

DIGITAL EQUITY FOR AN INCLUSIVE ECONOMIC RECOVERY MANUFACTURING



The Covid-19 pandemic has had wide-ranging impacts on American businesses and workers – with marginalized workers facing disproportionate effects. As Congress embarks on new investments in economic recovery through proposals such as the American Jobs Plan (AJP) and the American Families Plan (AFP), it is crucial to address these inequities through policies that explicitly center equity.

The accelerated adoption of new digital technologies during the pandemic has greatly increased the urgency of investing in digital skills. Across the manufacturing sector, many businesses have fast-forwarded though 10 years of planned technological change in less than a year. Companies today need workers at every level to have flexible, adaptable digital skills that equip them to confidently use new tools. And workers need opportunities to demonstrate their existing technological skills and build new ones that can help them flourish on the job.



Across the manufacturing sector, many businesses have fast-forwarded though 10 years of planned technological change in less than a year.

But the United States has not made the public investment necessary to equip businesses and workers for today's digital demands. Workers urgently need opportunities to build on their foundational digital skills with additional in-demand skills that will equip them to enter or advance in infrastructure jobs. Similarly, small businesses that don't have the capacity to do digital upskilling in-house need public investments that help them collaborate with education and training providers to develop relevant skill-building programs for the manufacturing industry.

But federal policy is lagging behind reality. Existing workforce development and education statutes have failed to keep up with the fast-changing world of digital upskilling and reskilling. Congress should act now to enact infrastructure legislation such as the AJP that includes investment in skills, including digital skills, and modernize other workforce development investments to reflect real-time needs.

TODAY'S WORKPLACES OVERWHELMINGLY REQUIRE DIGITAL SKILLS

One in 10 US workers are employed in the manufacturing industry, and even more in adjacent sectors. Millions more individuals will join these industries as Congress invests in infrastructure legislation: Economists Mark Zandi and Bernard Yaros of Moody's predict that the AJP could recoup jobs lost during the recession and add an *additional* 13.5 million jobs by 2024.¹

Whether workers are in essential roles on the frontlines of manufacturing crucial public health supplies, or expert tradespeople building out vital infrastructure, digital skills are integral to their success. The Manufacturing Recovery Panel of industry leaders recently convened by Business Leaders United (BLU) and National Skills Coalition (NSC) shared numerous examples of how the pandemic has sharply increased the demand for such skills. A key take-away: Workers need investments that equip them to go beyond **foundational** or baseline digital skills and acquire additional digital abilities – so they can **upskill** and maintain their footing in a changing industry, or **reskill** as they move into a new industry.

Across the manufacturing sector, tech demands go far beyond the use of a desktop computer. Workers are also using augmented reality to assemble aircraft parts; interacting with increasingly sophisticated robotic devices; and using wearable technology to receive in-the-moment training through virtual reality.



Today, more one-third of all manufacturing workers need investment to build crucial digital skills.



LACK OF PUBLIC INVESTMENT PENALIZES BOTH BUSINESSES AND WORKERS

The historic lack of public policies supporting digital skills has had stark consequences: Today, more one-third of all manufacturing workers need investment to build crucial skills. Data from a respected international assessment show that a full 15 percent of employed workers across the sector have **no** digital skills,² and an additional 20 percent have very **limited** skills.³ Effective digital skill-building programs can help these workers build bridges from the knowledge they have to the new skills they need.

Another 28 percent of US manufacturing workers have achieved a certain level of proficiency,⁴ while 37 percent have the advanced skills necessary to be most adaptable to changing technology.⁵

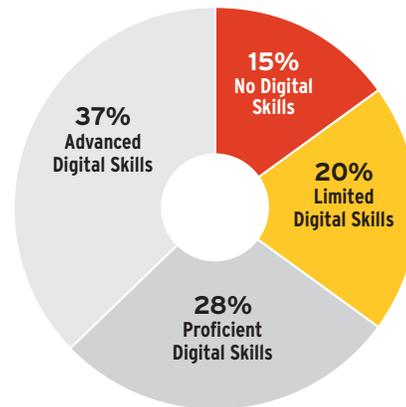
Workers of color are disproportionately affected by digital divide issues due to the impact of structural racism. People of color are more likely to lack broadband internet access at home, more likely to lack a desktop or laptop computer at home, and otherwise face greater barriers accessing the technology often used to build digital skills.⁶ Because of these factors and other longstanding structural inequities, workers of color are overrepresented among workers with limited digital skills.⁷ This racially disparate impact is especially egregious in a pandemic economy in which workers of color have disproportionately lost jobs. Public policies should ameliorate these inequities.

