

Room for Growth: A Survey of
UpSkilling Approaches

By Haley Glover and Kevin Martin

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Foreword

Each year, employers spend billions on education and training for their employees – nearly [\\$600 billion](#) by some estimates. As a result, and because talent is the machinery of business, employers have a vested interest in developing a skilled and capable workforce and creating conditions for that talent to remain with employers and find opportunities to grow in place.

A culture of continuous learning is a signature trait of high-performance organizations. Three-way accountability for learning is a key component of such cultures: the organization provides relevant development opportunities to all employees, leaders are accountable for actively demonstrating the importance of learning, and workers are responsible for accessing learning that supports both their careers and the organization's needs.

Frontline employees are increasingly [seeking growth and advancement](#) opportunities, prioritizing their learning and development above other important job factors like flexible schedules and even retirement benefits.



Haley Glover
Senior Director
[UpSkill America](#)

The benefits of upskilling are clear, especially in a tight labor market rife with critical skills shortages. Yet, the recent proliferation and rapid advancement of artificial intelligence in the workplace makes workforce upskilling a business viability imperative. It's been reported that the average half-life of skills is now less than five years, and in some fields, it's significantly shorter. In fact, 69% of CEOs in a [recent study](#) agreed that generative artificial intelligence (AI) will require most of their workforces to develop new skills within the next three years.



Kevin Martin
Chief Research Officer
[i4cp](#)

Yet here's the rub: a recent survey by the Institute for Corporate Productivity (i4cp) of 109 individuals who sit on private and public boards of directors found that only 9% of respondents said they were very confident in the ability of the companies they govern to effectively upskill employees for the future. Worse yet, these directors were nearly five times more likely to indicate they were not confident in the effectiveness of the upskilling. Unfortunately, that finding echoed [other i4cp research](#), which found that only 12% of the more than 1,300 survey participants reported their organizations' upskilling efforts to be highly effective.

Each month, employers announce new programs that intend to support employee skill development, such as tuition assistance programs, apprenticeships, work-and-learn models, and internal training programs designed to meet companies' specific needs. Beyond press releases and occasional updates, though, very little is known about the details of employer-supported education efforts.

Details matter. Program objectives and design elements can be the difference between a thriving, productive program that serves the needs of the company and the employee, and a program that is just a mention in the employee handbook. Getting the details right can be the difference between a program that creates returns, improving retention, filling in-demand roles, and creating employee engagement, and one that is viewed as a cost, the first program on the chopping block in a downturn.

To understand the state of employer-supported education and the “key practices”¹ – practices that show promise in driving outsized impacts – being developed in the field, UpSkill America partnered with i4cp to bring some clarity and direction to this topic, surveying hundreds of employers across the US. We delivered the survey over November and December 2023. Survey respondents represented an array of roles, from CEOs to individual contributors, and departments, including learning and development, talent management, total rewards and compensation, and human resources (HR) operations, among others. We had responses across the spectrum of firm size, with roughly half employing between 1 and 4,999 employees, and half employing more than 5,000 employees, with 13% of respondents employing more than 100,000 employees. Sixty percent of respondents indicated their organization’s geographic structure is global or multinational, with headquarters in the US but employees and facilities in other countries, while 40% operate only in the US. Responses came from every industry, including aerospace and defense, computer services and software, financial services, healthcare, and retail, among others.

We asked questions in three big areas of employer upskilling work with the intent of learning how many, for what purposes, and in what ways employers are investing in talent development.

- I. Internal Formal Education and Training.
- II. Apprenticeship/Work-and-Learn.
- III. Tuition Assistance.

Wherever possible, we present our findings in aggregate, as well as disaggregated by firm size, split between “smaller organizations” of fewer than 5,000 employees, and “larger organizations” of greater than 5,000 employees. We also disaggregate findings across organizations that report they believe their organization is successful in achieving its primary program goals for various program types to a high or very high extent.

We also asked questions to specifically understand how frontline employees are being prioritized or enabled in corporate education programs. We use the definition of frontline

¹ We avoid the term “best practice” in this piece for a couple reasons. First, more research is needed to understand whether practices are truly “best” or simply “the best we have right now.” Second, within this piece, we can see significant alignment between these key practices and program success, but we cannot attribute program success to these practices.

employees developed by [McKinsey](#) in their excellent analysis: hourly workers, primarily individual contributors, earning less than \$22 per hour.

What we learned is interesting and motivating.

The practices that are emerging as aligned to highly successful programs are practices that most directly center workers' needs. We do not see conflicts between these key practices and equitable solutions for frontline employees, confirming our long-held beliefs that employee upskilling done well is truly a win-win situation.

That said, there is significant room for growth: opportunities to improve existing upskilling programs. While there are bright spots in our survey findings, many survey respondents indicated that they did not feel their upskilling programs were successfully meeting stated objectives. There are many opportunities for improvements across the board.

What we learned about these programs is tantalizing, but we ultimately have many more questions to answer that dive deeper into the trends over time, about the working specifics of how learning is measured and used for employee advancement, and particularly about the experiences of employees themselves.

In this paper, which focuses exclusively on US-based employers and upskilling programs, we are starting to paint a research-backed picture of employer motivations, design decisions, and upskilling approaches as they stand today, followed by ideas and recommendations for improving upskilling in America.

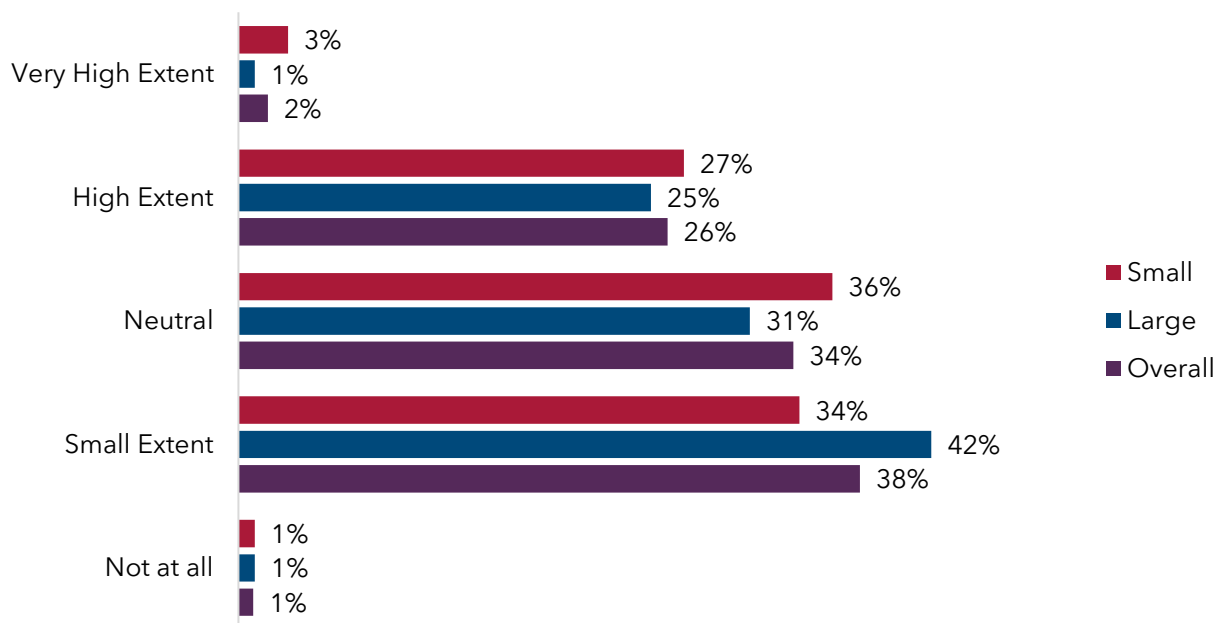
Foundations – Areas of Analysis and Corporate Objectives

While the upskilling approaches and tactics used by employers are as unique as employers themselves, we focused our research on three primary areas that capture large swaths of current activity among employers and appear to be increasing in utilization. Among survey respondents, 91% offer some form of education and skill development programming to current and prospective employees.

- 1) **Internal Education and Training Programs** – These programs are typically designed and delivered in-house, or if supported by a third-party contract, are closely monitored and heavily influenced by the company. These programs are usually intended to support skill development for advancement, address the broad needs of the workforce, and address employee skill development to retain in current roles. Seventy-two percent of survey respondents are offering formal internal education and training programs.
- 2) **Apprenticeship/Work-and-Learn** – Apprenticeship programs may be registered with the US Department of Labor or may lack registration and be administered independently. (We include “work-and-learn” here as an indication of nonregistered programs.) These models typically blend structured work-based learning with academic or technical training. Apprenticeship models are squarely focused on employee upskilling and, particularly for large employers, on improvement and diversification of talent pipelines. Thirty-four percent of respondents are running apprenticeship/work-and-learn programs.
- 3) **Tuition Assistance** – Tuition support programs are typically administered under Sections 127, 117, and/or 132(d) of the tax code and are designed to support incumbent employees’ access to education at reduced or no cost. Under tuition assistance programs, employees will typically enroll with a third-party organization, including colleges, universities, and training organizations, and pursue a credential that is broadly recognized in the economy, such as a certification or degree. Seventy percent of employers responding to our survey are offering tuition assistance to employees.

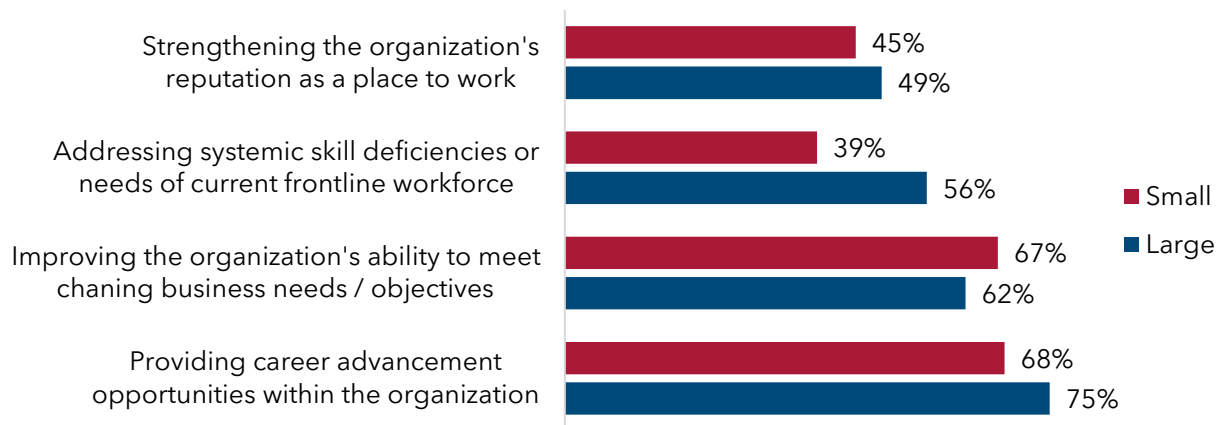
At the core of their educational offerings is concern about the skills and competencies of the current frontline workforce. Only 30% of survey respondents indicate they believe their current frontline workforce has the skills they need to meet demands in the next five years to a high or very high extent. Large organizations with more than 5,000 employees are more likely to be concerned with the skills of current employees.

Belief That Current Frontline Workforce Has the Skills Needed To Meet Demands in the Next Five Years - US Employers



Fittingly, we see skills strengthening as a core objective of corporate education efforts, especially among larger organizations, alongside creating opportunities for incumbent workers to advance in the company and improving the company's ability to meet changing needs and demands. Larger employers were much more likely to prioritize career advancement and meeting skill deficiencies than smaller organizations. As more companies offer education and training opportunities, and as frontline workers prioritize learning and growth, we also see reputation and employee value proposition as primary objectives for employers.

