is broken in

too many places. Doubling our skill development efforts for these subpopulations will be key to making sure the economic recovery is working for all Americans.

One of the most worrisome findings from the OECD Survey is that low-skilled Americans are more likely than low-skilled populations in most other surveyed countries to be young. All too often, the youngest low-skilled adults are out of work as well. Labor force participation rates among young people have fallen sharply over the last decade and are projected to continue to fall over the next 10 years.[7] Some of this decline can be viewed as positive news as it reflects higher attendance in secondary and postsecondary education; however, an estimated 5.8 million young people ages 16–24 are neither enrolled in school nor employed.[71] About half of these disconnected youth lack a high school diploma or equivalent credential; and two-thirds of the young low-skilled population are men of color, whether African American, Hispanic, or American Indian.[72]

The Obama administration has undertaken several major efforts to bring attention to the equity agenda, not only for educational achievement but also for other related issues, such as social mobility, college enrollment and achievement, income and earnings, parenting, crime and recidivism, and health and well-being. Most recently, the administration's new partnership with business and philanthropy, My Brother's Keeper, is bringing renewed attention and resources to improve poor outcomes for young men of color. It joins other national public and private steps to encourage cross-sector, collective action to address the equity gap, such as the recently enacted Performance Partnership Pilots for Disconnected Youth and the Aspen Institute's Opportunity Youth Network. Mayors and other city leaders have been in the forefront of creating comprehensive strategies aimed at improving health, education, employment, and justice outcomes for young men. New York City's Young Men's Initiative, for example, is a citywide, collective impact approach that began in 2011 and is using data to identify persistent gaps, seed innovation with public and private resources, and review city agency practices to identify ways to reform operations and policies to reduce disparities in education, employment, and quality of life. In Mississippi, the Kellogg Foundation's Young Males of Color initiative has funded 26 community organizations to build a comprehensive network of support from birth into adulthood aimed at developing the educational, emotional, physical, and economic potential of boys and young men of color in the Delta region.[73]

The 12.3 million adults in the United States who do not speak English well or at all represent great linguistic diversity; they include highly educated immigrants as well as those who have little formal schooling in their native languages. An analysis by the Migration Policy Institute[74] shows that, consistent with the OECD Survey findings, lower-educated individuals, immigrants, and refugees are especially unlikely to receive English language or other education and training services. Just 3 percent of the over 9 million immigrant and refugee adults who lacked a high school diploma or equivalent reported being enrolled in education in 2012. Most of those who were enrolled had nearly completed a high school education (11 years).[74] This population also represents a growing proportion of the parents of school-aged children.[75] Addressing the skills crisis across the human lifespan requires fundamentally rethinking how we serve these lower-skilled immigrants and their families.

OCTAE is working with the non-profit organization Benetech to inform young and adult students with visual, physical, and learning disabilities that they may be eligible for no-cost memberships to its Bookshare service. Bookshare membership offers access to digital text that is delivered in custom formats such as audio, customizable text, and digital Braille; reading software that facilitates study with annotations, dictionary, spellcheck, and a pronunciation guide; and access to a library of over 300,000 materials. Bookshare is funded, in part, by ED through its Office of Special Education Programs. The program addresses the critical aspect of timely access to print for students' success in academic and occupational settings.

The impact of learning disabilities, diagnosed or not, and other disabilities on individuals with low skills is under-researched but long suspected as a major barrier to their learning progress and employment success. The OECD Survey provides recent data from the U.S. background questionnaire on the prevalence rates of LD by levels of literacy (see Figure 9), numeracy, and problem solving in a technology-rich environment. Low-skilled respondents with LD report very low employment rates: Just 9 percent report being employed, 24 percent report being

Evaluating the Effectiveness of Correction Education, a recent report from the RAND Corporation,[77] presents a meta-analysis of research strongly supporting the positive post-release impacts of correctional education on life outcomes for the formerly incarcerated. OCTAE has worked to develop and test models of reentry education in attempts to leverage the impact of prison-based education services by linking educational opportunities within prison with those in the community. OCTAE, with support from the Department of Justice, offered a demonstration grant opportunity to implement reentry education services, which operated in three states. In 2015, OCTAE will offer similar expanded grant opportunities for populations in both adult correctional facilities and in juvenile justice confinement. *WIOA* allows increased investments in correctional education while encouraging correctional education programs to provide more innovative and connected services, including both career pathways and integrated education and training.

unemployed, and another 26 percent report being out of the labor force. Such high rates necessitate continued and greater focus on improving instruction and workforce preparation for these individuals throughout their education experience. ED has committed to a renewed focus on improving achievement rates and graduation rates of students with disabilities,[76] as well as improving transition supports to help youth move from school to work successfully. *WIOA* demands greatly heightened attention on youth and adults with disabilities to address this challenge.

Indeed, *WIOA* includes 14 specific groups within the mandate to serve individuals who have "barriers to employment" (see sidebar below). New *WIOA* performance measures that require disaggregated tracking and reporting of services to and achievement of these subgroups, by race, ethnicity, sex, and age (Section 116, (4)(d)(2)(B)), will improve data collection and bring more transparency to the equity agenda for youth and adults.

