THIRD WAY

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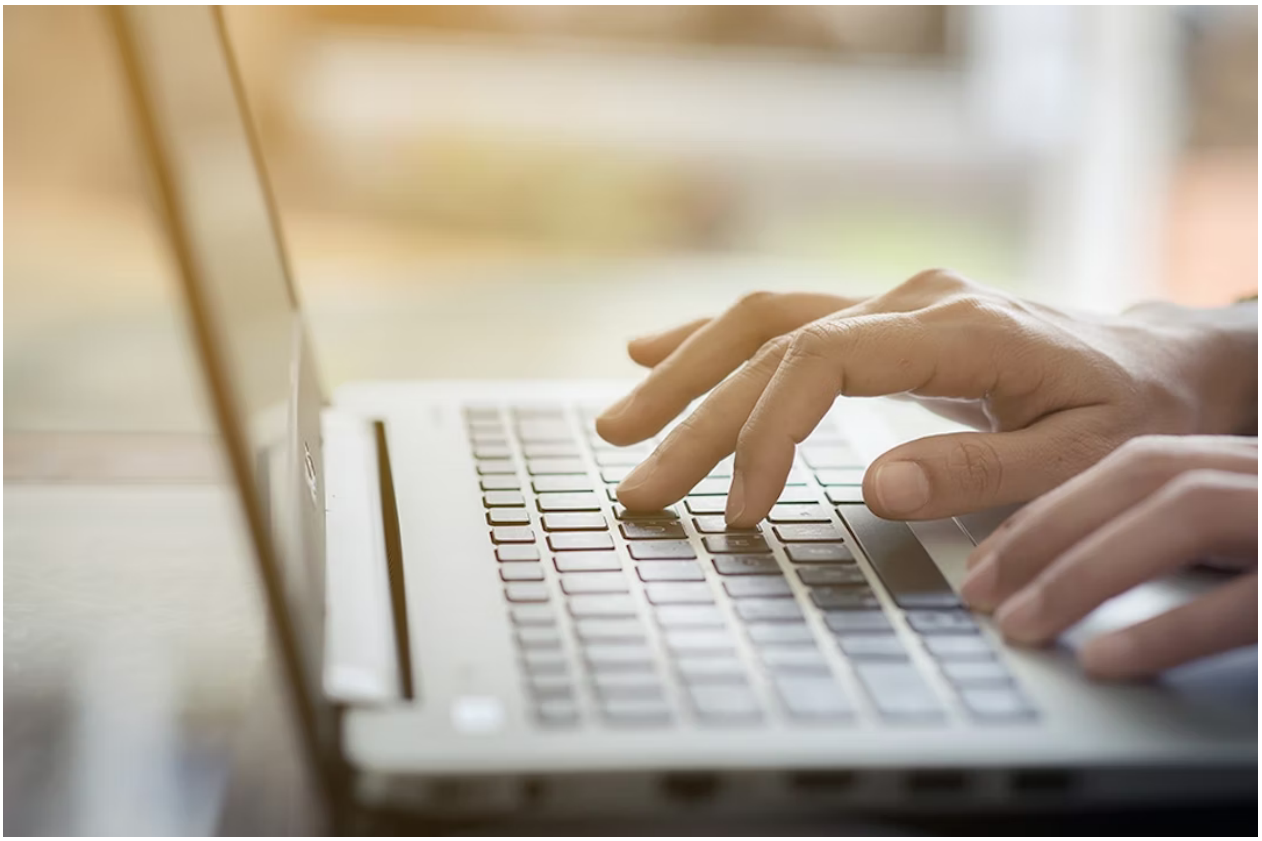
America's Digital Skills Divide



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Takeaways

One-third of Americans lack basic digital skills that are needed to engage successfully in the modern economy. And Black and Hispanic workers are overrepresented in this group.

Over the past few years, the federal government has stepped up its investments in broadband and digital connectivity. But limited resources have been devoted to bolstering the skills that Americans need to engage in the digital age. In this report, we explore the magnitude of digital illiteracy among US workers, public and private sector efforts to expand digital skills and training, and what more can be done through government policy.