Broad Objectives of Employee Education Efforts



Employers are responding to internal and external pressures with their education programs, including:

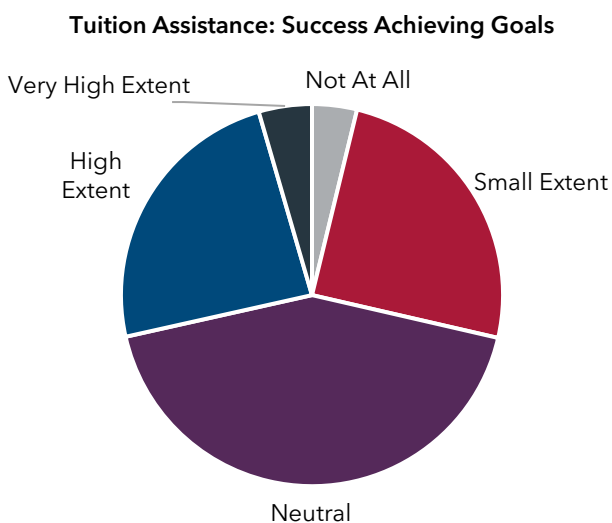
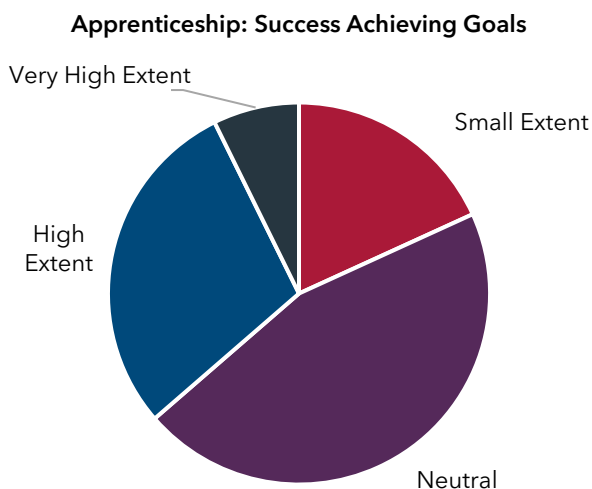
- Demand for development from current workforce: 59%.
- Business growth strategy: 58%.
- Continued organizational viability: 40%.
- Overall labor shortages: 35%.
- Lack of skills in the external talent pool: 30%.
- Expectations of customer base: 20%.
- Evolution of generative AI: 13%.

Larger employers are more likely to prioritize business growth strategy among critical drivers, with 63% of respondents indicating this is a pressure, compared to 53% of smaller businesses. Larger employers are also more likely to be building education solutions to combat overall labor shortages, with 39% of larger employers indicating compared to 32% of smaller employers. Meanwhile, small businesses are more likely to be advancing education programs for continued viability, with 44% of small businesses indicating compared to 35% of larger employers. The lesson: larger employers are upskilling for business growth, while smaller organizations are upskilling for survival.

While it's clear that employers are using upskilling efforts to create mobility for employees, ensure competitiveness and viability, and address skills needs, we see mixed sentiments about program success. Fewer than half of survey respondents indicate they feel they are successful at achieving program goals to a high or very high extent.

In all cases, large employers report higher degrees of success in achieving their program goals by large margins:

- Internal Education and Training Programs: 52% of large employers report programs are successful to a high or very high extent, compared to 40% of smaller employers.
- Apprenticeship/Work-and-Learn: 42% of large employers report programs are successful to a high or very high extent, compared to 25% of small employers.
- Tuition Assistance: 32% of large employers report programs are successful to a high or very high extent, compared to 24% of smaller employers.



While our survey was not able to capture the reasons behind this difference, we can make some assumptions:

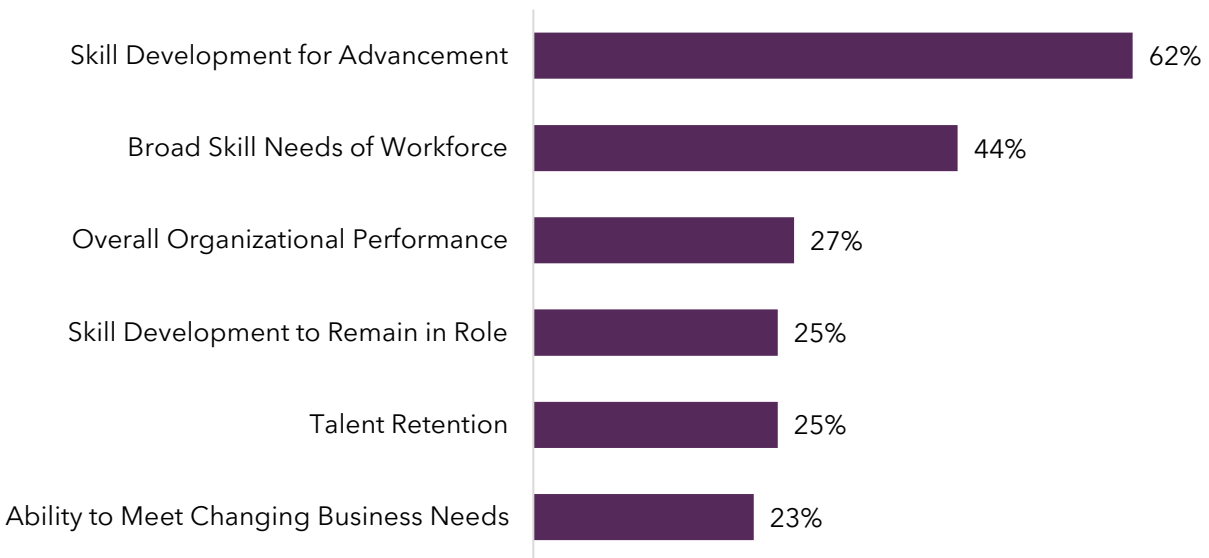
- 1) Developing and administering an upskilling program is hard work. For organizations without devoted headcount, the capacity to tailor options and adapt program parameters may not exist, leading to suboptimal outcomes.
- 2) Corporate education programs are generally cost centers, funded with existing profits. For smaller businesses with smaller margins, providing the administration and funding for high-quality programs may be more difficult.
- 3) With smaller scale, smaller businesses may also have more difficulty “breaking even,” with program expenditures outpacing program benefits.

In the following sections, we dive deep into the three areas of upskilling, highlighting the differences between small and large, and successful and less successful programs.

Internal Education and Training Programs

Not surprisingly, internal training programs prioritize skill development for incumbent employees to a great extent. Sixty-two percent of survey respondents indicate that skill development for advancement is a primary goal. Larger businesses prioritize skill development for employees to advance or to retain in their roles to a greater extent than small businesses, while smaller businesses prioritize broad skill development for their workforces more than large employers.

Primary Goals of Internal Training



Employers are targeting different populations with their internal training programs. This is not to say that all groups do not receive training, but that some worker populations are more highly prioritized.

Across all respondents, salaried employees and supervisors/managers are most highly targeted for training, with 77% and 76% of respondents selecting, respectively. Full-time frontline hourly employees follow with 67% of respondents prioritizing. Senior leaders and executives are a lower priority for internal training, with 52% of respondents targeting that group. Part-time frontline hourly employees are the lowest priority, with 35% of respondents focusing on that population.

We see some differences according to firm size. Likely due to resourcing and capacity, larger employers have a more expansive approach, with more respondents representing large organizations prioritizing more groups. Large employers are more likely to target senior executives than smaller organizations. Supervisors/managers and part-time frontline hourly

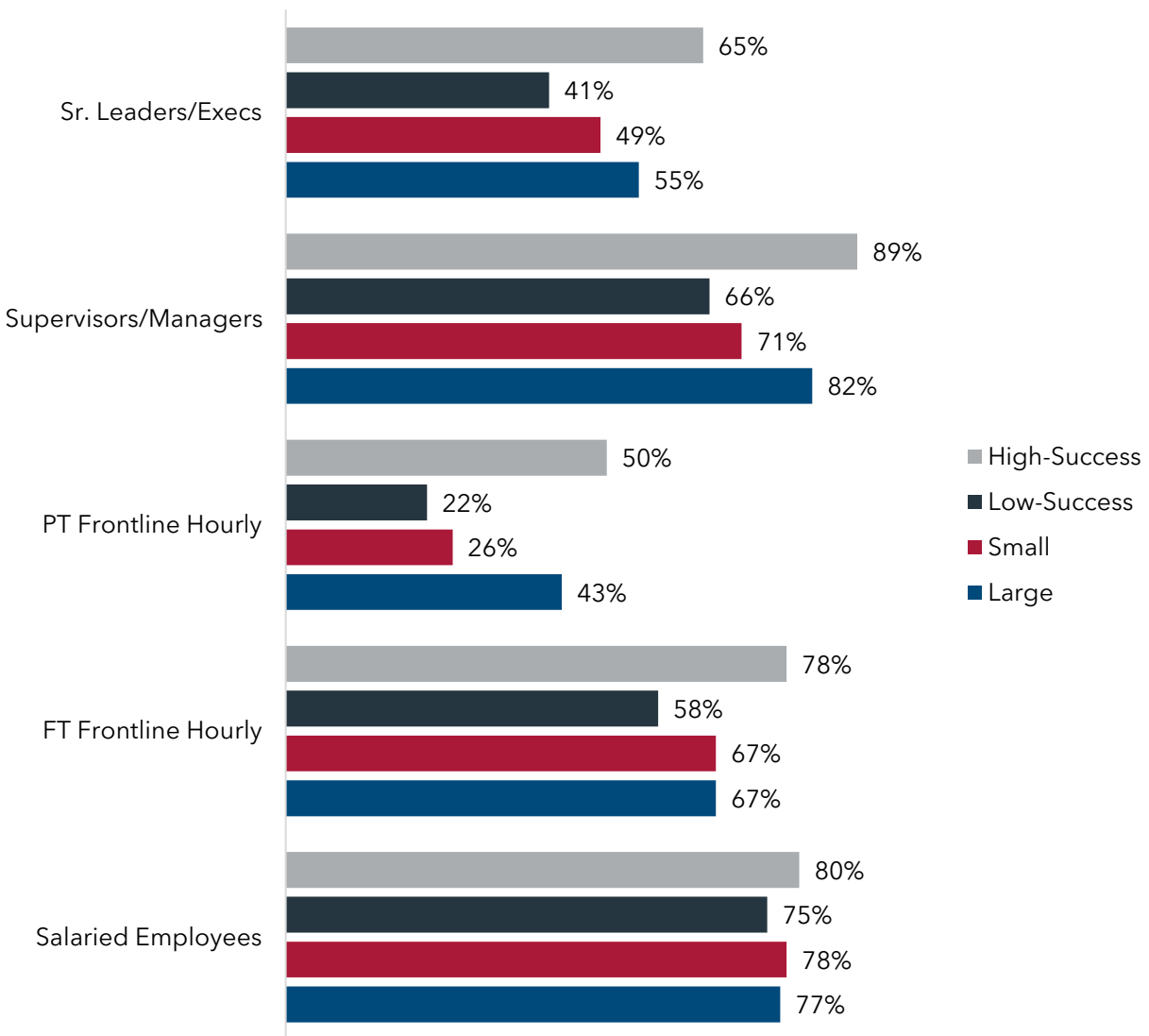
workers are also more likely to be prioritized for internal training by larger employers than by smaller organizations.

Interestingly, we see significant differences in priority population across high- or low-success programs. Respondents reporting that they believe their programs are successful are much more likely to prioritize multiple populations, particularly senior leaders, supervisors/managers, and hourly workers, both part-time and full-time.

Key Practice

Prioritize multiple populations, especially hourly workers, to maximize program success.

Priority Populations By Size and Success



Krusteaz, a brand you might recognize in your own pantry, specializes in pancake, waffle, and baking mixes. With fewer than 1,000 employees across four states, inclusive of manufacturing, operations, and corporate, and a learning and development team of two, the company's greatest talent challenge is empowering supervisors and managers with the skills and knowledge they need to support the organization.

Angela Uhl, talent development manager, spoke to the focus on the middle: "Managers and supervisors have the biggest reach into the organization. If we can get it right with them, that will have a ripple effect across the company." Training, provided virtually during the pandemic and in hybrid environments since restrictions have eased, provides the business foundations – understanding budgeting, financials, HR, and growth tactics – and focuses on building better managers. "It was very important to me as a certified coach," commented Uhl, "that we focused on how to work with people in different ways, helping them understand when to manage, mentor, and coach, helping them understand when to use different tactics and tools. They gained a lot of insights about how to think about management differently, how they can help their employees get better at problem-solving and decision-making."

