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Jobs for the Future

Beyond Access and Affordability:

Insights from Piloting a Virtual A+ Training Model

AT A GLANCE

Accessible market-driven IT training programs must couple skills development with hands-on experiences and supportive services to ensure job-readiness. These programs should incorporate work-based learning opportunities developed through cornerstone employer partnerships.

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About JFF

Jobs for the Future (JFF) transforms U.S. education and workforce systems to drive economic success for people, businesses, and communities. www.jff.org

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01.
Introduction

Beginning in 2021, Jobs for the Future (JFF) partnered with workforce leaders in several communities to implement the Rapid IT Training and Employment Initiative (RITEI) with funding from the H-1B program administered by the U.S. Department of Labor's Employment and Training Administration (DOL/ETA). The program sought to increase entry to IT Support careers for workers facing barriers such as cost and location, while working with local implementation sites to identify and mitigate obstacles. Over the first three years of implementation, we found that despite this strategy, demographic disparities persisted in program completion rates, and systemic obstacles impacting learners extended far beyond access and affordability.[1]

The RITEI Action Guide examines the outcomes and lessons learned from implementing RITEI as a market-responsive training program for entry-level IT roles. Readers will gain insight into this initiative and understand the implications for improving future iterations of IT-career on-ramp training programs.

This action guide integrates findings from the JFF research team's mixed-methods research. This includes quantitative data from January 2022 through January 2024, two learner surveys, virtual interviews with learners, and focus groups with implementation site administrators and staff.