One in three Americans are on track to be left behind in the 21st century economy. [1] The reason: digital illiteracy. It is widely understood that broadband offers immense opportunities to connect people to economic opportunity, including upskilling opportunities that open pathways to in-demand careers and higher wages. But if people aren't connected—or don't have the know-how on using computers and technology—that economic opportunity disappears. Ninety percent of the jobs in the United States by 2030 will require digital skills, so the one-third that are under-skilled are at great risk of being left behind. [2]

The Federal government has made a massive investment in broadband and internet access in three signature pieces of legislation over the past two years. The Bipartisan CARES Act subsidized broadband service for millions of Americans during the pandemic. The American Rescue Plan provided billions of dollars for states to expand broadband infrastructure and internet availability. And the Infrastructure Investment and Jobs Act (IIJA, also known as the bipartisan infrastructure bill) provided $65 billion to expand broadband across the United States, make it more affordable, and work to address digital equity challenges. [3]

The challenge now is ensuring those resources impact the communities that need them most. That not only means connecting more people to broadband, but also ensuring all Americans are digitally literate and can use broadband to build skills and enhance careers. If an individual doesn't have digital skills, they will be unlikely to connect to broadband and see its benefits. [4] In this report, we explore the magnitude of digital illiteracy among US workers, public and private sector efforts to expand digital training, and what more can be done through government policy.

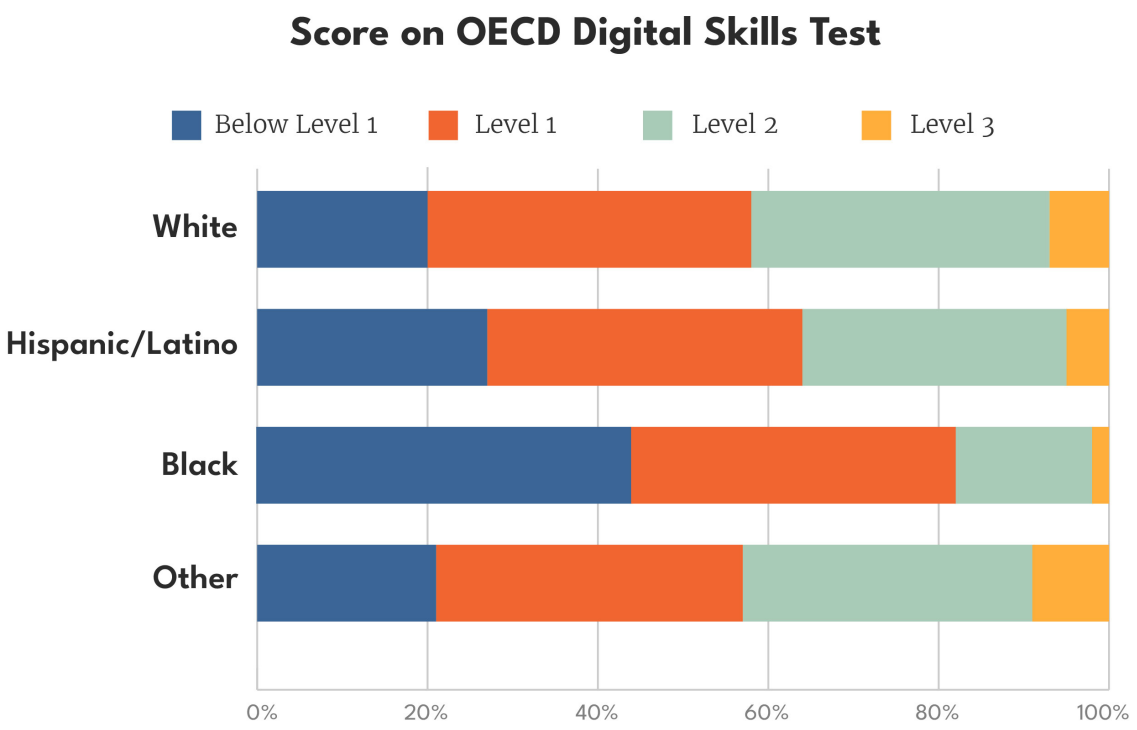
The Problem: 1/3 of American workers lack digital skills

Digital skills are critical to thriving in a 21st century economy, but **Americans lag well behind their peers in other countries**. A Coursera assessment of global labor skillsets ranked the United States 59th in technology, just below Armenia and above Greece. [5] The Organisation for Economic Cooperation and Development (OECD) conducted a separate analysis that categorized digital skills into levels. Their finding: one-in-three US workers lack digital skills. [6]

