



HOW NONTRADITIONAL TECHNOLOGY
TRAINING PROVIDERS CAN
**STRENGTHEN THE
IT TALENT PIPELINE**

AT A GLANCE

Nontraditional training providers are taking approaches that resonate with employers and their workforce needs when designing competitive, trusted pathways to IT employment.

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Seth Dosart, Director of the Teen Excellence Center, [Boys & Girls Clubs of Bellevue](#)

Cindy Erwin, Director for College and Career Pathways, [Center for the Future of Arizona](#)

Barbara Garner, Vice President of Academic Services, [JVS Boston](#)

Paige Wetzel, Lead Career Coach, [JVS Boston](#)

Michael Goldstein, Senior Director of Growth Initiatives, [Year Up](#)

Leonardo Sosa, Founder and Executive Director, [<dev/Mission>](#)

Matt Velez, Associate Director, Corporate Partnerships, [NPower](#)

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About JFF

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Introduction

Traditional educational pathways are not keeping up with employer needs in information technology (IT). In JFF's recent research around opportunity in IT and computer careers, there is a need for employers to begin to think creatively about talent, and to expand their understanding of where and how skills are acquired. Currently there are a number of nontraditional technology training providers (NTTPs) and community-based organizations, offering employer-driven trainings and work-based learning opportunities targeting underrepresented populations in the IT sectors. Through internships, apprenticeships, and other exposure to the workplace, NTTPs are actively positioning themselves as competitive talent solutions to meet the needs of tomorrow's IT workforce.

IT employers benefit from the shorter-term, concentrated training that a number of community-based organizations, nonprofits, and workforce agencies provide. These programs in IT are considered nontraditional technology training programs in this brief to differentiate their efforts from a traditional four-year academic program. For many NTTPs, a business case for employers to engage with nontraditional technology training providers is obvious. "College students wouldn't want the job, and high school students wouldn't be able to do the jobs," said Michael Goldstein, Senior Director of Growth Initiatives at Year Up.¹ "That's a tough [hiring] spot where a lot of employers are. . . . If we can get them people with coding experience and [who] have proven to be really effective in that work environment, everybody wins."

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JFF spoke with numerous nontraditional technology training providers, community-based organizations, and IT industry conveners to get a sense of what approaches are resonating with employers when designing competitive, employer-trusted pathways to employment. In each of these conversations, we discovered trends and opportunities as they specifically relate to IT. This brief highlights a set of typical problems in the field, and specific activities or strategies people have put in place to address them. At the end of this brief, you can learn more about the great efforts happening at the NTTPs in the endnotes.

Revisit Small Business Opportunities to Hire IT Talent

Opportunity

From a nontraditional technology training provider perspective, we heard large businesses were by far the most sought-after by NTTPs who are seeking employment for their graduates. Besides brand cachet to help reel in more employers, large companies typically showed more promise for scale—with the promise of growing an NTTP’s efforts at multiple sites over time. Large companies could also hire more program participants per location, and had more resources to support stipends and supportive services. As NTTPs are drawn to the possibilities of scale via large-business engagement, we also know small businesses are key stakeholders in the IT-employment ecosystem, and also have jobs to fill. Small businesses across industries (independent businesses having fewer than 500 employees, according to the U.S. Small Business Administration) make up 99.9 percent of American businesses and employ almost 60 million people—and large businesses are often still set to hire from traditional pathways. “Small and mid-size companies have frequently been more willing to work with educational partners with some models,” said Cindy Erwin, Director of College and Career Pathways for the Center for the Future of Arizona, leading sector-strategy efforts for the city of Phoenix in IT. “Larger companies helped define competencies [for the Phoenix initiative], but still indicated a preference for applicants with four-year degrees,” added Erwin.

Small businesses often can provide the most meaningful “real work” experiences for developing talent due to smaller teams, a need for a more adaptable skillset, and more direct interaction across levels. Experiences in a small business environment can be more robust, and tend to give more insights to the dimensions of work, offering more comprehensive opportunities for skill-building.