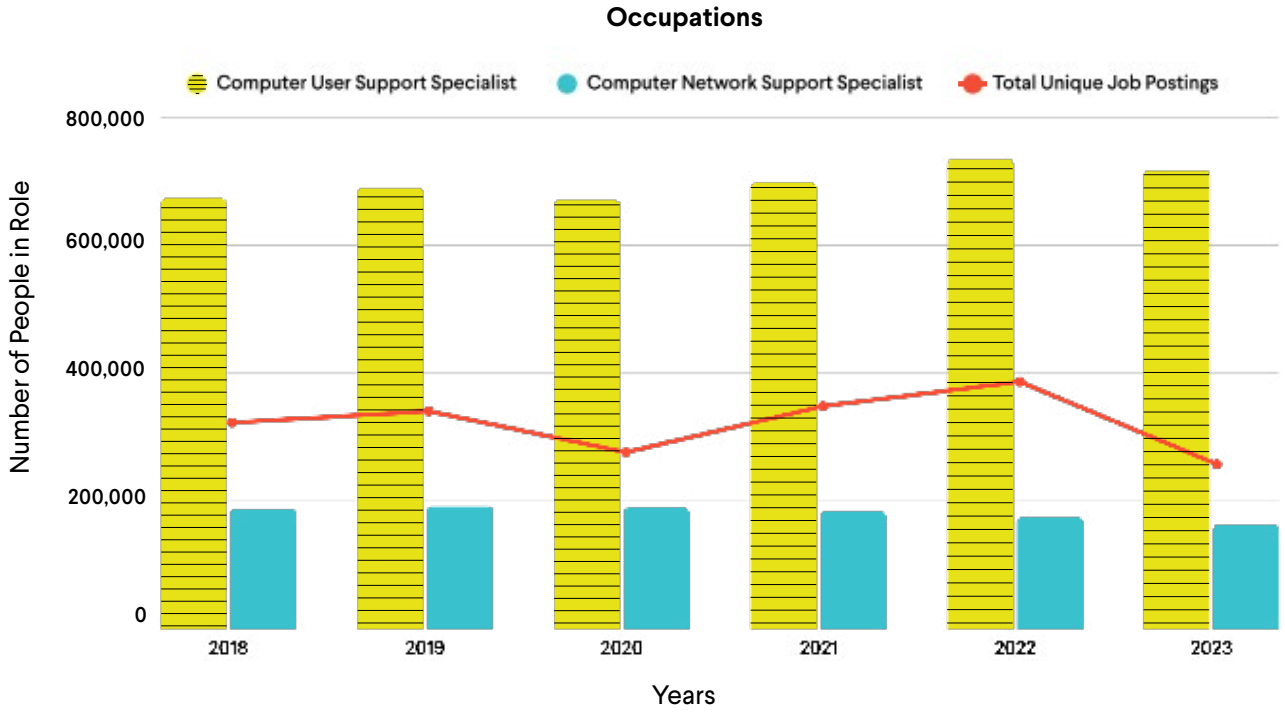
Background

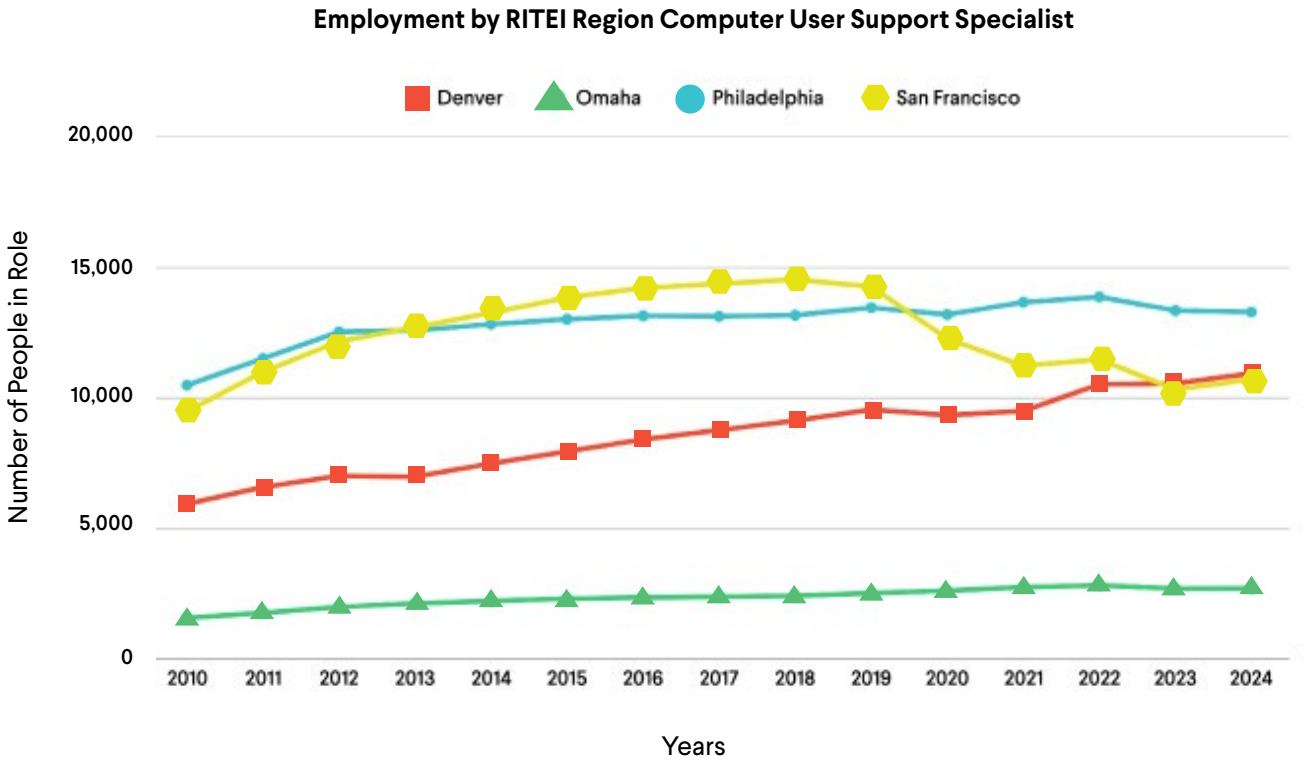
When the program was designed in 2020, early in the pandemic-driven recession, IT was one of the few fields where employment remained stable and demand recovered quickly. Labor market information at that time indicated that IT jobs were predicted to grow 11% through 2029, adding 4.4 million jobs nationally.

> JFF has built a strong foundation designing and deploying programs to support on-ramps to high-demand digital jobs. Learn more about JFF's digital jobs strategy here, which helped inform RITEI's focus on IT support as an entry point to the field.

Demand for IT workers expanded steadily from 2010 to 2020, driven by the digitization of business, the adoption of artificial intelligence (AI) and Internet of Things (IoT) tools, and the rise of remote work during the early years of the pandemic. To address this market demand for entry-level IT talent, JFF envisioned a model that made high-value programs, such as technology boot camps, more widely accessible by offering free virtual training opportunities. JFF targeted two IT occupations positioned to serve as the entry point to multiple career pathways: Computer User Support Specialist, with a median annual wage of $50,210, and Computer Network Support Specialist, with a median salary of $63,460.[2] These positions were projected to see 12% growth nationally through 2030.

