

# The Nexus Method for Workforce Development

## Using Advanced Standing to Bridge Skills-First Hiring and Registered Apprenticeship

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### Introduction

Manufacturing is perhaps the industry getting the most attention for its so-called "skills gap," despite hefty investments from the Biden Administration and significant attention from the second Trump Administration. In 2025, NPR highlighted Bureau of Labor Statistics data that show that nearly half a million jobs in manufacturing are unfilled.<sup>1</sup> The Manufacturing Institute, the workforce development arm of the National Association of Manufacturers, told NPR that its survey showed that finding and retaining talent was often manufacturers' main concern.<sup>2</sup> Specifically, it identified challenges in finding workers who can maintain complex equipment. The Institute also told NPR that "there is no one walking around on the street with these skills, and it takes one to two years to teach those skills and another one to two years to contextualize those skills to the specific plant environment."<sup>3</sup>

We have both spent years working on two workforce development strategies that could help fill this and other skilled worker shortages, but have not taken off despite ample political and corporate support.<sup>4</sup> In light of this and other employers citing skilled worker shortages, we wondered if there were clues—and solutions—lingering in these strategies.

The first is skills-first hiring—also known as "skills-based hiring" or "skills-first talent strategy." It means the hiring or promotion of workers based on skills, knowledge, and abilities they can show they actually

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<sup>1</sup> See Greg Rosalsky, "Why aren't Americans filling the manufacturing jobs we already have," National Public Radio, Planet Money (May 13, 2025), <https://www.npr.org/sections/planet-money/2025/05/13/g-s1-66112/why-arent-americans-filling-the-manufacturing-jobs-we-already-hav>

<sup>2</sup> *Id.*

<sup>3</sup> *Id.*

<sup>4</sup> See Matt Sigelman, Joseph Fuller, and Alex Martin, *Skills-Based Hiring: The Long Road from Pronouncements to Practice*, published February 2024, available at <https://www.hbs.edu/managing-the-future-of-work/Documefornthshave-prepared/research/Skills-Based%20Hiring.pdf> [hereinafter "Pronouncements Report"].even when employers

have, without regard to how they got those skills, or where.<sup>5</sup> The strategy has been—and remains—promising for expanding talent pools in industries that assert they cannot find qualified talent. It allows employers to tap talent pools they cannot reach now while hiring workers who, because they have been overlooked, are more likely to remain with the employer longer and better adapt to the employer's unique way of working. It is frequently associated with the removal of college degrees as a nonnegotiable requirement for a job, but it requires much more than that.<sup>6</sup> Successfully moving to skills-first hiring requires knowing the skills needed to do a job as well as altering hiring processes so that candidates with those skills can have an opportunity to get hired.<sup>7</sup> It also necessitates building onboarding processes that fill in missing skills and integrate workers who may not know the unwritten rules of work environments where they may be the only person without a degree.<sup>8</sup>

Employers appear to be struggling with it. In 2024, the Burning Glass Institute and Harvard Business School published a paper that found that—despite employers' considerable uptake in dropping degree requirements—these changes had only resulted in a 0.14 percent increase in the hiring of workers without college degrees.<sup>9</sup> In our own work in this area, we have observed employers struggle with divining the skills needed for a role and determining whether a worker has them. Employers often say they do not have the time, resources, or expertise to build lasting structures into the day-to-day operation of their business. Moreover, where employers do make successful skills-first hires, they can struggle to acclimate these new hires, whose backgrounds may not verse them on the norms and “unwritten rules” of workplaces in a field, hampering their chances of long-term success.

The second strategy is Registered Apprenticeship, which is far from new, having been developed in 1911 in Wisconsin.<sup>10</sup> Registration is a voluntary consumer-protection device in which an apprenticeship program teaching skills on the job registers with a government agency, which verifies that the apprenticeship has certain basic work and training components. This signals to employers that the program is worth their investment and to workers that the program is worth their time. The past four presidential administrations—including two Trump administrations—have backed Registered Apprenticeship as an alternative to the increasingly expensive and increasingly unbankable option of a college degree.

