

Bridging the Skills Gap

Workforce Development
in Changing Times



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RESEARCH

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Bridging the Skills Gap

Workforce Development in Changing Times



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Survey Overview

Target Survey Population

The target population for this study was talent development professionals from organizations across the United States of various sizes and industries. Overall, 316 unique participants completed the survey.

Survey Instrument

The survey was composed of 21 questions including those related to the demographics of the respondents.

Procedure

ATD Research distributed a link to an online survey to the target population in November 2020. The survey closed in December 2020.

About the Sponsor



A Note From GP Strategies

The way we define job roles is changing. Employees are bringing new skills to traditionally defined ways of working. When faced with disruption—from new technologies, the great resignation, or the aging workforce—an organization’s main strategy is often to hire new talent. But sourcing new talent can be difficult and costly. Creating a viable strategy to prepare your workforce for the future includes developing a sustainable capability in the organization for continuous upskilling.

GP Strategies is proud to support ATD in leading this research on bridging the skills gap. We believe that when organizations develop existing talent, they evolve years of company culture, institutional knowledge, and existing relationships, creating a powerfully connected organization. Ultimately, this results in cost efficiencies, higher engagement and satisfaction levels, and greater positive business impact. GP Strategies partners with organizations to analyze and develop a framework to upskill and reskill for current and future job roles.

About GP Strategies

GP Strategies is a leading workforce transformation partner—a truly dedicated global provider serving 25 percent of the Global 500 and delivering custom learning solutions from the frontline to the C-suite. We’re at our best when driving innovation—integrating leading technologies, developing new learning paradigms, and instituting fresh business processes and measurement approaches.

This innovation and transformation focus—combined with deep listening, workforce expertise, and customer centricity—delivers superior business and operational results. Whether your transformation requires a change in employee performance and mindsets, instilling a framework to upskill and reskill existing talent, implementation of learning technologies, or refinement of critical processes, GP Strategies is a transformation partner you can trust. For more information, visit gpstrategies.com.

Welcome

The ATD Public Policy Advisory Group comprises talent development professionals from different industries who are committed to helping peers and colleagues discover the value of partnering with the public workforce system to help solve talent development challenges.

Part of the group's ongoing commitment to the field is this update of ATD's skills gap whitepaper. The last edition of this whitepaper was published in 2018. Since then, organizations and their talent development teams have faced enormous and complex challenges and changes.

This report focuses on what talent development professionals say about current and future skills gaps in their organizations and supplements that research with additional information pulled from news articles, reports, and other sources. It also includes case studies and interviews with talent development teams from organizations that are proactively addressing skills gaps in thoughtful, informed, and targeted ways.

The goal is to help talent development professionals understand where critical skills gaps are and provide a road map for closing those gaps strategically.

We thank you for the critically important work that you do.

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Introduction

As defined by ATD, a skills gap is a significant gap between an organization's current capabilities and the skills it needs to achieve its goals and meet customer demand. When an organization has a large skills gap in its workforce, it risks not meeting customer expectations and demands.

The current study marks the seventh iteration of the skills gap report produced by the Association for Talent Development (formerly the American Society for Training & Development). The present research examines the current skills gaps in organizations across the US, as described by 316 talent development professionals. The survey was conducted approximately nine months after COVID-19 was declared a pandemic by the World Health Organization. This report also includes case studies, interviews, and examples from a number of companies and organizations that are successfully addressing the skills gaps they face and provides an Action Plan for other talent development professionals to follow to address their own organization's skills gaps.

Key Findings

These are the key findings from the ATD skills gap survey:

- 82 percent of participants reported a skills gap in their organization. This is very close to the 83 percent seen in 2018.
- Six in 10 participants reported that the cause of the current or forthcoming skills gaps in their organization is because the skills of the current workforce do not match changes in the company strategy, goals, markets, or business models. Other key causes are insufficient bench strength in the company's leadership ranks (54 percent) and a lack of skilled talent in one or more of the company's lines of business (44 percent).
- Participants are presently experiencing a number of skills gaps; a majority indicated gaps in critical-thinking and problem-solving skills (65 percent), managerial and supervisory skills (55 percent), and communication and interpersonal skills (53 percent). Talent development professionals expected to face gaps in critical-thinking and problem-solving skills (56 percent), leadership skills (53 percent), and creativity and innovation skills (50 percent) in the future.
- Most participants said their organization was addressing skills gaps by providing more training internally in technology-aided settings, such as e-learning or virtual classrooms (60 percent), and 21 percent were offering more in-person training.
- A majority said that they were addressing the skills gaps by examining what skills the organization needed to be successful now and in the future (57 percent), while 55 percent indicated that they were assessing current gaps and creating a plan to address the

most critical areas. On a positive note, these rates have increased. In 2018, 49 percent of organizations were examining skills needs; the same percentage were assessing current gaps and creating a plan.

The Skills Gap Is Still Top of Mind

According to the Bureau of Labor Statistics, at the end of November 2021, the unemployment rate was 4.2 percent in the United States.¹ This is down from the previous months, as has the current number of unemployed persons across the country, which fell to 6.9 million. In November, 210,000 jobs were added to the economy. With unemployment down and jobs being added back to the economy, more people have their pick of positions. In fact, the number of current job openings is more than 10 million.² For comparison, in April 2020, shortly after COVID-19 was declared a pandemic, the unemployment rate reached 14.8 percent. By the end of 2020 (when the ATD survey was conducted), it was 6.7 percent.³

This data has many people wondering what is actually causing the employment situation. Is it a skills gap or factors exacerbated by the COVID-19 pandemic, such as those commonly associated with increased resignations? According to Jennifer Lee, senior economist at BMO Capital Markets, “The ongoing struggle to find the right worker for the right role continues.”⁴ Certainly, some of the jobs that employers are having difficulty filling are challenging, low paying, or risky.

However, a skills gap is also contributing to many current job vacancies. Seventy percent of participants reported that the skills gap in their organization affected service delivery,

customers, or project future growth, a slight improvement from 2018. Meanwhile, just over three-quarters of respondents expected to see a skills gap in their organization in the future. These findings show that the skills gap is a considerable issue for organizations, and it is unlikely to go away in the near future. According to an article in *Forbes*, building critical skills is a top priority for human resources leaders in 2022.⁵

82 percent of participants reported a skills gap in their organization. In 2018, 83 percent reported a skills gap.

1 Bureau of Labor Statistics, “The Employment Situation—November 2021,” BLS, December 3, 2021, bls.gov/news.release/empsit.nr0.htm.

2 Lucia Mutikani, “U.S. Job Openings Hit Record High as Employers Struggle to Find Workers,” Reuters, September 8, 2021, reuters.com/business/us-job-openings-rise-record-109-million-july-2021-09-08.

3 Bureau of Labor Statistics, “Labor Force Statistics from the Current Population Survey,” BLS, October 8, 2021, data.bls.gov/timeseries/LNS14000000.

4 Mutikani, “U.S. Job Openings Hit Record High.”

5 Eric Friedman, “Top 10 Issues Facing HR Leaders Heading into 2022,” *Forbes*, December 7, 2021, forbes.com/sites/forbeshumanresourcescouncil/2021/12/07/top-10-issues-facing-hr-leaders-heading-into-2022/?sh=66cc97e1474e.

SECTION 1

What Contributes to the Skills Gap?

There are many factors contributing to the skills gap in the United States, including a lack of education or training in the skills needed, the global COVID-19 pandemic, increasing numbers of employees leaving jobs in some industries, changing technology, and retirements and a loss of knowledge. To effectively overcome the skills gap, organizations need to recognize and address these contributing factors.

Education and Work Preparation

First, participants were asked why there is or will be a skills gap in their organization (Figure 1). In response, 61 percent of participants said that the skills of the current workforce do not match changes in company strategy, goals, markets, or business models; this reflects the largest increase from 2018.

“Millions of higher-skilled jobs are going unfilled because we lack the workforce education system to train those who can fill them,” says an article from the Massachusetts Institute of Technology.⁶ “The labor market information chain is broken: Workers don’t know what skills they need, educators don’t know what skills to educate for, and employers don’t know what skills workers have.”

Other top reasons cited for the skills gap were insufficient bench strength in the company’s leadership ranks (54 percent), a lack of skilled talent in one or more of the company’s lines of business (44 percent), and a lack of requisite skills when promoting internal candidates for certain jobs (42 percent).

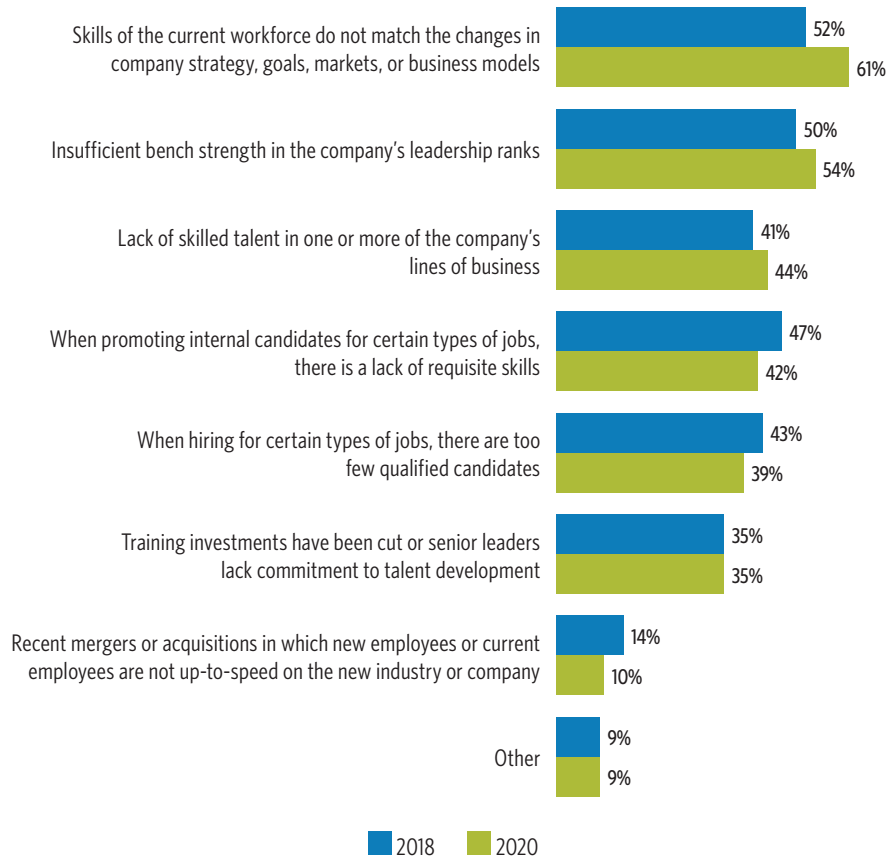
Section 3 looks at ways in which employers can address these challenges and proactively identify and develop needed skills in employees, including through partnerships with the education system and career pathways. That section shows that there is considerable room to expand these programs.