OECD Rating	Below Level 1 or Failure	Level 1	Level 2	Level 3
Skill Tested	Not meeting any of the other skills	Internet search, web browser, email.	Navigating across pages, multi-step problem solving, assessing relevance.	Sorting, intuitive problem solving, responding to unforeseen issues.
Type of Skill	Less than basic internet usage skills	Basic internet usage.	What one needs to be able to do to find a job.	Skills one would use on the job.
Example	Failure on exam, opting to avoid test, or self-proclaimed no skills	Sort emails into folders based on a topic.	Locate information and forward it to another party.	Search a topic, click through results, and bookmark all pages that meet a set of several criteria (i.e., free, no registration).
Percent of population	35%	32%	27%	5%

Source: Description and percentages from: Organisation for Economic Cooperation and Development. "Skills Matter: Additional Results from the Survey of Adult Skills". Report, Organisation for Economic Cooperation and Development, 15 Nov. 2019. https://www.oecd-ilibrary.org/education/skills-matter_1f029d8f-en. Accessed 29 Nov. 2022. Percentages are rounded to the nearest integer.

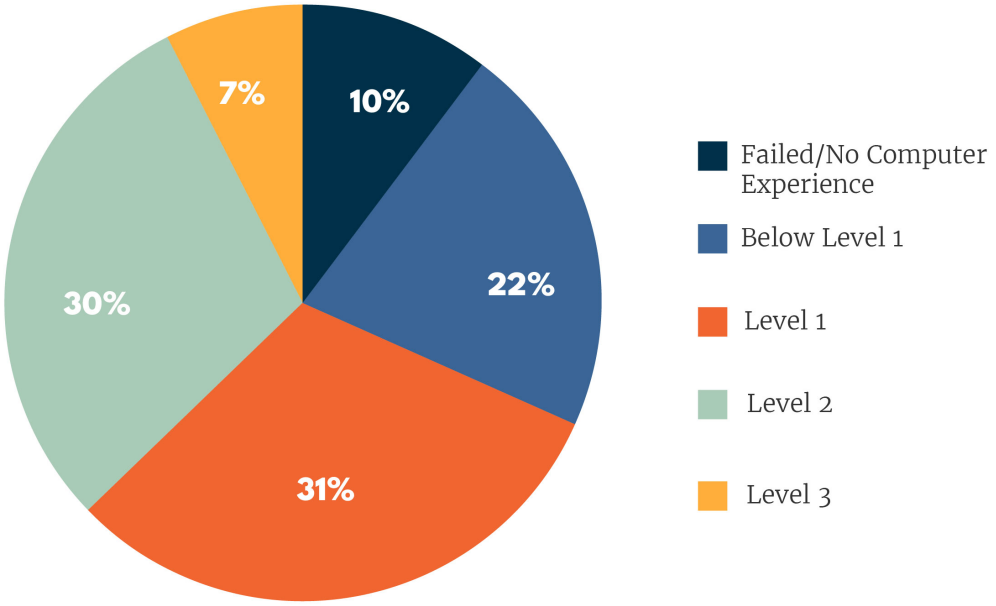
Programs like the CARES Act emergency broadband subsidies and Affordability Connectivity Program in the bipartisan infrastructure bill have brought the internet to un-and-under connected communities. Still, it takes time for digital skills to develop. Among US workers, **Black and Hispanic workers are overrepresented in the 1/3 of Americans that lack digital skills**. Specifically, the National Skills Coalition found that approximately 50% of Black workers and 57% of Hispanic workers lack robust digital skills. [7] Black and Hispanic workers scored at or below OECD's level 1 at a higher rate than their white counterparts. Because of that, experts at the Aspen Institute noted that Hispanic workers are most at risk of being automated out of a job. [8]