Each of these vulnerable groups presents distinct social and economic contexts, learning backgrounds, and challenges, and even within each of these groups there is incredible diversity of needs and strengths. Focused investments in research, development, and evaluation are needed to build the evidence base for effective, differentiated interventions and program models.

Philanthropy, business, and industry can play especially important roles in seeding collective action at the state and local levels to address the needs of specific populations. They also can help evaluate innovations that service providers—whether workforce agencies, community colleges, school districts, faith-based institutions, labor-management training funds, or community organizations—may not have the capacity to study in any rigorous way.

Individuals With a Barrier to Employment

1. Displaced homemakers
2. Low-income individuals
3. Indians, Alaska Natives, and Native Hawaiians
4. Individuals with disabilities, including youth
5. Older individuals
6. Ex-offenders
7. Homeless individuals, including children and youth
8. Youth who are in foster care or who have aged out of foster care
9. Individuals who are ELLs, have low levels of literacy, and individuals facing substantial cultural barriers
10. Eligible migrant and seasonal farmworkers
11. Individuals within two years of exhausting lifetime eligibility under Part A of Title IV of Social Security
12. Single parents, including pregnant women
13. Long-term unemployed populations
14. Such other groups as the governor [of each state] involved determines to have barriers to employment

SOURCE: Section 3(24) of the *Workforce Innovation and Opportunity Act (WIOA)*.

To reach vulnerable subpopulations more effectively, participants in *Time to Reskill* engagement meetings stressed the importance of bringing education and training services into their communities—in workplaces, neighborhood schools, places of worship, health clinics, social clubs, labor exchanges, and libraries. Community-based and faith-based organizations can help build trust among potential students, ensure that services are culturally responsive and meet critical needs, and create a bridge to community and technical colleges so that students can progress along college and career pathways.

ED and the Obama administration are deeply committed to creating and repairing ladders of opportunity for all, especially for those who are in disadvantaged neighborhoods, schools, and labor markets. OCTAE has been working closely with the administration's equity initiatives to tailor messaging and outreach to these communities, including the Center for Faith-based and Neighborhood Partnerships and the Excellence in Education initiatives that work with Hispanic, African American, American Indian and Alaskan Native, and Asian American/Pacific Islander communities.

Innovation in Action

1. Silicon Valley's Alliance for Language Learners' Integration, Education, and Success (ALLIES) aims to address two major regional problems. First, an estimated two-thirds of working-age adults in the area who need English language instruction are not being served. Those immigrant adults also represent three-fourths of the adults in the region who lack high school diplomas. Second, the service delivery system intended to help English language learners is fragmented and "lacks the common goals, measurement systems, and coordinating structures" needed to maximize its impact on the 20,000 students served annually and to expand services.[78] ALLIES consists of three workforce boards, 10 community colleges, three adult education schools, human services agencies, employers, community-based organizations, unions, and the San Mateo Hispanic Chamber of Commerce. Through collaboration, innovation, and advocacy, ALLIES helps immigrants in the region access the combination of services they need to find and advance in family-sustaining careers. ALLIES uses a collective impact approach to systems change with the goal of providing coordinated English instruction, work readiness and career and technical training, and support in high-demand career pathways. Initially, ALLIES focused on building relationships, creating a common vision and agenda, developing cultural competency, defining shared metrics, and piloting service innovations, such as contextualized ESL, provided at the worksite in partnership with Kaiser Permanente and the Service Employees International Union. Though continuing to work on those elements, ALLIES also is moving to develop a coordinated assessment and referral system to implement the partnership's vision of "no wrong door" so that every member of the ALLIES network has the capacity to help learners assess their needs and connect them to the right services in the community. The partnership also hopes to cultivate closer relationships between workforce boards and English language providers.[79]
2. Through the federal Workforce Innovation Fund, the Gila River Indian Community (GRIC) is creating one of the first tribal career pathways initiatives in the country. Located near Phoenix, GRIC was one of only two tribes chosen for the 2010 federal interagency Career Pathways Initiative. The tribe reports that participation in the initiative had a profound impact in bringing together previously disconnected public schools, key tribal departments, community colleges, workforce agencies, and employers, which catalyzed the development of a shared vision and joint goals.[80] Given the high rates of social, educational, and economic problems among tribal youth, GRIC's career pathways initiative focuses on young people (though it also serves adults), whether disconnected or still in high school, alternative schools, or adult education. GRIC is targeting four high-growth industry sectors—hospitality, construction, government, and healthcare—and connecting occupational skills training with foundation skills education. In addition to support services, the GRIC career pathways partnership plans to offer employer mentoring, job-shadowing opportunities, and dual enrollment career and technical education options within high schools that offer credentials and college credit.[81]

Beyond Foundation Skills

We must transform learning opportunities in order to help low-skilled adults attain foundation skills so they can move ahead. But we cannot stop there. The data shared throughout this report compel us to consider how low skills reverberate through communities and across generations, perpetuating disadvantage. Millions of Americans dream of skilling up for career advancement opportunities, completing a degree program they started long ago, or taking their education up to the next level. Opening the doors of postsecondary education and training to more Americans is necessary to ensure they are able to achieve their goals and have pathways to the middle class. Research conducted by Georgetown University's Center on Education and the Workforce predicts that by 2020, two-thirds of all new jobs created will require education and training beyond high school. Low-skilled youth and adults who are not able to improve their foundation skills, continue their education and training, and ultimately earn postsecondary certificates or degrees will face increasingly bleak career prospects.[82]