⁶ MIT Open Learning, “Bridging the Gap Between Education and Employment: Community College and Beyond,” *MIT News*, August 17, 2021, news.mit.edu/2021/bridging-education-workforce-gap-community-college-beyond-0817.

FIGURE 1

Top Reasons for Skills Gaps

Why is there (or will there be) a skills gap in your organization? (Choose all that apply.)



Effects of the COVID-19 Pandemic

March 2020 marked a turning point for much of the world. COVID-19 altered the way many of us worked—going from in-person to remote work in many cases. About 35 percent of employed workers in the US teleworked in May 2020.⁷ Lay-offs came fast in some industries, with millions of Americans losing their jobs in the first few months. The Pew Research Center reports that six months after the pandemic started, 25 percent of US adults said they or someone in their household lost their job or was laid off; 15 percent said it happened to them.⁸ After lockdowns eased, organizations began hiring again, and in November 2021, unemployment was 4.2 percent (the lowest it had been since the

7 Bureau of Labor Statistics (BLS), "Workers Ages 25 to 54 More Likely to Telework Due to COVID-19 in February 2021," BLS, March 11, 2021, bls.gov/opub/ted/2021/workers-ages-25-to-54-more-likely-to-telework-due-to-covid-19-in-february-2021.htm.

8 Kim Parker, Rachel Minkin, and Jesse Bennett, "Economic Fallout From COVID-19 Continues to Hit Lower-Income Americans the Hardest," Pew Research Center, September 24, 2020, [pewresearch.org/social-trends/2020/09/24/economic-fallout-from-covid-19-continues-to-hit-lower-income-americans-the-hardest](https://www.pewresearch.org/social-trends/2020/09/24/economic-fallout-from-covid-19-continues-to-hit-lower-income-americans-the-hardest).

pandemic began).⁹ People have their pick of jobs, shifting power away from organizations and making it incumbent upon them to do more to attract the best talent.

Although some argue that people don't want to return to jobs that are low paying, stressful, or hazardous, others say that the pandemic has changed the work landscape. Some workers no longer want to work in jobs that don't prioritize their health and well-being; they are quitting their jobs in record numbers in what some are calling the Great Resignation.¹⁰

The pandemic has had a particularly sharp impact on skills gaps in the healthcare workforce. For example, many experienced frontline hospital nurses, faced with even heavier workloads and dangerous working conditions during the pandemic, changed careers or took early retirement, worsening the existing nursing skills gap.¹¹ According to a study from the US Public Interest Research Group (PIRG), at the end of 2020, more than 23 percent of nursing homes in the US faced shortages of trained nurses, aides, or doctors. Many staff also left healthcare work because of the stressful and risky working conditions created by COVID-19, or because they or their families fell ill from the virus.¹²

Changing Technology

In fields like manufacturing, the technical skills gap is increasing as shifts in technology mean that companies are using more automation and robotics. "Companies need employees who understand robotics, the Internet of Things, artificial intelligence, and analytics," according to Manufacturing.net. Among the jobs being created and going unfilled are robot-teaming coordinators and smart-factory managers. These jobs require digital fluency, manufacturing know-how, physical know-how, programming, problem-solving skills, data skills, and soft skills. However, many young people are disinclined to enter manufacturing because of false job perceptions (they believe manufacturing involves repetitious work and harsh conditions). Researchers predict there will be more than 2 million unfilled manufacturing jobs in the US in the near future.¹³

Another field with a huge skills gap is cybersecurity, particularly as cyber threats become more and more common and sophisticated. The first quarter of 2020 alone saw a 273 percent increase in large-scale data breaches, and the cybersecurity industry is expected to triple year-over-year through 2022, with millions of unfilled positions, according to

9 Bureau of Labor Statistics, "The Employment Situation—November 2021."

10 Anna North, "The Death of the Job," Vox, August 24, 2021, [vox.com/22621892/jobs-work-pandemic-covid-great-resignation-2021](https://www.vox.com/22621892/jobs-work-pandemic-covid-great-resignation-2021).

11 Amanda D'Ambrosio, "More Than a Nursing Shortage: A Skills Gap, Too," Medpage Today, September 15, 2021, [medpagetoday.com/special-reports/exclusives/94531](https://www.medpagetoday.com/special-reports/exclusives/94531).

12 US Public Interest Research Group (PIRG), *Nursing Home Safety During COVID: Staff Shortages* (Denver, CO: U.S. PIRG, 2021).

13 Propel PLM, "The Manufacturing Skills Gap: What Is It?," August 25, 2021, [manufacturing.net/labor/article/21627393/the-manufacturing-skills-gap-what-is-it](https://www.manufacturing.net/labor/article/21627393/the-manufacturing-skills-gap-what-is-it).

CyberWire, an industry news source. There is a shortage of individuals with the needed technical, interpersonal, and problem-solving skills to deal with complicated threats. CyberWire points out that misperceptions are contributing to the skills gap: “One of the biggest issues facing the cybersecurity industry is the perception of a career in this field. To get a career in tech, individuals commonly believe that the only route is a four-year degree from university or college, which requires them to have the time and the right precursor skills to be accepted.”¹⁴

However, there are multiple paths to a career in cybersecurity, not all of which require a four-year degree (some only require a certification, certificate, or on-the-job training). Western Governors University notes that while the cybersecurity field is dynamic and vast, other myths contributing to the skills gap are that the field is very difficult to break into because “you need to be a computer genius in many network systems” and that cybersecurity is an extremely niche and limited field (when in fact, cybersecurity professionals are “engaged at all levels of business” and their influence reaches beyond IT departments).¹⁵

Retirements and Loss of Knowledge

Another cause of the skills gap in the US workforce is the number of baby boomers (people born between 1946 and 1964) who are retiring. In fact, Bloomberg notes that retirements more than doubled in 2020 from 2019. Although many people had already planned to retire, some left the workforce earlier than expected due to job loss or concerns about COVID-19, while others took advantage of high home values and stock prices.¹⁶ The exodus of baby boomers from the workforce has left in their wake a gap in both knowledge and experience.

Interestingly, 51 percent of survey participants reported to a high or very high extent that the biggest skills gaps existed in Gen Z, down from 59 percent in 2018 (Figure 2). Indeed, the skills gaps seen in Gen X, Gen Y, and Gen Z have decreased since 2018, while the skills gaps in baby boomers increased from 31 percent in 2018 to 37 percent in 2020. However, there are far fewer boomers working today than in 2018. In fact, in the third quarter of 2020, about 4.7 million more boomers were out of the workforce than in the third quarter of 2018 (two years earlier).¹⁷

14 Ingrid Toppelberg, “Understanding the Cybersecurity Skills Gap and How Education Can Solve It,” CyberWire, April 19, 2021, [the cyberwire.com/stories/0e1b915f738448e181cc72ab3fa42f37/understanding-the-cybersecurity-skills-gap-and-how-education-can-solve-it](https://www.cyberwire.com/stories/0e1b915f738448e181cc72ab3fa42f37/understanding-the-cybersecurity-skills-gap-and-how-education-can-solve-it).

15 Western Governors University, “5 Cybersecurity Career Myths Busted,” WGU Blog, April 24, 2018, [wgu.edu/blog/3-cybersecurity-career-myths-busted1804.html#close](https://www.wgu.edu/blog/3-cybersecurity-career-myths-busted1804.html#close).

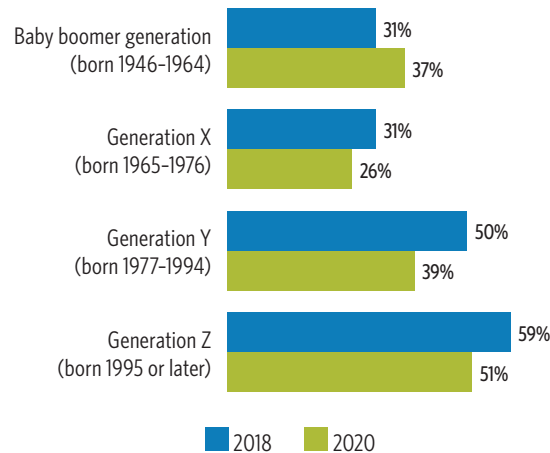
16 Olivia Rockeman, “The Mystery of the Missing Workers, Explained,” Bloomberg, August 5, 2021, [bloomberg.com/news/features/2021-08-05/why-is-u-s-labor-force-shrinking-retirement-boom-opioid-crisis-child-care](https://www.bloomberg.com/news/features/2021-08-05/why-is-u-s-labor-force-shrinking-retirement-boom-opioid-crisis-child-care).

17 Richard Fry, “The Pace of Boomer Retirements has Accelerated in the Past Year,” Pew Research Center, November 9, 2020, [pewresearch.org/fact-tank/2020/11/09/the-pace-of-boomer-retirements-has-accelerated-in-the-past-year](https://www.pewresearch.org/fact-tank/2020/11/09/the-pace-of-boomer-retirements-has-accelerated-in-the-past-year).

FIGURE 2

Skills Gaps by Generation

To what extent do skills gaps exist for each of the following generational groups in your organization's workforce?



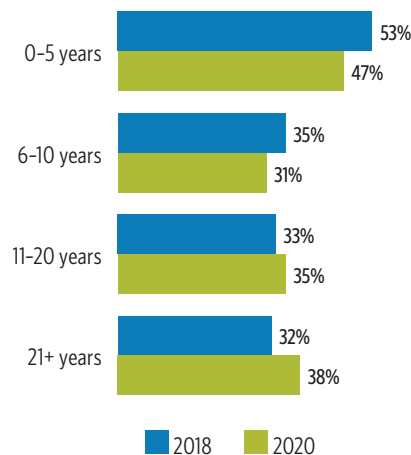
(Percent of respondents indicating a high or very high extent.)

Similarly, nearly half of participants indicated to a high or very high extent that those with less than five years with their organization had the biggest skills gaps, down from 2018 (Figure 3). The perceived skills gaps in the most tenured employees (more than 21 years with the organization) increased from 32 percent in 2018 to 38 percent in 2020.

FIGURE 3

Skills Gaps by Tenure

To what extent do skills gaps exist for each of the following groups by tenure (total years with the organization) in your organization's workforce?



Percent of respondents indicating a high or very high extent.

SECTION 2

The Current State

To assess the current state of skills gaps in organizations, this section first identifies key skills gaps then shares, through case studies and interviews, how Mountain America Credit Union, HHW Ohio, Baker Construction, and NTT are working to overcome the skills gaps in their organizations.

What Skills Are Missing?

ATD's skills gap survey sought to determine the most common skills missing in today's organizations from the people who know: talent development practitioners.