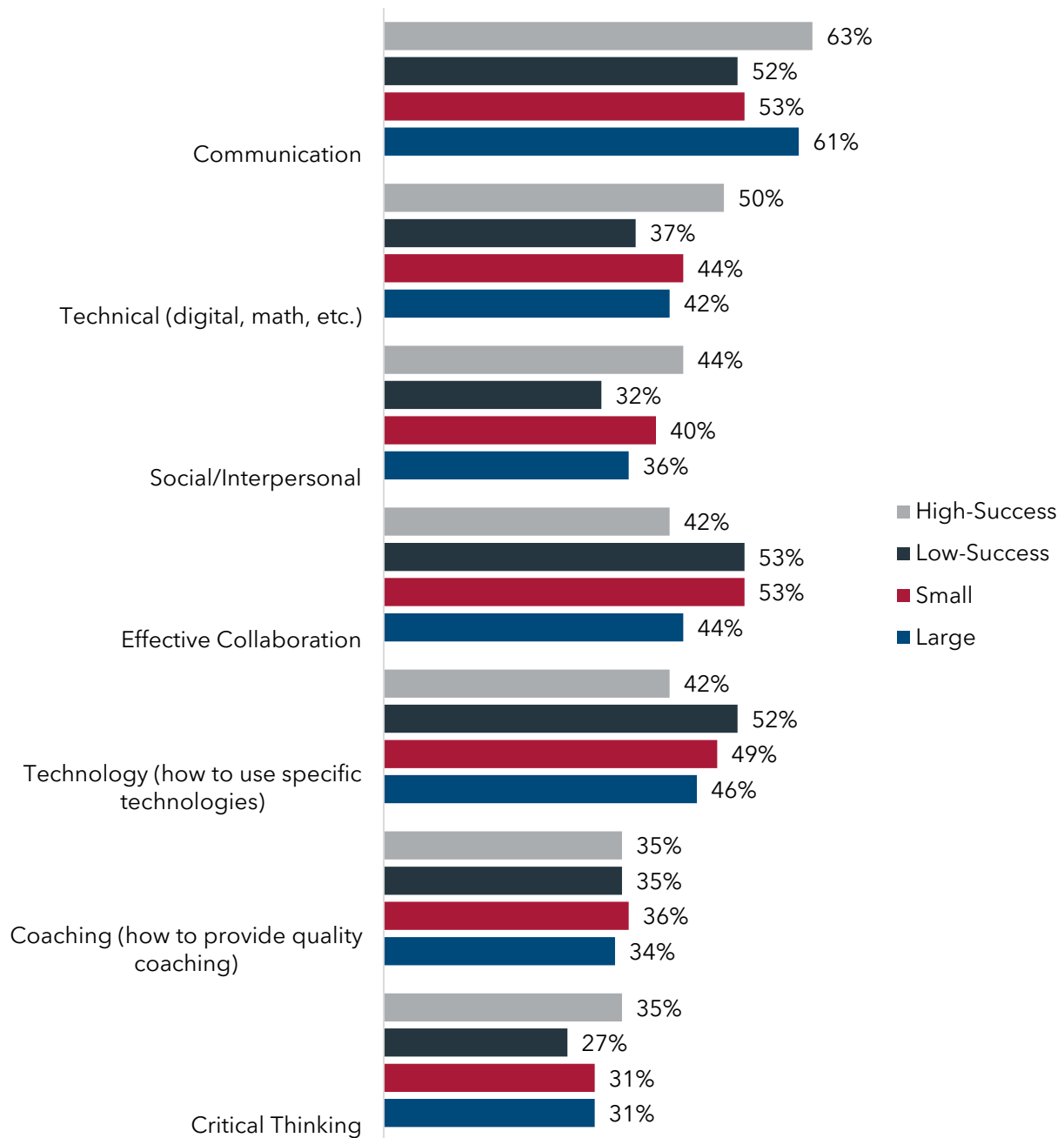
The company, which is family-owned, hires and promotes from within at every opportunity, so building skills internally is vital. Using an intentional cohort model that includes employees across geographies, roles, and experience levels, Uhl created meaningful relationships alongside effective skill-building. "We intentionally create a cohort environment where we're all learning from each other. I would say that was one of the most impactful things that emerged from this program: the connections employees made with others who are struggling with the same things. It helped them understand that they're not alone."

The program also helped build managers' confidence and ability to support the needs of frontline employees. "This is starting to change the way they think about what being a manager means," said Uhl. "Everyone comes into a management role with their own perception of what that looks like. On the manufacturing side, it is traditionally more directive. We're sharing ideas through this training that may be different than what they've been brought up with – ideas of emotional intelligence and being aware of how their own behaviors impact others, and how they have to get to know direct reports as people, understanding what they respond to. As a result, our managers are understanding that there is a different way to do this. We ask people following the training, 'what's your superpower now,' and a lot of them say 'confidence.' They were walking away with a confidence that we reinforced.

"For me, as the leader of this program, that sticks with me," she added. "If people can go back and feel like they've got the tools they need, they have people to turn to, they're able to ask questions, get support – that is a game changer. People felt alone, like they didn't know how to gain the knowledge they needed or what knowledge they needed to gain. We're in a different place now. And one way we know it's working is that people keep asking for more. So much so, that it's hard to keep up with the demand for upskilling."

Employers are focusing on a wide array of skills with internal training programs, prioritizing communication and collaboration and technological and technical skills. Larger companies are more likely to prioritize communication than smaller organizations, with 61% of large companies indicating they focus on communication compared to 53% of smaller organizations. Smaller organizations are more likely to focus on collaboration and teamwork and social and interpersonal skills than larger companies.

Skills Priorities for Internal Training



Highly successful programs do appear to prioritize a different set of skills than less successful programs. More successful programs focus on communication, technical skills – such as programming languages and digital skills – social and interpersonal skills, and critical thinking skills, while less successful programs focus on collaboration and teamwork and technology skills (how to use specific technologies). This aligns with recent research from the [World Economic Forum](#) showing that cognitive skills, like analytical and creative thinking, self-efficacy, and working with others, are in highest demand.

In the broader economy, there is a movement to validate and capture skills that people gain in a variety of settings, including through work-based learning. Badges, certificates, nanodegrees, microcredentials, and other terms are used by stakeholders to signal that an individual has gained and demonstrated skills. Beyond notable examples like Google, IBM, and Walmart, many employers have been slow to credential their internal education and training programs, not least because HR information systems have to a large degree only recently included nondegree credentials.

About half of the employers who responded to our survey indicate that they do not award any form of credential to completers of their internal training programs. About a third indicate that they do award a credential internally, and others enable employees to earn an industry-recognized certification.

Among respondents, a third report using credentials gained through internal training programs to support talent mobility, enabling employees to advance or move within the organization. Smaller organizations are more likely to leverage internal training programs for mobility, with 40% of smaller businesses responding as such, compared to 32% of larger organizations.

Recently, UpSkill America conducted research into the employer use case for learning and employment records (LERs) or wallets, which are portable, individual records of verified credentials, skills, employment, and experiences. Some businesses have invested in solutions that enable workers to accumulate, aggregate, and verify their skills and experiences. The public, private, and philanthropic sectors are also investing in these records platforms to drive “skills-first” talent systems.

Because these platforms are quite new and are not fully scaled, we expect low utilization among employers. Eleven percent of our survey respondents, including 7% of smaller organizations and 15% of larger organizations, report using some form of skills profile, digital wallet, or LER system.

For more insights into employer experiences with LERs, visit <https://www.aspeninstitute.org/programs/upskill-america/aligning-education-and-employment/>

Key Practice

Codify or credential internal training, enabling improved tracking of learning and use for talent mobility.

The question of leverage and application of internal training becomes clear when we look at low- and high-success programs. Low-success programs are less likely to award any credential or formal recognition to completers of their internal training programs, compared to high-success programs. And high-success programs are nearly twice as likely as low-success programs – 46% versus 27% – to report that they use credentials received by employees for completion of internal training programs for mobility purposes.

That said, most survey respondents (65%) are making efforts to encourage employees who successfully complete internal training programs to keep learning and enroll in additional internal or external educational programs.

A significantly smaller proportion of employers are connecting learning gained through internal training programs to credit at partner colleges, universities, and technical schools. This practice, credit for training, enables employees' learning to be recognized toward the credits required for degrees, resulting in decreased time to completion and lower costs for the employee and employer (if the employer is supporting the employee through tuition assistance).

Key Practice

Work-based learning is learning, and it may be recognized toward college credit, saving time and money for employers and employees seeking additional education.

Overall, 9% of respondents are implementing credit for training programs, with significantly more large employers (14%) than smaller employers (4%) reporting this practice. Within this small universe, highly successful programs are twice as likely to connect internal training to credit toward credentials from technical schools, colleges, and universities.

Sheridan, the US operation of CJK Group, is all about a devotion to the craft of printing, and a desire to provide the publishing communities they serve with solutions and services, including digital support, hardcover books, magazines, brochures, posters, editorial support, peer review, production, and consulting services for every stage of the content lifecycle. Sheridan operates 12 plants across the US in eight states with about 1,700 employees.

For Joe Dunlap, director of training and development, the biggest skills concerns center on the printing side of the business. "As a significant percentage our experienced workforce nears retirement, we've taken a bigger, long-term view of our skills training and competency framework to determine how we could adapt it to the new generations of workers entering this industry," he commented. "Ten years ago, I could point you to programs at tech schools that taught the foundational skills needed to get into this business, but not now – they don't exist in the states where we are located. We've had to adapt from employing individuals who had those foundational skills and developing them into competencies with on-the-job training, to training and developing individuals with no background at all."

The typical timeline for someone to become a fully efficient print operator is five years. To determine the skills and training approaches needed, Dunlap starts with the end in mind, asking and answering, "what does it take to be a top performer in this role?" Once that is determined, he tracks backward, identifying the "what, why, when and how" of skills learning, practical application and experience, and a timeline of development of this talent pipeline.

The pipeline is challenged by multiple variables, including workforce availability, which is impacted by retirements and departures from the organization, and production requirements, which dictate when machines and people are available for training. Dunlap also must account for differences in machines, processes, talent depth, and culture across each different plant. There is no single skills approach for the organization – how skills are defined and used vary by plant, and the development pipeline must reflect these differences.

Added to this challenge is the fact that many of the machines are older. "We're talking about machines that are hundreds of millions of dollars," Dunlap commented. "The latest tech is not going to move the needle for us. We have to get every last squeeze of juice out of that machine before we upgrade to something new. And that is part of the recruiting challenge. Younger recruits, they're used to dealing with things digitally. An old machine without the technology they are used to is a challenge to them."

Like many smaller businesses, Dunlap is managing talent manually. He must keep track, across multiple plants and multiple states, of skill proficiency across dozens of machines at an individual level, plus the different skills required across different shifts. He keeps a bench strength document that charts the evaluation of individuals' competency level by machine. Using Excel, Dunlap can see across plants where skill development needs attention, and the company is proactively supporting opportunities for employees to grow in their competencies and earn more. "We've tied this bench strength process to career pathways, so we can see an individual who is now proficient and then explore, where can they go? I'm able to show all the machines and all of the roles and show potential employees career growth. And for our current employees, there is a lot more volunteering for people who can now see what the career pipeline looks like; they see the incentives. And then we have supervisors and team leads who are recognizing skill sets who will tap employees for growth opportunities, and having a mentor who believes that you can do something makes a difference in how you work."

Traits of Highly Successful Programs

There is much to be learned about the details of internal training and education programs, which are as unique as the employers who develop them. By their nature, these programs are employer-specific, geared toward supporting individual employers' culture and learning priorities.

We can, though, begin to identify practices that are aligned with successful programs.

Population Focus

Highly successful programs appear to prioritize those who are closest to the front line: hourly employees and their supervisors/managers. The inclusion of supervisors here is important, as this group is often the linchpin in both supporting the needs of frontline workers and deploying corporate strategy. Companies that are attentive to the needs of employees in the middle appear to be reaping benefits.

Skills Focus

Highly successful programs are blending hard and durable (soft) skills. This may signal an increased attention to supporting growth in what employees know how to do and how employees are equipped to work together and apply those skills.

Credentialing and Transferability of Learning

Among highly successful programs, we see particular attention being paid to codifying and connecting learning. Successful programs are more likely to result in credentials and formal recognition of learning. Proactive connection of internal training to further education through credit for training is still a marginal practice but is aligned to more successful programs.

