

The Urban Technology Project: Apprenticeship Training Program Case Study



Quick Facts

CREDENTIAL

Journeyman Certificate: Internetworking Technician; college credit toward associate degree in computer science

POPULATION

Economic Opportunity Youth, ages 18–24; Entry-level workers in information technology (IT)

OUTCOMES

121 registered to date; 46 completed apprenticeship; 40 currently working in IT field
Apprentices with disabilities: 3 observable and many unobserved and undiagnosed
Average earnings: \$13/hour non-unionized apprenticeship / \$25/hour apprentice graduate
Key demographics: 80% male, 20% female; 53% African American, 20% Hispanic, 20% Caucasian, 6% Asian, 1% American Indian/Alaska Native

FUNDING

US DOL H-1B, School District of Philadelphia, American Apprentice Initiative grants, PA DOL, JobWorks, and diversified local matching funds

KEY PARTNERS

Communities in Schools of Philadelphia
JobWorks, Inc.
Community College of Philadelphia
A growing number of private, public, and educational entities

About the Program

The Urban Technology Project (UTP) is a joint enterprise between Communities in Schools of Philadelphia and the School District of Philadelphia. Through meaningful experiences working with technology that link youth leadership, education, and community building, UTP's goal is to empower youth in Philadelphia and their communities.

The focus of UTP is on "opportunity youth" – young people between the ages of 16 and 24 who are not currently working or in school. UTP is not focused specifically on individuals with disabilities, although over the years it has supported a number of participants with disabilities. UTP's success in serving a population that experiences various challenges can serve as an example for public vocational rehabilitation (VR) systems in building pre-apprenticeship and apprenticeship programs, as well as creating awareness about the benefits of VR partnering with programs like UTP.

UTP began as an urban after-school program at Edison High School in the Olney section of Philadelphia. Edison Friere, a science teacher at Edison High, recognized that bilingual students with limited English skills were often disengaged and disconnected. In 1995, Mr. Friere founded Latino Tech, an after-school club where students learned how to fix and refurbish computers. The computers were then donated to community organizations, or the students took the computers home for their own use. Integrated within the program were efforts to improve the students' English language skills.

As Latino Tech grew and began to include young people outside the Latino community, it was renamed Urban Tech and evolved into a pre-apprenticeship and apprenticeship program. UTP now serves a diverse population of hundreds of community members in dozens of schools throughout Philadelphia. The Corporation for National and Community Service provided support to Mr. Friere to become a master learning serve teacher, which served as a catalyst for the program's expansion.

UTP is comprised of two programs: Digital Service Fellows (DSF), a 1-year AmeriCorps pre-apprenticeship, and IT Apprenticeships, a 2-year registered apprenticeship program.

The DSF pre-apprenticeship program, which started in 2003, is for recent Philadelphia high school graduates, ages 17–24, who are interested in information technology (IT). In DSF, participants initially meet with a technician or a computer support specialist (CSS) who shows them what is needed to complete the program. The 24 DSF participants train directly with a school district IT professional for a full year. Participants receive mentorship in how to repair computers, how workflows and systems are set in an organization, IT project management, and other skills for being a good field support technician.

Most learning occurs on the job. The on-the-job training is supplemented with training towards IT industry certifications. Soft skills training is also provided, as well as

enrollment in computer courses at the Community College of Philadelphia. Participants also serve in the community and schools to share what they are learning, leading and supporting in-school and after-school technology clubs, as well as providing technology trainings for students, teachers, and parents.

Digital Service Fellows receive a stipend, and after completing their year of service, each receives a \$5,730 education award that can be used at any accredited learning institution.

DSF participants who excel are given an opportunity to interview for the registered apprenticeship program. The CSS program is the longest standing apprenticeship program at UTP, and was approved as a registered apprenticeship program in 2005 by the Pennsylvania Apprenticeship Council. Via funding from the US Department of Labor's American Apprenticeship Initiative, a quality assurance (QA) specialist has recently been added as a new occupation to the IT Apprenticeship program, and is in a start-up phase. UTP is also in the initial stages of developing a project management apprenticeship.

Participants in the CSS apprenticeship are recruited from the DSF pre-apprenticeship program and from school district technology programs. All IT apprentices at UTP complete over 5,100 hours of hands-on work experience, 463 hours of related technical instruction, and 1 to 3 certifications.

While participating in the program, individuals provide technical support to Philadelphia schools and the UTP central office. Schools reach out to UTP on their needs for technical assistance. CSS participants are then paired with a school in Philadelphia, and the school pays for the position. CSS participants are supervised and mentored by each school's Technology Teacher Leader and administration. CSS apprentices learn the ins and outs of what type of technology the school has and how to support it. The support skills that CSS apprentices learn and practice include instant troubleshooting, placing a service ticket with the district, ordering of parts, and fixing equipment once the parts arrive.