However, from a small business perspective, hiring from an unfamiliar pipeline can be a risk: onboarding costs can be expensive, demands called on by management may be unrealistic, and opportunities to hire can be slim. Yet we also heard small businesses can provide big payoffs in the form of work-based experience—NTTPs that prioritize job placement over exposure to the world of work, and sometimes ignore small business opportunity completely as a result, must assume the risks of dealing strictly with the struggles and delays that often come with dealing with a larger company, and still without a guarantee of employment.

What Works

Small businesses can play a meaningful role in the nontraditional IT talent pipeline, while benefiting a company’s bottom line. Here’s what we heard:

- **Emphasize the cost-benefit of engagement.** There are a number of reasons why nontraditional technology training provider participants are better investments for companies—arguably providing more of a return on investment than an employee with a traditional educational background.
 - Working with an NTTP can reduce turnover and decrease onboarding and training costs over time. The cost of onboarding and replacing employees alone across industries isn't cheap—with costs averaging about 20 percent of one's salary for employees making \$50,000 a year. Nontraditional technology training providers often work with students that are looking for livable wages and long-term employment. Within several nontraditional technology training programs, we heard program participants tended to stay with a company for years longer compared to their peers—an undeniable cost-saving benefit to the employer. “The cost of turnover is extraordinarily high,” said Goldstein (Year Up). “Recruiting, hiring, training, onboarding . . . if [employers] can avoid it, avoid it. That's a legitimate reason to partner.” Year Up alumni have an average tenure of 45 months with an employer, “the average entry-level employer tenure is about 14 to 15 months, otherwise,” noted Goldstein. Barbara Garner, Vice President at JVS Boston² and Paige Wetzel, Lead Career Coach at JVS Boston, shared similar sentiments. “Our program participants tend to be older and more stable—so if they get a job, they're more likely to stay at that job for more than two years.”

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- NTTP participants often aren't looking for extraordinary salaries. Participants are often lacking a bachelor's degree, and enter the IT space with a limited work history. This means they aren't quite as burdened by student loans or face concerns around matching a previous salary in tech, making them more willing and able to accept a less competitive but meaningful salary that a small business can afford.
- NTTPs can play a meaningful role in the short-term talent pipeline, exposing small businesses to prospective, emerging talent. Several NTTPs highlighted their internship opportunities as a way for employers to develop their own talent. We also heard internships and other types of work-based learning can also be a cost-effective way to grow a team and boost short-term productivity within a

company. Small businesses can tap into federal resources to take efforts even further via apprenticeships or other earn-and-learn approaches.

- Lastly, NTTPs support employers of all sizes in reaching diversity goals. While many NTTPs are designed specifically to provide equitable opportunities for people of color, veterans, or other underrepresented populations, we know a more diverse workforce can be beneficial to a company in a variety of ways. Engaging with NTTPs can help to build a stronger, more diverse talent pipeline. In a survey of 400 STEM professionals, people noted diversity led to more innovation, an improved ability to connect with clients, and more learning opportunities. And “companies in the top quartile for racial and ethnic diversity are 35 percent more likely to have profits above their industry medians,” according to a 2015 McKinsey study. “Companies are really looking at themselves and [at] the diversity of their organizations,” said Sarah Conte Wessel, Senior Director, Employer Partnerships and Career Services at PerScholas³ (New York and Newark). “The time is right, and it has become easier to have the conversation [with employers] on how to help solve the lack of diversity in a tech department. Employers are open to it.”
- **Identify and articulate the opportunities with a small business employer.** “Small and mid-sized companies tend to be less concerned with how training was received, and more with competencies,” said Erwin (Center for the Future of Arizona). Make sure expectations are aligned and supports are in place to help a small business employer with the onboarding process. When beginning conversations with a small business, know that there isn’t usually an infrastructure or team waiting for these opportunities—small businesses will benefit from having clear examples of ways to partner, an outline of what engagement may look like, and a clear sense of roles and responsibilities around implementing the work.
- **Expect a faster timeline.** Engaging with smaller companies can be advantageous in a very significant way—nonprofit training providers can usually engage with leadership as a first point of contact, and if an employer is interested in collaborating with a nonprofit, instances of engagement can be set up and managed relatively quickly.

Small business employers may be interested in a collaborative work-based learning model, reducing program costs and making partnership efforts easier to manage. For more strategies around engaging with small business employers, check out JFF’s Work-Based Learning for Small Business, found on [JFF’s Center for Apprenticeship & Work-Based Learning website](#).