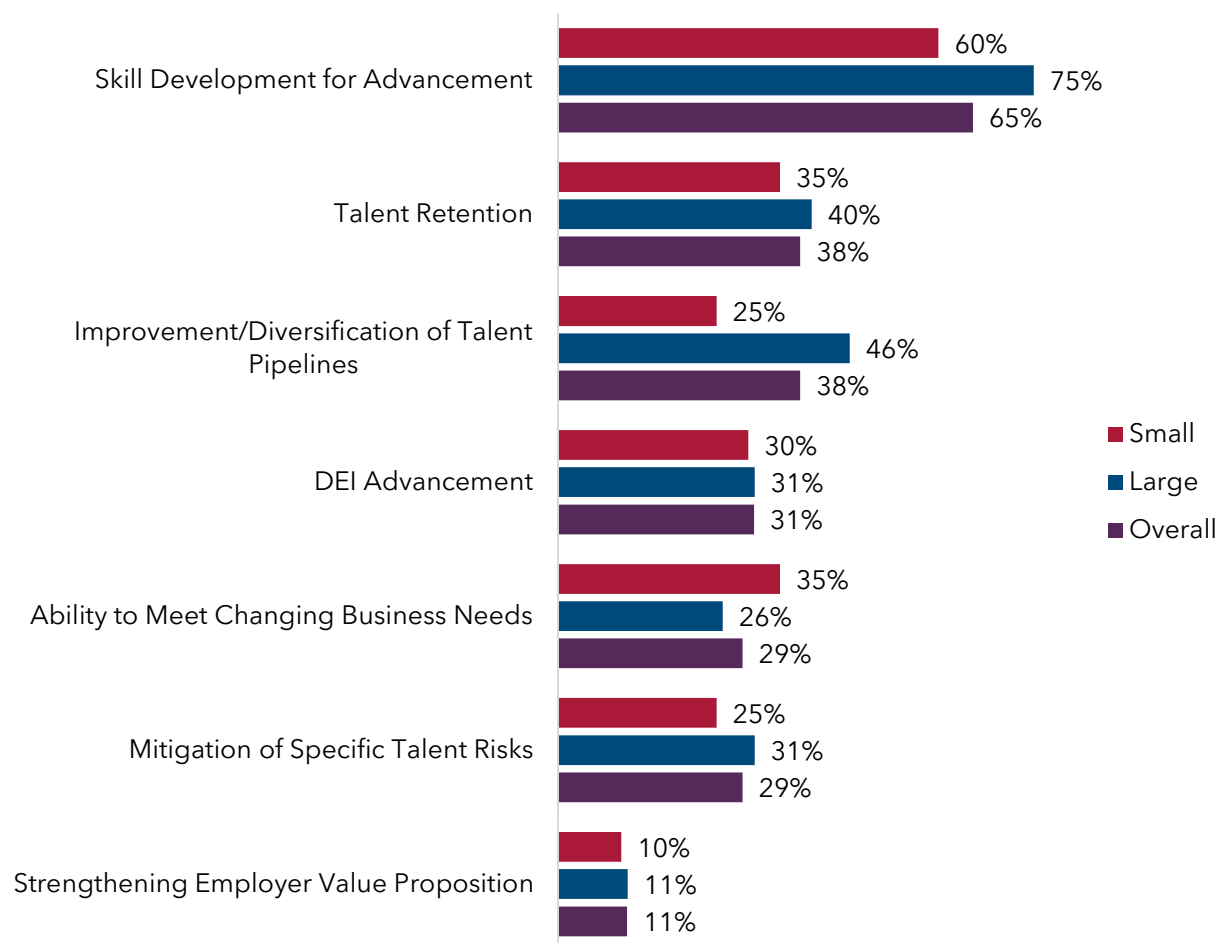
Our survey did not ask questions about the impact of these practices on individual employees and their own sense of accomplishment and ownership of their own learning and career. We will delve more deeply into this practice and its impact on both employers and employees in future studies.

Apprenticeship/Work-and-Learn

Registered or not, apprenticeship and work-and-learn programs blend on-the-job and academic/technical learning and training to build skills for application in specific occupations. With significant investments in recent years through the federal government, as well as expansion of apprenticeships out of the trades and into new roles like education and information technology (IT), apprenticeships are poised to solve significant talent challenges.

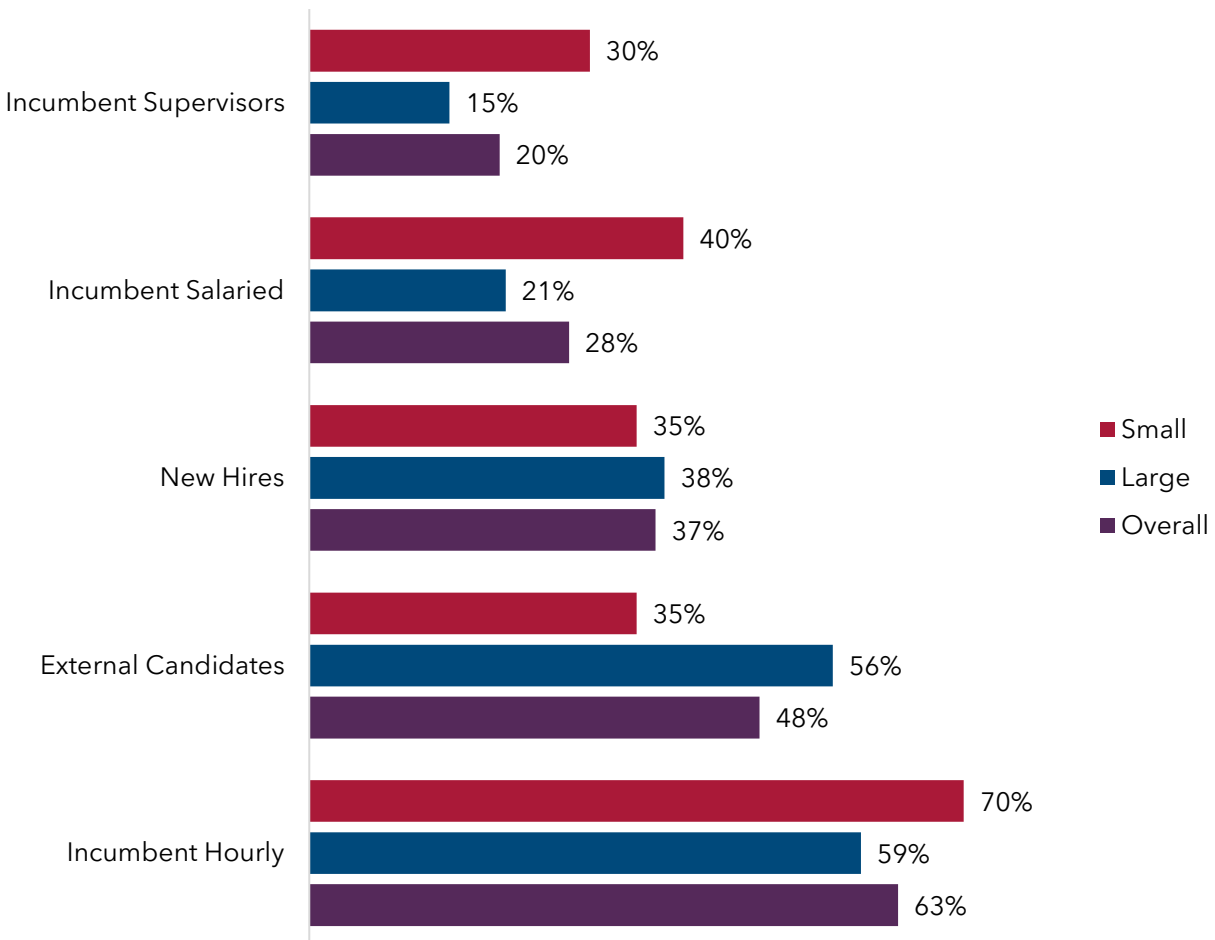
Not surprisingly, employers implementing apprenticeship programs, about one-third of our survey respondents, are focused primarily on employee skill development for advancement. Seventy-five percent of larger employers and 60% of smaller employers are prioritizing this objective. A smaller set of organizations are looking to improve and/or diversify their talent pipelines, including 46% of larger employers and 25% of small businesses, while 40% of larger employers and 35% of small businesses are seeking improved talent retention.

Primary Goals for Apprenticeship Programs



Apprenticeship programs may be used to support incumbent talent development, as well as new hires and external candidates. Incumbent frontline hourly workers are the top priority population for both smaller and larger employers. Larger employers are more likely to target external candidates with apprenticeship programs (56% compared to 35%), while smaller employers are more likely to focus apprenticeship efforts on incumbent supervisors/managers (30% to 15%) and salaried employees (40% to 21%).

Priority Populations for Apprenticeship Programs

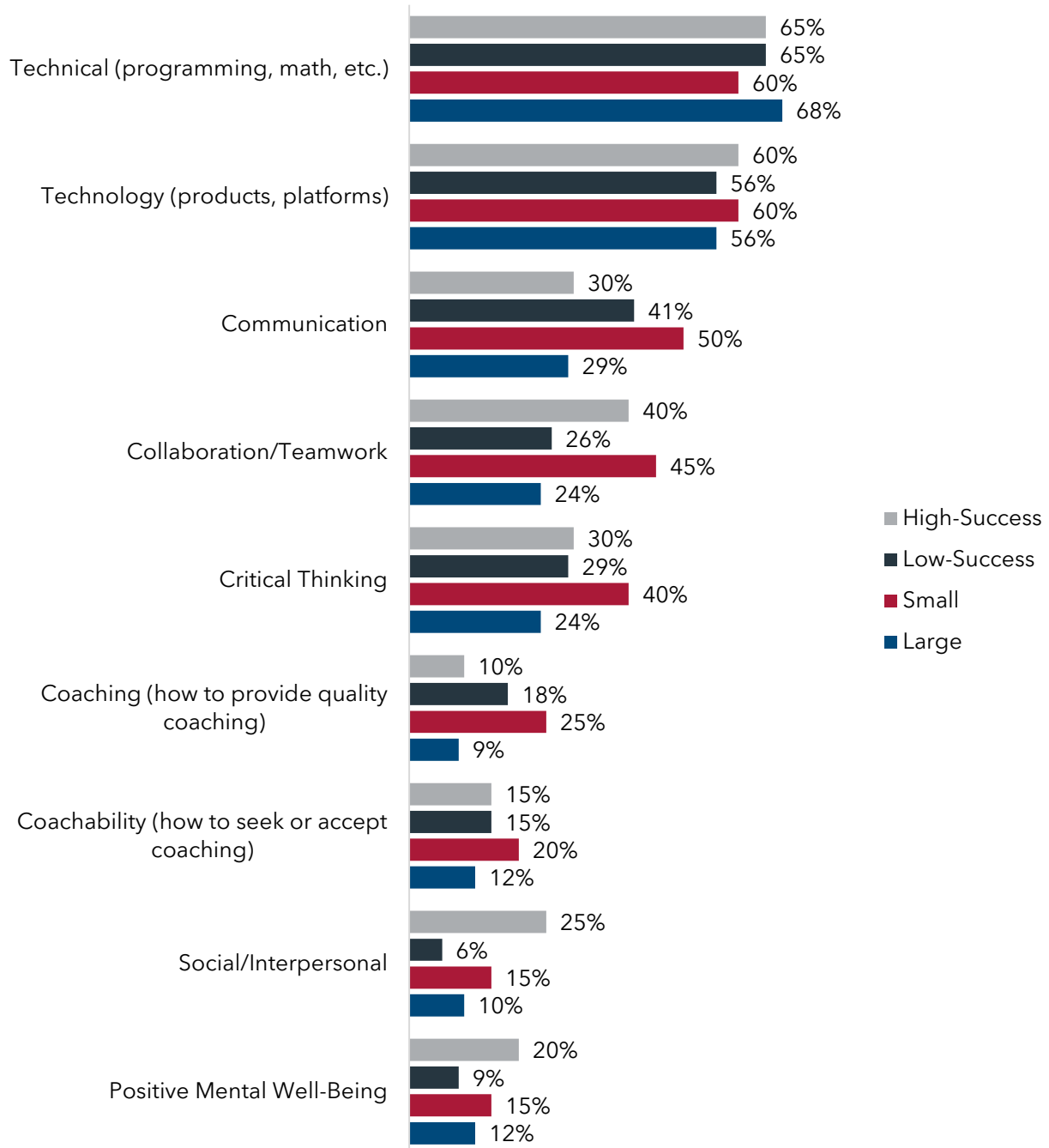


Among high- and low-success programs, we do not see many significant differences in population focus. Highly successful programs are more likely to focus on external candidates than low-success programs and are less likely to focus on incumbent supervisors/managers.

Broadly, employers are prioritizing technical and technological skills through their apprenticeship programs, followed by skills that enable collaboration and communication. Interestingly, large employers are more likely to prioritize technical skills (68% compared to 60% of small employers), while smaller organizations are much more likely to focus on communications, critical thinking, and collaboration practices than larger employers.