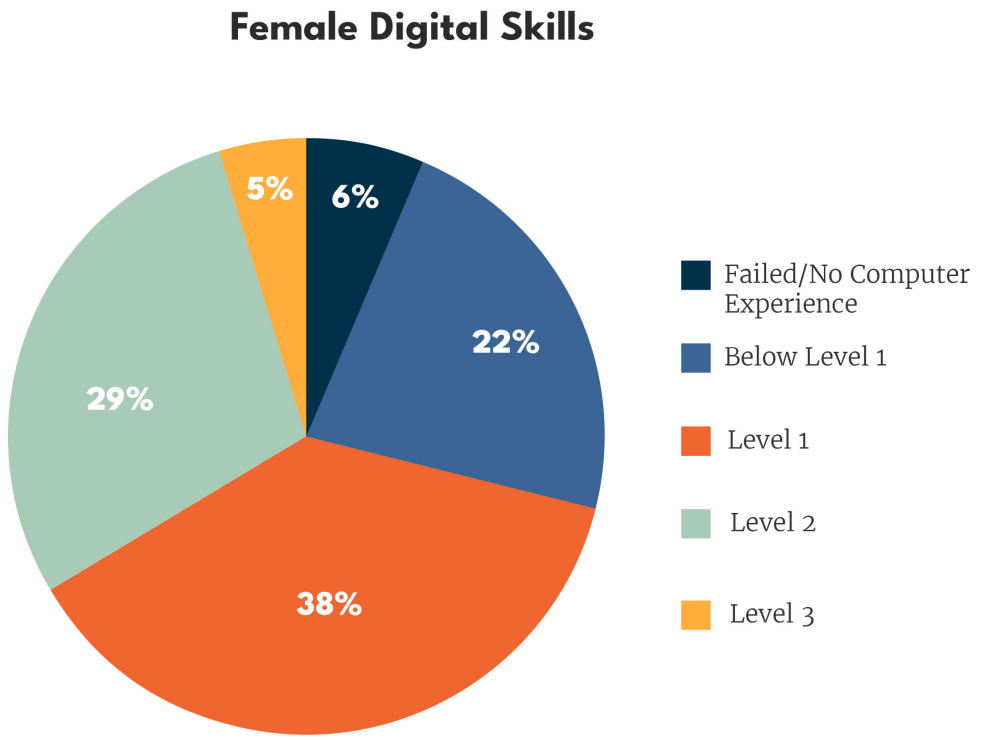
Source: Rampey, Bobby, Holly Xie & Stephen Provasnik. "Highlights of the 2017 U.S. PIAAC Results Web Report (NCES 2020-777)." U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics, 2020. https://nces.ed.gov/surveys/piaac/national_results.asp. Accessed 29 Nov. 2022.]

There are gender disparities as well. While men and women equally scored at or below level 1 digital skills, **women had a lower proportion of advanced skills**. This not only holds women back from numerous high-wage jobs, it also holds them back from the benefits included in many of those jobs such as better pay, maternity leave, and child care. [9]

Male Digital Skills



Source: Organisation for Economic Cooperation and Development. "Skills Matter: Additional Results from the Survey of Adult Skills". Report, Organisation for Economic Cooperation and Development, 15 Nov. 2019. https://www.oecd-ilibrary.org/education/skills-matter_1f029d8f-en. Accessed 29 Nov. 2020.



Source: Organisation for Economic Cooperation and Development. "Skills Matter: Additional Results from the Survey of Adult Skills". Report, Organisation for Economic Cooperation and Development, 15 Nov. 2019. https://www.oecd-ilibrary.org/education/skills-matter_1f029d8f-en. Accessed 29 Nov. 2020.

Opportunities to develop digital skills go hand in hand with the level of educational attainment, so academic barriers block off the opportunities that technology provides. [10] Approximately 60% of workers with a high school education or less scored at or below level 1. Conversely, those with a college degree have more advanced digital skills.

While expanded broadband access increases employment outcomes for low-income Americans, millions have yet to adopt it. [11] A recent analysis by Boston Consulting Group explored four key factors that limit broadband adoption in no-cost programs: [12]

- Limited awareness of programs and motivation to apply;
- Lack of information around applications, eligibility, and installation;
- Lack of trust around costs and sharing personal data; and
- Structural limitations, from language barriers to complex housing challenges.

Overall, the lack of digital skills across the American workforce directly leads to a lack of economic opportunity. Today, digitally skilled jobs have higher incomes, rapid employment growth, and hundreds of thousands of openings. [13] And these opportunities extend well beyond the tech sector

specifically, as any job's level of 'digitalization' correlates with a higher income. [14] As trends toward remote work continue, the rewards toward digital skills will only grow. Digital inequity limits the availability of these high income, stable careers, making it challenging to build enough wealth to escape the cycle of digital illiteracy.

Taking Action

The importance of a digitally connected and literate workforce has led stakeholders including companies, consortiums, labor unions, states, and the federal government to expand digital skills. For example:

Businesses: Numerous businesses have launched upskilling initiatives, created partnerships, and donated to efforts all for the purpose of equipping workers with the tools that will allow them to fully succeed in the 21st century economy. In 2018, Accenture, a professional services firm, committed $200 million to educating, training, and upskilling its workforce, with the express purpose of preparing their employees for jobs in the digital age. [15] Just a year later, PwC announced an even larger $3 billion initiative to train its employees in using digital technologies. And Amazon pledged $200 million to upskill over 100,000 of its employees—a third of its workforce—and prepare them for work in the digital age between 2020-2025. [16]