National IT Support Employment and Job Posting Trends





The RITEI program model was built upon the hypothesis that removing the barriers of location and cost would increase access to training for workers underrepresented in the IT field and that local workforce partnerships would create the necessary supports to proactively identify potential obstacles and provide wraparound supports to mitigate them.

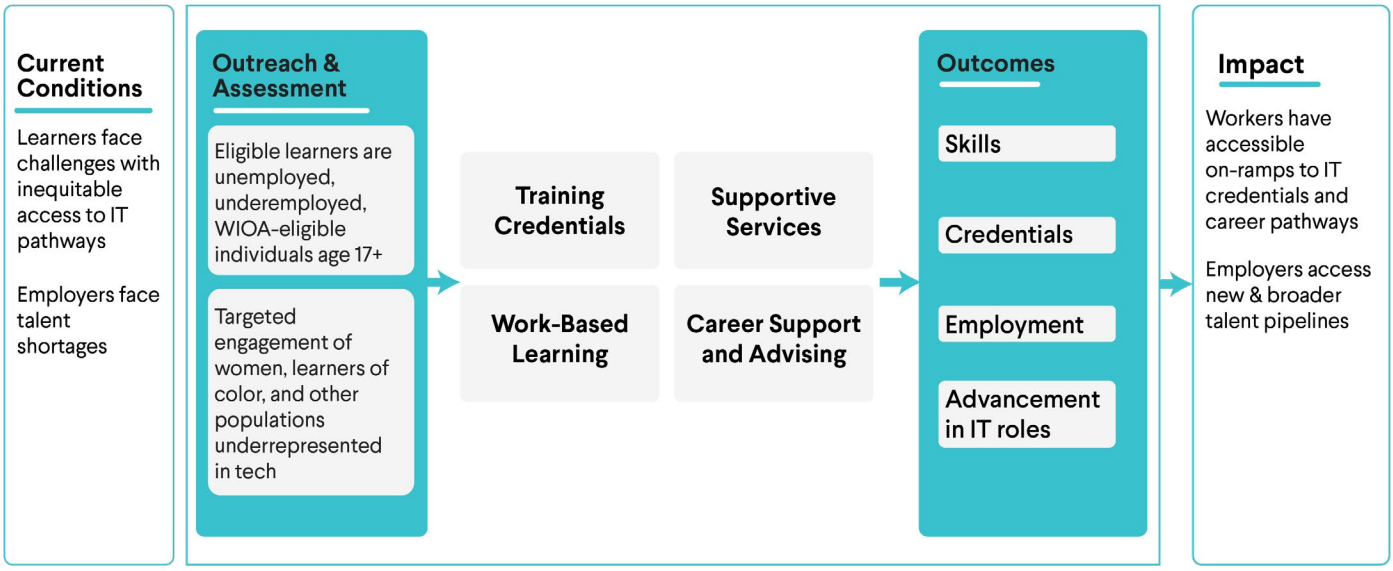
Key insights from the implementation featured within this report included:

- Increasing access to IT Support career on-ramps goes beyond providing free virtual training access.
- Comprehensive and multifaceted intake assessments to determine learner fit for the program and the specific resources that will best help learners succeed.
- A curriculum with hands-on learning opportunities and "push-in" counseling could increase learner engagement and persistence.
- Deploying work-based learning (WBL) can help to close the IT Support experience gap and ensure learners are more likely to find employment after training.
- Identifying changes in labor market conditions as they occur and enabling employers to evolve their contribution can help sustain long-term partnerships.

02.

The RITEI Model

The map below indicates how the inputs, interventions, and goals comprise the RITEI model. From outreach and assessment, eligible individuals accessed training, supportive services, and work-based learning opportunities, leading to IT Support-related employment and other positive impacts for participants and employers.



The RITEI model was built around two complementary credentials that prepare learners for entry-level IT occupations: CompTIA's A+ Certification and Google Career Certificates. CompTIA A+ was selected due to its reputation as one of the highest-demand credentials in the sector and the most requested credential for IT Support roles from October 2019 to October 2020. The Google IT Support Professional Certificate has been formally recognized by CompTIA as aligned with the A+ curriculum and offering foundational content that is highly accessible to those new to the IT field and those who need additional preparation before embarking on the rigorous A+ certification.

03.

Implementation Approach

The model was delivered at five implementation sites with distinct IT labor market contexts: Colorado Community College System (Denver); JEVS Human Services (Philadelphia); Metropolitan Community College (Omaha); TechSF (San Francisco), and Redemption Bridge (Dallas).

