

# Adapting Jobs Programs for Today and Tomorrow

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Not long after the full force of the COVID-19 pandemic hit New York City, the New York Times ran an article about a group of restaurant workers who were manufacturing masks to help protect people from the virus's spread. These restaurant workers probably were not, at first, very good at making masks, since the skills necessary to work in a restaurant are not the same as those needed to sew masks. But the anecdote captures a truth about the job market, particularly in an economy in distress: Addressing unemployment is as much about adapting workers' skills to new circumstances as it is about finding jobs.

Nationwide, this problem is on display for so-called "middle-skill" jobs, a large portion of the market that has positions to fill but suffers from a dearth of trained workers—especially when it comes to digital skills.

Digital skills refer to a person's ability to use digital tools, applications, and networks to access and manage information. Pandemic-driven unemployment will only put the middle-skill issue into sharper relief. Three things stand out when looking at middle-skill jobs:

1. There is high demand for jobs with digital skills.
2. Too many of those who could fill middle-skill jobs lack the digital skills needed for them.
3. The traditional job-training system is, for the most part, not suited to bridge these gaps.

There are models that can serve as a guidepost to stakeholders trying to address labor market needs. A point of departure here will be the role of digital skills in emerging models. Many middle-skill jobs require digital skills, but more can be done to integrate broadband into job training.

## Why the middle-skill job market?

Labor market analysts place emphasis on middle-skill jobs for several reasons. First, the category covers a lot of ground. With middle-skill jobs defined as those that require some postsecondary education (such as an associate's degree from a community college), there were an estimated 37.7 million such workers in the United States in 2015, or more than one-quarter (27 percent) of all jobs. And middle-skill jobs are in growing demand; by 2022, the economy is projected to demand 3.4 million more middle-skill workers than what the labor force can provide.

Middle-skill jobs typically require digital skills. Indeed, research shows that 80 percent of middle-skill jobs require digital skills. Typical examples of middle-skill jobs include clerical or administrative positions, sales, construction, repair/installation, and health care technicians. This is not just about sales transactions using online apps or office work requiring knowledge of Google or Microsoft products. Food-safety training relies on virtual reality in some organizations, while in agribusinesses, food-packaging workers have to coordinate with robots.

The need for digital skills in the middle-skill segment has also grown over time. From 2002 to 2016, the digital literacy needed for middle-skill jobs doubled, even as data show that many workers lack digital skills. Some 73 percent of workers in the service sector lack the skills to solve problems in a digital environment. One-third of American workers, by another estimate, have insufficient digital skills, with that figure at one-half or more for Black and Latinx workers.

Note that two trends are in play here. One is the high demand for middle-skill jobs in the economy—driven both by the changing nature of work and the retirement of the baby boomer generation that had occupied many middle-skill jobs. The other is the growing need for digital skills in middle-skill jobs. The challenge is that middle-skill job candidates have fewer technology tools than others, according to my analysis of American Community Survey data. For those fitting the educational profile for middle-skill jobs—a high school diploma or more schooling short of a bachelor's degree—some 65.1 percent have wireline broadband internet subscriptions at home. For more-educated Americans—those with bachelor's degrees or more—that figure is 85.1 percent.

Ongoing economic change is likely to increase the importance of digital skills in all jobs, middle-skill included. One reason is the COVID pandemic. Even as employment levels start to improve, the economic shock of the pandemic means that jobs in some sectors, such as restaurants and retail, will not

return to prior levels. Overall, the pandemic represents a “reallocation shock” for the labor market, as between 32 percent and 42 percent of those laid off during the downturn will not get their jobs back. Sectors whose services have been in demand because of the pandemic—online shopping, delivery services, and infrastructure to support tele-services (e.g., in health care)—may hire new workers. And those workers will undoubtedly need to have digital skills.

More machines in the workplace may mean fewer jobs, but it also will mean jobs that require the ability to work with machines.