Critical-Thinking and Problem-Solving Skills, Managerial Skills, and Interpersonal Skills

Participants indicated that the biggest skills gaps their organizations were currently experiencing were critical-thinking and problem-solving skills (65 percent), managerial skills (those related to directly managing other people; 55 percent), and communication and interpersonal skills (53 percent; Figure 4). Interestingly, the decreases since 2018 were regarding skills in the areas of teamwork, communication and interpersonal skills, and customer service.

One possibility for these decreases is that organizations have focused more on training in these areas in recent years, which has helped to close the skills gaps. ATD's *2021 State of the Industry* report found that 11 percent of the learning portfolio in 2020 was dedicated to interpersonal skills training, compared with only 7 percent in 2015. Managerial and supervisory training, which saw a drop from 61 to 55 percent of respondents, accounted for 13 percent of the learning portfolio in 2020 (second only to compliance training), compared with 12 percent five years earlier.¹⁸

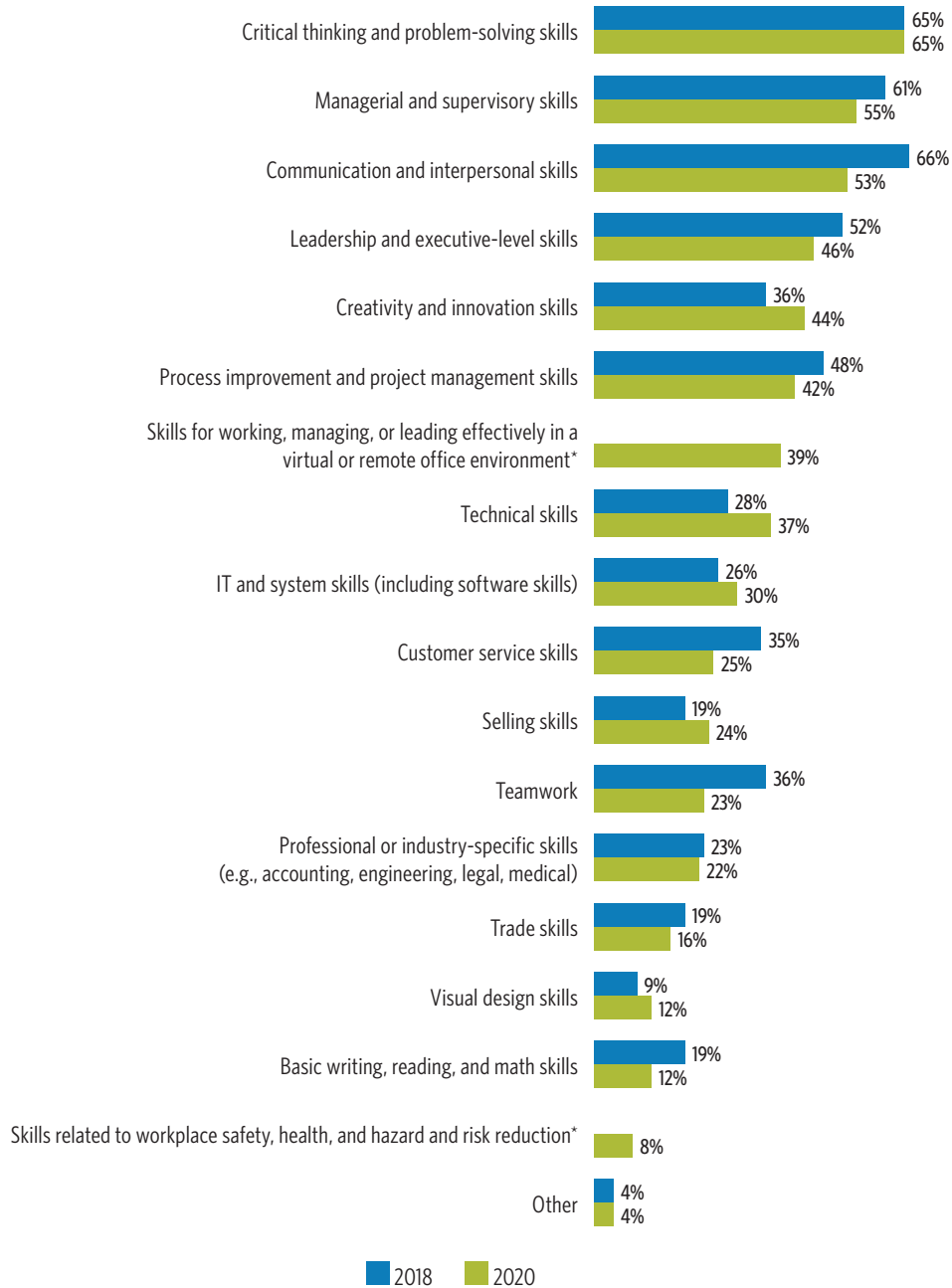
Similarly, critical-thinking and problem-solving skills topped the list of specific skills gaps that participants expected their organizations to face in the future (56 percent), as shown in Figure 5. Other top skills gaps that were expected in the future were leadership and executive-level skills (53 percent), creativity and innovation skills (50 percent), and managerial and supervisory skills (49 percent). Notably, creativity skills increased from 41 percent in 2018 to 50 percent in 2020, while customer service skills decreased from 28 percent in 2018 to 20 percent in 2020.

¹⁸ ATD, *2021 State of the Industry*.

FIGURE 4

Current Skills Gaps

What are the specific types of skills gaps your organization is experiencing now? (Choose all that apply.)

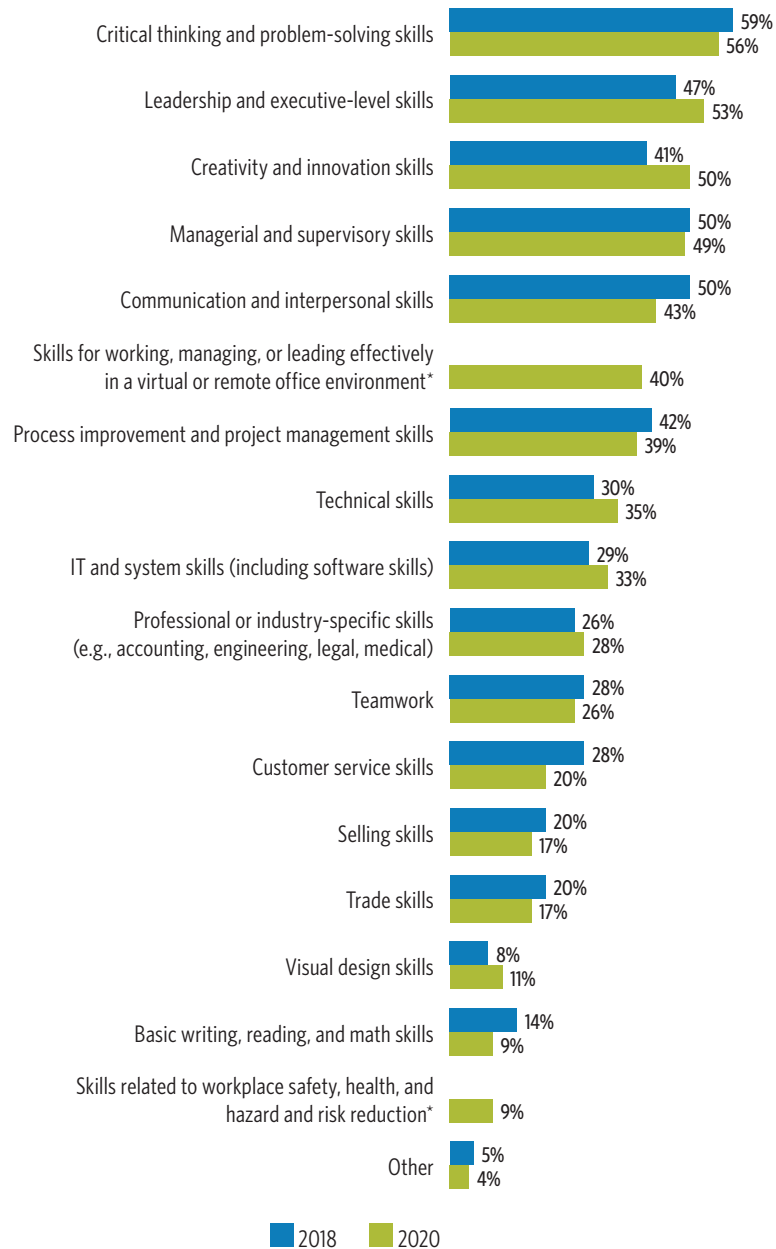


*Answer choice not offered in 2018

FIGURE 5

Expected Skills Gaps

What are the specific types of skills gaps that your organization is expected to experience in the future? (Choose all that apply.)



*Answer choice not offered in 2018

Q&A WITH MOUNTAIN AMERICA CREDIT UNION: Developing Skills for Long-Term Career Growth

Mountain America is a nonprofit financial institution that offers customers a mobile app, online banking, and more than 90 branches, spanning Utah, Idaho, Montana, Nevada, Arizona, and New Mexico.

Which skills gap is the biggest concern for your organization? Why?

One of Mountain America's main focuses is developing the skills needed to keep up with the rapid growth rate of the organization. Leaders and employees need to grow in their metaskills of growth and development, which will then support other skills growth. Development is viewed primarily as training or as something you do on the side while you chase results and focus on technical work. Development is the single-most meaningful skill that will drive higher business performance, more than any other for our organization because it drives all other skill growth.

How are you planning on addressing skills gaps in general?

To address skills gaps, we are focusing on employee and leadership development at individual and system-wide levels in parallel, and articulating the most critical behaviors that reflect our values, customers, and leadership standards.

How are you addressing them for the current workforce?

In our current workforce, we are introducing a career development philosophy, strategy, and resources that focus on skill proficiency. We are introducing new models that broaden current thinking and industry best practices for career development, education campaigns, and building a more smooth and easy learning ecosystem.

How are you addressing them for the incoming or new workforce?

To fully integrate new hires into their development as quickly as possible, we have included individual development plans in the onboarding process as well as quarterly check-ins.

How are you addressing them for the remote workforce?

We have spent a significant effort on defining policy, standards, processes, resources, and education for flexible work, including training for managers and employees who are on hybrid or virtual teams.

Describe how you envision the talent development and acquisition function, as well as the workforce acceptance of new working environments: fully on-site, fully remote, or hybrid solutions.

Mountain America envisions the talent development (TD) and talent acquisition (TA) functions to be very strategic and aligned in delivering the Employee Value Proposition (EVP) to all potential candidates as well as all existing team members. They are core levers of employee engagement and attrition. The TD function will define an easy and

personalized learning ecosystem for all employees, as well as provide accelerated learning assignments and experiences for leadership development. The talent acquisition strategy is aligned with the business strategy and will focus on ensuring the right talent is in place to help the business grow in the future. The strategy needs to be nimble and agile to attend to shifting workforce and business factors.