Consortia: Businesses aren't alone and are often joined by universities, civic groups, organized labor, and government in providing workers with digital skills. In 2020, Comcast committed $1 million to a partnership with Per Scholas to provide tuition-free training remotely to diverse talent in 10 US markets, with programs in IT support, software engineering, cybersecurity, and cloud support. [17] In Pittsburgh, food service company Eat'n Park is teaming up with the Allegheny Conference on Community Development, a civic leadership organization bringing together public and private sector leaders, and Robert Morris University to design and launch a 10-person pilot course to advance employees' digital skills. [18] Likewise, the National Fund for Workforce Solutions, an industry sector partnership whose members include Boeing, JP Morgan Chase & Co, and Walmart, among others, has partnered with five communities in its network to provide them $130,000 each for digital upskilling. [19] And the Reboot Representation Tech Coalition, a cross-sector organization seeking to double the number of Black, Latina, and Native American women receiving computing degrees, is funding programs delivering new computing skills to its constituencies. [20]

Labor: Organized labor is also helping tackle the challenges posed by digital illiteracy. For example, 32BJ Training Fund, a labor-management partnership between Local 32BJ Service Employees International Union and the Realty Advisory Board on Labor Relations, offers workers classes that build digital skills such as on how to run buildings with computers and how to operate Microsoft Excel. [21] The International Brotherhood of Electrical Workers is also partnering with the New York State Labor Management Committee to offer a 16-hour training course to address the demand for electricians with knowledge of advanced lighting control. [22] Such partnerships have demonstrated

success in promoting workforce development in the past, reflecting on their promise for the digital future. [23]

State Governments: States increasingly are investing in planning for and providing digital training. California, Indiana, New Jersey, and Washington are among the states that have launched "Future of Work" taskforces to study their workforce needs, including digital upskilling, and recommend policy solutions. [24] The Illinois taskforce recommended continued and increased support for career and technical education (CTE) programs, such as those at community colleges, to address deficiencies in the workforce. [25] Colorado leveraged community colleges, local partnerships, and technical and continuing education programs to support digital upskilling. [26]

Federal Government: One way the federal government supports digital upskilling is through the Workforce Innovation and Opportunity Act (WIOA), which funds workforce development through a decentralized system of more than 2,500 American Job Centers. These centers provide a range of career preparation and training services to jobseekers and can include digital upskilling programs. [27] More recently, the IIJA, also known as the bipartisan infrastructure law, advanced digital literacy by increasing access to broadband services and through its inclusion of the Digital Equity Act. It provides $2.75 billion in grant funding for states to create and implement plans to produce digital equity and for governments and nonprofit organizations to run their own digital upskilling programs. [28] Taken together, the federal government is investing billions of dollars in equipping the workforce with new digital skills.

What more can be done

Despite the vigorous efforts by private and public partners to promote digital literacy, more action is needed to ensure workers become—and stay—prepared for the digital age. Here are numerous recommendations for federal policymakers:

- **Reauthorize the Workforce Innovation and Opportunity Act (WIOA):** Congress should ensure support for digital upskilling, but the authorization of WIOA, America's primary workforce development law, expired in October 2020. [29] The law supports thousands of job training programs across the country, including those for digital literacy; ensuring their continued operation is key to providing workers with new digital skills. Congress should reauthorize WIOA and include funding allocated specifically to develop and implement virtual training components for each of its core programs.

- **Implement the IIJA broadband provisions equitably:** With the funding already set aside for digital upskilling through $2.75 billion in the Digital Equity Act and the $42 billion Broadband Equity, Access, and Deployment (BEAD) program, the federal government should strive to spend it as effectively as possible. The landmark infrastructure bill included billions of dollars in grants to states and other organizations to promote digital equity and upskilling—including through neighborhood-based "digital navigator" programs. As that money is spent, federal and state governments should monitor and ensure they effectively boost equity and heed the National Urban League's suggestions: [30]
  - **Standardize program requirements:** With clear and consistent program eligibility rules, the government can lower administrative costs and encourage program participation. If grant applications become too complicated, they could make it harder for smaller organizations with deep reach in high-need communities to apply for funds. Streamlining application processes would minimize hurdles to participating in the IIJA's digital equity grant programs and encourage high-impact organizations to participate.