Another factor is automation. More machines in the workplace may mean fewer jobs, but it also will mean jobs that require the ability to work with machines. Although the precise impact of automation on employment is subject to debate, research indicates that automation will impact a wide range of occupations—with occupations typically held by those without advanced degrees feeling the impacts most acutely. This puts pressure on workers in these sectors to adapt, which means developing digital and other cognitive skills.

## What initiatives are meeting new demands?

Notwithstanding new job-training demands, there is a general consensus that the traditional means of job training, whether funded by the federal government or through community colleges, do not meet the needs of the middle-skills segment of the job market. One challenge in recruiting people to enter a new field is to assess interest. Many people who enter the job-training system do so to get better jobs—but they may not know specifically which jobs may suit them. Helping people gain this focus early can result in a more satisfactory and effective job-training experience.

To fill these gaps, new initiatives have emerged. What follows are just a few examples of programs that bring digital-skills training to bear on middle-skill jobs.

### Libraries and community colleges

The Nevada State Library has partnered with the College of Southern Nevada (CSN) to address the demand for kidney dialysis technicians. CSN is a public community college that offers both two-year associate’s degrees and job-training certifications. The certification courses take as little as 12 weeks to complete—which is important, for example, when a newly unemployed person is trying to get back on her feet, or a mid-career person needs to make a quick change.

CSN and the Nevada State Library created a virtual reality (VR) program to immerse trainees in the experience of being a kidney dialysis technician. The library already had virtual reality initiatives in partnership with the vendor HTC Vive. The program is a 12-week course, with four weeks of classroom instruction at a public library but with much of the instruction and curriculum online. The library is also the site for the VR immersion parts of the curriculum that educate students on how to run a session on a dialysis machine.

CSN is not the only example of a community college using technology in employment training. California’s newest community college, Calbright, is an online-only institution established in 2019

to serve low-wage workers looking to improve their skills. Another online-only institution, Western Governors University, is aimed at rural adults looking to upgrade job skills. Both initiatives emphasize digital skills in job training. But it is not as simple as putting in-person classes online. As the Nevada example shows, careful planning and use of blended learning that includes an in-person component are important.

Public libraries are also more broadly engaged with job training than in just the example of Nevada. The 2008–09 Great Recession saw the public turn to libraries for job training and an expansion in library programs to meet those needs. Since then, libraries have become more involved in helping patrons prepare for a changing economy. The Urban Libraries Council, in 2018, launched an initiative to help libraries become entrepreneurial hubs. In Baltimore—a city searching for ways to expand economic opportunity and equity—the Enoch Pratt Free Library established an Entrepreneur Academy that includes a mobile job lab to reach into low-income neighborhoods. The pandemic will undoubtedly reinforce the public's expectations that the library is the place to go for workforce skill acquisition.

**LESSON: Partnerships across different institutions can hasten the use of broadband to deliver job-training services.**

## The private sector

The private sector has traditionally been a leader in job-training investment as a result of the federal government's sluggish adaptation to changing workforce training demands. One prominent example is Grow with Google, an initiative to help address a problem Google itself faces: a shortage of workers to fill information technology (IT) jobs. The company, from its own experience, understands that the skills for IT jobs do not always require a college degree. Google has an IT support certificate course that is available online through Coursera. Since 2017, some 130,000 people have engaged with this online offering, although not all have completed the course. The approach introduces people to digital skills while also fostering communities of users who can serve as sounding boards for one another about digital skills and job opportunities.

The other component to Grow with Google is its partnerships with local public libraries. As a means to publicize job-training programs, Google works with libraries to hold workshops that invite community members into libraries for an introduction to digital skills. The notion is to engage people enough to instill confidence in using computers and the internet. That, in turn, draws them more deeply into digital-skills training for the workforce. Google also provides grants to nonprofits for skills training and the wraparound services to help with job placement.

**LESSON: Online job-training services can expand the reach of such services, but they also need resources for face-to-face instruction.**

## Local nonprofits

As the Grow with Google example indicates, local nonprofit organizations have a part to play in job training for middle-skill positions. Many nonprofit organizations offer digital-skills training with the explicit purpose of placing people in jobs that demand such skills.