Engage with Staffing Agencies to Nurture IT Talent

Opportunity

Nontraditional technology training providers often train for entry-level jobs in IT—but as generations are becoming more tech savvy, the role of the traditional entry-level IT worker is becoming less predictable. Roles are relying less on one’s classic “troubleshooting” ability and much more on tool-specific solutions and expertise. To keep up with the constant changes in IT, many employers have begun to rely heavily on staffing agencies to introduce and train their entry-level talent. Nontraditional technology training providers are discovering that employers view staffing agencies (and related contracting or outsourcing efforts) as the best solution to addressing their IT talent needs, limiting success and opportunity for program participants. “For an IT generalist role—which tends to be an entry-level role, a lot of corporations are outsourcing that work,” said Matt Velez, Associate Director of Corporate Partnerships at NPower.⁴ Velez leads NPower’s development of their recently launched IT apprenticeship programs. “What we’ve learned in the process, is when you’re trying to get employers to hire right out the door, it’s nearly impossible.”

What Works

Multiple nontraditional technology training providers spoke to us about the perceived challenges and risks employers voice when hiring entry-level IT talent from a nontraditional talent source. Yet we heard signs of promise from programs finding success when they bridged their efforts with staffing agencies. As companies continue to view unfamiliar training programs as a risk, staffing agencies have a willingness and appetite to take risks and hire from nontraditional sources.

Working with staffing agencies does involve risk. We heard hesitations across partners, including the level of autonomy required for individuals to be successful, limited job security, the lack of benefits, and issues with payments for programs and employees, among other things. But with the right partnership structure, a number of NTTPs saw that staffing agencies can play a significant role in creating authentic pathways to careers in IT. When working with staffing agencies, NTTP should:

- **Accept that staffing agencies play a significant role in the pipeline to placement space.** “The models that you’re seeing now [are an employer’s] way of saying, ‘I’m still not ready to take on these entry-level folks and bring them to my house and give them the work-based learning,’” said Cathleen Barton, former education manager at Intel, now working as an independent IT consultant for organizations including the Center for the Future of Arizona. “[Employers] still want somebody else to

do some of that prep work before they get them, and want a chance to try before they buy.” While most NTTPs recognized that there are inherent unknowns when engaging with staffing agencies, many saw agencies as a pathway to employment for their participants. From an employer perspective, agencies can function as a favorable “audition” tool for nontraditional talent. Participants can gain valuable exposure to the workplace, and continue to reinforce skills. “We do have [agencies] that get it, and those that do believe in our work and stand by our vision. . . . I think they really see ways to leverage our talent, and then train them and really feel like they’re doing good work in the community,” said Velez. “[Some staffing agencies] end up being the surrogate between NPower and a corporation . . . and there are often times if a student does really, really well [at the agency], the company might decide to hire them as a full-time employee.”

- **View staffing agencies in a similar light as any employment partner when considering if they’re the right fit for your program participants.** “Not every agency is going to be a good partner,” said Wessel (Per Scholas). “But there are staffing agencies that really understand what we’re doing, and support our students in numerous ways.” Recognize that there are some high-quality agencies, and some that might not be best aligned with your program. Vet agencies as you would other employers. More so, as you vet participants for select employers, consider that staffing agencies might work better for participants with more work experience, or individuals that might have partners to lean on for health insurance, etc. “We were cognizant of who would do well and who could be successful in a more self-reliant position,” said Wetzel (JVS). Their program at the time of the conversation had two people working with IT contractors. “It’s a different experience than being a part of an IT department—more autonomy, and a different type of learning for the student.”

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- **Make sure wraparounds are in place to support engagement, and position participants for meaningful work and advancement opportunities in IT.** Staffing agencies are not inherently structured to support individuals unfamiliar with the world of work. Nontraditional technology training providers should consider designing scaffolded experiences to help participants identify the supportive services they might need to be successful as a temporary or contract employee. Nontraditional technology training providers should consider additional services for participants entering staffing

agencies such as regular check-ins, lists of workforce resources in their communities, and offer opportunities for community-building with other alumni in similar work environments.