CONGRESS SHOULD SCALE UP EFFECTIVE MODELS FOR BUILDING DIGITAL SKILLS

Recent research by NSC has revealed bright spots around the United States where businesses and training providers are responding effectively to emerging digital skill needs.⁸ Common themes across these examples are clear:

- ▶ **Contextualized and integrated program models are an effective approach.** These models help workers build digital skills simultaneously with other technical, industry-specific skills. For incumbent workers, these can be upskilling programs that help them adapt as their current jobs are changing around them. For unemployed or otherwise dislocated workers, these can be reskilling programs that prepare them to enter a new career.

One-third of Manufacturing Workers Need Digital Skills



Source: OECD Survey of Adult Skills (PIAAC), 2017.

- ▶ **Programs that help workers access public or other funds to cover training costs are better-positioned** to help participants persist and succeed. By ensuring that workers do not have to pay out of pocket, programs can effectively reach people who are eager to upskill, but still suffering the effects of the Covid-19 recession.
- ▶ **Industry-driven models that have proven to be effective for general workforce development are equally effective when it comes to digital skills** in particular. For example, sector partnerships that bring together groups of employers in the same industry to solve talent pipeline issues provide an important opportunity for smaller companies to ensure that training is directly connected to their hiring needs.
- ▶ **Education and workforce providers that have established expertise in serving marginalized workers can be particularly useful** in developing digital upskilling models that help close racial and other equity gaps.⁹

But without a broad-based federal strategy, these will remain isolated examples. Interviews conducted by NSC with business and education leaders show that even successful local programs lack sustainability as they cobble together patchwork funding from a range of ill-defined sources, often struggling to prioritize digital skills among myriad other demands.¹⁰



Every person must have the opportunity to develop broad-based, flexible digital problem-solving skills for current technologies and ongoing technological shifts.



WHAT CONGRESS CAN DO

An inclusive economic recovery requires equitable access to digital skills. Three principles should shape any Congressional action:

1. A Digital Skill Foundation for All.

Nearly 50 million people in the US need to build foundational digital skills to harness the power of connected devices. Every person must have the opportunity to develop broad-based, flexible digital problem-solving skills for current technologies and ongoing technological shifts.

2. Upskilling for Every Worker in Every Workplace.

Technology is impacting different industries and occupations in different ways. We must empower every worker with industry- and occupation-specific digital skills to adapt and advance in their careers.

3. Rapid Reskilling for Rapid Re-employment.

Each industry has specific technical demands. Overnight the pandemic brought structural shifts to our labor market, reminding us that every worker must have access to rapid reskilling to move from one industry to another.

CONGRESS CAN APPLY THESE PRINCIPLES IN ENACTING LEGISLATION AS FOLLOWS:

▶ **Pass the Digital Equity Act and invest in new Digital Literacy Upskilling Grants as part of any infrastructure or economic recovery investment.** Congress should make a dedicated investment to help states pursue digital inclusion and skill building via \$1 billion in new funding. This should include formula funding for all states to support capacity-building and digital equity planning, and a competitive grant program to invest in best practices and spur innovation among states. Formula funds should be used to contextualize digital skills instruction, increase instructor professional development, and support training costs for incoming and incumbent workers.

▶ **Update the Workforce Innovation and Opportunity Act (WIOA) to include high-quality digital skills training for incumbent workers, especially those in small businesses.** While large employers can launch ambitious in-house training programs, the majority of US workers are employed in small to mid-sized companies that lack such resources. Congress should create a Federal Incumbent Worker Training Fund via a new title of WIOA.

This formula funding would provide dedicated resources to states to upskill and advance current workers who face foundational skills gaps (including digital literacy gaps) or changing occupational requirements due to new technologies or processes. These funds can also help workers rehired in different industries after the pandemic to gain skills necessary to advance in their new industry.

▶ **Invest in industry or sector partnerships that bring together multiple firms in the same industry along with an education and workforce partner as part of any economic recovery investments.** These collaborations help ensure a business voice as part of the talent development process. These partnerships can be specifically designed to help close racial, gender, and other equity gaps that have served to limit some workers' access to jobs that require technological skills. Congress should invest in industry or sector partnerships as part of WIOA modernization and reinvest in the Trade Adjustment Assistance Community College and Career Training Program (TAACCT) as part of any investments in economic recovery.

▶ **Expand access to Pell grants for high-quality, short-term programs, consistent with the JOBS Act.** Today's financial aid policies don't match the realities of today's students, particularly working adults. Congress should expand the Pell Grant program to support enrollment in high quality short-term programs that lead to employment and articulate to further educational pathways. These programs can be powerful tools for helping workers build contextualized digital skills as they complete technical training for in-demand industries or occupations.