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<sup>5</sup> U.S. Departments of Labor and Commerce, *The Skills-First Starter Kit*, published November 13, 2025, *available at* [https://d2leuf3vild4d.cloudfront.net/-/media/Global-Site/Content/Webcasts/2024/Good-Jobs-Initiative-Skills-First-Starter-Kit/9028\\_OASP--Good\\_Jobs\\_Initiative\\_Skills-Based\\_Hiring\\_Starter\\_Kit\\_111224\\_014.ashx?rev=141b2714d8854f948504d3dc77513254&hash=D7DE34C9A09EF080A685EDE4B3321D52](https://d2leuf3vild4d.cloudfront.net/-/media/Global-Site/Content/Webcasts/2024/Good-Jobs-Initiative-Skills-First-Starter-Kit/9028_OASP--Good_Jobs_Initiative_Skills-Based_Hiring_Starter_Kit_111224_014.ashx?rev=141b2714d8854f948504d3dc77513254&hash=D7DE34C9A09EF080A685EDE4B3321D52). Nick led the work developing, drafting, and publishing this document when he was at the U.S. Department of Labor.

<sup>6</sup> *Id.*

<sup>7</sup> *See id.*

<sup>8</sup> *See id.*

<sup>9</sup> *See* Pronouncements Report, *available at*

<https://www.hbs.edu/managing-the-future-of-work/Documents/research/Skills-Based%20Hiring.pdf>

<sup>10</sup> *E.g.*, Northeast Wisconsin Building Trades Council, “What Is Apprenticeship?” (accessed September 21, 2025), *available at* <https://newbt.org/apprenticeships/>

Registered Apprenticeship offers a proven structure for training workers and filling employers' skilling needs, with quality control—for both the worker and the employer—built into its regulations. For safety and learning reasons, it requires additional off-the-job instruction and regular mentorship and oversight from a skilled expert.

There *have* been significant gains. Registered Apprenticeship, in the past thought as only applying to the trades, has nearly doubled in the number of active apprentices in the past decade.<sup>11</sup> It also has been harnessed to bring workers into information technology, accounting, and health care. Yet, there is dissatisfaction among political leaders and others in its growth as apprentices only make up 0.3 percent of the labor force, lagging behind many other comparable world economies.<sup>12</sup> In our interactions with them, employers frequently indicate that they think apprenticeships are too expensive and take too long to produce highly skilled workers. In exiting the U.S. market, one apprenticeship services provider said that "employers had indicated they wanted more flexibility in the duration of their training programs".<sup>13</sup>

We do not necessarily agree with all the assertions made above by employers; however, they are emblematic of the challenges America faces in creating more pathways for skilled employment outside of current hiring structures. We also think there is a solution for these challenges that involves blending both of these newsy strategies—skills-first hiring and Registered Apprenticeship—through a little-used and little-known nexus between these strategies that is built into current regulations for Registered Apprenticeship.

This paper uncovers and explores the nexus of on-the-job workforce training, its benefits and drawbacks, and how it could be applied to the manufacturing problem described in the opening paragraphs to create more hiring opportunities for qualified workers and fill skilled positions more quickly. It begins by introducing advanced standing in Registered Apprenticeship and how it creates an opportunity to blend apprenticeship with skills-first hiring. It then describes how to ideally blend these two strategies to harness existing apprenticeship frameworks to fill skilled positions more quickly before examining the benefits and drawbacks of this approach. It concludes by turning to the challenges in manufacturing and how this strategy could help solve them.

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<sup>11</sup> We based this conclusion on apprentice data published by the U.S. Department of Labor at this URL:

<https://www.apprenticeship.gov/data-and-statistics/apprentices-by-state-dashboard>. We note, however, that Nick found significant data hygiene issues with this data in writing about women's access to apprenticeship. See Nick Beadle, "Women are the canaries for what's missing in apprenticeship," *JOBS THAT WORK* (July 15, 2025), <https://www.jobsthatwork/p/women-are-the-canaries-for-whats>.