Identify and Develop Employer Champions to Deepen Commitments around Untapped Talent in IT

Opportunity

We know a strong partner-employer relationship is essential when engaging employers around designing work-based learning opportunities, employment pathways, and opportunities for advancement for nontraditional workers. Employer partnerships often lean on initial personal connections, emphasizing a characteristic of longstanding familiarity and trust. These personal connections are most successful when they assume the role as an employer champion—people that can move the work forward internally on behalf of the NTTP. It is no secret that such engagement requires persistence, often requiring more capacity than is available to grow when starting out. When employers are nudged by nontraditional technology training providers to build upon their initial commitments—and work toward designing work-based learning opportunities that lead to hiring, a number of hurdles emerge that employer champions can help to navigate. Unless there is internal buy-in and momentum, these barriers often prevent partnerships from growing.

What Works

“It is critically important to have corporate champions invested in work who are engaged in the long term—not only to support the program, but to help guide it,” said Leonardo Sosa, Founder and Executive Director of <dev/Mission>⁵, located in the Bay Area.

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With training opportunities ever evolving, employers can be overwhelmed with choice. With limited time to thoughtfully research and vet every option, it is easy to lean on existing connections to meet talent needs. Employer champions can play a number of roles on behalf of an NTTP, including messaging, identifying opportunities for NTTPs to plug in, and serving as a liaison between the employer and training provider. While these relationships often form organically, we also heard about ways to illustrate your efforts in a way to quickly build trust and the possibility of a partnership via the development of employer champions:

- **Understand there's an appetite to engage.** Employers are generally interested in at least having a conversation and learning more about NTTPs. Getting your program in the room and making a case is a relatively easy task to complete, but developing employer buy-in to the point of internships or job placement takes work. Having a concise pitch ready and answers to frequently asked questions can help position your program to be seen as a pipeline solution to meet employers' hiring needs. Seth Dosart, Director of the Club Teen Center at the Boys and Girls Club in Bellevue, Washington, leads the employer partnership efforts for his high school teens seeking work-based learning experiences. Their program, Generation G, begins to engage employers starting with field-trip opportunities. Students are able to ask questions about job positions and perform a workshop on site. Dosart noted tech companies are often willing to host such events: "The company gets the photo op, and they get to share what they have going on," said Dosart. "And a lot of time once you get in, and as long as they don't reshuffle the deck every year, then you have contacts. You can grow a partnership that could turn into internships later on down the road."
- **Design opportunities to accelerate or deepen employer relationships that may have a similar impact as a longstanding, personal connection.** The art of relationship building can seem arduous. It is possible to design opportunities with employers without having a deep history already in place. One solution is to lean on telling your story via program participants and through light-touch offerings, but another is simply by reaching out to colleagues or beginning a cold-call strategy (*see below*). NTTPs with designated outreach specialists are able to nurture and advance relationships with varying degrees of personalization, improving outcomes for both employers and participants. "If the right person is at the right event, [partnerships] can happen automatically," said Wessel (Per Scholas).
- **Continue to provide a menu of light-touch offerings.** Programs like Per Scholas have begun to think creatively about ways to accelerate relationships—ultimately building trust and identifying company influencers and leadership to move the decision making along at a faster rate than before. Many NTTPs we heard from offer opportunities for employers to participate in one-day events, like mock interviews or job-shadow days. By offering opportunities for employers to participate in light-touch engagement, companies gather real-time information about the quality of your program in a way that a meeting or website can't convey. By helping companies actually meet real people and products from your efforts, they are more likely to speak about the work and be more motivated to design opportunities on your behalf.

Incentivize IT Leadership to Grow New and Existing Talent

Opportunity

Most employers will agree that it is important to partner with local nonprofits or community-based organizations. Whether it fits into their corporate social responsibility goals, or an interest that trickles down from leadership, many companies are warm to connecting with efforts within their communities in some capacity. Yet companies don't often view these engagements as possible windows to their future talent.