ENDNOTES

- 1 Mark Zandi and Bernard Yaros, "The Macroeconomic Consequences of the American Jobs Plan," *Moody's Analytics*, April 2021.
- 2 These workers failed to meet one or more of the three baseline criteria to even take the full digital skills assessment: 1) prior computer use, 2) willingness to take the computer-based assessment, or 3) ability to complete four out of six very basic computer tasks, such as using a mouse or highlighting text on screen.
- 3 People with limited digital skills would have a hard time completing simple digital tasks that have a generic interface and just a few steps. An example would be a person who is presented with five e-mails in an inbox. The e-mails are responses to an event invitation. The task is to sort the e-mails into pre-existing folders to track who is and is not attending the event.
- 4 People at this level would typically struggle with tasks that require the use of both generic and specific technology applications. For example, a person might be presented with a new type of online form and need to navigate across multiple pages and applications to answer the test question. The task may have multiple steps and may require the use of tools (such as the "sort" function) to solve the problem. The person may have to identify the goal themselves and engage in higher-level reasoning to solve the problem.
- 5 Source: Program for the International Assessment of Adult Skills (PIAAC) 2017 data pertaining to US workers ages 16-64 who were employed at the time of the survey. Analysis completed by the American Institutes of Research in collaboration with National Skills Coalition.
- 6 Details here: <https://www.pewresearch.org/internet/2019/06/13/mobile-technology-and-home-broadband-2019/> and in *The New Landscape of Digital Literacy* (National Skills Coalition, 2020). Viewable at: www.nationalskillscoalition.org/resources/publications/file/New-Digital-Landscape-web.pdf
- 7 Learn more in *Applying a Racial Equity Lens to Digital Literacy* (National Skills Coalition, 2020). Viewable at: <https://www.nationalskillscoalition.org/wp-content/uploads/2020/12/Digital-Skills-Racial-Equity-Final.pdf>
- 8 Learn more in *Boosting Digital Literacy in the Workplace* (National Skills Coalition, 2020). Viewable at: <https://www.nationalskillscoalition.org/wp-content/uploads/2021/01/12152020-NSC-Boosting-Digital-Literacy.pdf>
- 9 Learn more about related issues in *Amplifying Impact* (National Skills Coalition, 2020). Viewable at: <https://www.nationalskillscoalition.org/blog/racial-equity-and-inclusion/amplifying-impact-why-policies-that-combine-investments-in-english-language-and-digital-literacy-are-vital/>
- 10 *Boosting Digital Literacy in the Workplace*.

WHERE THIS DATA COMES FROM

Data in this publication come from the Program for the International Assessment of Adult Competencies (PIAAC), overseen by the Organization for Economic Cooperation and Development and administered by National Center for Education Statistics at the U.S. Department of Education. The survey gathered data from a representative sample of U.S. adults in 2017. The data here come from Problem-Solving in Technology-Rich Environments (PS-TRE) section of the study. Learn more: https://nces.ed.gov/surveys/piaac/current_results.asp and www.piaacgateway.com.

ACKNOWLEDGMENTS

National Skills Coalition sincerely appreciates the contributions of our research partner on this project, the American Institutes for Research – Katie Herz, Saida Mamedova, B. Jasmine Park, Emily Pawlowski, Jaleh Soroui, and the rest of the PIAAC team – and thanks them for their thoughtful collaboration and careful analysis. Any remaining errors, of course, are our own.

ABOUT NATIONAL SKILLS COALITION

Jobs that require skills training are the backbone of our economy. National Skills Coalition fights for a national commitment to inclusive, high-quality skills training so that more people have access to a better life, and more local businesses see sustained growth. Since 2000, through expert analysis and technical assistance, broad-based organizing, targeted advocacy, and cutting-edge communications, NSC has changed hundreds of state and federal skills policies that have changed thousands of lives and grown local businesses and economies.

We build networks representing businesses, workers, colleges, community organizations, public officials, and advocates. We engage these networks to craft policy proposals and mobilize them to win concrete policy change. Our networks include SkillSPAN (state affiliate coalitions), Business Leaders United for Workforce Partnerships (thousands of small and medium-sized business owners and state affiliates), and Voices for Skills (tens of thousands of workers and grassroots skills advocates).



This research was made possible by generous support from Microsoft. We thank them for their support but acknowledge that the findings, conclusions, and recommendations presented in this report are those of National Skills Coalition.