  - **Prioritize partnerships and consortia in grantmaking:** Local partnerships often have deep experience with and currently operate in underserved communities. These local organizations, and others with deep experience serving marginalized groups, are best equipped to expand efforts to promote digital upskilling in an equitable way. For example, Goodwill has decentralized its digital training to ensure that they suit the communities in which they operate. [31] Their Olympics & Rainier Region in Washington has partnered with Microsoft to design its program, preparing graduates for that region's specific digital opportunities. [32] Such organizations should receive priority funding under the Digital Equity Act's competitive grant program.

  - **Be flexible and willing to experiment:** Funding should be made available to creative partners, including those that offer adjacent literacy services. As the CEO of one digital inclusion nonprofit observed, "The concept of digital literacy is useless without basic literacy." [33] And when one approach fails while another seems to work, policymakers should maintain the flexibility needed to change course.

  - **Evaluate effectiveness and ensure accountability:** Organizations that receive grant funding should be evaluated for their effectiveness in delivering digital skills to target populations as suggested by the Joint Center for Political and Economic Studies. [34] Those that operate successful programs should be studied and prioritized for future grant funding.

- **Increase support for state workforce development and retraining programs:** States already play an important role in providing American workers with new skills; they fund a variety of training programs, including those that provide workers with new digital skills, oftentimes with federal support. Congress should provide states with additional funds tied to digital training. This would allow states to develop and implement new digital programs, such as those recommended by various state Future of Work taskforces, at a time when workers need new digital skills most.

- **Scale up digital skills within the Department of Labor's Registered Apprenticeship Program:** Congress should increase the annual appropriations of the Registered Apprenticeship Program (RAP), a career pathway where employers train their future workforce and individuals obtain valuable training and work experience. By increasing appropriations for this program, Congress can equip the Department of Labor with the funds needed to increase apprenticeship opportunities through partnerships with community colleges, civic organizations, and businesses; modernize and improve its apprenticeship programs; and provide online technical support to participants. Funds should be tied to digital training opportunities and the creation of troubleshooting services that address the difficulties associated with using new digital tools. Both workers and employers would benefit from training that provides digital skills.

- **Expand access to digital resources and technical assistance in rural areas and among communities of color:** Ensuring individuals and businesses in underserved communities have the assistance needed to utilize digital devices ensures their digital skills are put to good use Congress should fund a new competitive grant program to promote the creation of urban and rural business incubators, technology campuses on abandoned industrial sites, and other measures intended to provide IT support and foster small business growth. These hubs should be located at or near Historically Black Colleges and Universities (HBCUs), Tribal Colleges and Universities (TCUs), and Minority Serving Institutions (MSIs) and provide important information technology support to aspiring entrepreneurs from disadvantaged communities.

- **Provide federal funding to ensure all K-12 students and teachers have the digital tools needed to continue learning outside of the classroom:** The COVID-19 pandemic laid bare the need for students to have the devices and connectivity needed to continue learning outside the classroom. Without them, students, particularly those from disadvantaged groups, risk falling behind in the digital era. Congress should create and fund the LifelineEd program advocated for by the National Urban League, which would subsidize the purchase of broadband services and digital devices by low-income individuals, ensuring all students and teachers have the digital tools to continue learning. [35] This would build upon the IIJA's Affordable Connectivity Program by allowing students and teachers to receive additional funds to purchase tablets, laptops, or other devices needed to learn or teach virtually.

- **Invest in new and better data collection:** While available data confirms the existence of a digital literacy gap, there is still little information available on the nature, scale, and depth of the problem. Congress should appropriate funds to conduct annual surveys of Americans' digital access, skills, and attitudes. In addition, funding should be provided to evaluate existing digital upskilling programs and establish new digital pilot programs to determine best practices. With this information, policymakers will be better positioned to address digital illiteracy, and all stakeholders will have a common language they can use to discuss these issues.

The digital age is here. It's time to provide Americans with the digital tools needed to succeed and thrive in the modern economy. Businesses, organized labor, and local communities recognize the need for digital skills and are putting their money where their mouth is, investing millions of dollars in digital training programs. Congress has begun to do the same, but more work is needed to ensure the benefits of the digital economy are equitably distributed.

ENDNOTES

1. The authors calculate 35% of workers lack digital skills. This value corresponds to those who chose a paper test which lacked the digital skills test, failed the digital skills test, had no computer experience, or scored below level 1. This percentage was adjusted after dropping the population with other missing values from the total number of participants. Data from "Skills Matter: Additional Results from the Survey of Adult Skills". Report, Organisation for Economic Cooperation and Development, 15 Nov. 2019. https://www.oecd-ilibrary.org/education/skills-matter_1f029d8f-en. Accessed 29 Nov. 2022.

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