<sup>12</sup> E.g., Taylor Maag, Vanessa Bennett, and Susannah Rodrigue, "Policy Blueprint to Modernize and Expand Apprenticeship Nationwide," *Jobs for the Future* (April 2025),

<https://www.iff.org/wp-content/uploads/2025/04/JFF-Policy-Blueprint-to-Modernize-and-Expand-Apprenticeship-Nationwide.pdf>.

<sup>13</sup> Paul Fain, "Multiverse Is Getting Out of Apprenticeships in the U.S.," *Work Shift* (July 18, 2024),

<https://workshift.org/multiverse-is-getting-out-of-apprenticeships-in-the-u-s/>

## Advanced Standing

The 2008 federal regulations for registering apprenticeship programs require that Registered Apprenticeship programs must grant "advanced standing or credit for demonstrated competency, acquired experience, training, or skills for all applicants equally, with commensurate wages for any progression step so granted."<sup>14</sup> The purpose, per the drafters of the rule, was to "provide[ ] greater flexibility for an apprentice to progress through an apprenticeship program."<sup>15</sup> Later U.S. Department of Labor (DOL) materials, which we will address in depth below, indicate that the apprenticeship sponsor must take steps to ensure that advanced standing is provided consistently from apprentice to apprentice.

Here is an example of how this might work in the guise of the traditional trades, the occupations most commonly trained through Registered Apprenticeship: millwrights and pipefitters have distinct skillsets; however, both involve welding and metalworking skills. If a millwright wanted to transition to becoming a pipefitter, the advanced standing provision allows the millwright to start a pipefitting apprenticeship at the stage of the program that trains in skills the millwright does not have. A white-collar analogy would be financial analysts and accountants. Both interpret financial information, albeit in different directions—accountants record historical transactions, financial analysts predict future trends. An accountant seeking to become a financial analyst could advance to the stage of an apprenticeship where they must learn new skills.

It is easy to see advanced standing's potential for filling skilled hiring needs, the premise we addressed at the start of this paper. So why isn't it in widespread use? In Section IV, we explore several of the reasons why there has been limited uptake of this provision in exploring barriers to our strategy, but the one that stood out to us the most in our research was that this provision of the apprenticeship rule is not well-known, and where it is known, applicants struggle to sort out how to implement it. DOL has not provided any detailed guidance on how to assess skills and provide credit. Without this guidance, apprenticeship programs default to their normal operation, which is typically a 2,000-hour program. Nick has also been told by sponsors of concerns about the interpersonal friction from other apprentices (and even instructors), who are bothered that someone "skipped the line" and got higher pay as a result.

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<sup>14</sup> 29 C.F.R. 29.5(b)(12). Sec. 29.5 is effectively a master list for the working and training conditions for Registered Apprenticeship and how to administer them.

<sup>15</sup> U.S. Department of Labor, Notice of Proposed Rulemaking: Apprenticeship Programs, Labor Standards for Registration, Amendment of Regulations (Dec. 13, 2007), available at <https://www.federalregister.gov/documents/2007/12/13/E7-24178/apprenticeship-programs-labor-standards-for-registration-amendment-of-regulations>

These are valid and entirely understandable barriers to implementing this strategy. Yet, in the nearly two decades since DOL finalized the current rules, advocates and employers have defined the concepts and strategies of skills-first hiring. These developments provide DOL and advocates with a playbook for implementing advanced standing that apprenticeship programs did not have in 2008. Using that skills-first playbook to implement advanced standing, then using the structures of Registered Apprenticeship to bring back-end structure that might be missing from skills-first hiring, is what makes up our Nexus Method.

## How the Nexus Method Works

We think the best way to understand this strategy is in a practical hypothetical in which an employer with a skilled-employment need is looking for talent that can do the job more immediately than a Registered Apprentice fresh to the field.

Sample Corp. is looking for a worker to fill a cybersecurity role. Managers feel like they have some bandwidth to provide on-the-job training, and they have a cybersecurity apprenticeship program, but they are unsure whether they have enough bandwidth to recruit a completely inexperienced hire into this role and get the production they want in the timeline they need.

Denise recently lost her job as a software developer after her previous employer laid off most of its developers by transitioning to AI handling much of its coding work. In the months prior to her layoff, Denise heard of the same thing happening with several competitors of her old company. There may be coding jobs in other cities, but she is hesitant to take the risk, given that AI likely will eliminate many other jobs in her field. She does not feel like she can afford a new degree or the out-of-pocket costs of training certifications in a new field.