While the U.S. has excelled in expanding access to higher education through community colleges, nearly half of the students who begin college in this country do not finish within six years. National trends show that low-income and first-in-family college students struggle to complete their degrees and stop out repeatedly to address financial, health, and parenting issues. Entering college with remediation needs puts these students at higher risk

for non-completion.[83] Meanwhile, the economic data show the consequences of non-completion: Those who enroll in college but do not persist long enough to complete credentials earn little more than those with no college experience,[84] making any accrued student debt an outsized burden.

Reforms are needed at every stage from cradle through career to realize a culture that truly values lifelong, personalized learning and supports students through to the completion of postsecondary credentials with labor market value. This includes strengthening the connections between adult basic education and postsecondary education and training programs, as well as reforming traditional developmental education sequences, to ensure that more individuals are able to access and persist in higher education.

The explosion of online and on-the-go learning tools offers new avenues to reach youth and adults ready to skill up when the resources and content provided are connected to real educational and career opportunities. ED and the Obama administration are committed to leveraging federal policy as well as working closely with the education, business, technology entrepreneur, and labor communities to showcase best practices and spur innovation in the critical area of upskilling America for a global, 21st-century economy.

This page intentionally left blank

Part 3. Developing a National Framework for Action

In advance of the release of the OECD *Survey of Adult Skills* data in October 2013, OCTAE committed to spearheading a national response to the skills crisis. OCTAE embarked on a full year of study and engagement with key stakeholders. The work began with the establishment of guiding principles for the national response, which were articulated in the consultation paper *Time for the U.S. to Reskill: Developing a National Action Plan to Improve the Foundation Skills of U.S. Adults*[4] and regularly cited in presentations and outreach. The report proposed the following:

> "In order to build a sustainable economy and grow the middle class, a national action plan must focus on the following guiding principles as a foundation for reform:
>
> - A national action plan must be based on a model of **shared responsibility** across federal, state, and local governments; business, labor, and industry; education and workforce agencies; community-based organizations; and the philanthropic community to address the need to significantly impact the availability of learning opportunities for low-skilled adults.
> - A national action plan must seek to increase **equity, learner access, and learner success**.
> - A national action plan must seek to increase **quality of instruction**.
> - A national action plan designed to dramatically improve the skills of U.S. adults should be **data-driven and evidence-based**.
> - A national action plan must instill a commitment to **new innovations, ideas, and interventions** to make a meaningful impact and support new solutions that can be brought to scale."

Activities undertaken in preparation and response to the survey included (in chronological order):

- Consultation on lessons learned with peers in Australia, Canada, the United Kingdom, and other nations that have developed national strategies for foundation skills
- Examination of census data of eligible student populations, resulting in state-level and country-level data profiles
- Review of the literature[85] on effective instruction of foundation skills
- Internal data analysis of policy and budget issues
- Procuring from the OECD a deeper dive into the U.S. skills survey data, resulting in the OECD report *Time for the U.S. to Reskill? What the Survey of Adult Skills Says*
- Consultation with leading researchers on the OECD *Time for the U.S. to Reskill?* report findings (Burt S. Barnow, George Washington University; John Comings, Education Development Center; Stefan LoBuglio, Montgomery County, Maryland, Department of Corrections; Richard J. Murnane, Harvard Graduate School of Education; Demetra Nightingale, U.S. Department of Labor; Maricel G. Santos, San Francisco State University)
- Creation of a tool kit to support community-based dialogues about skills, which included a consultation paper, presentation materials, and an online form for contributing ideas and insights
- An engagement process that took OCTAE leadership across the country to listen to students and other stakeholders, such as local and regional business and skill alliances, the National Adult Education Professional Development Consortium workforce development programs, community college administrators, technology developers and entrepreneurs, advocacy groups, and elected officials

- Contribution to the vice president's efforts to align federal job training programs, which resulted in the *Ready to Work* report and follow-up activities, including employer engagement and upskilling of low-wage workers
- Analysis of the newly enacted *Workforce Innovation and Opportunity Act*

All of these efforts informed this report. A broad range of people from business, philanthropy, colleges, school districts, community and faith-based organizations, federal and state education agencies, the workforce, human service organizations, commerce, and other agencies, as well as technology entrepreneurs and students, generously gave of their time and expertise to help crystallize the most important challenges and promising solutions to raising adult skills. Their input has been invaluable.

OCTAE regional engagement meetings were held in December 2013 and January 2014 in Philadelphia; Chicago; Cleveland, Miss.; San Jose, Calif.; Washington; and the greater Boston area. Roundtables were held with focused stakeholder group representatives, including labor union leaders, disability services thought leaders, employers and business owners, Native American and tribal leaders, state directors of adult education through the National Adult Education Professional Development Consortium, members of the U.S. Conference of Mayors, leaders within the National Skills Coalition, leaders within the National Coalition for Literacy, chief learning officers of major corporations, and others.