Following a proactive recruitment model, each site deployed learner assessments to help identify the most appropriate training option for each learner. Learners were also screened to identify wraparound support needs, including case management, tutoring, child care, transportation, and other services to support their success in the program. Sites were also tasked with connecting learners who completed training to paid work-based learning opportunities to meet employers' needs of hiring credentialed talent with workplace experience.

To implement the RITEI model and support the growth of a skilled IT talent pipeline, JFF drew on expertise from several national partners:

- CompTIA, to provide the training platform, data collection support, and expertise on the technology sector from their industry association.
- The National Association of Workforce Boards, to support outreach and coordination with local workforce boards to advance visibility of the initiative and integration with local workforce priorities.
- The AFL-CIO's Working for America Institute, to provide insights on national policy, provide connections to state and local organized labor, and disseminate lessons learned.

All sites implemented the same curricula, i.e., the CompTIA A+ and Google IT Support Professional Certificate. The table below highlights different implementation partners' processes, with best practices in bold.

Site Name	Organization Type	Intake/Assessment Differentiations	Training Delivery Method	Supportive Services Highlights	Work-Based Learning/Employment Highlights
Colorado Community College System (CCCS)	Community college system	North Star assessment; detailed intake form; **interview with success coach**	Virtual, with options for **synchronous virtual coaching**	**Coaching form for learners to engage** as needed; online community for learners	Sector partnerships; **Experiential learning platform** to recruit and coordinate WBL; career
JEVS Human Services	Community-based organization	North Star assessment; detailed intake form; **required initial coaching conversation as interview**	Virtual, with option for **hands-on lab**	Strong connection to CareerLink, local American Job Center; **"town hall" meetings for all participants**	Apprenticeship; **JEVS as internship employer**
Metropolitan Community College (MCC)	Community college	Completion of **career readiness workshop**; **National Career Readiness Certificate (NCRC)**; detailed screening	**In-person cohorts** with **paid seat time** using leveraged grant funds	Additional **supports for rent and utility assistance**; specialized Integrated Education & Training (IET) instructors	**Pre-training career readiness;** small and medium businesses; nonprofits; incumbent workers
TechSF	Mayoral entity and workforce board	North Star assessment; **referral partners** screened applicants, before recommending to TechSF for additional screening, including an **interview**	Virtual, with opportunities to use **community computer labs**	Comprehensive career coaching; **referrals across partner agencies**	**Pre-apprenticeship/ apprenticeship**; public sector; incumbent workers

Sites worked closely with learners to establish individualized training plans that reflected each learner's starting point in technical readiness, training enrollments and career goal alignment with potential training outcomes, and goal setting for what they hoped to achieve by participating in RITEI. The learner profile below illustrates an example of how learners moved through the RITEI model.

RITEI Learner Profile: Yassarely

Upon entry to RITEI, Yassarely was a 30-year-old customer service representative at an Omaha call center who began the program with a high school equivalency. Yassarely had a strong interest in an IT career and leveraged her extensive customer service experience but could not enter IT Support. She was eager to earn a credential to set her on a career-changing trajectory and eventually help her become an entrepreneur designing websites and applications.

Her interest in IT support began as she considered ways to create a better future for herself and her family. Her employer learned about the Metropolitan Community College's (MCC) RITEI training program, which offers structured learning and support services like stipends for training, access to Wi-Fi and a reliable computer, and resume writing, and encouraged Yassarely to apply. MCC assessed her for A+ training readiness and supportive service needs and then enrolled her in the Career Preparation Program, where she received career readiness training. Based on her readiness exam results, Yassarely enrolled in Google IT Support Professional training and obtained her certificate two weeks later. She then began CompTIA training, which she continued to work toward completing throughout the RITEI project. While in RITEI, she received one-on-one mentoring and career development support from MCC's Workforce Development Coach.

While Yassarely has not yet obtained her CompTIA A+ credential, her commitment to the training program and the support of MCC's RITEI team encouraged her employer to promote her to a team lead position. Upon completing the program, her current employer hired her for an IT Help Desk position.