While corporate social responsibility teams are often an NTTP's foot in the door to company engagement, CSR teams often have different internal structures that don't allow for regular interactions with talent development teams. Some nontraditional technology training providers have recognized the need to involve human resources (HR) teams early on in the courtship—positioning NTTP services primarily as a talent solution, and secondarily as a vehicle to reach corporate social responsibility or diversity benchmarks. Increasingly, entry-level opportunities in IT require additional support and buy-in from IT leadership due to the constant technological changes and need for regular re-skilling across teams. When IT management is not looped in until decisions are made, there can be internal bumps and, worse, a misalignment of skills for the roles needed (both for new hires and managerial), putting the NTTP-employer relationship at risk. “[Partners] need to be in constant contact with employers to develop relationships and identify needs of employers in their hiring pipeline,” said Sosa (<dev/Mission>).

What Works

A number of training providers expressed clear needs for improving onboarding, buy-in, and the articulation of opportunity to IT leadership within a company.

- **Consider involving IT leadership more intentionally in the hiring process and pipeline design—even as the first point of contact.** A number of programs expressed experiencing differences in HR engagement versus their interactions with IT teams. Engaging IT leadership early on can position participants and the employer for success—especially when building the most effective onramps to internships or hiring. “We go to the IT CIOs/CFOs before we go to HR,” noted Goldstein (Year Up). “We’re all about satisfying a business need. We have a really strong commitment to designing our curriculum around the needs of a company.”

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- **Reframe the opportunity to employers and IT management as professional development for emerging leaders—meeting talent needs across levels.** Year Up helps IT employers see that engagement in their internship opportunities for Year Up participants can translate into low-risk opportunities to develop supervisory skills for emerging talent within a company. As technology companies are competing for talent, many are upping the ante when it comes to benefits that might attract young people to not just work for them, but stay on longer than their peers. Research has shown that employer resource groups that promote professional development opportunities, in addition to community service initiatives or corporate sponsorships of volunteer hours, are just as attractive to millennials as a slight raise or bonus. As company culture continues to be at the forefront of any retention strategy, opportunities for employees to engage in community-based efforts continue to be a popular interest for employees. By having employees plug in and support the advising and mentoring of interns or entry-level talent, employees feel more satisfaction on the job. “We’ve heard that [our] young people are excited [to work], and they tend to boost the team,” said Goldstein (Year Up).
- **Emphasize the employer-facing supportive services your program provides to make the experience a win all around.** “Our biggest issue is we’ll get connected at the top, and higher management will be very interested, but it all seems to stop at the IT manager, who was never really bought into the idea of having an intern to begin with,” said Garner (JVS Boston). “The startup period deters managers from being fully on board.” To address this, several nontraditional technology training providers offer technical assistance and coaching to employers during the design, hiring, and onboarding process, and make themselves available for coaching long after participants are placed. “Some of our closest employer partners have called up two years later for advice on a particular situation [involving program alumni], and we’ll support them with the [alum] and helping the employer understand the situation better, and work with the employee moving forward,” said Wessel (Per Scholas). Other wraparounds are important to consider as well. The onboarding process for <dev/Mission> involves ensuring students have resources available around housing, transportation, and access to a laptop, among other things before getting started.

Conclusion

JFF recognizes the opportunities that exist to improve pathways to good IT jobs via dynamic, tailored, nontraditional training pipelines for talent. “Once you get the first graduate in, without a bachelor’s degree, employer perspectives begin to change,” said Wessel (Per Scholas). It is our hope that this resource will encourage more discourse around pipeline strategy, and re-energize employers to reimagine their talent pools via strategic community engagement—building upon these tremendous efforts from nontraditional technology training providers as a benefit to their company and the communities where they’re based.

Endnotes

¹ Year Up is a national nonprofit that provides skills, experience and support to pursue technology careers. The program serves more than 4,500 participants a year. <https://www.yearup.org>.

² JVS (Jewish Vocational Service) Boston is one of the largest workforce development organizations in New England, offering over 35 different opportunities for job training and skill-building. Their programs serve over 17,000 individuals a year. <https://www.jvs-boston.org/>.

³ Per Scholas is a national tech-focused nonprofit that provides training to unemployed or underemployed adults for careers as IT professionals. <https://perscholas.org>.

⁴ NPower is a national tech-focused nonprofit that provides a range of training opportunities for young adults, Veterans, and families. <https://www.npower.org/>.

⁵ <dev/Mission> is a technology training program for untapped young adults located in the Bay Area. <http://devmission.org>.