OCTAE Regional Event Co-Sponsors

Regional events brought OCTAE and local leadership together for day-long events to examine workforce development and education needs across sectors and providers. Student and teacher focus groups were coordinated at local adult education or community college venues as part of these visits. OCTAE is grateful for the sponsorship and coordination assistance of the following organizations for these events:

- Center for American Progress (November 12, 2013)
- National Engagement Process Launch Event (November 20, 2013)
- Philadelphia Mayor's Commission on Literacy (December 10, 2013)
- The Joyce Foundation (December 18, 2013)
- Wadhwani Foundation (January 9, 2014)
- Delta State University (January 15, 2014)
- Advanced Technology and Manufacturing Center of the University of Massachusetts, Dartmouth (January 21, 2014)

Local Engagement Events

The following local organizations across the country responded to OCTAE's call for input on workforce and adult skill development, used the materials loaded on the Time to Reskill tool kit to coordinate their own discussions, and then submitted collective feedback:

- Lion's Club of Camden, Arkansas (January 8, 2014)
- North Carolina Employer/Community Education and Training Steering Committee (January 22, 2014)
- New Mexico Coalition for Literacy Professional Program Directors' Association Event (January 27, 2014)
- Chicago Jobs Council/Chicago Citywide Literacy Coalition, and Women Employed (February 11, 2014)

- A Response to PIAAC: Recommendations from State Directors of Adult Education Across the U.S. (February 15, 2014)
- Culpeper, Virginia Time to Reskill In-Service (February 19, 2014)
- Digital Literacy and Problem Solving in Technology-Rich Environments (February 19, 2014)
- DC Adult and Family Literacy Coalition Community Discussion (February 19, 2014)
- Illinois Pathways to Careers Network Statewide Webinar (February 25, 2014)
- Greater Cleveland Literacy (February 28, 2014)
- Pima Community College Adult Education Regional Focus Group (March 6, 2014)
- Time to Reskill Tennessee (March 6, 2014)
- Time to Reskill Kentucky: Kentucky Adult Education Employability Skills (March 7, 2014)
- Petaluma, California Time to Reskill (March 7, 2014)
- Allegheny Conference/Greater Pittsburgh Literacy Council Reskill Session (March 10, 2014)
- Time for Osceola County to Reskill? (March 11, 2014)
- Nashville Literacy Group (March 13, 2014)
- Roundtable at Commission on Adult Basic Education Pennsylvania Association for Adult Continuing Education Meeting (March 18, 2014)
- Migration Policy Institute-coordinated events
  - Massachusetts Immigrant and Refugee Advocacy Coalition and English for New Bostonians (February 26, 2014)
  - Illinois Coalition for Immigrant and Refugee Rights (March 6, 2014)
  - New York Immigration Coalition and the Literacy Assistance Center (March 13, 2014)
  - Central Valley Immigrant Integration/DACA Collaborative and the Werner-Kohnstamm Family Fund (March 14, 2014)
  - OneAmerica/Seattle Office of Economic Development (March 20, 2014)
  - OneAmerica/State Adult Education Advisory Council (April 10, 2014)

This page intentionally left blank

Endnotes

1. Organisation for Economic Co-operation and Development. (2013). Time for the U.S. to reskill? What the Survey of Adult Skills says, OECD Skills Studies. Paris, France: OECD Publishing. Retrieved from http://skills.oecd.org/Survey_of_Adult_Skills_US.pdf. Except where noted, this OECD publication is the source for all findings in Part 1 of this report.
2. The White House. (2014, July). Ready to work: Job-driven training and American opportunity. Washington, DC: Author. Retrieved from www.whitehouse.gov/sites/default/files/docs/skills_report.pdf.
3. 113th U.S. Congress, 2nd Session. (2014). Workforce Innovation and Opportunity Act, H.R. 803. Retrieved from http://www.gpo.gov/fdsys/pkg/BILLS-113hr803enr/pdf/BILLS-113hr803enr.pdf.
4. U.S. Department of Education, Office of Vocational and Adult Education. (2013, December). Time for the U.S. to reskill: Developing a national action plan to improve the foundation skills of U.S. adults. Washington, DC: Author. Retrieved from http://www.timetoreskill.org/consultation-paper.pdf.
5. U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. (n.d.). Selected findings from PISA 2012. Washington, DC: Author. Retrieved from http://nces.ed.gov/surveys/pisa/pisa2012/pisa2012highlights_6.asp.
6. Additional unpublished analysis of the OECD Survey data conducted for the U.S. Department of Education.
7. Toossi, M. (2013, December). Labor force projections to 2022: The labor force participation rate continues to fall. Monthly Labor Review. Bureau of Labor Statistics, U.S. Department of Labor. Retrieved from http://www.bls.gov/emp/ep_pub_labor_force.htm.
8. Ratcliffe, C. & McKernan, S-M. (2010, June). Childhood poverty persistence: Facts and consequences. Washington, DC: The Urban Institute. Retrieved from http://www.urban.org/UploadedPDF/412126-child-poverty-persistence.pdf.
9. Hanushek, E. A. & Woessmann, L. (2010, November). How much do educational outcomes matter in OECD countries? (Working Paper No. 16515). Cambridge, MA: National Bureau of Economic Research. Retrieved from http://www.nber.org/papers/w16515.
10. Hanushek, E. A., Schwerdt, G., Wiederhold, S. & Woessmann, L. (2013, December). Returns to skills around the world: Evidence from PIAAC. (Working Paper No. 19762). Cambridge, MA: National Bureau of Economic Research. Retrieved from http://www.nber.org/papers/w19762.
11. Magnuson, K. A., Sexton, H. R., Davis-Kean, P. E. & Huston, A. C. (2009, July). Increases in maternal education and young children's language skills. Merrill-Palmer Quarterly, 55 (3). Retrieved from http://digitalcommons.wayne.edu/mpq/vol55/iss3/7/.
12. Ridley, N. & Kenefick, E. (2011, May). Research shows the effectiveness of workforce programs: A fresh look at the evidence. Washington, DC: Center for Law and Social Policy. Retrieved from http://www.clasp.org/resources-and-publications/publication-1/workforce-effectiveness.pdf.
13. Hernández-Murillo, R. & Martinek, C. J. (2011, April). Which came first—better education or better health? The Regional Economist. Federal Reserve Bank of St. Louis. St. Louis, MO: Retrieved from https://www.stlouisfed.org/publications/re/articles/?id=2092.
14. Australian Workforce and Productivity Agency. (2013, March). Human capital and productivity: Literature review. Canberra, ACT, Australia: Author. Retrieved from http://www.awpa.gov.au/our-work/better-use-of-skills/Pages/Human-capital-and-productivity-literature-review.aspx.
15. Johns Hopkins Bloomberg School of Public Health. (2014, January 22). Health disparities among U.S. African-American and Hispanic men cost economy more than $450 billion over four years. (News release). Retrieved from http://www.jhsph.edu/news/news-releases/2014/health-disparities-among-us-african-american-and-hispanic-men-cost%20economy-more-than-450-billion-over-four-years.