Some organizations have been doing this for years. **Year Up**, which was founded in 2000, offers in-person training aimed at those between the ages of 18 and 24 who do not have a college degree. In 2020, digital skills have become even more important for Year Up to fulfill its mission. What had once been an initiative that only experimented in online learning had to go fully online because of the pandemic. The **challenges Year Up faced doing this** have included making sure all students have the necessary hardware and connectivity for home learning and tech support.

ByteBack reports that graduates of its programs earn \$23,000 per year more after they complete its program than they did before.

Whereas Year Up focuses on young adults, the **ByteBack** program in Washington, D.C., and Baltimore focuses on older adults who want digital skills for the workplace. ByteBack has been in existence for 23 years, and its digital-skills programs have evolved with technology. It offers very basic training, as some clients need an introduction to how to turn on a computer and use email. Its other programs focus on Microsoft applications, which enable a student to work in an administrative capacity at any office, and a more advanced track to certify people to work in IT support.

In a typical year, ByteBack serves about 500 students and does so mainly with the support of foundations and the private sector, which fund more than 80 percent of its programs. ByteBack reports that graduates of its programs earn \$23,000 per year more after they complete its program than they did before.

Shelter-in-place orders during the pandemic have proved to be a challenge because:

- Nearly one-third of its students do not have internet access at home;
- Online courses are not substitutes for necessary in-person classes; and
- The situation at home for some students may not be amenable to online learning.

Largely on the sidelines for ByteBack's program—and many similar ones—is funding from the state or federal government. Although some of ByteBack's students may be eligible for funds for support services as they pursue training (e.g., childcare) through the **Supplemental Nutrition Assistance Program** (SNAP), the process is time-consuming. It can be so burdensome, in fact, that it may discourage students from seeking support funds—and thus limit participation in job training.

**LESSON: Local nonprofits have found ways to integrate digital skills into job training. But they face challenges when students do not have broadband at home or when students have difficulty accessing support services to help ease their path to participating in job training.**

## Local workforce boards

Training programs that rely on the federal government do not appear to be on the cutting edge for integrating digital tools into middle-skill training. But there are exceptions. The San Diego Workforce Partnership (SDWP) is a nonprofit that is designated by the County and City of San Diego to receive funds (both state and federal) for job training and employment programs. Last year, SDWP entered into an arrangement with the University of California at San Diego Extension school for a program (partly online) to train students for in-demand jobs. SDWP uses philanthropic funds for some of the program,

which uses an income-sharing approach to employment training and placement. Students do not pay for training up front but pay a percentage of their income for the training once they are placed in a job. The goal is to reach about 500 students in the program's first year.

Foundations have taken an active role in supporting workforce training initiatives aimed at specific sectors.

SDWP's use of philanthropic funding is indicative of a larger national pattern by which foundations have taken an active role in supporting workforce training initiatives aimed at specific sectors.

An additional example is West Michigan Works!, another designated workforce development board. This initiative coordinates with regional planning organizations and employers to help tailor job training to the local economy's needs. As it continues to adapt to changes in the state's occupational structure that date to the Great Recession, West Michigan Works! has also brought soft skills, such as communications and teamwork, into its job-training curriculum. These skills figure prominently into many middle-skill jobs.

**LESSON: Federally supported local workforce boards can play a role in middle-skill job training and thus integrate such initiatives into regional workforce strategies. These initiatives tend to rely on philanthropy as they try new models.**

## Conclusion: Mainstreaming the outliers

Any job-training program is about turning an individual's choice today into a positive outcome for her future. Only when the program results in better pay does the choice become the right decision. Making that happen is not easy, and it would be naïve to think broadband is the silver bullet in creating a positive outcome.

But broadband can play an important role in two ways.