The workforce at Mountain America has embraced flexibility, and it is paramount to our retention and engagement metrics. The ability to handle all three scenarios has become very strategic, and the organization has put into place flexible work standards, policies, guidelines, and resources to support the new workforce environment.

What resources and strategies will you require to help bridge this skills gap?

In order to bridge the skills gap, we will continue to integrate new technology, digital platforms, and accessible content that can be personalized for each team member with respect to their growth and development of new skills.

Our strategies will focus on:

- A combination of training, mentoring, and experiential on-the-job learning
- An education campaign with tools to train our leaders on how to coach employees in an effort to guide them in their careers as well as helping team members think differently about their careers and how to steer them going forward
- Internal content, learning solutions, and external partners that support talent development

How has your effort altered how you prepare your workers to adapt their skills to the changing needs of your organization?

We recently shifted our career path strategy, focusing on skills and experiences rather than roles and upward mobility. Defining what skills are the most strategic and critical and showing how employees can learn those particular skills through a multivaried development approach allows team members to develop within their current roles by expanding and enlarging the work they can do. To help employees develop these essential skills, we will focus on education and mindset change and provide the right processes, tools, and resources to support them. Through these efforts, we hope to see more horizontal movement versus just upward ladder climbing.

Leadership Skills

More than half (53 percent) of participants said their organization was expecting to see a gap in leadership skills in the future (Figure 5). According to the *2021 State of the Industry* report, 13 percent of learning content in 2020 was devoted to managerial and supervisory content and 6 percent to executive development. Together, these two areas account for almost one-fifth of the learning portfolio.¹⁹

This may be due to the fact that baby boomers began retiring at an increased rate in 2020, and that rate is only expected to continue.²⁰ With more boomers leaving the workforce, it's imperative that organizations prepare the rest of their workforce to fill in the gaps they will inevitably leave, particularly in terms of knowledge and leadership. Organizations also face recruiting wars for high-potential talent to fill their pipelines of future leaders.²¹

Q&A WITH HHW OHIO: HELPING WOMEN BUILD Leadership Skills for Technical Fields

HHW Ohio is a 501(c)(3) organization that inspires and supports women as workplace and community leaders. Since 1979 HHW Ohio has engaged industry and community leaders to match women who need lifelong careers with employers who need a qualified, skilled workforce. The work engages women and girls in critical technical and STEM pathways that strengthen the economic competitiveness of Ohio and the financial security of families. By harnessing the collective power of volunteers, business, community-based partners, and educational partners, HHW Ohio provides women and girls a full range of career options, networks of support, and the confidence and skills to succeed.

Which skills gap is the biggest concern for your organization? Why?

At HHW Ohio we work with women to build their leadership and employability skills to help them succeed within what are often male-dominated industries. We work in this way because we know that being the only woman on a job site requires a specific set of skills that help women navigate the challenges of breaking gender norms. Women often have to overcome challenges to their leadership and might have their ability doubted on the job—even though research shows that women are just as competent as men in STEM and industrial trades. As our mission is to help women enter into and accelerate their success within these pathways, empowering women as leaders is essential to our cause.

¹⁹ ATD, *2021 State of the Industry*.

²⁰ Rockeman, "The Mystery of the Missing Workers, Explained."

²¹ Leading Effectively Staff, "The Leadership Gap: How to Fix What Your Organization Lacks," Center for Creative Leadership, December 4, 2020, ccl.org/articles/leading-effectively-articles/leadership-gap-what-you-still-need.

How are you planning on addressing skills gaps?

HHW Ohio works with women currently working in STEM or industrial trades through our Role Model Speakers Bureau. This program is designed to empower women through coaching and connection to build their leadership and public speaking skills, while acting as a beacon for other women to join the field. Through our Community Information Sessions and our Women in Sustainable Employment (WISE) Pathways program, we encourage women who are going through a career transition to consider nontraditional fields while providing coaching on topics such as conflict resolution, business etiquette, and addressing sexual harassment. Through building these skill sets among women, they are able to fully step into their roles and advance within these nontraditional industries.

What resources and strategies will you require to help bridge this skills gap?

At HHW Ohio, we know you can't be what you can't see. Using this as a guiding principle, we connect women who are considering entering a STEM or industrial career with role models. These role models provide insights as to what it is like to work in the field and share how they have been able to tackle the challenges that come along with being one of a few—if not the only—woman on a job site. We also provide women with contextualized curriculum, which is customized to address their concerns and facilitate cohorts to build internal networks of support. These two practices have strong research bases for effectiveness and in internal evaluations have shown to have impact for women.

What long-term impacts are expected to be gained for the organization as your effort continues?

Our efforts include working with employer partners who are seeking to diversify their workforce in terms of gender equity. We provide coaching for leadership on how to best integrate women into their workforce as well as change management support for the existing workforce to help them navigate the murky waters of shifting mental models. In the long term, we hope that our efforts will change the demographic composition of these nontraditional industries, providing fresh ideas and innovations for companies and pathways to family-sustaining careers for the women we work with.

How is the effort supported, both for current implementation and delivery, as well as for ongoing maintenance and validity?

HHW Ohio is a volunteer-driven organization. We use our "Find Out, Get In, Move Up, Give Back" model to mobilize role models, mentors, industry leaders, and community champions. Our efforts are supported by our dedicated volunteers, who provide us with labor market information and hiring data, participate in and lead programming, and connect us with communities of women. To support this model, we use a dedicated communication strategy with regular check-ins to manage schedules and mobilize resources to support program delivery. HHW Ohio is also a firm believer in continuous improvement methodology, using before-and-after action reviews to identify best practices and areas for improvement. We also use surveys to evaluate programming from both the participant perspective and leadership. In this way, we hope to avoid blind spots and ensure that we are meeting the needs of all interested parties.

CASE STUDY

Baker Construction Enterprises: Shifting Employees to New Roles

Baker Construction Enterprises (BCE) has a portfolio of companies that span the globe, including Baker Concrete Construction, Baker Gulf Coast Industrial, Miller Builders, and LRT Restoration Technologies.

The company was faced with the scenario of how to move employees from primarily skilled labor roles and shift them more rapidly into higher functioning leadership roles. Compounding their situation was the rapid growth in their Spanish-speaking workforce, from where their internally promoted leaders came; yet most training offerings were in English.

In 2019, BCE launched a development program unlike anything they had previously attempted. The internally built program was based on the input of more than 100 BCE co-workers from all levels, all perspectives, and all parts of the company. The program established an eight-month development program, which leaned heavily on structured on-the-job training concepts, with only four days in a classroom and the rest as guided job-site application tasks. Instructors would actually visit the participants at their job sites to evaluate their level of engagement and progress on their job-site application tasks. Participation was by nomination, and participants had to agree to strict, rigid, and accountable requirements. Not all who started in the program would finish, but all who finished exhibited behavior changes in their actual work output.

But aside from a design that shifted learning out of the classroom and into real-time workplace experiences, the primary focus of every aspect of the program was to be directly applicable, approachable, and immediately relevant. Even though topics included “emotional maturity” and “appreciating differences,” these were addressed in a manner that drew on the practical experiences of the participants and used examples that moved such topics from theoretical or academic and made them tangible for immediate, direct application back on the job. This approach not only fueled greater engagement but also resulted in positive feedback from participants and their leaders, who lauded the program for being “unlike other training programs” because what was covered “could actually be used.”

Additionally, the curriculum for this development program was translated so that the entire program could be offered in Spanish. The program’s first participants did not initially have this option, resulting in some Spanish speakers being disconnected and withdrawn during sessions and on-site reviews. It is important to recognize that just because participants “can speak English,” they might not be truly literate in English. If they are not literate in the language of the training, they will have a much tougher time comprehending what is being trained. BCE learned this lesson quickly—once they were able to provide the entire program in Spanish, those same participants became engaged, animated, invested, and grateful.

Between the implementation of the development program, and its availability in Spanish, BCE has already seen significant benefits and improvements toward their identified needs. Nearly a third of those who have fully completed the program were promoted into higher level roles either shortly after or in some cases even prior to their graduation. Among those who completed the full development program, safety records show improvement, quality of work has increased as indicated by less rework, turnover in crew members working for them has reduced, and their positive engagement with those working for them has improved. A secondary goal of the program was linked to recruitment and retention, and everyone who completed the full program is still with the company.

But some of the most dramatic successes related to engagement appeared within BCE's Spanish-speaking workforce. For many of these participants the feedback and reactions became very emotional; some said they had never been given the opportunity to learn in Spanish. The opportunity to both learn in Spanish, and to be learning such in-depth concepts in Spanish, literally brought several of the participants to tears. This is a crucial piece of BCE's training program going forward.

"A lot of times in the construction industry workers can get treated as just numbers. You're a laborer and I need you to go shovel the dirt out of this hole and that's it, and barely even knowing that person's name. This program teaches you how to build relationships and treat people with respect." —Keith Williams, Superintendent (and program graduate)

"The program has helped me to see new aspects of things you do every day. Sometimes you get in a routine, you get comfortable doing the same stuff, but this program has made me think outside the box and add to my thinking process. Do you want to take that next step to becoming a leader or whatever your next level is? Are you willing to redirect your everyday, day-to-day thinking? This program really expands that. It's helped me out a lot." —James Lyle, Foreman (and program participant)

"I got a lot of good feedback that the guys in the field felt the instructors brought the specifics of their jobs into it; that it wasn't just 'a book' or 'a program' that didn't really tie back to what they do every day. When you tie their job and their specific needs into it, that was one of the biggest things that I felt the guys got that they liked. So, I think it's done a good job." —Jamie Massey, General Superintendent (and program mentor)

"Most importantly, it will take those young workers who are in a shell, who are afraid to speak up, and empower them to speak up and ask questions and share it with their co-workers. That's what gets it exciting, and that's what motivates those other guys. Because it's not all just about money, they want to be part of something bigger." —Jimmy Neu, General Superintendent (and program mentor)

Technical Skills

As Figure 5 shows, a little over a third of organizations were expecting to face a skills gap in technical skills in the future (35 percent); this number has increased from 30 percent in 2018. According to ATD's *2021 State of the Industry* report, 11 percent of learning hours in 2020 were devoted to profession or industry-specific skills, following mandatory and compliance (14 percent) and managerial and supervisory skills (13 percent).²² In fields like skilled manufacturing and cybersecurity, the changing technology landscape means employee skills may not keep up. In manufacturing, as previously discussed, young people who are interested in technology may not be inclined to enter the field.