16. Berger, N. & Fisher, P. (2013, August 22). A well-educated workforce is key to state prosperity. Washington, DC: Economic Policy Institute. Retrieved from http://www.epi.org/publication/states-education-productivity-growth-foundations.

17. Federal Reserve Bank of Cleveland. (2005). Altered states: A perspective on 75 years of state income growth. Federal Reserve Bank of Cleveland 2005 Annual Report. Cleveland, OH: Author. Retrieved from https://www.clevelandfed.org/~/media/Files/AnnualReports/2005-annual-report-federal-reserve-bank-of-cleveland.pdf?la=en.

18. Vernon, J. A., Trujillo, A., Rosenbaum, S. & DeBuono, B. (2007, October). Low health literacy: Implications for national health policy. Health Sciences Research Commons. Washington, DC: George Washington University. Retrieved from http://hsrc.himmelfarb.gwu.edu/sphhs_policy_facpubs/172/.

19. Florida, R. (2011, April 20). Immigrants and the wealth of nations. (Web log comment). Retrieved from http://www.creativeclass.com/_v3/creative_class/2011/04/20/immigrants-and-the-wealth-of-nations/.

20. More information on this model can be found at the Collective Impact Forum, http://www.collectiveimpactforum.org/. Communities that are just beginning collective impact efforts may benefit from the new *Guide to Evaluating Collective Impact* at http://www.fsg.org/tabid/191/ArticleId/1098/Default.aspx?srpush=true. It was created by the Collective Impact Forum and FSG. The guide advises practitioners, funders, and evaluators on how to use performance measurement and evaluation to develop, benchmark, refine, and assess their collaborative work at different stages of development. It also offers sample evaluation questions, outcomes, and indicators, and describes how four different collective impact initiatives are approaching performance measurement and evaluation.

21. For more information, see Hanleybrown, F., Kania, J. & Kramer, M. (2012, January 12). Channeling change: Making collective impact work. (Web log comment). Retrieved from http://partnership2012.com/download/Collective%20Impact%20II.pdf.

22. Wilson, B. (2014, March 13). Governors propose new workforce. (National Skills Coalition skills blog). Retrieved from http://www.nationalskillscoalition.org/news/blog/governors-propose-new-workforce-initiatives.

23. U.S. Department of Health and Human Services. (2012, October). The evolution of the CareerAdvance® program in Tulsa, Oklahoma. Austin, TX: University of Texas-Austin, Ray Marshall Center for the Study of Human Resources. Retrieved from http://captulsa.org/wp/wp-content/uploads/2012/12/RMC_Evolution-of-Career-Advance_10-31-2012.pdf.

24. For more information, see http://www.competitiveworkforce.com/.

25. For more information on New York's Literacy Zones, see http://www.p12.nysed.gov/funding/2009literacyzonewiarfp.html.

26. For information on Syracuse's efforts, see http://www.syracusecityschools.com.

27. National Institute for Literacy. (2008, September). Investigating the language and literacy skills required for independent online learning. Jessup, MD: Author. Retrieved from http://lincs.ed.gov/publications/pdf/NIFLOnlineLearningReport.pdf.

28. U.S. Department of Labor, Employment and Training Administration. (Forthcoming). Technology-based learning in the workforce investment system.