We see some significant differences in skills priorities between high- and low-success programs. Highly successful programs are more than 50% more likely to address collaboration and teamwork skills. Social and interpersonal skills are prioritized by four times as many highly successful programs than low-success programs. And highly successful programs are twice as likely to support positive mental well-being habits among employees.

Priority Skills for Apprenticeship Programs



Among survey respondents, one third report that their apprenticeship programs are registered with the US Department of Labor, while 43% operate nonregistered programs that support employees in similar ways to apprenticeships but are not approved by the government. Another 22% operate both registered and nonregistered apprenticeships.

Large companies are twice as likely as smaller organizations to operate registered programs. Correspondingly, smaller companies are much more likely to support nonregistered work-and-learn approaches. Highly successful programs are about 25% more likely than low-success programs to be registered.

Registered apprenticeship programs are required to include:

- **Wage Progression** - As apprentices gain new skills and meet milestones, pay increases accordingly. Apprentices are paid employees who are compensated for their time.
- **Skilled Supervision** - Apprentices are supported by experienced mentors and/or supervisors who support on-the-job learning and skill development.
- **On-the-Job Learning** - Apprentices gain learning, often occupation-specific, through structured activities in a work setting, often meeting specific time or competency demonstration requirements.
- **Technical/Classroom Learning** - Apprentices complete academic or technical learning, often delivered by a community college or training provider, focusing on the theoretical, foundational, and other skills required for competency.
- **National Credential** - Upon successful completion of the program, apprentices are awarded a nationally recognized credential.

Among survey respondents with nonregistered programs, we see various uptake of these requirements. Most employers include both defined on-the-job and academic/technical learning, and about a third of respondents indicate they award structured pay increases upon acquisition of new skills. Few, however, have built their programs to enable completers to earn a nationally recognized credential.

The good news for apprentices and participants in work-and-learn programs is that employers do seem to be using these programs for their intended purpose. Fifty-one percent of employers responding to our survey indicate that successful completers are always or often advanced into full-time employment. Another 45% say that completers are advanced "sometimes," while only 3% report "rarely" advancing these employees.

American Air Filters International (AAF) is the North American operation of the largest integrated air conditioning and air filtration company in the world. Headquartered in Louisville, Kentucky, with multiple locations across the US and Mexico, AAF produces air filters for a huge variety of applications, from in-home use to hospitals, power plants, and space stations. With about 6,000 employees, AAF's skills shortages are similar to many other manufacturers.

"Our biggest gap right now is maintenance and equipment repair," said Paul Holba, senior manager of organizational development and training at AAF. "We need people who are good with electronics, with pneumatics, all the different elements that go into operating a factory. With fewer people going into trade schools, we just don't have the bodies to replace individuals who are retiring. Plus, equipment today versus twenty years ago is a lot more computer-driven – techs have to know some computer programming."

To respond to the shortages, Holba registered a maintenance apprenticeship program in 2021, indicating he viewed an apprenticeship as the "easiest path" to creating the pipeline of employees the company needs, with opportunities for both young people and incumbent employees to become apprentices. Working with local high schools and trade schools, as well as with online education provider Penn Foster, AAF's apprenticeship blends structured work-based learning with technical training, resulting in a nationally recognized credential. "We have people with years of experience who don't have a credential," commented Holba. "We're going to invest in you, and we're going to reward you because you invest in us. And if you leave, you will have a credential that can help you go anywhere, a sign that says, 'I've completed this program, here are the skills I have, I can do this job.'"

For Holba, the decision to register the program with the Department of Labor made sense. "What I've found in my career is that a lot of us suffered through school to get to work. Now work is telling me I have to go to school, and I don't want to go backwards. The benefit of apprenticeship is you have the structured pay increase. Apprentices will get a reward, we will pay them more, and there is incentive to do the work. There is also money available to us. The benefits come to the employee and to the company. It's a win-win."

The apprenticeship program is active in Florida and is launching soon in Georgia. Both states, according to Holba, have been great partners, and plant leaders are seeing improvements already. "The plant is benefitting because they're getting more well rounded talent. The ability of apprentices to work on multiple pieces is also helping us because as we bring in new equipment, they've studied it," Holba said. In both states, as well as in North Carolina and Indiana, AAF notes that there is significant support and resources, and that state and institutional leaders are eager to partner. "I've found that states that are stronger in believing in this type of skills-based future are the easier ones to work with. In some places where there isn't as much coordination at the state level, it's a struggle to get schools to talk to me."

While talent needs are acute now, Holba also views the apprenticeship as an investment in AAF's future. "Our company as a whole has been manual process-driven. Most of the filters that we'd put in our homes and businesses are made by humans standing and folding and gluing. For us to be successful and remain in business, we need to transition to automation. If that's the strategy of the company, we need to change the skill set of our employees."

AAF expects its first cohort of apprentices to complete their programs in coming months.

Traits of Highly Successful Programs

There is much to learn about the field of nonregistered apprenticeship programs, which are highly variable and lack any form of systematic data collection, but which could contribute significantly to positive outcomes for employers and workers.

If Not Registered, “Registerable”

Given the survey findings, registered programs are more likely to be viewed as successful in meeting employers’ goals. While the reasoning behind not registering a program is valid, we can encourage employers to build “registerable” programs that adopt the practices of registered apprenticeships.

Over many years, registered apprenticeships have shown to consistently provide measurable [direct](#) and [indirect](#) returns to both the business and the apprentice, resulting in highly skilled employees and streamlined pathways into good jobs. Wherever possible, hewing to the requirements of a registered apprenticeship, even if a company never seeks registration, will maximize outcomes for all parties.

Credentialed Approaches

An important component of registered apprenticeships is that completion results in the attainment of a nationally recognized credential. Where companies are investing in worker upskilling through apprenticeship or work-and-learn models, codifying the learning and experiences gained through on-the-job, academic, and technical education is important both for internal use and for apprentices who are not transitioned to full-time employment.

Hire to Train

While not reflected directly in our survey data, we talked to multiple health care employers who have built effective work-and-learn programs designed to proactively build pipelines into in-demand roles by hiring new employees or enabling incumbent employees to pursue education on the clock, with their education costs covered. Upon completion, these employees transition into their new roles, already onboarded and ready to work. These programs, according to a survey respondent, are “life-changing, as none of the participants could have afforded out-of-pocket costs for a traditional program.” Another respondent commented, “We have seen a tremendous improvement in retention for team members who complete apprenticeship versus team members who are hired externally in a similar role.”

For an in-depth profile of this approach, visit our [Issue Brief: Work-and-Learn Models for Today’s Economy](#) featuring Lee Health’s CNA Pathways program.

If you sought relief in a cool building on a hot summer's day, wondered how medicine and vaccines got to your doctor's office, or enjoyed a scoop of ice cream, there's a strong chance that Trane Technologies was behind it. A global leader in heating, ventilation, and air conditioning (HVAC) and refrigerated transportation, Trane Technologies employs around 40,000 people across the world, including about 25,000 in the US.

With a stated goal of creating opportunity for all, Trane Technologies has proactively invested in upskilling strategies that remove barriers for employees, especially women and employees of color, who are broadly underrepresented in manufacturing roles nationally. "This is core to the company, this notion of creating opportunity for all and creating a sustainable workforce," commented Amy Volz, director of workforce innovation. "There is a skills gap in manufacturing. More than half of the US workforce does not have a four-year degree – we must shift toward removing barriers and uplifting the communities where we live."

The company has launched a variety of barrier-busting programs over the last several years, including shifting its long-standing tuition support program to an upfront-pay model that includes short-term credentials like certificates and certifications alongside degrees. "Uplifting people is at the core with programs like this – thinking through it from the perspective of how it's impacting the people we have as employees," said Volz. "The more we can envision that human experience, and build from there, the better we can work outwards."

Trane Technologies is proud of its apprenticeship program, which supports new workers to gain skills as Trane® Commercial HVAC service technicians – the professionals who service and repair equipment in the field. The program is registered by the US Department of Labor and launched its first cohort in February 2023 with 20 apprentices. In just one year, the program has expanded to more than 120 apprentices working across 31 states. The decision to develop a nationally registered apprenticeship program made sense for Trane Technologies, which has operations all over the country. "Registration creates a nationally standard program," said Volz. "These roles are regional roles – apprentices are making a direct contribution back to the place you live. The national certification allows apprentices to move between territories and not miss a beat."

In selecting its training provider, Trane Technologies focused on removing barriers. "Related technical instruction [RTI] is an important part of a registered apprenticeship program, and what we had observed was that a lot of times, companies will partner with a local community college or curriculum provider," commented Volz. "Those are valid approaches, but our takeaway was that this was a barrier that didn't need to be there. In our cohort, we have 37% of apprentices from underrepresented communities. Many of our apprentices have transportation issues. When someone starts in an apprenticeship program, they're starting at a lower wage, and they're typically required to not only work a full shift, but then drive to another site to do training. That is a barrier to participating that we wanted to knock down. So, our apprentices can fulfill their RTI requirements online, and they're able to do both their on-the-job training and RTI during the workday, on the clock."

Trane Technologies did two unique things in developing its registered apprenticeship program that contributed to its sixfold scaling in the last year.

- 1) Trane Technologies didn't view its initial cohort of 20 apprentices as a pilot – the company did not limit the program to one location or one specific leader. While Trane Technologies had champions in the organization from the start, senior leaders from the functions and field with the influence to make it work, the company's intent to "start as we meant to go on," according to Volz, created the right conditions. "We opened the doors wide to anyone across the US all at once. That helped in the long term because everyone had the same experience. It wasn't some folks doing and others observing."
- 2) Through its Workforce Innovation division, which works on behalf of the organization as a whole, Trane Technologies intentionally engaged workers and leaders around the table in developing the apprenticeship program. In selecting providers and organizing objectives and outcomes, all stakeholders in the program had a voice. "We had people with boots in the dirt with apprentices at the table," Volz commented. "This wasn't corporate developing a program on behalf of workers – this was a joint effort from day one."

And the program's success in the short term may be as attributable to the company's employee-centric culture as its program-specific decisions. "When companies build programs like this, they tend to focus on the immediate," Volz said. "We see this program as having a generational impact. In 10 or 20 years, we hope this is still a program that is creating success and wealth for the people who are going through it. We started this program because we knew that these roles are critical to the business, and we need a sustainable way to fill the pipeline. HVAC as an industry is not diverse, so we're focused on doing what we can as a leading brand to broaden and diversify that pipeline, creating generational impact and changing the trajectory for people and their families."

Tuition Assistance

Employer-supported tuition assistance has been offered to employees to varying degrees for decades. These programs support employees to gain learning and credentials through third-party providers, including colleges, universities, and other training organizations. Seventy percent of respondents to our survey indicate they offer tuition assistance. Eighty-one percent of large employer respondents operate a tuition assistance program, while 59% of respondents representing smaller organizations support tuition assistance.

About two thirds of respondents administer their own education benefit programs internally, while the remainder work with a third-party or vendor. Large employers are 2.5 times more likely to work with an external partner to administer their programs – only 17% of employers with fewer than 5,000 employees use these services. Conversely, 83% of small employers administer their own programs, while 56% of larger businesses do so.

Program Goals

Among all respondents, the primary goals of their tuition programs focus on talent retention, advancement, and attraction. Over half of respondents are looking to improve talent retention, while 46% utilize tuition assistance for employee skill development for advancement, and 35% are working to strengthen their employer value proposition. For large employers, retention by far outweighs other priorities, with 62% of large employer respondents indicating they are looking to keep talent in the company. Smaller employers were more likely to prioritize employee skill development for advancement than large employers.

Interestingly, relatively few respondents have developed structured advancement pathways for employees who successfully complete learning programs through tuition assistance, as positions are available. Sixteen percent of respondents, including 16% of smaller businesses and 14% of larger businesses, currently deploy these structured plans, though 22% of smaller organizations and 16% of larger businesses plan to do so within the next one or two years. These rates don't shift significantly among companies who rate their programs as highly successful, likely underscoring the current prioritization of retention as a program objective.

Where we do see differences among high- and low-performing programs is in the tracking of credential data. Thirty-three percent of respondents currently track credentials earned by participants for strategic workforce planning purposes, and 25% indicate that they do not currently track, but plan to in coming years. Highly successful programs are more than twice as likely to track credentials earned by employees through tuition assistance programs.