Denise is applying for jobs that roughly fit her background—including the cybersecurity role at Sample Corp. She has some of the skills to fill Sample Corp.'s role—including programming, deep knowledge of operating systems, and problem-solving skills. She does not, however, know security frameworks or have experience with threat analysis or risk assessments. Her previous work environment had different "unwritten rules" and workflows than what would be expected in cybersecurity.

In a typical hiring situation, Denise could be passed over or get a cursory interview at best. In a typical skills-first hiring scenario, she might get hired, but her chances of long-term success would depend on Sample Corp. having a plan it might not have for filling her training needs—and she may struggle to adapt to the unwritten and informal expectations of her work. A typical Registered Apprenticeship that starts

her from scratch would likely force Denise to go through redundant training and may lose her because of lower wages, since new apprentices need not be paid more than the minimum wage.

The Nexus Method, however, would remove these barriers and offer a structure that ensures Denise not only is able to get hired, but succeeds. If Sample Corp. were using The Nexus Method, it would use skills-first techniques to remove unnecessary filters that compromise true assessment of talent, identify hireable candidates, and assess their skill needs and whether they are skills the company can afford to fill. In this case, Sample Corp. would have screened candidates using a skills assessment. Denise, after clearing this assessment, would receive an interview that would drill further into her skills, where she is missing experience, and her capability to learn and adapt on the job. Sample Corp. could also ask her to conduct an in-person hypothetical work scenario in which her hiring managers assess and provide feedback on her ability to handle her day-to-day duties.

As we covered above, Denise has clear transferable skills, but likely not enough to do the whole of the job right away. Again, skills-first hiring, alone, could get her the job, but it might not provide her with the post-hiring structure to succeed long-term. Again, Registered Apprenticeship would send her back to square one and a lower wage, which also costs Sample Corp. an opportunity to fill its skills needs in the immediate term.

But if Sample Corp. used the nexus between these workforce techniques—the advanced standing provision at 29 C.F.R. 29.5(b)(12)—it could access the best of both of these methods to find a solution that fits its needs and gives Denise a job that matches her existing skills. After doing her assessment, the hiring managers could assess that Denise is a good fit and they can afford—in time and money—the cost of transitioning Denise into their Registered Apprenticeship at the 50% mark of their program. Because of the regulatory requirements of Registered Apprenticeship, this would provide Denise with on-the-job experience to build her missing skills *and* mentorship to help her learn a new work environment and ensure her work does not impede company productivity. Moreover, because advanced standing requires progressing Denise to the wage rate of an apprentice with her level of experience, she would not have to accept significantly lower wages than her previous role.

## Barriers to the Nexus Method

As we addressed above, knowledge and logistics are primary barriers to adopting this method; however, regulatory uncertainty and employer reluctance produce stout barriers to implementation as well. We think these barriers are serious, but not insurmountable, and provide an opportunity for policymakers to

introduce innovations that can greatly expand access to apprenticeships, an ongoing goal of the U.S. government. We address each of these barriers below and offer solutions.

### **Regulatory Barriers**

The most significant barrier we see is DOL subregulatory efforts to cap advanced standing or add documentation requirements that limit its use. An apprenticeship circular—the DOL Office of Apprenticeship's binding subregulatory guidance—limits prior credit at 50% of the training program,<sup>16</sup> which has been picked up by some states to cap advanced standing in their laws implementing Registered Apprenticeship at the local level.<sup>17</sup> We do not see this as an impossible barrier for the use of the Nexus Method proposed by this paper, and we assumed a 50% cap in the example we used above. We do note, however, that this could be a barrier to efficient integration of workers displaced from substantially similar fields or seeking to move into a new occupation.