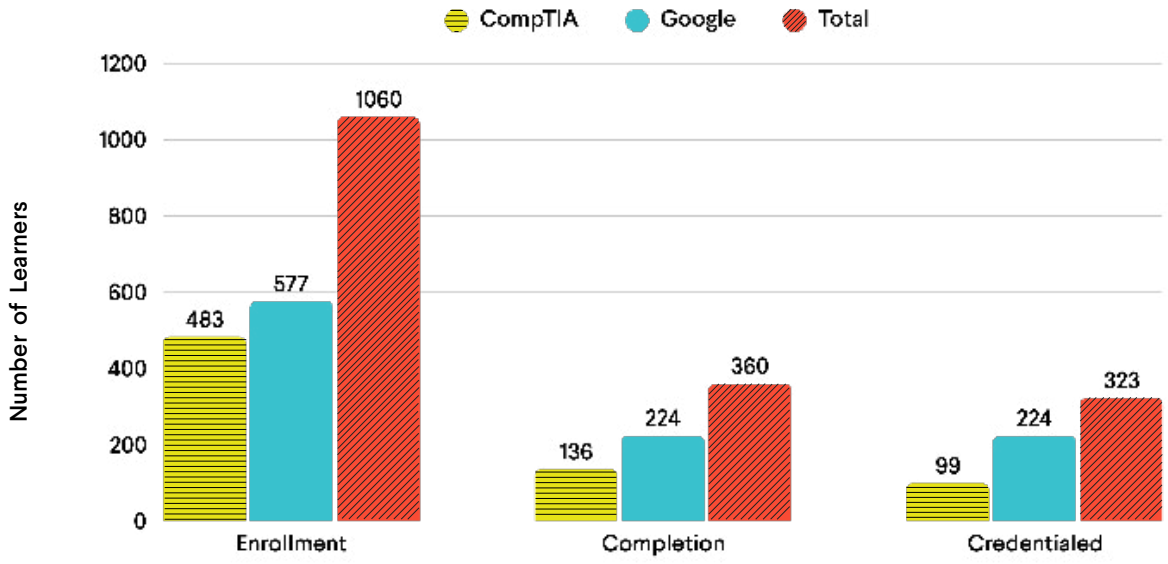
04.

Outcomes, Insights, and Implications

While RITEI successfully enrolled many job seekers in training, the program's completion, credentialing, and employment rates remained low throughout the implementation period. Sites continuously updated their implementation plans to bolster learner outcomes and support learners' completion of training and employment.

Sites and participants identified more substantial intake assessments, more customized and targeted wraparound supports, and personalized connection points to augment virtual programs as key components that boosted positive learner experience and outcomes. Further, at the program level, strong partnerships with regional employers and regular calibration to the local labor market are required to ensure that training can lead directly to a job. The insights featured below highlight key lessons learned from implementation.

Enrollment through Credentialing Outcomes



Assessing Readiness and Program Fit

JFF initially expected that if learners were adequately assessed for readiness and had the appropriate supports, most enrolled learners would complete training and become credentialed within a year.

After initially enrolling most learners directly into A+ training, sites pivoted to first enroll learners in the more foundational Google IT Support Professional Certificate and then offer completers the opportunity to begin the A+ training. Despite this shift, CompTIA A+ training completion and credentialing rates remained stagnant at 30%. High early stop-out rates continued into the program's third year, with 56% of enrolled CompTIA learners stopping out by week eight of seventeen. **Those who had the most success had completed college, with over 50% of learners who obtained an A+ certification or Google Certificate having at least a postsecondary degree.**

Despite the access to supportive services, learners indicated that "life circumstances," such as challenges finding stable housing and the conflict between paid work and training time requirements, were still the main reasons for stopping training.

In addition, interviews with learners who stopped out surfaced a misunderstanding between IT Support training and long-term career goals in software and application development. Some interviewed learners noted that they believed IT Support to be a strong on-ramp to more software or data focused tech careers. When they recognized a disconnect between IT Support training and their desired on-ramps to careers in

fields such as cybersecurity and application development, they ultimately stopped out of training.

The early stop-out rates indicate that learners were likely self-selecting out of the training once they delved into the content and recognized its time intensiveness and potential misalignment with their career goals. This pointed to a need for sites to apply a more **rigorous and layered intake and assessment process** to correctly identify participants who were ready for training in technical acuity but also in learning readiness, ability to consistently meet time commitments, and alignment with career goals.

To augment training persistence and support learners to meet training outcomes, CompTIA's instructional design evolved throughout the grant to include more synchronous supports. With this addition of synchronous supports and learning opportunities, RITEI experienced an uptick in completion rates. This indicates that for **asynchronous trainings, where synchronous supports are unavailable, learners should also be assessed for their comfort or previously successful experience with asynchronous learning.**

Implications:

- **Basic digital literacy screenings** (e.g., North Star, National Career Readiness Certificate) should be **complemented by relevant hands-on technical knowledge assessment** in an interview, performance task, or in-depth screening discussion with a case manager to determine foundational IT knowledge or proclivity. Digital literacy screenings alone are insufficient to determine readiness for rigorous IT credentialing training.