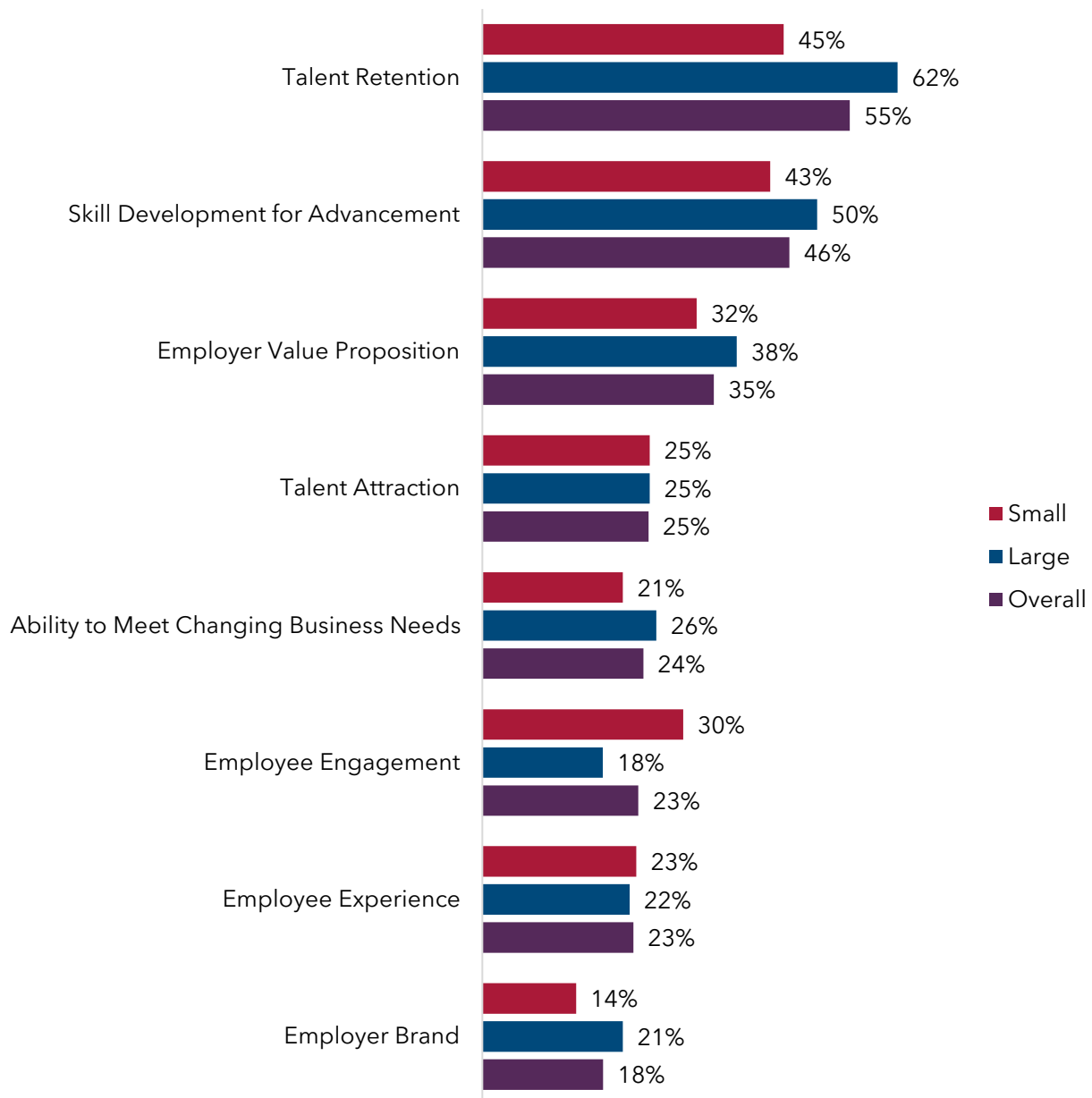
Despite lacking structured advancement pathways, we do see evidence emerging from companies that their programs are creating advancement opportunities. Target, for example, recently celebrated the second anniversary of its "Dream to Be" program and shared that

program participants are three times more likely to be promoted than nonparticipants. For more insights into Target’s upskilling efforts, visit our case study [here](#).

Key Practice

Tuition assistance is often viewed as a benefit rather than a strategic investment in talent. Tracking the learning and credentials earned through these programs is a first step to leveraging them toward positive outcomes.

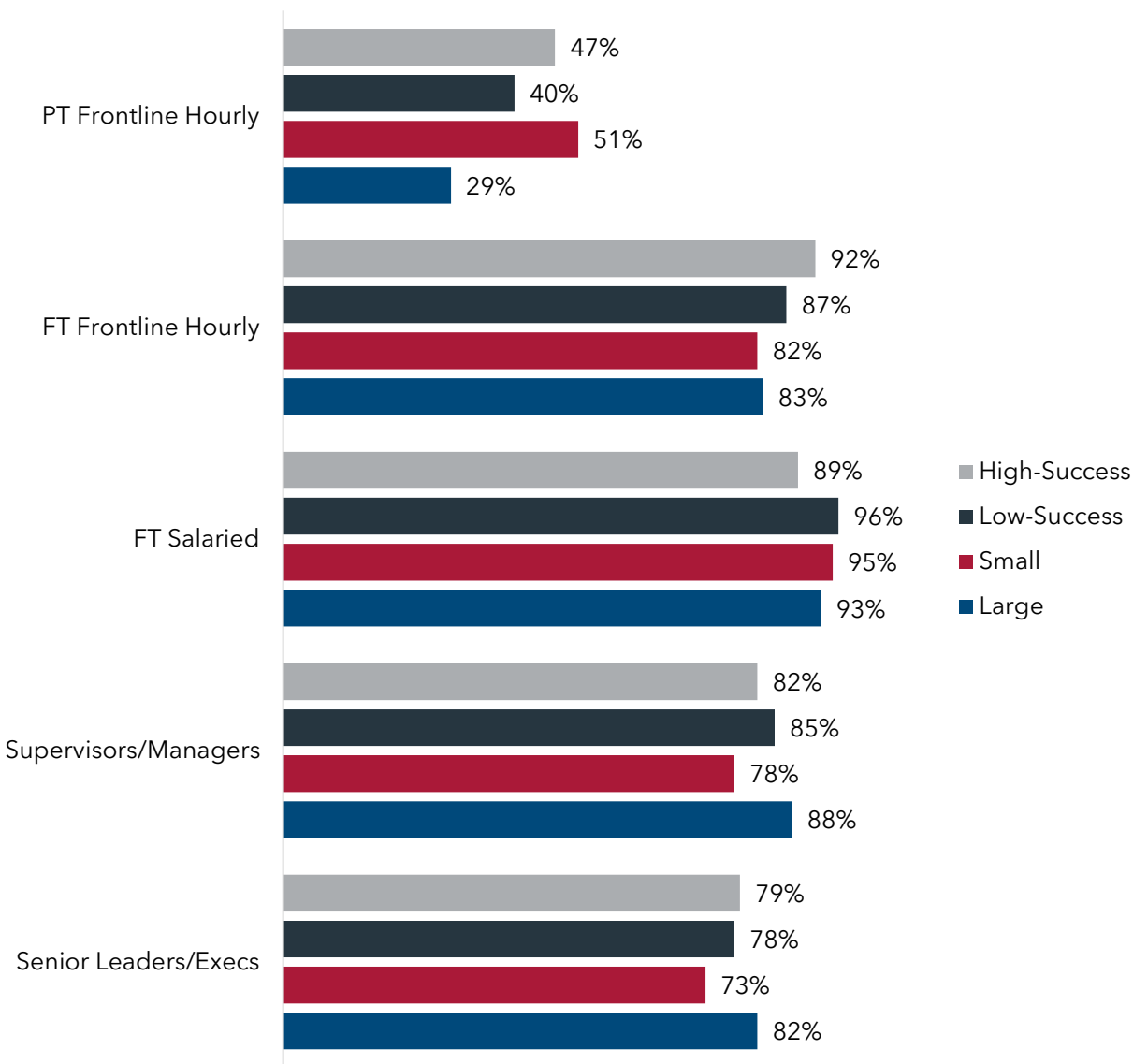
Goals of Tuition Assistance Programs



Program Eligibility

A longstanding belief is that tuition assistance programs primarily target executive and management employees. While that may have been the case, we do not see any evidence in our survey that employers are prioritizing senior employees. In fact, we see near parity in program eligibility between frontline workers and salaried employees. Ninety-four percent of respondents indicate that full-time, salaried employees can utilize tuition assistance, while 88% make programs available to full-time, frontline, hourly employees. Among all employee groups, part-time, frontline, hourly employees are the most limited, with 42% of respondents targeting this group.

Eligible Employee Populations - Tuition Assistance



Among large employers, we see full-time employees are prioritized heavily – 82% of senior leaders/executives, 88% of supervisors/managers, 83% of full-time, frontline, hourly employees, and 93% of full-time, salaried employees are eligible for programs. Fifty-one percent of large employers enable part-time, frontline, hourly employees to participate in tuition assistance programs. Smaller businesses are more likely to support full-time, salaried employees, but are generally less inclusive than large businesses, which is not surprising given resources and capacity constraints that are more acute at smaller organizations.

We see some modest differences between low- and high-success programs. More high-success programs report making hourly employees, both full-time and part-time, eligible for assistance. Among employers reporting low-success programs, we see higher proportions focused on supervisors/managers and full-time salaried employees. This is a promising finding, indicating that frontline workers, who [value opportunities to learn and grow](#), by and large have broad access to educational opportunities through their large employers, and that companies are prioritizing their resources to enable opportunities for this sizeable population.

Key Practice

Proactively support frontline, hourly employees with access to education. Do not limit education assistance to senior or high-potential employees.

Eligible employees, whatever their stage of employment, are often required to meet basic tenure criteria. Because of the heightened attention to retention as a program goal, and high turnover rates for frontline employees in the early stages of employment, some employers have done away with these tenure requirements entirely. Thirty percent of survey respondents have “day one” eligibility, enabling employees to participate from their first day of employment. Thirty-seven percent use a short and specified onboarding period, such as 30 or 90 days. Thirty-three percent require employees to complete a significant tenure requirement of a year or more before becoming eligible.

We do not see significant differences in practice between small and large employers. However, successful programs are 2.5 times more likely to use a day one eligibility format. Fifty percent of companies reporting their programs are highly successful have adopted this practice. Because so many companies are prioritizing retention as an objective, shifting eligibility as early as possible in a frontline employee’s tenure is a strong strategic decision.

Key Practice

Eliminate long tenure requirements for program eligibility.

Finally, for eligible employees to access tuition support, many employers require specific approval or dispensation from a direct supervisor. Nearly 70% of companies require this approval, while 31% allow eligible employees to participate without this dispensation. Large employers are about 60% more likely than smaller employers to enable employees to enroll without approval.

While not assuming any negative intent by supervisors and managers, this policy has particular equity implications, especially for full-time and part-time, frontline, hourly workers, who are [disproportionately people of color](#). If approvals are withheld systemically, or according to subjective criteria on the part of the supervisor, programs will be fundamentally inequitable. Not surprisingly, then, we do see highly successful programs more likely to use fully open-access program approvals, with 38% of high-success programs using this practice compared to 28% of low-success programs.

Key Practice

Eliminate subjective or individualized approval requirements, especially for frontline, hourly employees.

Program Offerings

Based on the needs of both businesses and employers, we see a wide array of program offerings. These include traditional college degrees, as well as expanded programming including high school diplomas, industry credentials, and language learning.

Among all respondents, bachelor's degrees are the most broadly available educational option, with 94% of employers with tuition assistance programs enabling enrollment. This is followed by associate degrees (86%) and graduate degrees (82%).

Among large employers, the vast majority are offering access to degree programs, as well as career certificates, certifications, and licenses. Relatively fewer are offering English and other language programming or access to high school diploma completion programs. Smaller employers similarly prioritize degrees over shorter-term credentials and foundational programs.