An innovative component of the CSS apprenticeships program is mentorship of middle and high school students through the school district's summer activities, where CSS participants teach these students basic computer repair skills. They also lead or assist with after-school technology clubs, and provide technical support for conferences in the Philadelphia area.

Key Features

- The pre-apprenticeship program feeds into the registered apprenticeship program, allowing for continuation of participants in building knowledge.
- College credit is earned towards an associate degree in computer certification.

- Through on-the-job training, participants can earn industry-standard certifications.
- Workers receive a wage increase after completing the pre-apprenticeship and entering into the registered apprenticeship phase.
- Skills learned are crucial in preparing participants for IT jobs, which are prominent 21st-century careers.
- Apprenticeships are added and evolve based on industry demands.

Alignment of UTP with Key Case Study Criteria

In development of the work experience case study series focused on apprenticeships, pre-apprenticeships, and internships, the JD-VRTAC identified 5 key criteria for best practice:

1. Paid work experience
2. Involves a business partnership
3. Provides development/support of participants
4. Involves a career pathway
5. Evidence of successful outcomes

These criteria are important in increasing access to work-based learning, building real-world skills, providing career opportunities once the experience is complete, and helping employers to meet their needs for skilled workers.

Paid Work Experience

The UTP pre-apprentices and apprentices earn wages, paid by the Philadelphia school district. Participating schools invoice the department for the wages, which are paid every 2 weeks and total up to \$23,660 (apprenticeship) and \$12,630 (pre-apprenticeship) annually.

The CSS apprenticeships are full-time positions with embedded milestones that participants need to achieve to proceed with training and to increase their wages. Each time an individual achieves a certification, the worker's salary increases by \$1,000. The funds for wages come from a multi-agency partnership. The primary source is the School District of Philadelphia (\$1,056,000), along with funding from the American Apprenticeship Initiative Grant (\$22,111), PA Department of Labor & Industry Pre-Apprenticeship/Apprenticeship Grant (\$109,028), PA Department of Labor & Industry ApprenticeshipUSA Expansion Grant (\$50,000), and Workforce Innovation and Opportunity Grant On-the-Job Funding (up to \$52,650).

Business Partnerships

The UTP is a product of strong partnerships with businesses. The key partners include School District of Philadelphia, Children's Hospital of Philadelphia, Philadelphia Office of Innovation and Technology, Springboard Media, and String Theory Schools. Key partners provide training resources, curriculum development, external workplace experiences, meeting/event locations, vendor-specific training, industry input and

feedback, and job opportunities post-apprenticeship. These businesses see the value in developing their workers to fit their businesses, and seem to have a strong sense of social responsibility.

“They (business) like the model. They see the benefit of apprenticeship. They see, obviously time and money goes into train someone; so if they are able to cultivate somebody from the ground up, they like the option to pull somebody’s train and hit the ground running and it’s more or less they try to acclimate them to the business, to the product of that company. And then they also see the loyalty from the apprentice. So that’s one reason. They also want to give back to the Philadelphia community and they see the benefit to hiring a former Philadelphia public school graduate. Most of our apprentices are graduates of the Philly public schools.” – Beth St. Clair, UTP Program Manager

Development and Support of Participants

The program provides an easy-to-follow structure and clear expectations for students that are outlined from the beginning and in their contracts. For the apprenticeships, students are expected to complete the following, which are paid for via program funds: 3 computer science courses at Community College of Philadelphia, 3 industry-standard certifications, and 5,100 hours of on-the-job training.

The program supports students by allowing them to choose how they will complete their education hours, by providing accommodations, and by offering support services. The most common supports include referrals to open-source educational venues such as Udacity, access to ASL interpretation, support with creating physical accessible workspaces, access to affordable therapists and time off for therapy sessions, alternative activities for persons who need cognitive accommodations, and vouchers for certifications. Support also includes in-person trainings once a month with participants. Staff from JobWorks (a workforce development program) provide training on topics such as resume development, interviewing, and networking. One-to-one guidance support is also provided.

Apprentices are informed of and encouraged to use online discussion forums. The CSS apprenticeship program has its own forum where students post questions about problems they encountered and learn from other apprentices. The forum is available via a phone app, so dialogue is constant and ongoing, with topics ranging from technical questions to updates on meetings, events, etc.

Program manager Beth St. Clair commented on the importance of the online forum in terms of building a community among the apprentices: “I think it’s being really helpful and I think the CSSs feel more as a whole because (they) are in several places and they meet only once a month and that’s it. Now they have this constant communication with each other. We share resources or different style of new tactics, all that stuff, so it’s more like a community for them.”