Q&A WITH NTT:

Moving Technical Skills Training Online

NTT is a global technology services provider. Like many companies, it relied heavily on traditional instructor-led, face-to-face methods for delivering technical training to close skills gaps but had to shift toward online training during the COVID-19 pandemic.

Which skills gap is the biggest concern for your organization? Why?

Instructor delivery of training using new technology and methodologies. For example, since 1984, NTT Training has delivered skilled-trade craftspersons hands-on technical training by instructors at client sites using NTT-built training hardware equipment.

Instructors are now delivering equivalent training outcomes via live online training (LOT). This is quite a change for instructors and for a large part of our student base (being mostly made up of technical-industrial workers who are used to "hands-on" activities). They are not in the same room as the students, and they initially felt disconnected. The physical environment has changed with the "classroom" equipment set now part of a broadcast studio that also includes additional monitors, cameras, lighting, and a new producer role. The content has been adjusted and augmented to facilitate remote students, which has influenced their presentation and cadence.

While NTT has delivered LOT for more than seven years, prior to COVID-19, the market had generally shied away from virtual classroom delivery. Our student base usually favors in-person training for topics that have traditionally been hands-on training. The pandemic increased the market's request to include remote training delivery. Now that our clients have experienced digital simulators and other online tools, they are more willing to accept, and some even expect, multiple training delivery options.

Now, mid-way through 2021 in recent training set-up discussions, we are finding that it is not an either/or proposition for content to be virtual-digital or in-classroom. Clients are seeking a both/and solution. This includes more flexibility with clients looking for blended deliveries and to include digital simulations into their in-classroom training.

²² ATD, *2021 State of the Industry*.

How are you planning on addressing skills gaps? Current workforce? Incoming or new workforce? Remote workforce?

Training for LOT delivery is now a standard part of our new-hire instructor onboarding process.

To grow LOT capacity, NTT Training implemented a three-to-five day intensive hands-on training program for both instructor and producer roles. Trainees are taught both the theory and practical side of facilitating remote students; this includes:

- New curriculum content
- Broadcast studio equipment use and troubleshooting
- Multiple cameras
- Delivery platforms [such as Zoom, MS Teams, and WebEx]
- Backup systems for internet and power
- Remote student engagement techniques

Trainees are required to audit and teach to actual students, culminating in a qualification demonstration, to be eligible to teach classes solo.

To facilitate digital content for in-classroom training, NTT has both added computers to the hands-on equipment NTT ships, and trained instructors in setting up and troubleshooting the new portable “classroom computer lab” components, including Wi-Fi backup access and student navigation.

How has your effort altered how you prepare your workers to adapt their skills to the changing needs of your organization?

LOT delivery has become a standard delivery option, requiring instructors to learn new technology tools and teach using new presentation skills in both remote and in-classroom settings. We also have a dedicated instructional designer and an ID team to support online course creation and instructor-producer training.

What operational changes have been needed to support LOT delivery?

Every department has been affected, for example:

- Schedule logistics for round-the clock (three shifts) use of seven studios with COVID-19 cleaning and hygiene
- Increased shipping of student materials to individual offices and homes instead of a central client location
- New flexibility with student hardware options that can be shipped; NTT can provide laptop computers, internet hotspots, and webcams
- Tech support for clients and students to test their systems and submit pre-class homework (this includes a hotline that technically challenged students can call and have a support team member walk them through the online learning process)
- Curriculum has been adjusted and augmented to support LOT-delivery of courses
 - A new LMS has been implemented for remote students to access, adding another layer of security for clients’ piece of mind

- Instructor and producer training to deliver courses via LOT-delivery
- Test new hardware, software, and procedures for remote camera use in the field at the client site
 - This comes in very handy for field audits where our experts can visit wherever the client needs us to be

What long-term impacts are expected to be gained for the organization as NTT's efforts continue?

Going forward NTT has integrated LOT-delivery as a permanent solution option.

- All products being developed or updated will meet LOT-delivery requirements.
- All new hires for instructor, producer, and customer support roles will be onboarded to meet LOT-delivery requirements.
- The ID team and subject matter experts (SMEs) will continue to develop new courses and techniques that promote the use of new technology, expanding both LOT and in-person experiences.

What challenges has your organization experienced regarding LOT?

Our clients are manufacturers, the frontline of the skills gap. As you can imagine, both parties had to partner to pivot during COVID-19.

For NTT, while we have been doing LOT for several years, it had not been with all instructors. Instructor mindset about hands-on versus distance learning was an initial challenge. We accomplished changed hearts and minds by having the instructors experience LOT delivery.

Experiencing a training where they were regularly called upon to discuss and answer the topic was different than the general webinars they had experienced elsewhere. While students were mostly used to the “talking head” webinar where information washes over them, NTT’s techniques exposed them to new delivery tools and processes for a highly interactive virtual delivery. For instance, students in our online hydraulics course instruct the teacher to build and then test hydraulic circuits on actual equipment for the students. LOT is not passive for either the students or the instructor.

Did clients also have reservations about live online training?

Yes, clients familiar with hands-on equipment also wondered about how their workers could have the same experience remotely. Once again showing, not telling, how the classes would be interactive paved the way. NTT conducted special LOT-Experience (LOTx) sessions to enable decision makers to experience the versatility of virtual classroom training with other “students” to get a real taste.

At first, there was push back that companies didn’t have the tech to attend training online. We found that many clients were not physically set up for interactive distance learning. Often clients are set up for webinars (one-way lectures). Client success meant

helping the client employer mindset change first (and employees also), and then addressing the resulting technology, process, and operations changes.

As that tech became quickly available, the issue was getting the student comfortable using the new tech where it didn't distract from the actual subject of the lesson. We included a producer to help with the digital orientation of the online tools and to stay available should any tech issues arise during the training. This also helps new online instructors to have a safety net of sorts and lets them concentrate on relaying their knowledge to the students.

SECTION 3

Who Is Responsible for Closing the Skills Gap?

Just as the skills gap has numerous causes, there are also multiple fronts to be successfully navigated and closed. Organizations and individuals across both public and private sectors need to be involved to properly bridge the skills gap. This section contains interviews from the Texas Department of Transportation and QM on what they're doing to overcome skills gaps.

Public Sector

Government can enact legislation that pushes for workforce development; such laws devote resources to develop the workforce and ultimately close skills gaps. Here are four examples of how the public sector is aiming to address the problem of existing and future skills gaps in the United States.

Workforce Innovation and Opportunity Act

In 2014, President Barack Obama signed into law the Workforce Innovation and Opportunity Act (WIOA), which reauthorized the Workforce Investment Act of 1998 and amended the Adult Education and Family Literacy Act, the Wagner-Peyser Act, and the Rehabilitation Act of 1973. WIOA received nearly unanimous bipartisan support and contains four core programs: federally funded employment services, workforce development (including employment and training for youth, adults, and dislocated workers), basic education for adults, and vocational rehabilitation for people with disabilities. Originally, it was funded through 2020 at \$10 billion annually and is currently up for reauthorization.

WIOA supports one-stop career centers, which provide services for both individuals looking for training and employers seeking to fill their workforce gaps and meet training needs. These centers are managed by regional workforce development boards (WDBs) composed of business representatives, education providers, labor organization members, and community-based organization members, among others. WDBs and one-stop career centers are the heart of local workforce development systems, the pass-through for federal training dollars, and a key resource for closing the skills gap locally and regionally. The goal, according to the National Skills Coalition, "is to help people, including youth

and those with significant barriers to employment, secure high-quality jobs and careers, and to help employers hire and retain skilled workers.”²³

National Apprenticeship Act of 2021

In 1937, the National Apprenticeship Act was first created and today is one of the country’s most successful workforce development programs. The US House of Representatives passed the National Apprenticeship Act of 2021 in the 117th Congress. In reauthorizing this legislation, \$3.5 billion will be invested in creating and expanding Registered Apprenticeships, pre-apprenticeships, and youth apprenticeships. In total, about 1 million new apprenticeships will be added. The House Education and Labor Committee explains, “The Registered Apprenticeship (RAs) system is America’s most successful federally authorized workforce development program. According to the Department of Labor, 94 percent of people who complete RAs are employed upon completion, earning an average starting wage of above \$70,000 annually. Yet, according to the most recent data, only 0.3 percent of the overall workforce in America have completed an apprenticeship.”²⁴

94 percent of people who complete registered apprenticeships are employed upon completion, earning an average starting salary above \$70,000 annually

Carl D. Perkins Career and Technical Education Act

In 2018, the Carl D. Perkins Career and Technical Education Act was reauthorized through bipartisan support through 2024.

ATD was one of more than 500 organizations that supported the passage of this legislation. It aims to increase the quality of technical education in the United States to help the economy. To do this, it strives to align the career and technical education programs to the needs of the regional, state, and local labor market; support effective and meaningful collaboration between secondary and postsecondary institutions and employers; increase student participation in work-based learning opportunities; and promote the use of industry-recognized credentials and other recognized postsecondary credentials.

23 Rachel Unruh, “WIOA Reauthorization Is on the Horizon - Here’s a Refresher on America’s Primary Workforce Program,” National Skills Coalition, May 20, 2021, nationalskillscoalition.org/blog/higher-education/wioa-reauthorization-is-on-the-horizon-heres-a-refresher-on-americas-primary-workforce-program.

24 Robert C. “Bobby” Scott, “National Apprenticeship Act of 2021 (H.R. 447) Fact Sheet,” House Education and Labor Committee, edlabor.house.gov/imo/media/doc/Fact Sheet - National Apprenticeship Act of 2021.pdf.