- **Identifying learners with postsecondary degrees** can increase the completion rate of IT Support jobseekers who can leverage their academic experience toward success in rigorous IT credentialing programs.

- **Assessment of time and commitment transparency** should be completed to determine whether learners can be available for the duration of the course. For example, RITEI requires applicants to be online during the day and time training will be held. Explicitly discussing requirements during the intake process and having participants sign a commitment letter can ensure transparency in time and other program demands.

- **Confirming relevant career experience and knowledge**, including individualized initial coaching, ensures learners are taking part in the best training to align with their career goals. Given the focus on customer service and support, the IT support field is distinct from other IT pathways. This should be discussed and emphasized at the onset of training programs for learners to ensure their goals are aligned.

Career Placement Program (CPP): This weeklong 40-contact-hour course served as an additional layer of assessment, showing an individual's commitment to the training program and persistence in attending and participating. CPP is the first piece of a learner's pathway when enrolling in an MCC Workforce Division training. It is comprised of five modules: work ethic certification, basic computer skills, customer service certification, mock interviews, national career readiness certification, and support in building resumes and cover letters.

Removing Barriers Beyond Location and Cost

As noted, the RITEI program was developed to increase access to the IT field, focusing on learners who are underrepresented in the tech workforce, including unemployed workers who were displaced by pandemic job loss. From the initiative's launch through January 2024, JFF enrolled 789 learners. **Overall, the demographics of enrolled learners demonstrated strong alignment with the program goal, attracting a group of learners with a range of racial/ethnic backgrounds, ages, and work experience levels.**

While Black and Latine workers comprise just 16% of the tech workforce nationally, according to CompTIA's 2024 State of the Tech Workforce Report, more than 40% of the RITEI learners identified as Black and Latine. While male learners were overrepresented among RITEI learners (61%), the percentage of female learners (35%) exceeded the national average for women in tech jobs (27%).

However, program-wide completion rates were lower than anticipated, and disparities in completion rates were also visible across different demographic groups. Training completion rates were significantly higher for white and male-identifying learners, underscoring the **persistence of these barriers and the strong need for targeted and customized supports and interventions** to drive positive outcomes for Black, Latine, and women learners.

Implications:

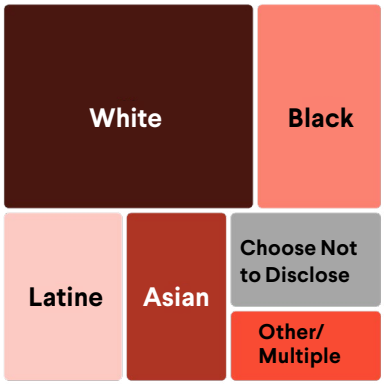
- **Braid resources to expand support offerings and offer learners compensation** to ensure they don't need to choose between employment and training.

- **Integrate structured community-building complements to virtual training**, such as group tutoring and peer support groups, to engage learners. Platforms such as GroupMe, Slack, and Facebook groups can be useful; however, programs must introduce community-building elements among learners one at a time to ensure they're fully utilized.

Data-driven case management: CCCS utilized data strategically to inform time and topic of intervention to support improved completion and credentialing rate. While these individualized services require intense staff capacity, CCCS's work highlights how implementation sites with experienced student success coaches saw significant advantages in learner engagement and retention.

Demographic Distribution of RITEI learners

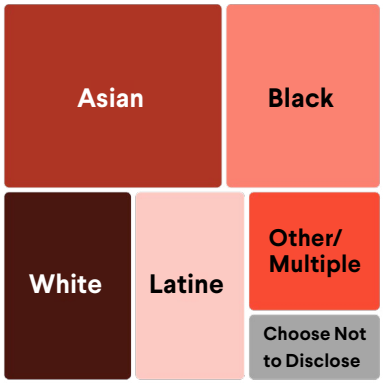
CompTIA Completers/ Credentialers by Race



- White | 37%
- Black | 18%
- Latine | 14%
- Asian | 13%
- Choose Not to Disclose | 11%
- Other/Multiple | 8%