Career Pathways

Building credentials is a key component of UTP, with incentives as noted for achieving industry-recognized credentials. UTP staff approaches partners who may fit the philosophy of the program and can help with career development. The program also organizes guest speakers and employer tours to help students understand IT careers, and steps for improving skills and wages over time.

UTP staffers strive to develop more business partnerships, especially with businesses who have a structure and willingness to offer a career pathway. Spring Board Media hires some of the apprentices and provides them with wage increases for continuing to learn and attain professional certificates while working for the company. Local universities such as Temple and Penn also provide job opportunities. Staff conduct employer outreach on a regular basis, including each year at Philly Tech Week, an event focused on innovation and technology in the greater Philadelphia area.

Successful Outcomes

Since UTP is a school-based program, student progress is mostly tracked through the school system via graduation rates. For DSF pre-apprenticeships, there is typically an 80% placement rate among graduates. In terms of the apprenticeship program, since its inception, UTP has enrolled 121 apprentices; 46 completed the program, 40 had apprenticeships in the IT field, and at least 3 had a disability. If the apprentices are invited back to work and learn in the same school each year, the program considers that a measurable positive outcome. Upon graduation students find employment in partner businesses or with their help, as well as with the help of the UTP staff. Anecdotal data show strong retention rates, as individuals tend to stay in the same job they get through UTP.

UTP: Lessons Learned and Keys to Replicating this Model

Keys to Success

1. Pre-apprenticeship leading to apprenticeships – UTP is a comprehensive program that uses the pre-apprenticeship program to prepare students to succeed as apprentices.
2. Linkage with employers and industry standards – The program has good partnerships with local employers, leading to a clear understanding of evolving industry demands, and development of industry-based credentials.
3. School partnerships – The partnership with schools is seen as a “win-win” in terms of providing IT support to schools in a cost-effective manner, while developing the skills of the participants.
4. Leadership skill development and community building – UTP participants work with middle and high school students in after-school and summer programs, which promotes individuals’ self-esteem and connection with their communities.
5. Mechanisms for engaging participants – UTP has been comprehensively designed via mentorship, peer-to-peer supports, leadership development, and

other components to ensure that youth are fully engaged and connected on an ongoing basis.

6. Support services – Participant support needs are identified, and support is customized to meet those needs.
7. Vision, ongoing development, and evolution – UTP began with a vision of engaging “opportunity youth” who are often disenfranchised, and has maintained that vision while continuously developing and evolving the program over time, from an after-school computer club, to a full-scale regional apprenticeship program that continues to add new components based on industry need.

Implementation Challenges

1. Annual funding for apprentice positions – Funding of apprenticeships is an ongoing challenge that needs to be addressed year-to-year.
2. External partnership expansion with Philadelphia employers – UTP has come to rely on a core set of employers, and has experienced challenges in moving beyond this core group. Engaging of tech start-ups has been a particular challenge.
3. Apprentice time management – Some apprentices experience challenges in regards to managing their work experience tasks in combination with their other apprentice activities, and personal demands, from a priority-setting and time management perspective.
4. Training and Related Technical Instruction (RTI) schedule – The training and RTI schedule can conflict with project deadlines and technical support demands at work sites.
5. Social barriers for apprentices – A significant number of individuals are from challenging socio-economic circumstances, having experienced homelessness, poverty, domestic abuse, and lack of access to food. This can create barriers in the workplace between these apprentices and their coworkers who have not experienced these challenges.
6. Technical support in an ever-changing environment – The field of IT is constantly evolving, which creates challenges in ensuring that apprentices are properly trained in a way that is fully responsive to employer requirements.
7. Finding mentors – Mentorship is a key piece of UTP success, and there are ongoing challenges in finding mentors with sufficient technical expertise who also have good mentoring skills.

Replication Tips

1. Strong partners – Identify partners/employer host sites that understand and are committed to mentorship and apprentice development. Work with host sites and provide clear guidelines on quality mentorship and apprentice development, as well as ongoing support.
2. Do not expand sites too quickly – To ensure consistent quality and participant success, it’s important to expand the number of sites thoughtfully and not too quickly.

3. Focus on documentation and tracking apprentice development – Consistent data collection and documentation is important to ensure that apprentices are developing necessary skills, and also as part of ongoing quality improvement.
4. Develop holistic curriculum – Curriculums should not simply focus on technical skills, but also on soft skills such as time management, being an effective team member, work/life balance, job search skills, etc. Opportunities for building leadership skills and becoming a positive community member are also important components.
5. Build a comprehensive budget – Create a budget that fully accounts for all costs, including apprentice salary, training needs, education, and support needs. Diversified funding streams are important in this regard.
6. Ask for in-kind support from potential partners/employers – In-kind support from potential partners/employers in terms of equipment, staff assistance with training, use of space, etc., can expand the resources available to support the program.
7. Develop an alumni network – A network of former participants can help with identifying new partner/employer sites, finding mentors, recruiting guest lecturers, and having alumni provide ongoing peer support to each other.
8. Be creative in program design – UTP’s use of the AmeriCorps model for pre-apprenticeship is a good example of being creative in terms of integrating technical skill development and leadership development.