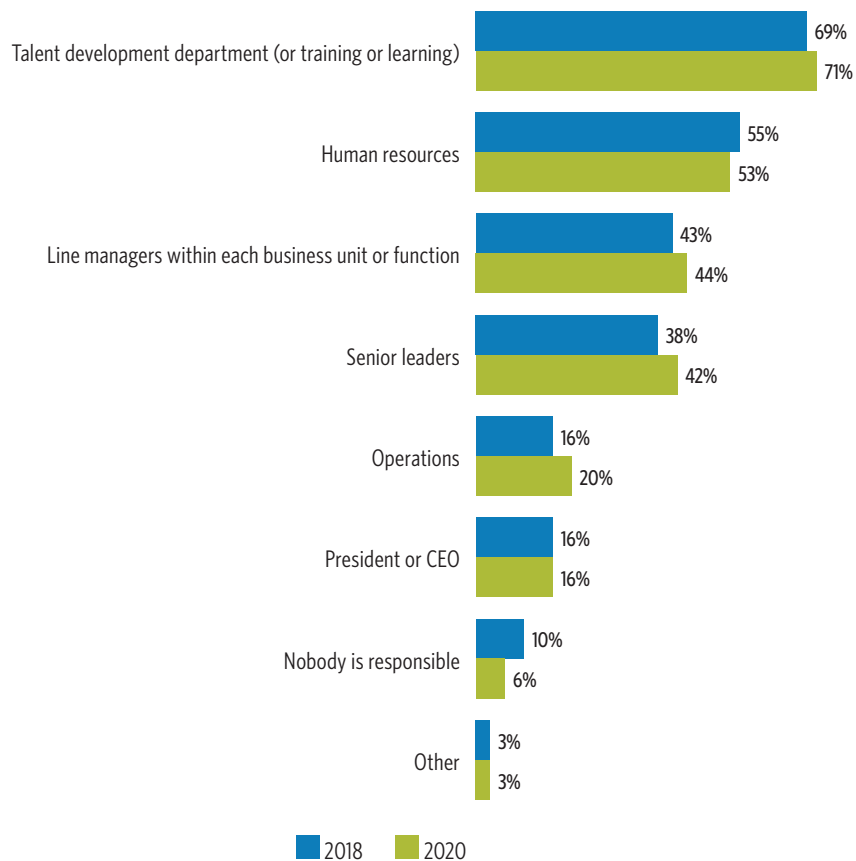
Addressing Skills Gaps

Legislation isn't the only way to address skills gaps. Organizations can also make headway in bridging skills shortages themselves. Approximately seven in 10 ATD survey participants reported that their organization's talent development department was responsible for addressing skills gaps (Figure 6), while 53 percent said human resources, and 44 percent said line managers within each business unit were responsible. Six percent of respondents indicated that no one at their organization was responsible for addressing skills gaps—fortunately, this number has decreased from 2018, when it was 10 percent.

FIGURE 6

Functions Responsible for Addressing Skills Gaps

Which function in your organization is responsible for addressing skills gaps? (Choose all that apply.)



Q&A WITH TEXAS DEPARTMENT OF TRANSPORTATION: Recruiting and Reskilling to Address the Skills Gap

The Texas Department of Transportation has focused its efforts on recruiting new, diverse talent as well as reskilling existing staff. The department is a public agency of the state of Texas and is associated with overseeing the state's highway, aviation, rail, and public transit systems.

Which skills gap is the biggest concern for your agency? Why?

We expect the demand for soft skills and investments in people to continue, even as they turn over at a faster pace. That said, the events of 2019 and 2020 have prompted us to consider adaptability, flexibility, change management, and even creativity to be soft-skills gaps of note. With the decline of available workforce and growing economies, operations have moved from what might be considered “fully planned” to “risk based” and will soon move to “automated, risk-based” models of management. “Great” has truly become the enemy of “good,” as those who can field a minimally viable product beat out those who appear stagnant. The ability to recognize these realities as simply continuations of an economic theme that began in 1999 will remain a key skill for individuals and organizations; some of whom will be more resilient than others.

How are you planning on addressing skills gaps? Current workforce? Incoming, new workforce? Remote workforce?

Our human resources division is leading efforts to close the gap by sourcing new talent with these skills and reskilling existing staff. HR professionals have been sounding the alarm bell since 1999 as the workforce participation rate hit its peak and began to decline, but events of 2019 and 2020 empowered us to take a firmer tone with the organization. COVID-19 had everyone questioning the very nature of work and then the United States saw an upswing in violent events that brought race issues to the forefront and highlighted the stratification of the country's labor pools. We put diversity, equity, and inclusion at the front of our efforts and moved both our organizational recruitment unit and our Affirmative Action Plan (AAP) team under this new DE&I unit. Doing so has enabled us to challenge traditional sourcing models while working to reach AAP goals, both of which are new strategies in our industries. The Great Resignation has also given our HR and senior leaders the talking points to drive more sophisticated discussions with internal stakeholders and executives who have not kept pace with the evolution of the American workforce.

For those already here, our emphasis evolved in 2019 from performance management to career development. As a public agency, we do not conduct traditional succession planning; our employees are not directly selected for their next positions but must compete fairly against each other and external candidates. This emphasis on preparing to compete instead of preparing for selection is a subtle change that has translated into a heavier emphasis on career development and “next steps” during performance conversations. This move has also been facilitated by increased advertising of internal training opportunities, expansion of our education offerings, and even the revision of our annual performance document to a simpler, one-page format with a binary rating system.

What operational changes has your agency needed to implement to facilitate and support the impacts of the altered skills of those workers who have participated in the program?

The fight for attention and the accelerating pace of change have driven our operational decisions. Programs and offerings have changed little at their core, but how we reach employees as internal customers has become more predictably “high touch.” Performance management has gone from an annual exercise in reviewing the past to career conversations focused on making changes for the future.

Training has become shorter in duration and more virtual. Education has expanded to include more online programs and faster capability-based degree programs. Communities of practice have been formalized to provide new support networks across unit lines. Employee resource groups have been established to facilitate more authentic individual connections and job embeddedness. Wellness programming has also increased to include a holistic view of the employee as a human being in the workplace. Communication with employees has expanded to include new channels that reach employees via internal channels that they see mirrored at home on Instagram, Twitter, Facebook, and LinkedIn. Requests for feedback from individual units about their internal customer service have increased. Internal and external surveys abound, while the growth of internal dashboards and tracking of key performance indicators are pushing many to the point where we will be able to move beyond data analytics to true program evaluation.

Along those same lines, resource management discussions continue to play a central role in organizational capability conversations. As a public agency, we are limited by budgets outside our control and employee caps. As a result, discussions about capabilities continue to view the workforce as a landscape of available resources that include full-time staff, contracted staff augmentation, professional services contracts, procurements, interagency partnerships, and outsourced capabilities. Most unit leaders now focus directly on meeting project and program goals as part of the human resource management picture.

What immediate or short-term impacts on organizational goals have you been able to document?

Our near-term focus has been on key performance indicators and dashboard-style data analytics. Although continuous monitoring of our assets is the norm for our business, the routine monitoring of internal HR metrics and external workforce dynamics is relatively new. As such, our metrics for turnover, time-to-fill, vacant positions, vacancy duration, applicant EEO data, staff EEO data, Biannual Survey of Employee Engagement results, and staff training hours are all monitored and viewed at least monthly by the top 200 senior leaders of the organization and their staff support. These trends are also discussed quarterly during senior leader meetings and weekly within our operational units.

Public-Private Partnerships

Apprenticeships

According to [apprenticeship.gov](https://www.apprenticeship.gov), an apprenticeship is an “industry-driven, high-quality career pathway where employers can develop and prepare their future workforce.”²⁵

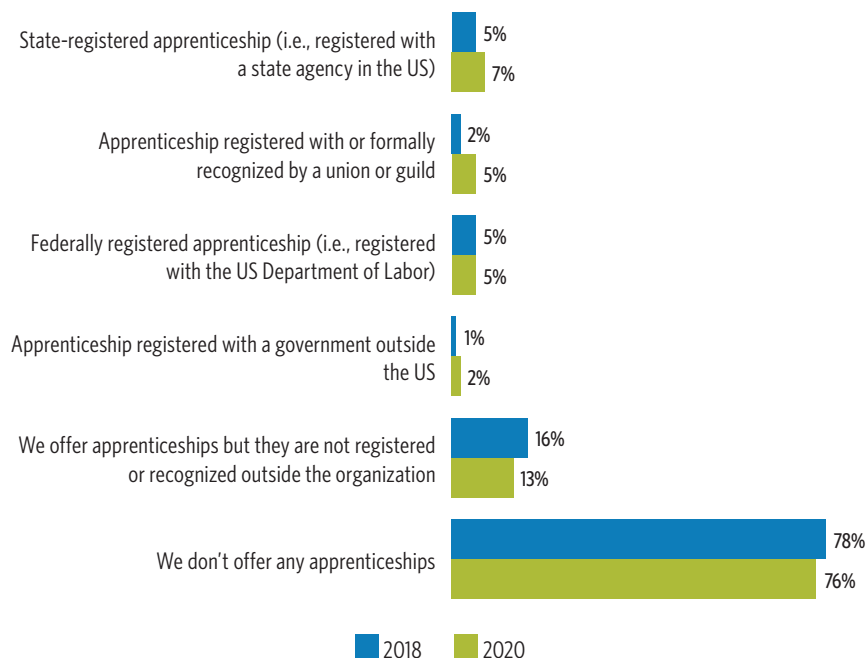
Apprenticeship combines paid work with formal classroom instruction. Just over three-quarters of respondents reported that their organization did not offer any apprenticeships (76 percent; Figure 7). Thirteen percent indicated that their organization offered apprenticeships, but they are not registered or recognized outside the organization.

Just 19 percent of respondents reported that apprenticeships at their organization were registered in some way. Given that apprenticeships can ultimately fill jobs with critical shortages, it may come as a surprise to many that so few apprenticeships are offered; this is clearly an area that is ripe for further growth and development. Although some may believe apprenticeships are only for skilled trades and manufacturing jobs, organizations should also explore opportunities to offer apprenticeships in non-traditional areas.²⁶

FIGURE 7

Apprenticeship Programs Offered

Does your organization offer the following types of apprenticeship programs to employees? (Choose all that apply.)



25 [Apprenticeship.gov](https://www.apprenticeship.gov), “Discover Apprenticeship: Earn While You Learn Today,” September 2020, [apprenticeship.gov/sites/default/files/Career_Seeker_Fact_Sheet.pdf](https://www.apprenticeship.gov/sites/default/files/Career_Seeker_Fact_Sheet.pdf).

26 Scott, “National Apprenticeship Act of 2021 (H.R. 447) Fact Sheet.”

Credentials and Certifications

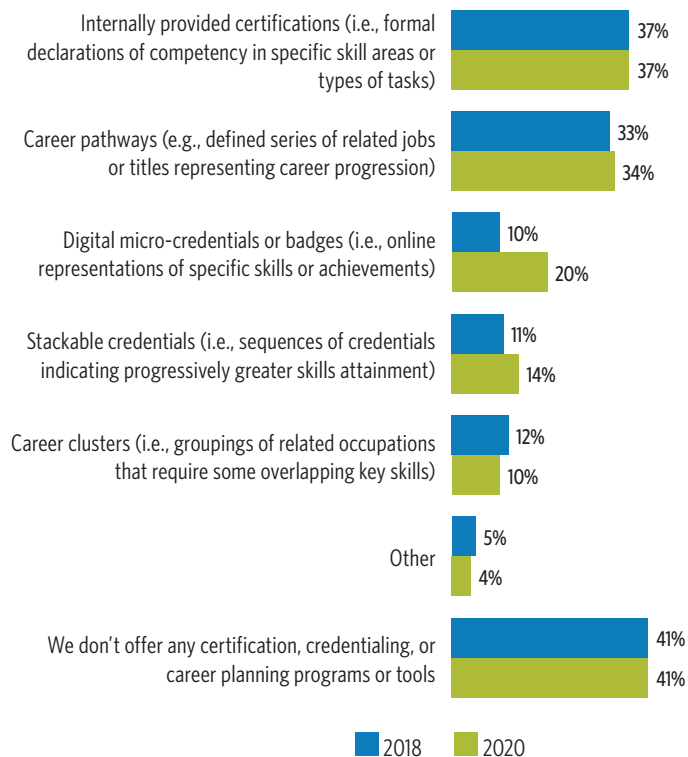
Thirty-seven percent of participants indicated that their organization offered internally provided certifications, a figure that remains stable from 2018 (Figure 8). About a third of respondents reported that their organization offered career pathways. The Urban Institute writes that “career pathways help trainees and training providers think about employment in terms of careers and advancement, not just as a single job. The idea is to give people in low-wage jobs or with few skills the opportunity to access better jobs and to help employers meet their needs for skilled workers.”²⁷

One in five organizations offered digital “micro-credentials” or “badges.” Notably, 41 percent of respondents said that their organization did not offer any certification, credentialing, or career-planning programs or tools.