- **As a delivery mechanism:** Several examples cited herein use the internet to deliver training services—either classes online or immersive environments to emulate hands-on job experiences. Home access can help in delivering these parts of job-training services—as well as helping foster a community of new trainees who can learn from one another. But digital skills loom in the equation. Delivering job-training services online should go hand in hand with training clients in digital skills. Some of this training may be via in-person classes and may be done by organizations other than job-training initiatives. Digital-skills training pays off in **increases in the likelihood** that recipients use the internet for learning and job searches.
- **As a wraparound service:** Research **shows** that those pursuing job training often benefit from and need support services to enter training programs. Childcare and food-security services are classic examples. But broadband access at home can play a role, too. Low-income households that have recently subscribed to broadband cite the **ease of coordinating** with their jobs or childcare providers as an important benefit of having access. Home broadband can make it easier for people to choose to participate in job training.

Notwithstanding the promise of broadband in job training, a number of final points bear emphasis.

1. **Face-to-face interaction remains important in these initiatives.** Students learn from one another, support one another, and come to trust the process of building digital skills at anchor institutions such as nonprofits and local public libraries. Broadband access at home is an important ingredient, but no one should lose sight of the other parts of the skill-building ecosystem.
2. **Program administration at the federal level needs to improve.** Several examples cited here indicate that complicated and lengthy processes discourage organizations (and people, too) from seeking federal grants. Additionally, some job-training clients do not seek funds to support their training due to the difficulty in obtaining the benefit. This echoes a well-known problem with social-service programs, namely that they are **designed to discourage** participation of potential beneficiaries. If stakeholders seek to expand the reach of the kinds of programs highlighted in this article through federal funding, this dynamic will have to change. Designing job-training programs that leverage broadband will only be successful if barriers to participation by organizations and individuals are low.
3. **Robust home broadband access is important for job-training clients.** As noted, one-third of those who fit the middle-skill profile do not have wireline broadband at home. Many of these households, however, may have online access—through a smartphone, primarily, with some perhaps having a data plan on a hotspot. These subscription plans often have data caps or access speeds that slow down after, say, a 50 GB-per-month threshold. That is not enough data for applications such as streaming video that are part of online job-training programs. As skills training goes online, ensuring that clients have enough bandwidth at home is crucial—and that generally means (today at least) wireline access through cable or fiber-optic infrastructure.

- 4. The scale of emerging initiatives bears scrutiny.** Several examples highlighted here touch hundreds of people per year, while the middle-skills jobs gap numbers in the millions. The desire to scale such initiatives is natural, but stakeholders should be cognizant of a potential trade-off between scaling and seeding. Replicating nationally the program design of, say, ByteBack may be possible, but these initiatives rely on more than just wise program design. They require leadership, persistence, and the ability to create partnerships that help seed a program in a community.

The job losses that have resulted from the pandemic have brought **new scrutiny** to job training. Ideas for reimagining job training focus on giving trainees the resources for training through **tax credits** or **opportunity accounts** aimed at training for jobs that promise high wages. These are demand-side initiatives, and they are important. Job training is costly, and those in need of it generally do not have a lot of money or time (given their present job or childcare responsibilities) to pursue it.

The models discussed here are on the supply side; they are the places to which people turn for the skills (digital and otherwise) to participate in today's economy. These are local solutions tailored to specific communities and thus have intangible qualities embedded in how they work. They impart know-how to people but also "social capital," which, in the context of work, means the **tacit knowledge** for navigating the workplace.

Operationally, as stakeholders try to scale middle-skill training initiatives, they need to recognize the intangible qualities in local initiatives. This means cultivating their bottom-up character. Linking local leaders in areas beginning such initiatives to those who have had success elsewhere is one approach (a kind of "train the trainer") to transmit the tacit knowledge embedded in middle-skill job programs that have a track record in the field.

Finally, there is a dog that doesn't bark—or bark too loudly—in this discussion of middle-skill job training and digital literacy: regional economic development strategies. It is true, as the **Pew Charitable Trust** documents, that states have shown a new interest in broadband as a development tool in a number of policy areas. States generally emphasize broadband infrastructure in policy areas that include economic development, transportation, health care, and agriculture. However, emerging job-training programs discussed here do not seem to find prominent places at the table of regional or state strategy—at least not in a widespread way. Bridging that gap is a place to start to help improve the supply of people prepared for middle-skill jobs.



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