Opportunities for Public VR

UTP offers numerous “lessons learned” that can help VR agencies in developing and partnering on pre-apprenticeship and apprenticeship programs. Programs like UTP can be of great benefit to VR clients, and VR agencies should identify such programs in their service areas as options and determine how to access them.

Specific strategies include:

- Working with programs like UTP to ensure VR clients are given full consideration and provided necessary accommodations in the screening and eligibility determination process for these types of pre-apprenticeship and apprenticeship programs.
- Being clear with programs like UTP about the variety of services and supports that VR can provide to ensure individual participant success.
- Stress with programs that VR can assist with business relations, emphasizing that VR is responsive to employer needs and provides business support services. VR can also link to businesses that programs like UTP may not have previously had access to.
- Consider how pre-apprenticeship programs like UTP may align with VR Pre-Employment Transition Services.

UTP: Local and National Awards

- Daily Point of Light Award - 1999
- Designated by the Corporation for National and Community Service as a national service learning model - 2001

- Recognized by the School District of Philadelphia as an Information Technology Best Practices Model - 2005–2006
 - Featured in Apple Corporation’s Profiles in Success website
 - Need in Deed Community Partner Award - 2011
 - Edison Freire, co-founder of UTP - National Youth Leadership Council’s Alec Dickson Servant Leader Award - 2007
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Participant Perspective: Billy

Billy learned about UTP from his technology teacher and decided to try it. He went through an application process that consisted of a questionnaire and interviews. He found the questionnaire to be straightforward, inviting him to think about his motivation for the program and a career in the IT field. The interview was hard for him, but he has since learned quite a bit about interviewing and now assists with interviewing new potential candidates to the program.

For Billy, this apprenticeship program provided a sense of direction and feeling of being a competent problem solver. He also found the program to be a good testing ground for work and college environment. In this process, he also overcame his fear of public speaking.

“I love it. When I was at the end of high school and my sort of first year and a half I worked at (a dollar store). I hated to go to that job. Every day I woke up to come here, I wake without a problem: ‘All right, let’s go to work, let’s have some fun.’ Because doing this job, doing this career job it teaches you something new almost every day. Like I can get a call and it can be something that I might fix like that, or it can be something that I have to bend my head against for three hours and I am ok with that. Because at the end of these three hours I’ve learned something new and I can pass that on to somebody else, use that information to make somebody’s else life easier whether is a teacher here or my apprentices, anything like that. So it changed my life for better. I feel like as a person, I’ve grown so much.”

“You can spend one year doing this. You are getting a stipend. You get an educational award which you can put towards into education afterwards and you get the feel of the real work service experience; and you get to see how everything essentially works and say, ‘Okay, is this career path correct for me?’”

Participant and Employer Perspective

In October 2016, as part of National Apprenticeship Week, the US Department of Labor published a blog post that focused on Derek Schwartz, an individual working at Central High School through the UTP computer support specialist apprenticeship program, and is hard of hearing. In his comments, Derek noted that the apprenticeship has not only

provided him technical training, but has also taught him “how to be professional in the working world as a person with a disability.”

Derek discussed the accommodations and supports he has received. “As I am hard of hearing, everyone at my workplace knows to speak directly towards me so I can hear them and read their lips. They don’t mind repeating things or speaking clearly and not too fast. At meetings, there are visuals and/or notes handed out or projected onto a screen; this way I don’t have to fully rely on reading lips. Most of all, everyone has been very understanding about the fact that I can’t hear like them, and they are open minded and supportive.”

In commenting on the experience, from his perspective as an employer, Timothy McKenna, the president of Central High School, stressed the positive impact of having Derek as an apprentice: “Derek has stepped up to support parents, faculty members, and students. His disability never gets in the way of his work or commitment to the Central High School community, and in fact, having him on board has been beneficial in helping our faculty and students learn more about how to effectively communicate with someone with a hearing disability.”

Source: Cunningham, N. (2016). #Apprenticeship Works for Inclusion, US Department of Labor Blog, November, 24, 2016 - <https://blog.dol.gov/2016/11/14/apprenticeshipworks-for-inclusion>

For Additional information:

Beth St. Clair, UTP Apprenticeship Director: estclair@cisphl.org

- Urban Technology Project Website: <http://utp-philly.org>
 - USDOL blog featuring UTP participant who is hard of hearing: <https://blog.dol.gov/2016/11/14/apprenticeshipworks-for-inclusion>
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