A greater concern on our part is the inflexibility in the application of Registered Apprenticeship by federal and state officials, which could make it very difficult to implement these rules. For example, Nick has encountered, or been advised of, apprenticeship authorities that resist allowing apprentices to complete classroom or simulation training before starting their on-the-job duties, something some employers (and their clients and insurers) may insist upon to ensure a minimum level of knowledge needed to do their work safely. In Nick's experience, this resistance is less a function of any sort of regulatory requirement so much as a reluctance among particular apprenticeship officials to accept apprenticeship that does not fit the typical model of 2,000 hours of on-the-job experience with intermittent off-hours training. We do not think it is unreasonable to assume these attitudes would present a barrier to wider implementation of advanced standing or the use of the Nexus Method, given that many experts we encountered during our research were unaware of the advanced standing provision at all. DOL could adopt clear subregulatory guidance indicating support of the use of advanced standing to disarm these scenarios.

### **Functional Barriers**

Another barrier is that employers do not feel comfortable—or know a good way of—evaluating skills. Doing so involves knowing the skills needed for a role as well as constant updating—and updating of the evaluation systems—to assess them. That has been a tremendous barrier for employers in adopting

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<sup>16</sup> See Office of Apprenticeship Circular 2016-01, <https://www.apprenticeship.gov/sites/default/files/bulletins/Cir2016-01.pdf>.

<sup>17</sup> As a primer, half of all states are "State Apprenticeship Agency" states, which roughly means that the federal government has deputized state governments to register apprenticeship programs on its behalf. These states must have virtually the same legal structures as apprenticeship rules at 29 C.F.R. parts 29 and 30. See 29 C.F.R. 29.13(a)(1). Some states have adopted the advanced standing cap in DOL's guidance. *E.g.*, Maryland Code of Regulations (COMAR) 09.12.43.05.

skills-first hiring and why so many skills-first hiring efforts begin and end with removing degree requirements. Our understanding is that an additional pressure is DOL's subregulatory requirement that advanced standing has to be applied consistently, which employers might believe costs them flexibility and adaptability in assessing skill levels.

First, we do not see DOL's requirement as a barrier but just good management practice—and one that could disarm some of the "skip-the-line" friction expressed to us during our research. To the broader concern, we think that employers are experts in what they need from their day-to-day job, and there are huge gains to be made in productivity and reduction of turnover costs by investing in the infrastructure and policies needed to assess and expand workers' skills fairly. Additionally, artificial intelligence and other technological tools can lower these barriers by helping identify the best options for assessing skills, generating curricula based on existing programs, and providing tools that ensure consistent, standardized results upon which to fairly assess the skills of multiple candidates and build training plans customized to workers.

We have heard concerns about racial discrimination and other issues that could be perpetuated through testing and assessments. We share the same concerns and understand that tests have been a pretense for discrimination in the past; however, we do believe that these concerns—like any other—can be efficiently and effectively engaged by employers to make hires and improve access to the skilled workforce by populations historically overlooked or excluded from good-paying jobs. Furthermore, we strongly recommend that any assessments be buttressed by strategies that ensure objectivity, such as "blind" assessment techniques that remove identifying information—including names, previous employers, and any schooling—that could fog reads of the results.

### **Perceptual Barriers**

The final barrier we call "perceptual," primarily because it is an assumption that the workers that could be produced and hired through these techniques might be less skilled because they did not go through a full apprenticeship program or other program that shaped them from beginner to expert. Nick has also jokingly called this "The Nervous General Counsel Problem," based on encounters (and stories of encounters) with employment attorneys who creatively read safety and other legal risks into any novel talent development strategy.

We understand the need for employers to have tailored training. However, we also struggle to see a way for employers to fill their outstanding skilled-talent needs without acknowledging—and engaging with the fact—that there may be more talent available than being identified by their current hiring and

development techniques. We are certainly not saying that adopting this or any other new workforce development technique is a simple—or even a straight-line—process, but we do think that employers who take steps to implement strategies like this now will be better prepared to fill talent gaps when they need emerging occupations to do their work in a rapidly changing technological environment. Or when the hiring market gives workers more choice and the ability to prefer employers who are invested in their long-term talent development and success.

## Providing a Solution to the Hiring Needs in Manufacturing

Let us return to the premise described at the beginning of this paper—that it takes as many as four years to truly fill roles servicing machines in manufacturing facilities—and offer a hypothetical to describe how the Nexus Method could help reduce the time to fill these positions.