29. Bertot, J. C., Jaeger, P. T., Lee, J., Dubbels, K., McDermott, A. J. & Real B. (2014, July 21). 2013 Digital Inclusion Survey: Survey findings and results. College Park, MD: University of Maryland College Park, Information Policy and Access Center. Retrieved from http://digitalinclusion.umd.edu/sites/default/files/uploads/2013DigitalInclusionNationalReport.pdf.

30. Becker, S., Crandall, M. D., Fisher, K. E., Kinney, B., Landry, C. & Rocha, A. (2010). Opportunity for all: How the American public benefits from Internet access at U.S. libraries. Washington, DC: Institute of Museum and Library Services. Retrieved from http://www.imls.gov/assets/1/assetmanager/opportunityforall.pdf.

31. Zickuhr, K. (2013, September 25). Who's not online and why. Washington, DC: Pew Research Center. Retrieved from http://www.pewinternet.org/files/old-media//Files/Reports/2013/PIP_Offline%20adults_092513_PDF.pdf.

32. Russell, M., Lippincott, J. & Getman, J. (2013). Connected teaching and personalized learning: Implications of the National Education Technology Plan (NETP) for Adult Education. (Draft for public comment). Washington, DC: American Institutes for Research. Retrieved from http://lincs.ed.gov/publications/pdf/ImplicationsNTEP_AdultEd.pdf.

33. Klein-Collins, R. (2010, March). Fueling the race to postsecondary success: A 48-institution study of prior learning assessment and adult student outcomes. Chicago: The Council for Adult and Experiential Learning. Retrieved from http://www.cael.org/pdfs/pla_fueling-the-race.

34. Perin, D. (2013). Teaching academically underprepared students in community college. In J. S. Levin & S. T. Kater (eds.) Understanding community colleges. New York, NY: Routledge. Retrieved from http://ccrc.tc.columbia.edu/publications/teaching-academically-underprepared-students.html.

35. Weise, M. R. & Christensen, C. M. (2014). Hire education: Mastery, modularization, and the workforce revolution. San Mateo, CA: Clayton Christensen Institute for Disruptive Innovation. Retrieved from http://www.christenseninstitute.org/wp-content/uploads/2014/07/Hire-Education.pdf.

36. See, for example, research by Deil-Amen and Rios-Aguilar into social media applications to support college success: http://www.aei.org/files/2013/06/21/-kelly-deilamenriosaguilar_085245822596.pdf.

37. Minnesota State Colleges and Universities, System Office of Research, Planning and Policy. (2013, June 25). Shifting gears: Enrollment, persistence, graduation and employment of Adult Basic Education learners and FastTRAC participants at Minnesota State Colleges and Universities. St. Paul, MN: Author. Retrieved from http://www.asa.mnscu.edu/research/docs/ABE_MN_FastTRAC_Analysis_2013.pdf.

38. Scrivener, S., Weiss, M. J. & Sommo, C. (2012). What can a multifaceted program do for community college students? Early results from an evaluation of Accelerated Study in Associate Programs (ASAP) for developmental education students. New York, NY: MDRC. Retrieved from http://www.mdrc.org/publication/what-can-multifaceted-program-do-community-college-students.

39. Washington State Board for Community and Technical Colleges. (2011). Opportunity Grant Program: Fall 2011 report. Bellevue, WA: Author.

40. Deming, D. & Dynarski, S. (2009). Into college, out of poverty? Policies to increase the postsecondary attainment of the poor. (Working Paper No. 15387). Cambridge, MA: National Bureau of Economic Research. Retrieved from http://www.nber.org/papers/w15387.

41. Jobs for the Future. (2010, Spring). Breaking through practice guide. Boston, MA: Author. Retrieved from http://www.jff.org/publications/breaking-through-practice-guide.

42. Rutschow, E. Z. & Crary-Ross, S. (2014, January). Beyond the GED: Promising models for moving high school dropouts to college. New York, NY: MDRC. Retrieved from http://www.mdrc.org/sites/default/files/Beyond_the_GED_FR_0.pdf.

43. Adult Career Pathways Training and Support Center. (2013, April). Career awareness focus of Texas' commitment to large-scale professional development. Adult Career Pathways News. Arlington, VA: Author. Retrieved from http://lincs.ed.gov/publications/html/acp-newsletters/vol3issue2.html.

44. Darling-Hammond, L. (2000, September). Teacher quality and student achievement: A review of state policy evidence. Teachers College Record. New York, NY: Columbia University Teachers College. Retrieved from http://www.tcrecord.org/Content.asp?ContentId=10531.

45. Barber, M. & Mourshed, M. (2007). How the world's best-performing school systems come out on top. Washington, DC: McKinsey & Company. Retrieved from http://mckinseyonsociety.com/how-the-worlds-best-performing-schools-come-out-on-top/.

46. Rivkin, S. G., Hanushek, E. A. & Kain, J. F. (2005, March). Teachers, schools, and academic achievement. Econometrica, Econometric Society, 73 (2), 417-458. Retrieved from http://www.econ.ucsb.edu/~jon/Econ230C/HanushekRivkin.pdf.