FIGURE 8

Certifications, Credentials, and Career Planning Tools

Does your organization offer the following types of certification, credentialing, or career planning programs or tools to employees? (Choose all that apply.)



²⁷ The Urban Institute, “Career Pathways,” Urban Institute Local Workforce System Guide, October 7, 2021, workforce.urban.org/strategy/career-pathways.

Q&A WITH QM:

Online Teaching and Design Skills for Educators

QM has worked to address skills gaps in online facilitation and design skills for teachers and faculty during the pandemic. QM is a nonprofit organization with more than 1,500 member institutions across the US and in over 30 other countries. It provides professional development for online faculty.

Which skills gap is the biggest concern for your organization? Why?

The biggest skills gap for our organization is the lack of online teaching and online course design knowledge among educators at all levels, from K-12 through higher education and beyond.

How are you planning on addressing skills gaps? Current workforce? Incoming or new workforce? Remote workforce?

QM has long offered professional development about how to teach online and how to design quality online courses.

What operational changes has your organization needed to implement to facilitate and support the impacts of the altered skills of those workers who have participated in the program?

We have had to scale up our professional development department to meet the demand by adding additional facilitators and reorganizing our work as a small nonprofit staff.

How have those in leadership roles reacted or responded to your effort and the changes it has required the organization to make?

Our leadership has been highly supportive of this shift to meet the professional development demands of the community.

What immediate or short-term impacts on organizational goals have you been able to document?

We have documented a huge increase in digital credential earners (more than 100,000 badges have been issued), and we have also seen many teachers and faculty sharing their achievements.

Partnerships With Higher Education

Many industries are facing a worker shortage since the COVID-19 pandemic started. Fewer people are willing to work entry-level jobs and certain industries like hospitality and retail are facing a dilemma: How do they attract and retain workers? One method is through educational benefits like partnerships with academic institutions or tuition-assistance programs, which can also address skills gaps.

For example, the Society for Human Resource Management (SHRM) recommends organizations partner with academic institutions to recruit workers; this will provide employers with a pool of applicants that is working to gain needed skills. Although the workers may be initially hired for entry-level jobs, they may fill the pipeline of talent for future leadership positions and hard-to-fill roles. According to SHRM, “If you want even stronger applicants from these institutions, provide a program with materials, examples, or case studies from your organization. This will result in candidates who are more knowledgeable about and a better fit for your company. The more information you provide, the better suited the programs will be to address your needs and the better the candidate will be for your organization.”²⁸

Along the same lines, just three in 10 organizations offered formal learn-while-you-earn programs—defined as a partnership with an education institution where employees can work while also pursuing formal education through a structured program recognized by both the employer and education institution. This number has increased slightly from 2018 (27 percent).

ATD’s research has found that organizations with tuition-assistance programs are more likely to have a culture of learning and see strong business performance.²⁹ A recent study conducted by Volzer, Burgess, and Magda revealed that “55% of HR and L&D employers surveyed believe there is a skills gap in their organization, with upskilling and/or reskilling employees coming in as the top choice for addressing the skills gap (57%) over hiring new candidates (56%) or outsourcing (33%).”

Moreover, they continue, “81% of employers surveyed felt that having tuition assistance and support programs is a strong upskilling/reskilling tool. The majority reported that having strong tuition assistance and support programs has a positive impact on recruiting (76%) and retention (77%) as well.”³⁰ By relying on an established program within their organiza-

28 Society of Human Resources Management (SHRM), “How to Address the Skills Gap,” SHRM, [shrm.org/resourcesandtools/tools-and-samples/how-to-guides/pages/how-to-address-the-skills-gap.aspx](https://www.shrm.org/resourcesandtools/tools-and-samples/how-to-guides/pages/how-to-address-the-skills-gap.aspx).

29 ATD, *Developing a Culture of Learning: Strategies for Organizational Achievement* (Alexandria, VA: ATD Press, 2021).

30 Deb Volzer, Jessica Burgess, and Andrew J. Magda, *Reimagining the Workforce 2021: Closing the Skills Gap Through Education* (Louisville, KY: Wiley Edu, 2021).

tions, practitioners are better positioned to close the skills gaps they see occurring. Research from Quantic shows that 63 percent of employers have tuition-assistance plans.³¹

Amazon has recently expanded its tuition-assistance plans. *Fortune* explains, “Amazon announced a \$1.2 billion investment in its hourly employees, promising to fund full college tuition for its 750,000-plus operations workers in the U.S.” This new initiative, the Career Choice program, includes an effort to upskill employees through its own educational programs in high-demand fields such as “data center maintenance and technology, information technology, user experience, and research design.”³²

McDonald’s well-established development program Archways to Opportunity launched in 2015. Since then, McDonald’s has awarded more than \$130 million in high school and college tuition assistance. Further, Archways has increased access to education for more than 65,000 restaurant employees.³³

Recently, retail giants Target and Walmart have begun offering to pay for employees’ college degrees. According to *USA Today*, “Target says it will support workers taking courses for high school completion, college prep, English language learning and select certificates, certifications, boot camps, associate and undergraduate degrees.” The organization has partnered with several universities to accomplish this undertaking, including University of Denver, University of Arizona, and Morehouse College.³⁴ Walmart’s program covers tuition and books for full-time and part-time associates, and the company has 10 academic partners, including Johnson & Wales University and University of Arizona.³⁵

Taken together, these programs by Amazon, McDonald’s, Target, and Walmart are a solid step toward closing skills gaps by some of the country’s biggest and most well-known employers, and could provide new opportunities for low-wage employees looking to improve their lives by moving forward in their careers.

31 Quantic, “Discover the Employer Benefits of Tuition Reimbursement,” Quantic Blog, April 26, 2021, blog.quantic.edu/2021/04/26/discover-the-employer-benefits-of-tuition-reimbursement.

32 Sydney Lake, “3 Things to Know About Amazon’s Plan to Cover 100% of Employee’s Tuition,” *Fortune Education*, September 10, 2021, fortune.com/education/business/articles/2021/09/10/3-things-to-know-about-amazons-plan-to-cover-100-of-employees-tuition.

33 McDonald’s, “Archways to Opportunity,” McDonald’s, archwaystoopportunity.com/about_archways.html.

34 Kelly Tyko, “Target Joins Walmart in Paying for College for Employees; Free Books Also Included,” *USA Today*, August 4, 2021, usatoday.com/story/money/retail/2021/08/04/target-college-tuition-program-employees-walmart-paying-for-college-education/5481754001.

35 Marina Pitofsky, “Walmart, the Country’s Largest Private Employer, to Pay 100% of College Tuition for Employee Program,” *USA Today*, July 27, 2021, usatoday.com/story/money/2021/07/27/walmart-pay-college-tuition-costs-employees/5394833001.

SECTION 4

Addressing the Skills Gap

This section focuses on the steps that organizations have taken to address the skills gaps they face. An Action Plan is included that talent development practitioners can use to assess and overcome skills gaps in their own organizations.

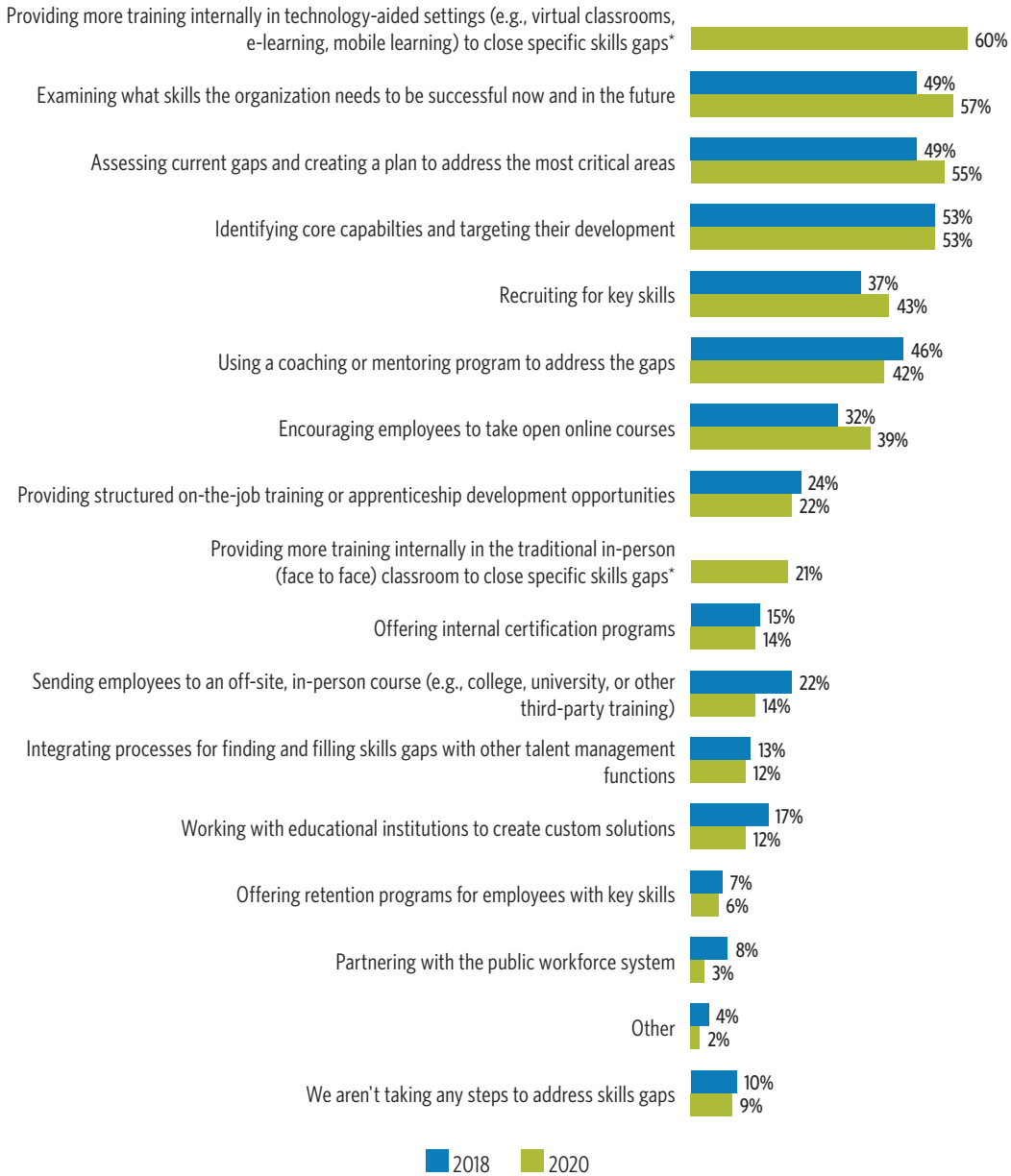
When asked how their organizations were addressing skills gaps, six in 10 participants reported that they were providing more training internally in technology-aided settings to close specific skills gaps (Figure 9). This response option was not offered in 2018. Many organizations choose to use technology-aided settings as a result of concerns over COVID-19. Twenty-one percent of organizations were providing more training internally in the traditional instructor-led classroom.