Maker Inc. is an advanced manufacturing company with a facility in the city that is home to Tyson, who services vehicles for a location of a chain of automobile service centers. Maker Inc. is searching for an experienced worker to service its machines, which require skills like problem-solving and troubleshooting, as well as handling ornate engines and handling the digital interfaces that help control them. Tyson has several of these skills, but he does not have experience in using them in a manufacturing context or the environment of one of Maker Inc.'s manufacturing facilities.

Tyson would be unlikely to obtain this service role in a traditional hiring process that excludes workers without experience in the same or a similar job. He might get an opportunity to demonstrate his skills through a typical skills-first hiring process, but if it does not have back-end training and mentorship, he might not be able to adapt easily—or at all—to his new role. He may turn down an opportunity to join a 2,000-hour apprenticeship program because it teaches him information and skills he already knows and may pay him much less than he earns now as an automotive technician.

But the Nexus Method would provide Tyson an opportunity to demonstrate his existing skills and gain the skills and experience he is missing in a structured way through Registered Apprenticeship. As with Denise in the cybersecurity example above, Maker Inc. would screen candidates for experience and skills relevant to this role to identify more than candidates who are a hard-to-find "perfect" match. They would then conduct interviews and more in-depth assessments of Tyson to verify that he has the skills they need and identify any gaps. Based on the demonstrated skills, Maker Inc. hires Tyson and advances him to 45% progression of a Registered Apprenticeship as an advanced manufacturing technician.

This program helps Tyson obtain on-the-job experience vastly different from the retail-like environment in which he previously worked and teaches him techniques and skills he did not gain while servicing cars. Maker Inc. gets an experienced professional who is better able to fill their precise skills needs in a much more efficient fashion than a traditional apprentice or endlessly searching for the perfect candidate. If he took the role in part because it was at around or his current salary, he would then see his wages grow over time due to the progressive wage requirements of Registered Apprenticeship.

## What's Next?

The next step is for employers and apprenticeship organizations—including intermediary organizations that help guide employers through apprenticeship registration—to begin experimenting with hiring for advanced standing apprenticeship using skills-first tools. We think employers have many, if not most, of the tools to begin deploying this method now. Companies like Delta, for example, have invested heavily in building skills-first frameworks that we think can be adapted to fit apprenticeship.<sup>18</sup> Separately, there are technological—and publicly funded—tools that can ease the process of starting or refitting programs around advanced standing. For example, Alabama has developed the Talent Triad, a skills-based hiring marketplace that allows workers with certain skills to connect with jobs.<sup>19</sup> Employers could harness these kinds of marketplaces to evaluate workers' place in an apprenticeship program using the marketplaces' skills wallets, or portable records showing workers' validated skills.

There are also financial reasons for employers to begin experimenting with these ideas, even in fields that have been reluctant to try apprenticeship as a solution to their skilling needs. In December 2025<sup>20</sup> and January 2026,<sup>21</sup> the U.S. Department of Labor announced nearly \$200 million in incentives for employers to develop apprenticeship programs in fields like manufacturing, information technology, and building infrastructure needed for AI. These "pay-for-performance" incentives are geared to the success of individual apprentices, and participating employers should consider the nexus strategy to help ensure they receive full payouts *and* workers who will stay and contribute to their company's success.

We acknowledge that implementing this strategy may not be turnkey in some instances, especially in an evolving landscape for hiring, the nature of employment, and workforce development. However, these evolutions also necessitate that employers—and the workforce development field—consider a fuller array of options to meet this moment. We believe the nexus method takes an option that has been overlooked for too long and uses it in a way that better meets the current needs of employers and workers.

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<sup>18</sup> <https://www.forbes.com/sites/gradsoflife/2025/07/08/from-commitment-to-action-delta-air-lines-skills-based-transformation/>

<sup>19</sup> <https://www.alabamatalenttriad.com/>

<sup>20</sup> <https://www.dol.gov/newsroom/releases/eta/eta20251219-0>

<sup>21</sup> <https://www.dol.gov/newsroom/releases/eta/eta20260106>

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