47. Rockoff, J. E. (2004, May). The impact of individual teachers on student achievement: Evidence from panel data. American Economic Review, 94 (2), 247-252. Retrieved from http://www.jstor.org/stable/3592891?seq=1#page_scan_tab_contents.

48. Rockoff, J. E., Jacob, B. A., Kane, T. J. & Staiger, D. O. (2011, January 6). Can you recognize an effective teacher when you recruit one? Education Finance and Policy, 6 (1), 43-74. Retrieved from http://www.mitpressjournals.org/.

49. Kane, T. J., Rockoff, J. E. & Staiger, D. O. (2006). What does certification tell us about teacher effectiveness? Evidence from New York City. Economics of Education Review, 27 (6), 615-631. Retrieved from http://cepr.harvard.edu/cepr-resources/files/news-events/ncte-what-does-certification--kane-rockoff-staiger.pdf.

50. Boyd, D., Goldhaber, D., Lankford, H. & Wyckoff, J. (2007, Spring). The effect of certification and preparation on teacher quality. The Future of Children, 17 (1), 45-68. Retrieved from http://futureofchildren.org/futureofchildren/publications/journals/article/index.xml?journalid=34&articleid=75.

51. U.S. Department of Education, Office of Planning, Evaluation and Policy Development. (2010). Evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning studies. Washington, DC: Author. Retrieved from https://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf.

52. U.S. Department of Education, Office of Vocational and Adult Education. (2013, April). College and career readiness standards for adult education. Washington, DC: Author. Retrieved from http://lincs.ed.gov/publications/pdf/CCRStandardsAdultEd.pdf.

53. Frank, M. (2012, August). A report on the Minnesota (MN) Student Achievement in Reading (STAR) Project. St. Paul, MN: Hamline University School of Education, Adult Basic Education Teaching and Learning Advance System. Retrieved from https://lincs.ed.gov/professional-development/resource-collections/profile-494.

54. Gerlaugh, K., Thompson, L., Boylan, H. & Davis, H. (2007). National Study of Developmental Education II: Baseline data for community colleges. Research in Developmental Education, 20 (4), 1-4. Retrieved from http://ncde.appstate.edu/sites/ncde.appstate.edu/files/RiDE%2020-4.pdf.

55. Transcript of Literacy Information and Communication System (LINCS) discussion of teacher certification and credentialing in adult education, June 23, 2011. (2013, April 24). Durango Herald. Retrieved from http://lincs.ed.gov/lincs/discussions/professionaldevelopment/11certification.

56. Zumbach, L. (2013, September 20). City Colleges teachers start to see bonuses for hitting performance targets. Chicago Tribune. Retrieved from http://www.usacosts.com/city-colleges-teachers-start-to-see-bonuses-for-hitting-performance-targets-chicago-tribune/.

57. Center for Law and Social Policy. (2012, January). Out-of-school males of color: Summary of roundtable discussion. Washington, DC: Author. Retrieved from http://www.rwjf.org/en/research-publications/find-rwjf-research/2012/01/out-of-school-males-of-color.html.

58. Andrews, L., Johnson, C. & Karpman, M. (2012). City leadership to promote black male achievement: Municipal guide. Washington DC: National League of Cities, Institute for Youth, Education & Families. Retrieved from http://www.nlc.org/find-city-solutions/youth-education-and-families/at-risk-youth/city-leadership-to-promote-black-male-achievement.

59. For more information on the Welcome Back Initiative, see http://www.welcomebackinitiative.org/wb/about/background.html.

60. See http://www.clasp.org/issues/postsecondary/pages/tanf-education-and-training-resources for profiles of each of these states' efforts, as well as other Temporary Assistance for Needy Families (TANF) education and training resources.

61. Lower-Basch, E. (2014, March). Supplemental Nutrition Assistance Program (SNAP) and Employment and Training (E&T). Washington, DC: Center for Law and Social Policy. Retrieved from http://www.clasp.org/resources-and-publications/publication-1/SNAP-ET-Overview.pdf.

62. Kaz, D. & Kraus, R. (2014, June). Washington state's basic food employment & training program. Seattle, WA: Seattle Jobs Initiative. Retrieved from http://www.aecf.org/resources/washington-states-basic-food-employment-and-training-program/.

63. South Carolina Department of Social Services. (n.d.). SNAP2Work. Columbia, SC: Author. Retrieved from https://dss.sc.gov/content/customers/food/snap2wk/index.aspx.

64. More information on this model can be found at the Collective Impact Forum, http://www.collectiveimpactforum.org/.

65. Parkes, R., Holt, E., Lee, K., Theodore, N. & Cook, D. (2012, July). Opportunity Chicago 2006-2010: Improving access to employment for public housing residents in Chicago. Chicago, IL: University of Illinois at Chicago Center for Urban Economic Development, Abt Associates, Inc., EJP Consulting Group, LLC. Retrieved from http://cjc.net/wp-content/uploads/2012/06/OC-Evaluation_July2012.pdf.

66. Carnevale, A. P., Jayasundera, T. & Hanson, A. R. (2012). Career and technical education: Five ways that pay. Washington, DC: Georgetown University, Center on Education and the Workforce. Retrieved from http://www.insidehighered.com/sites/default/server_files/files/CTE_FiveWays_FullReport_Embargoed.pdf.