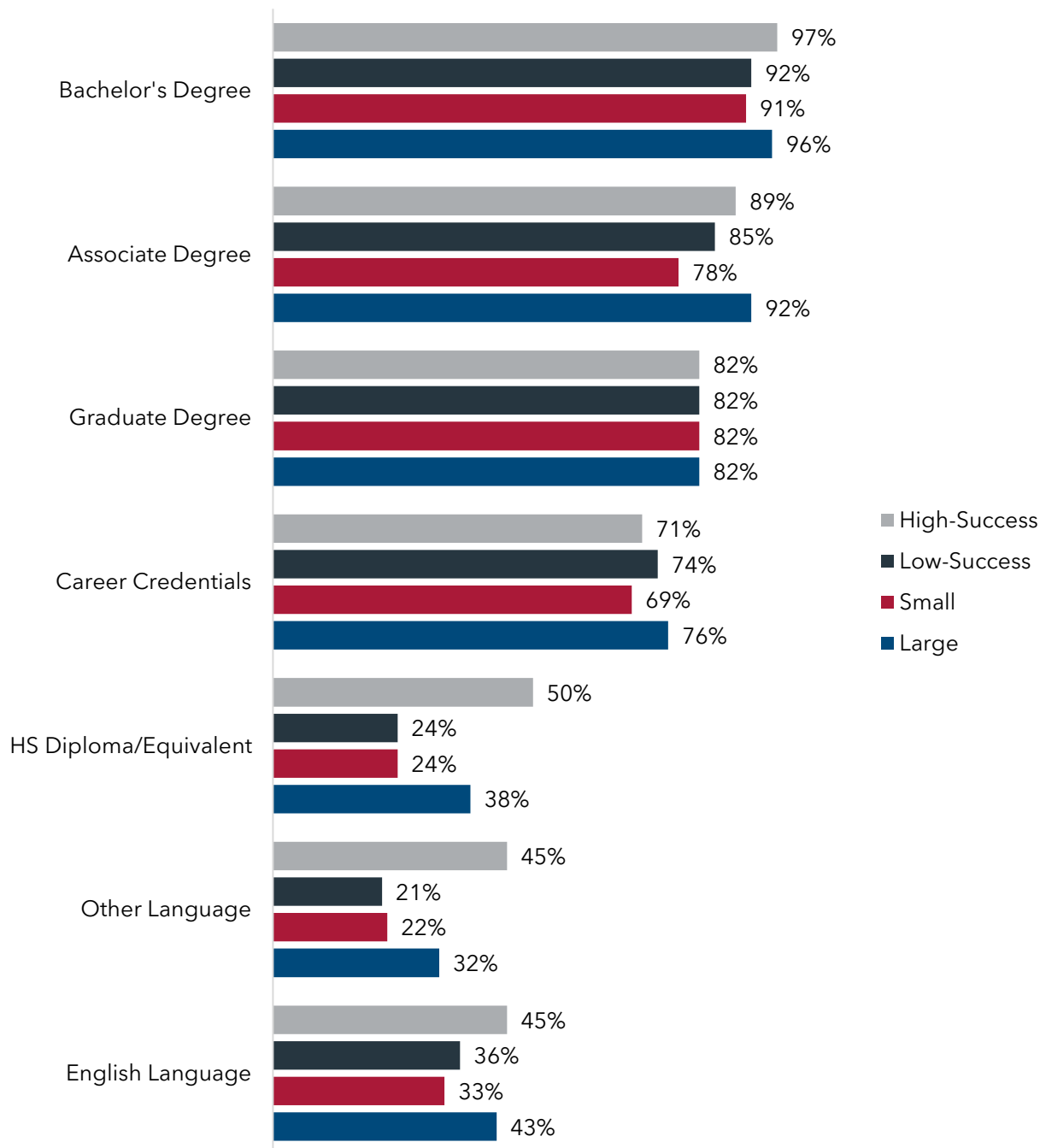
We do not see big differences in successful program outcomes between employers offering degrees, certifications, and licenses. However, high-success programs are more than twice as likely to offer high school diplomas and language programs and 25% more likely to offer English language learning.

In 2021, 9.6% of the US population aged 18 and older (amounting to more than 24 million people) lacked a high school diploma or equivalent, so this newer employer focus on supporting high school diplomas is a welcome opportunity. Interestingly, we see very large companies (more than 100,000 employees) and small companies (fewer than 1,000 employees) offering high school diplomas at higher rates than other organizations. That may be the result of large, frontline populations among very large companies, and the likelihood of smaller companies being less restrictive about employment requirements. Retail is most likely to offer high school diplomas to employees, with about 20% of respondents in this industry indicating they offer this programming.

Key Practice

Enable all workers to fully participate in learning, work, and advancement opportunities by providing access to foundational education programs to gain English language learning and high school diplomas.

Program Offerings - Tuition Assistance



Walmart's Live Better U program provides associates with streamlined access to foundational and advanced education and prioritizes areas of study that enable employees to gain the skills and experiences they need to advance. Chelsea Miller, director of education and opportunity at Walmart, shared:

"There are two core principles that guide Walmart's approach to learning. The first is that all learning counts, and no learning is wasted. The second is that we are an academy of talent where associates can have not only a good job, but also a great career. From the time an associate joins Walmart, we are focused on supporting their growth, unlocking their potential, and helping them build their skills so they can develop the career they want at Walmart. Having these anchors to our strategy has enabled us to move quickly in creating pathways for our associates so they can understand how to grow their career.

"We are committed to making Walmart a launching pad where our associates acquire the skills and experience needed to advance and thrive in in-demand roles. Our team partners closely with the business to understand what the in-demand roles are and what skills are needed for associates to be successful. From there, we identify upskilling opportunities that will meet the needs of business and associates as quickly as possible.

"Success for Walmart looks like associates having a great career, not just a job. We want to make sure associates understand the skills they have, the roles they can move into, and the opportunities Walmart offers to help bridge the gap. We also want to make sure the programs we offer are quality, so we closely track progression and completion for our associates.

"In the future, we are working on a detailed associate mobility strategy that will ensure associates have the mobility they desire and where we can see them at every point in their career journey. This cross-functional work is a major enabler of our skills-based hiring movement, and we are eager to see it come to life."

Not surprisingly, employers are using both in-person and virtual learning formats at high levels. Eighty-eight percent of survey respondents enable participants to enroll in virtual programs, and 83% support in-person programs. Bucking some assumptions, fewer smaller businesses are utilizing in-person learning than larger companies. Seventy-six percent of small businesses allow participants to enroll in in-person learning formats, compared to 89% of large businesses.

Most employers also allow eligible employees to enroll with the education provider of their choice. About 73% of survey respondents do not restrict where employees can enroll with their tuition support, a rate similar across both small and large companies.

A smaller proportion, about 22%, restrict or curate institutional partners, allowing employees to enroll only with a select set of education providers to use tuition assistance.

Twenty-five percent of large employers use this practice, compared to 18% of smaller employers. We see a much higher proportion of high-success programs curating their institutional partnerships – 50% of high-success respondents indicate they do this compared to just 11% of low-performing programs.

This design decision considers the variety and disparities across the US education system and, to some degree, removes some of those disparities for learning workers. That curated programs are viewed as more strategically successful may indicate that the curation is resulting in more participation, better retention and skill development outcomes for workers, and, likely, improved worker satisfaction.

Key Practice

Direct tuition assistance program participants toward institutional partners where they are most likely to receive the support they need.

As employers pay more attention to the needs and demands of employees when it comes to education, institutional partnerships can play an important role. Specifically, for employees of color, partnerships with Minority Serving Institutions (MSIs), including Historically Black Colleges and Universities (HBCUs) and Hispanic Serving Institutions (HSIs), can support employees' needs in a way that predominantly white institutions do not. Twenty-four percent of survey respondents partner proactively with MSIs, with large businesses much more likely to do so. Thirty-two percent of larger employers partner with MSIs compared to 12% of smaller employers.

This practice is distinguished among high-success programs, which are partnering with MSIs at a rate 2.5 times higher than low-performing programs – 44% to 16%. Finding the right institutional fit is a key to success for any student. An [NBER working paper](#) indicates that HBCUs, for example, when compared to similar institutions, graduate Black students at a rate 33% higher than Black students at non-HBCUs. The same paper discovered that HBCU graduates earn higher wages and have a stronger sense of job security and civic engagement. Companies that are proactively partnering with HBCUs and other MSIs can both create better outcomes for their learners of color and benefit more deeply from that partnership.

Key Practice

Partner proactively with Minority Serving Institutions like HBCUs and HSIs.

Further, businesses that employ people with varied educational background, including some college experience, significant work experience, and military backgrounds, may be well served by pursuing partnerships with institutions that provide competency-based educational (CBE) options, in which learners progress based on the mastery of content and competencies rather than by units of time, such as terms or semesters. Twenty percent of survey respondents are proactively partnering with CBE institutions. Twenty-five percent of large employers include CBE options in their education programs, while 12% of smaller employers do so.

These partnerships are far more likely among highly successful programs. Forty-one percent of high-success programs partner proactively with CBE institutions, compared to just 11% of low-success programs. The decision to enroll in college is already a complex one for workers, especially those who have varied educational backgrounds, multiple college transcripts, and military experiences where their past learning could be applied for significant credit toward credentials. CBE institutions are extremely well suited to meet the needs of working learners and may result in reduced costs to employers and decreased time to credentials for employees.

Key Practice

Seek out and partner with CBE institutions and programs, which can support the needs of workers with varied education backgrounds and help leaders complete at the speed of competency mastery.

Coaching services are emerging as a differentiator among employers providing tuition assistance, as they recognize that the decision to enroll in an educational program is a complex one. Frequently offered by third-party organizations, coaching can focus on a wide variety of issues, from understanding how academic programs can fit in busy lives, to selecting the right program and institution, to understanding career pathways, to maximizing credit transfer, and more. For employees, coaching can provide the guidance and support they need to make complicated decisions, as well as build confidence for employees who may have barriers to education. For employers, coaching can both enhance worker engagement and contribute to better overall use of the education program - by providing the venue for employees to optimize decisions, employers can maximize outcomes.

Overall, 30% of survey respondents provide coaching and advisory services (either internally or through an external vendor). Thirty-seven percent of larger businesses provide access to coaching and advisory services to support program selection and success, while 20% of smaller businesses do so. High-success programs are nearly twice as likely to offer coaching services than low-success models, with 44% of high-success programs providing coaching compared to 24% of low-success programs.

Amazon’s Career Choice provides coaching support to eligible employees starting from their first day on the job. Tammy Thieman, director of Career Choice, shared:

“By offering coaching, we aim to support eligible employees throughout their entire career growth journey. Before starting a Career Choice program, coaching ensures employees are informed about their educational options to make better informed decisions about which program to pursue. The support of coaching can help ensure participants are pursuing the right programs based on their skillset and their own professional goals. It also enables our employees to have the support they need as they explore their next professional opportunity, and includes resources like career services, resume reviews, and mock interviews, to help them reach their full potential. We measure the success of the Career Choice program in many ways – including completion and career advancement – and offering coaching can ensure participants are better prepared to start and complete their program.

“We offer career coaching on eligible employees’ first day of employment, which means they have the career support they need from the start of their Amazon career. Offering access to career coaching helps us set employees up for success from the start. Even employees who might not choose to pursue a specific program through Career Choice can still use the resources to better understand what their career path might entail and how to achieve their goals. As a data-backed company, we know that coaching positively impacts retention, which is a big benefit for Amazon. Career advancement and mobility continues to be an important priority for the workforce of today, and offering ways to help employees understand their options and support them as they pursue different programs or growth opportunities is a big benefit to any employer.”

Key Practice

Develop internal or external coaching support for participants in education programs.

Payment Policies

Over the last decade, we have seen significant shifts, especially among large employers, away from traditional tuition reimbursement models and toward policies that pay education providers directly on an employee’s behalf. This shift accompanied the opening of programs to frontline workers and certainly has impacted the equity outcomes of programs, particularly among lower-earning employees who may struggle to front tuition payments and wait for reimbursement.

Still, among survey respondents, only about 42% provide direct payment to education providers, either for any program of study (17%) or for specific programs of study defined by the employer (25%). The remainder, 58%, require employees to pay education providers up front and receive reimbursement upon successful content completion.

Large businesses are more likely to provide direct payments, with 45% of those organizations paying up front compared to 38% of smaller businesses.

We see significant differences with success in reaching program objectives based on payment policies. Organizations that provide direct payment on behalf of employees for any program of student are more than four times as likely to report successful programs. Employers that support direct payments for specific programs of study are twice as likely to report successful programs. Meanwhile, employers reporting low program success are 69% more likely to use reimbursement models.

In some cases, where employer tuition support exceeds the taxable income limit of \$5,250 per year, employers will provide a “tax gross-up,” holding employees harmless for the financial implications of taxable income in the form of education benefits. Twenty-three percent of employers responding offer gross-ups, with both small and large employers offering this support at roughly the same rates.