A majority said their organizations were addressing skills gaps by examining what skills the organization needs to be successful now and in the future (57 percent), while 55 percent indicated that they were assessing current gaps and creating a plan to address the most critical areas. On a positive note, these rates have increased; 49 percent of organizations were examining skills needs in 2018. The same percentage was assessing current gaps and creating a plan. How organizations can complete these steps effectively is discussed in more detail in the Action Plan.

FIGURE 9

Steps Taken to Address the Skills Gaps

How is your organization addressing these skills gaps? (Choose all that apply.)



*Answer choice not offered in 2018

ATD's Action Plan

Talent development professionals are the experts that organizational leaders should look to when identifying the skills and capabilities needed now and in the future. These skills and capabilities should align to key drivers for the organization. The following Action Plan identifies seven steps for talent development professionals to follow when it comes to assessing and closing skills gaps. The 2021 whitepaper includes the addition of a step focused on peer partnerships. In the dynamic business environment we operate in, partnerships will be critical in addressing systemic skills gaps.



STEP 1

Clarify and Understand the Organization's Performance Metrics

- Identify the key stakeholder to support closing the skills gap (overall, regionally, and per business function or unit).
 - Be sure you know the answers to the following questions and can articulate the connection between organizational and individual performance goals and observable employee capability.
1. What are all the factors in the economy, culture, or market that most influence the organization? How might these be an opportunity?
 2. What are the organization's key strategies and goals and their performance metrics?
 3. What business functions have the most impact on the success of the organization in terms of revenue and growth?
 4. Which roles have had the most impact on the current success of the organization? Which roles will have the most impact on the future success of the organization?
 5. Does the organization have a workforce plan and is it aligned to roles and capabilities?
 6. What capabilities must employees at all levels demonstrate to be able to meet the performance metrics now and in the future?
 7. How robust are the talent and HR systems and reporting capabilities for monitoring performance, business results, and employee capabilities?
 8. How engaged and committed are the organization's leaders to tackling identified skills gap challenges through an investment of people, processes, and systems?
 9. Will gaps be satisfied through succession or career plans, lateral moves, or outside sourcing?
 10. How are the demographics of the organization's workforce changing? What impact will they have on knowledge, skills, and behaviors?
 11. What is the state of the talent supply chain for the business or industry locally, regionally, and nationally?
 12. Is the organization prepared to increase skill sets at scale due to the talent resignation currently occurring?
 13. How does innovation and the fourth industrial revolution affect skill needs?



STEP 2

Identify Capabilities and Skills That Map to Strategies and Performance Metrics

- Identify the core capabilities and skills for the organization's overall workforce and the business units most critical to the organization's success.
- Identify current needs as well as those for the next one to three years.
- Review the long-range (five or 10 year) strategic direction to make sure all components align.
- Will disruption or new technological advances affect work capabilities?
- Has the pandemic (COVID-19) affected your direction?
- Working with leaders of core business functions, determine which skills and capabilities their employees need to demonstrate to meet key goals and be effective at implementing key strategies.
- Identify which skills and capabilities are required for meeting desired performance standards, in what timeframe, and how they will be measured.
- Map current and future capabilities to current and future business needs, strategies, and goals.
- Design the structure of functional capabilities required for job success using the organization's identified priority skills.



STEP 3

Assess the Skills Gap

Define the scope of how the gap will be addressed (organization, division, unit, or individual) and consider starting with one function or business unit as a pilot.

- Use analytical tools, such as impact mapping, to identify performance behaviors required to meet specific goals.
- Conduct a capability audit to evaluate the gap levels in employees' knowledge, skill, or behavior.
- Identify the consequences of not closing the identified gaps.
- Conduct an assessment of "future" roles or skills that are not present today. Address plans for meeting those as well.



STEP 4

Set Goals and Prioritize the Path to Filling Gaps

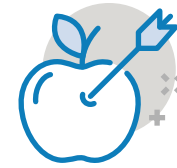
- Establish baseline measures of employees' current skills and capabilities. How will they be observed, monitored, measured, and evaluated?
- Use assessment tools to measure progress before and after learning and development takes place.
- Set goals for closing gaps between existing skill sets and those needed to support current and future strategic goals.
- Determine which courses of action to take to fill identified gaps: apprenticeships, reskilling, outsourcing, hiring, training and development, coaching and mentoring, structured on-the-job training, and so forth.
- For identified knowledge or skills gaps, create learning and development opportunities using appropriate delivery options and leverage all learning modalities: online, virtual, formal, informal, experiential, augmented reality, virtual reality, social, mobile, and partnerships with educational institutions.
- Implement a method for tracking demonstrated skill capabilities.



STEP 5

Implement Solutions and Monitor Sustainability

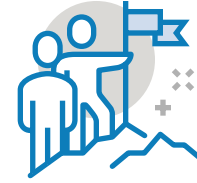
- Led by the organization's talent development function, create an organization-wide plan to address skills gaps.
- Create an internal implementation and communication plan to educate and involve managers and employees in programs to close skills gaps.
- With key leaders in the organization, prioritize solutions, develop required budgets, and secure the funding and resources needed to do the work.
- Connect with the state or local workforce development board to identify opportunities to partner and to access governmental training funding that can assist the organization in addressing skills gaps.
- Prioritize what the organization can implement and sustain, even if there are disruptions, changes, and challenges to the organization.
- Review and assess any guidelines (laws, union agreements, mandates) that could impact full implementation of organizational talent changes.
- Ensure there is senior leadership buy-in and engagement in every step of implementation and communication and that they are actively participating as teachers, participants, and advocates.
- Create individual learning plans and paths for employees. Have systems in place to measure and document skills and capabilities before, during, and after training.
- Link all talent development goals to the organization's skill needs and business priorities.
- Have a balance of quick wins, medium-term successes, and longer-term development so that measurement of success can begin immediately. Look for both leading and lagging indicators.



STEP 6

Solidify Organizational Efforts Through Partnerships

- Build relationships between industry, government, agencies, and educational institutions to bridge skills gaps with aligned programs.
- Build business consortia with local employers from various industries to understand and address regional skills deficiencies.
- Meet with government representatives to actively support legislation for increased funding opportunities for training programs needed to develop a pipeline of qualified personnel to support your industry now and in the future.



STEP 7

Communicate the Impact

- Enact an accountability structure to ensure progress is maintained.
- Ensure the measures are truly aligned with the organization's measures of success.
- Establish formal communication channels that will share relevant news related to learning impact and progress toward closing skills gaps.
- Be prepared to demonstrate how closing skills gaps has increased organizational performance, improved productivity, and reduced costs.
- Identify a successful stakeholder—work with that person to communicate the results.
- Communicate progress and results regularly to all stakeholders and create a means by which progress in achieving skills gap goals will be acknowledged and celebrated.
- Tell the story of your successes both internally and externally.
- Consider these questions:
 - In what ways did the solutions implemented have a measurable effect on narrowing the skills gap in the organization and making it more effective?
 - How did the results meet expectations and demonstrate progress?
 - In what ways is the organization's workforce better equipped to meet key goals and implement strategies?
 - What are all of the business results that can be attributed to improvements in skill, knowledge, or desired behavior?
 - Ask how closing the skills gap process can be refreshed to increase the likelihood of continued success.



Conclusion

Since ATD began tracking skills gaps in organizations, a majority of participants have reported having them in their own organization. With this report, that number increased—83 percent now report a skills gap in their organization, with 78 percent reporting that they expect to face such a skills gap in the future. Talent development professionals need to act to prevent these skills gaps from derailing the future of their organizations.

Organizations are in a precarious situation due to a number of factors that have exacerbated the skills gaps in recent years, including the COVID-19 pandemic, increasing resignations in some industries, changing technology, and an aging workforce. Both private organizations and the public sector need to take action to close skills gaps; even individual employees can undertake training and learning on their own to improve their skills.

For example, the Action Plan presented in this whitepaper can help organizations navigate their way through a skills gap to prevent a crisis. The Action Plan presents seven steps they can take:

- Clarify and understand the organization's performance metrics.
- Identify capabilities and skills that map to strategies and performance metrics.
- Assess the skills gap.
- Set goals and prioritize the path to filling gaps.
- Implement solutions and monitor sustainability.
- Solidify organizational efforts through partnerships.
- Communicate the impact.

Moreover, workforce development legislation like the National Apprenticeship Act and the Workforce Innovation and Opportunity Act can pave the way for individuals to gain the necessary skills for the future. These public policies create millions of opportunities for individuals to increase their skills and secure better paying jobs in the future, thereby improving their lives.

As this research shows, talent development professionals can take a leadership role to address skills gaps, it's important that they take the steps outlined in this report to drive change and successfully navigate the gaps in their organizations. The growth of their workforces and success of their organizations depend on it.

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About the Author and Contributors

atd The Association for Talent Development (ATD) is the world's largest professional membership organization supporting those who develop the knowledge and skills of employees, improve performance, and achieve results for the organizations they serve. Originally established in 1943, the association was previously known as the American Society for Training & Development (ASTD).

ATD's members come from more than 100 countries and work in public and private organizations in every industry sector. ATD supports talent development professionals who gather locally in volunteer-led US chapters and international member networks, and with international strategic partners. For more information, visit td.org.

ATD's researchers track trends, inform decisions, and connect research to practice and performance. By providing comprehensive data and insightful analyses, ATD's research products, which include research reports, briefs, infographics, and webinars, help business leaders and talent development professionals understand and more effectively respond to today's fast-paced industry.



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