Total: 104

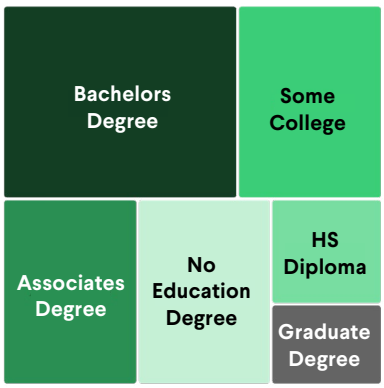
Google Completers/Credentialers by Race/Ethnicity



- Asian | 29%
- Black | 21%
- White | 17%
- Latine | 15%
- Other/Multiple | 12%
- Choose Not to Disclose | 6%

Total: 190

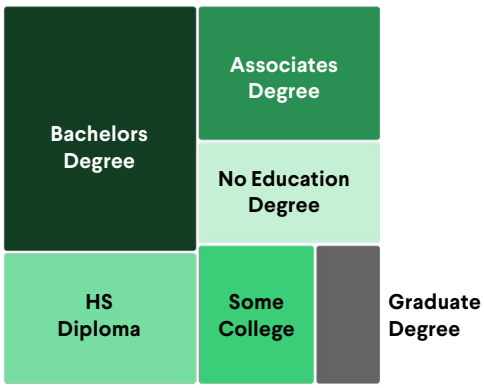
CompTIA Completers/ Credentialers by Education



- Bachelor's Degree | 32%
- Some College | 19%
- Associate's Degree | 17%
- No Education Degree | 17%
- HS Diploma | 8%
- Graduate Degree | 6%

Total: 98

Google Completers/ Credentialers by Education



- Bachelor's Degree | 34%
- HS Diploma | 18%
- Associate's Degree | 17%
- No Education Degree | 13%
- Some College | 12%
- Graduate Degree | 6%

Total: 173

Bolstering Learning Outcomes Through High-Impact Learning Supports

The exclusively virtual model also presented a challenge for learner engagement and persistence. One site modified the virtual model so that students could take virtual classes in a shared environment with access to academic support staff during class time. Overall, the self-guided and self-paced models would benefit from **hands-on labs and push-in coaching**.

In surveys and focus groups, **learners highlighted the limitations of online training. They expressed interest in incorporating a hands-on hardware component**, offering opportunities to disassemble towers, printers, and CPUs. One learner who left the program said, "I definitely think with IT, having a hands-on experience or just seeing it live, actually being performed, is the best way I can learn." While virtual learning eliminates the need to attend training in a physical location, **hands-on learning would have enabled learners to apply the coursework, enhancing information retention** and likely **improving completion and credentialing rates.**

Implications:

- **Ensure that learners have access to hands-on labs, not just a virtual simulation of the labs**. Hands-on refers to actively problem-solving with tactile tools and materials. By incorporating these opportunities throughout the training, learners can bridge theoretical applications with real-life scenarios and practice their newly acquired skills.

- **Proactively engage with learners who are struggling or at risk of stopping out, and provide support at targeted points in the training.** For instance, 50% of CompTIA learners who stopped out did so by week 8 of the training. A similar trend was observed with Google: among those who completed half the modules, 87% ultimately earned the certificate.

Hands-On Lab: JEVS utilizes a hands-on lab, which allows RITEI learners to receive in-person academic supports and opportunities to practice resolving hardware issues.

Bridging the IT Support Experience Gap with Work-Based Learning

Some sites anticipated serving job seekers without postsecondary education and with limited work experience, who were seeking training into a professional career. To assist these career novices in meeting employers' expectations regarding work experience for job candidates, RITEI's model incorporated work-based learning opportunities. However, enrollment data indicated that **learners had higher levels of education and more career experience than anticipated.**

More than half of enrolled RITEI learners reported having at least some college or technical training post-high school, and 46% reported that they had already earned a postsecondary degree. Additionally, approximately 65% of RITEI learners had at least six years of work experience when they entered the program, and nearly 40% had over ten years of work experience. However, only one-quarter of RITEI learners reported prior IT work experience, suggesting that a significant number of learners were making a career change.

Despite years of non-IT work experience, without established WBL and employment pathways through local employers, career changers completed the training without a portfolio to present to potential employers. **Pairing applied skills with an expanded professional network would have led to better employment outcomes.**

Sites found that employers were not only raising their qualifications for entry-level IT support positions, but that they were also less interested in establishing work-based learning opportunities than anticipated. **Without WBL opportunities, learners completed RITEI training, obtained a credential, and still faced the experience gap when applying for IT Support jobs.**

Implications:

- **Infuse WBL opportunities at key touchpoints throughout the course**, ideally during training and after completion. Opportunities should align with the academic touchpoint (i.e., project-based internships to mirror applied learning goals or apprenticeship as an on-ramp to employment post-training completion). WBL opportunities not only bolster retention of the material learned but also provide the hands-on experience that most employers seek when hiring for full-time positions.