67. Reed, D., Liu, A. Y-H., Kleinman, R., Mastri, A., Reed, D., Sattar, S. & Ziegler, J. (2012, July 25). An effectiveness assessment and cost-benefit analysis of registered apprenticeship in 10 states: Final report. Oakland, CA: Mathematic Policy Research. Retrieved from http://wdr.doleta.gov/research/FullText_Documents/ETAOP_2012_10.pdf.

68. Nightingale, D. S. & Plimpton, L. (2000). Welfare employment programs: Impacts and cost-effectiveness of employment and training activities. In B. S. Barnow & C. T. King (Eds.), Improving the odds: Increasing the effectiveness of publicly funded training. Washington, DC: Urban Institute Press. Retrieved from http://www.voced.edu.au/content/ngv27807.

69. Ridley, N. & Wentworth, G. (2012, April). A breakthrough for work sharing: A summary of the Layoff Prevention Act of 2012. New York, NY: Center for Law and Social Policy. Retrieved from http://www.nelp.org/page/-/UI/2012/BreakthroughForWorkSharing.pdf?nocdn=1.

70. National Conference of State Legislatures. (2014). Work share programs (blog). Retrieved from http://www.ncsl.org/research/labor-and-employment/work-share-programs.aspx.

71. Opportunity Nation & Measure of America. (n.d.). Opportunity Index 2013: Summary of states and counties. Boston, MA: Authors. Retrieved from http://webarchive.ssrc.org/MOA/2014/2013OppIndex_Analysis_of_FindingsFINAL.pdf.

72. Corcoran, M., Hanleybrown, F., Steinberg, A. & Tallant, K. (2012). Collective impact for opportunity youth. Washington, DC: FSG, Inc. Retrieved from http://www.fsg.org/tabid/191/ArticleId/735/Default.aspx?srpush=true.

73. For more information, see http://www.wkkf.org/news-and-media/article/2013/06/mississippi-young-males-of-color-grantee-cohort.

74. McHugh, M. (2014). Adult education needs of U.S. immigrants and refugees and recommendations to improve the federal government's response in meeting them. Washington, DC: Migration Policy Institute, National Center on Immigrant Integration Policy.

75. Park, M. & McHugh, M. (2014). Immigrant parents and early childhood programs: Addressing barriers of literacy, culture, and systems knowledge. Washington, DC: Migration Policy Institute. Retrieved from http://www.migrationpolicy.org/research/immigrant-parents-early-childhood-programs-barriers.

76. Samuels, C. A. (2014, September 10). Graduation disparities loom large for students with special needs. Education Week. Retrieved from http://www.edweek.org/ew/articles/2014/01/29/19grad_ep.h33.html?tkn=MMWFjqBQvqWJQvncrXgRvpSsiQMmim2EhKvM&print=1.

77. Davis, L. M., Bozick, R., Steele, J. L., Saunders, J. & Miles, J. N. V. (2013). Evaluating the effectiveness of correction education: A meta-analysis of programs that provide education to incarcerated adults. Santa Monica, CA: RAND Corporation. Retrieved from http://www.rand.org/pubs/research_reports/RR266.html.

78. Overview of Alliance for Language Learners' Integration, Education, and Success (ALLIES) from its Website https://sites.google.com/a/allies4esl.org/www/.

79. Stadelman, K. & Bischoff, U. (2014, March). A social impact initiative supporting English learners to succeed in family-sustaining careers. Presented at the National Association of Workforce Board Forum, Washington, DC. Retrieved from http://www.nawb.org/forum2014/documents/Workshops/SVA_NAWB_Forum2014.pdf.

80. Social Policy Research Associates. (2011, September). Career Pathways Initiative grantee profiles. Oakland, CA: Author. Retrieved from https://learnwork.workforce3one.org/view/2001134055594371685.

81. Workforce Innovation Fund. (2013, March 12). WIF grantee summary: Gila River Indian Community Career Pathways Model (GRIC Model). Washington, DC: U.S. Department of Labor. Retrieved from http://innovation.workforce3one.org/resources_uploads/one-pagers/OnePager_-_Gila_River_20130312_final.pdf.

82. Carnevale, A. P., Smith, N. & Strohl, J. (2013). Recovery: Job growth and education requirements through 2020. Washington, DC: Georgetown University Center on Education and the Workforce. Retrieved from https://cew.georgetown.edu/recovery2020.

83. Complete College America. (2012). Remediation: Higher education's bridge to nowhere. Washington, DC: Author. Retrieved from http://completecollege.org/docs/CCA-Remediation-final.pdf.

84. Baum, S., Ma, J. & Payea, K. (2013). Education pays 2013: The benefits of higher education for individuals and society. New York, NY: The College Board. Retrieved from http://trends.collegeboard.org/education-pays.

85. Mellard, D., Woods, K. L. & Adamson, E. (2013, July 11). Adult Education Literature Synthesis Project (Unpublished manuscript). Bethesda, MD: NOVA Research Company.

This page intentionally left blank

The Department of Education's mission is to promote student achievement and preparation for global competitiveness by fostering educational excellence and ensuring equal access.

www.ed.gov