Key Practice

Provide direct payment for tuition on workers’ behalf rather than providing reimbursement, especially for hourly workers.

Forty percent of respondents utilize a “clawback” policy, requiring recipients of tuition assistance who leave the company or drop/fail classes to pay the employer back for all or a portion of the benefit. Clawbacks often expire after specific time periods, such as two years. Anecdotally, it appears that these policies are inconsistently enforced. Not surprisingly, employers who utilize clawback policies are 50% more likely to report low program success.

Key Practice

Eliminate clawback policies that are difficult to administer and may limit economic mobility for workers.

Medtronic is a global healthcare technology company, employing over 95,000 people globally, with 45,000 in the US. With a 75-year legacy of innovation in medical devices and technology – the company’s first life-changing therapy was a wearable, battery-powered cardiac pacemaker – Medtronic is also an innovator for talent and people-centered management. Kristin Erb, senior manager for talent management, commented, “Our mission is to use technology to alleviate pain, restore health, and extend life. Everybody shares in that mission.”

Like many other companies, Medtronic faced challenges with building a sufficient pipeline of talent and capabilities to meet the company’s needs and had a particular desire to diversify the talent pipeline. With the support of the [Multiple Pathways Initiative](#), a program of the Business Roundtable, Medtronic identified the opportunity to evolve their policies and hiring practices to help mitigate these challenges.

“As we evaluated these challenges further, we discovered that some of our job requirements, including four-year degrees, were preventing us from casting a wider net and considering a broader, more diverse pool of candidates,” commented Erb.

Further, movements by competitors to shift hiring requirements and strengthen career pathways put additional pressure on Medtronic’s ability to compete for talent. “We were feeling pressure in the market as other companies started to drop degree requirements. Some of our internal talent was also facing barriers to move to the next level, and we were losing talent to others who were offering attractive upskilling and internal mobility opportunities,” said Erb.

Medtronic worked through a “recredentialing process” for roles that HR and managers were challenged with where a shift to a skills-based approach could be a good fit, while remaining compliant with regulatory requirements. Fifty percent of IT roles at Medtronic, for example, no longer require degrees, and the company has seen diversification in both applications and hiring. In manufacturing, about 25% of roles were recredentialled to remove degree requirements.

Implementing this approach was a significant lift, and it required thoughtful key stakeholder and change management. As Erb puts it, “Having leaders on board with a skills-based approach is critical. Data coming out of our pilot with IT roles also helped us accelerate alignment and move more quickly to fill these very important roles. Once we were able to demonstrate the advantages, it helped leaders get more comfortable and aligned with this approach. We also provided support and tools, helping hiring managers through the selection process, including interview guides based on the skills defined for a particular role.” This streamlined and more standardized process also supported the company’s inclusion and diversity goals.

Where Medtronic stands out among the many organizations implementing recredentialing strategies is in its commitment to supporting employees with high-quality upskilling and career pathways. Medtronic Advancement Pathways and Skill Building (MAPS) emerged in fall 2021. Erb commented, “For a long time, we had a traditional tuition reimbursement program and realized we needed a more flexible, affordable option. We established MAPS in response to recredentialing – we needed to provide people with career paths and opportunities to upskill.”

MAPS, which is supported by strategic workforce organization [InStride](#), is an exemplar for the key practices identified through our study. The program supports employees in the US and Puerto Rico with a variety of education opportunities designed to enable them to take next steps. MAPS uses “career education paths” to help employees visualize how education will help them move from role to role and supports them to enroll in programs ranging from industry certifications to bachelor’s degrees with a curated network of education partners.

Importantly, MAPS participants are eligible from day one of employment, and all program costs are covered upfront directly by the company, including a tax gross-up for programs that exceed the IRS’ taxable income limit. Employees can enroll without specific approval from their manager and can use the program to grow in their current field of work or shift to another area.

“In the first year, we saw a more than 60% increase in participation. As word is getting out, as people are graduating, and as employees are seeing people move up in their careers as a result, we expect to see even more growth. All our feedback says this is a game changer for working adults who can achieve their goals through a flexible and affordable program, and they’re starting to believe that it’s not too good to be true,” Erb said.

MAPS is also producing returns for the business. MAPS participants’ attrition rate is almost half that of nonparticipants. “Employees view Medtronic as investing in them, by removing barriers and providing a path forward,” Erb commented. “You can’t stop at just recredentialing. There must be the ‘and’ that lets people explore what they’ll do next. We dropped degree requirements for some roles, so our ‘and’ is providing upskilling, being intentional and transparent in how we’re going to help people get the skills they need to move up. That is critical.”

Traits of Highly Successful Programs

While every company will determine its own best path in supporting employee education through tuition assistance, there are key approaches to building and executing a successful program.

Curate Employee Experiences

To maximize the alignment of company goals and program benefits, consider how institutional partners will best serve employee needs. With thousands of colleges, universities, and training providers offering more than [one million credentials](#), employees may need guidance in selecting programs that align with company goals and advancement opportunities.

Education partner networks should include institutions that have good track records in supporting the busy and demanding schedules of part-time and working learners, recognizing work-based learning toward credentials, transferring credits from previous college experience, and, importantly, equitably graduating students from diverse racial and ethnic backgrounds.

Frontline Focus

Highly successful programs are more likely to include opportunities for frontline hourly employees. These employees are [less likely](#) than the general workforce to have gained education. Ten percent have less than a high school diploma, while 29% hold only a high school diploma, and 30% have started college but have not completed a degree. This group is also prone to high turnover – a recent [PwC report](#) indicates that 36% of “manufacturers experienced frontline employee attrition rates exceeding 10% over the last six months.” [Past](#)

[research](#) shows that tuition assistance programs are effective at reducing turnover. Focusing on frontline employees both targets education where it is most needed and addresses a pain point for employers.

Center Employees' Needs

Centering employees' needs in program design can take the form of curating educational experiences and focusing on the frontline workforce. In addition, companies providing coaching and guidance to employees as they decide to participate in education programs can be an effective way of helping workers feel like they have a safety net, as well as helping them make better decisions, utilizing the company's resources and their own time more effectively.

The choice to include program offerings outside of traditional college degrees is one that will depend on a company's unique workforce. For organizations with frontline populations, particularly groups without high school diplomas or who may not be native English speakers, providing access to high school completion programs and English language learning can be a thoughtful and meaningful investment in supporting an employees' first step toward both better opportunities in the company and fuller participation in US society. Alternatively, providing only access to college degrees for this workforce may be counterproductive, keeping utilization rates low and education out of reach for employees.

Insights and Conclusions

We are glad that this research has provided the field with some much-needed evidence in support of key practices. As we move forward, gaining a deeper understanding of the benefits to businesses and employees, and the communities in which they live, is a top priority.

As we look across these findings, there are some significant opportunities.

Targeted and Tailored for Smaller Businesses

In all cases, larger businesses report higher success with upskilling programs than smaller businesses, despite hiring, retention, and skills shortages that are more acute for smaller organizations. This is not a shocking revelation. Many of the incentives and structures for supporting employee education and training are more beneficial for larger companies and require more significant staff capacity and available resources for administration.

We need targeted and tailored research on effective upskilling strategies specifically for small- and mid-sized businesses that cannot devote full-time employees or support significant expenditures for tuition payments or training contracts.

In addition to identifying and highlighting the strategies and tactics that small employers have used to meet their goals, research should also explore how local, state, and federal policies, as well as local and regional collective impact efforts, may support small businesses more effectively.

The Learning Is the Point

According to [Training Magazine](#), employers spent more than \$100 billion on training from 2022 to 23, inclusive of payroll, products, and services. Employers are also increasingly being viewed as responsible for training - a 2023 [survey from edX](#) indicated that 80% of employees "see companies as the new postsecondary colleges." Yet, learning gained on the job is rarely recognized by postsecondary institutions. Meanwhile, more employers are eliminating degree requirements from roles, diminishing the already weak signal shared between employers, education providers, and job seekers.

Learning and skill development are the objectives. It is time to rapidly scale credit for training, allowing learning gained on the job to apply seamlessly toward postsecondary credentials. Employers, who are already investing significantly in and behaving as educators, can move confidently into these roles through credentialing and validating learning gained on the job by employees, and by adopting skills-first practices that enable new and incumbent employees to advance.

As importantly, colleges, universities, and training providers need to shift toward approaches that make skills and competencies gained through their programs transparent, and the records of that learning portable and recognizable as data, fully owned by learners.

These innovations, digital credentials that include rich skills data within LER systems, represent the best opportunity we have to truly make “all learning count.”

Understanding Incentives and Levers

While there is still much to learn about effective practices for all types of corporate upskilling, there are clear practices emerging that benefit both frontline workers and the companies that employ them. Because we understand the robust social benefits of education, we should consider how public policies can more effectively support employers who are implementing these practices. This may include more generous treatment of expenditures for education in the tax code, or even shifts to accounting principles that allow for training expenditures – human capital – to be treated similarly to capital expenditures.

Further, continued research into the return on investment (ROI) for upskilling programs would be helpful, particularly focused on understanding how decisions like shifting from reimbursement to assistance, or eliminating tenure requirements for tuition support programs or credentialing internal training programs, impact the business bottom line.

Expanded ROI analysis can also help us better understand the benefits to upskilling beyond the company’s walls. How do corporate upskilling efforts contribute to local and state talent goals and needs? What kind of broader economic impacts can be attributed to employer-supported education? As public incentives are considered, public benefits need to be better understood.

Increased Awareness and Transparency

Further, we see some companies exploring how provision of education and training can be a differentiator, enabling them to attract different candidates. Yet relatively little is known about these programs, and it is not clear how potential employees could compare and contrast employers’ education programs to make decisions. As education, training, and advancement become more important to workers, a means of both elevating the availability of education opportunities to potential workers and enabling some comparison shopping could be a powerful opportunity for both employers and job seekers.

Understand the Employee Experience

Finally, while we are gaining many insights into how upskilling programs work for employers' benefit, we have limited insights into employees' experiences. How does receiving support for education make an employee feel about their employer? What kinds of program attributes are more or less valued by frontline workers? What can employers change about their programs to better meet workers where they are? These and other questions are what we hope to learn more about going forward.

The good news is that, with this study, we have identified upskilling program attributes that are aligned with successful program performance. All of these attributes, from formalizing internal learning programs to making apprenticeships "registerable," to providing direct assistance rather than reimbursement for tuition support, are also aligned to better supporting worker needs, especially for lower-earning and marginalized workers.

Employer-supported upskilling is a win-win, contributing to improved competitiveness for companies and improved opportunities and mobility for employees. Centering employees, especially frontline, hourly workers, in the development of these programs is both the smart thing to do, aligned to successfully meeting program goals, and the right thing to do, meeting workers where they are with accessible and meaningful learning opportunities.

We hope this study answered some questions, and asks new questions, as well. Our organizations are committed to continuing to explore and research what makes upskilling programs create more win-win outcomes.

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Contributors

- Joe Dunlap, Director of Training and Development, Sheridan
- Kristin Erb, Senior Manager for Talent Management, Medtronic
- Paul Holba, Senior Manager of Organizational Development and Training, American Air Filters International
- Tammy Thieman, Director of Career Choice, Amazon
- Angela Uhl, Talent Development Manager, Krusteaz
- Amy Volz, Director of Workforce Innovation, Trane Technologies

Authors and Editors

- Haley Glover, Senior Director, UpSkill America
- Mollie Lombardi, Senior Research Analyst, i4cp
- Kevin Martin, Chief Research Officer, i4cp
- Frances Almodovar, Communications Associate, Economic Opportunities Program, The Aspen Institute
- Nora Heffernan, Digital Communications Associate, Economic Opportunities Program, The Aspen Institute
- Tony Mastria, Senior Communications Manager, Economic Opportunities Program, The Aspen Institute

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UpSkill America, an initiative of the Aspen Institute [Economic Opportunities Program](#), supports employers and workforce organizations to expand and improve high-quality educational and career advancement opportunities for America's frontline workers. We seek to create a movement of employers, civic organizations, workforce intermediaries, and policymakers working collaboratively to implement education, training, and development strategies that result in better jobs and opportunities for frontline workers, more competitive businesses, and stronger communities. Follow us on [LinkedIn](#) and learn more at upskillamerica.org.



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2300 N Street NW #700
Washington DC 20037

upskillamerica.org

upskillamerica@aspensinstitute.org



411 First Avenue South
Suite 403
Seattle WA 98104

i4cp.com