- **Stack work-based learning opportunities** of varying length and intensity, ensuring **learners and employers have multiple opportunities to connect.** Learners must **develop career awareness** throughout the program while **building their IT social capital.**

- **Incentivize employers to offer paid, supported work-based learning opportunities** to ease the financial requirements on community partners for training the next generation of IT talent. Expanding apprenticeship and work-based learning opportunities will require increased investment from federal, state, and philanthropic stakeholders to incentivize employers to offer these opportunities at scale.

Planning Ahead for the Transition from Training to Employment

While employment rates for completed learners remained low, when surveyed six months after training, **approximately one-third of surveyed learners felt more hopeful about their professional future**, and approximately one in ten said they got a new job or a promotion because of the RITEI training. This demonstrates that participating in an IT credentialing program can **reinforce a learner's interest in IT careers and improve confidence in their career outlook.**

Sites leveraged labor market data and deployed targeted strategies to recruit employers to hire learners for work-based learning opportunities and regular employment. Though data pointed to postsecondary degree neutrality and an emphasis on the A+ credential, sites found that employers were primarily seeking entry-level candidates with relevant bachelor's degrees and IT support experience. While sites used labor market data (LMI) to inform their program implementation, **more frequent labor market assessments** and more resources and support designated for **relationship-building with local employers** enables programs to **increase employment opportunities for learners.**

Implications:

- **Regularly assess and calibrate programs to regional labor market needs.** At a minimum, programs should conduct quarterly LMI updates (e.g., reviewing job posting data, projected occupational growth, and hiring trends) to provide an up-to-date picture of the job market. Regular discussions with regional employers validate the findings from this data and offer a more nuanced understanding of local trends.

- **Establish employer advisory boards to align training with local needs.** Integrating a training program into broader regional efforts (e.g., a sector strategy initiative) can create a mechanism for regular engagement with local employers. Additionally, identifying and recruiting "anchor" employers who can advise on the program model and engage with learners at various commitment levels that offer career exposure, mentorship, portfolio-building, work-based learning, or sustained employment opportunities. Establishing varying levels of engagement for employers can help maintain their involvement in the program during labor market fluctuations.

Employer informed strategy: TechSF and partner JVS co-hosted a tech roundtable event to gather real-time insights from tech recruiters and hiring managers on the status of IT support roles and other entry-level tech pathways. Participating companies vetted regional labor market data and offered concrete recommendations to strengthen IT on-ramps to inform ongoing program implementation and refinements.

05.

Conclusion

When JFF launched the RITEI program, we envisioned transforming elite training programs into a tool that any learner could access to pursue IT pathways with strong earning potential and opportunities for advancement. Recruitment and enrollment demonstrated considerable potential for engaging a broad and varied population of learners, and the learner experience survey underscored the necessity and value of scalable training models like this one.

It's important to note that the anticipated boost in entry-level tech opportunities created by the pandemic did not happen at the level we expected. However, given the overall projected industry growth trends, removing barriers and widening opportunities for entry-level jobs in IT have strong potential to help people facing barriers to advancement achieve economic mobility.

As we look to the future of workforce training, it's clear that a successful, comprehensive, scalable model like RITEI must prioritize skills development and practical experience to ensure participants are job-ready. Establishing robust work-based learning opportunities, alongside strategic employer partnerships, will be crucial to enhancing employment outcomes. Addressing disparities in completion rates remains a priority, and further customization of resources to meet learners' specific needs will improve retention and success.

By incorporating these lessons into the next iteration of RITEI, we can continue to adapt to the evolving labor market, making IT careers more accessible to learners and workers across the nation. This initiative underscores the importance of an open, sustainable approach to workforce development that truly empowers individuals and responds to the demand for skilled IT professionals.

Endnotes

1 The RITEI initiative spans February 2021 through September 2025. However, because of limitations in data availability, some analyses only capture RITEI learner progress through January 2024.

2 U.S. Department of Labor, Bureau of Labor Statistics. “Occupational Employment Statistics.” May 2019 Occupation Profiles. https://www.bls.gov/oes/current/oes_stru.htm#15-0000

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