



A COMMUNITY COLLABORATION FOR YOUTH APPRENTICESHIPS IN ADVANCED MANUFACTURING

A CASE STUDY OF GUILFORD APPRENTICESHIP PARTNERS

By James Bartlett

Guilford County, North Carolina, in the heart of the Piedmont region, was once a textile and furniture manufacturing hub. It remains the state's largest manufacturing center, with nearly a half million residents, about half of whom live in the county seat, Greensboro. With two universities and Guilford Technical Community College, Guilford has been growing its advanced manufacturing sector.

In 2012, the Greensboro Chamber of Commerce, along with the Greensboro-High Point Guilford County Workforce Development Board, commissioned a survey of local employers and discovered that 79% were having difficulty hiring for specific positions. Of particular note was the challenge of finding workers with the technical skills needed to fill jobs in aviation and advanced manufacturing. These jobs, which offered starting salaries of \$50,000, took 6 to 18 months to fill and often were filled by candidates from outside the area.

The 2012 survey provided critical information that has driven business, education, and nonprofit leaders in the Guilford area to work together to build the workforce that the region's employers need to compete in the global economy. In 2014, the Community Foundation of Greater Greensboro worked with local partners and the National Fund for Workforce Solutions to launch the Triad Workforce Solutions Collaborative, a funding collaborative focused on addressing the region's workforce needs. Among the key initiatives supported by the collaborative and the National Fund is the Guilford Apprenticeship Partners (GAP), a program that connects area youth with career opportunities using the Registered Apprenticeship model (see sidebar).

GAP, which launched the apprenticeship program in 2015, sponsors apprenticeships in four occupational areas: advanced manufacturing, aviation mechanics, IT/cybersecurity, and service technician (HVAC, electrical, and plumbing). The program was expanded in 2017, when

“People need to tell high school students that this is an option to a great head start: a solid, stable job and a foot in the door.”

- GAP Apprentice

Registered Youth Apprenticeships

A registered youth apprenticeship is “an industry-driven education and career-training program based on recognized industry standards” (North Carolina Community Colleges, 2019). Youth apprenticeships, which serve 16- to 24-year-olds eligible under the federal Workforce Innovation and Opportunity Act, allow employers to address workforce needs by partnering with industry, educational institutions, and government. Apprentices earn both a state and federally recognized credential. In 2018, North Carolina had 7,039 active apprentices across the state (Department of Labor, 2019).

the North Carolina General Assembly awarded the Triad Workforce Solutions Collaborative \$3.2 million to increase workforce development programs for the youth from Guilford and three neighboring counties (National Fund for Workforce Solutions, 2017). This case study focuses specifically on the advanced manufacturing apprenticeship, but many of the components of the program and the factors that contribute to its success are similar across the four areas.

Guilford Apprenticeship Partners: Overview

GAP has created a highly successful youth apprenticeship program, in which high school students participate in a paid learning experience that leverages work and college to prepare them for careers.

GAP's success is in part due to the participation of multiple stakeholders, including founding partner the Community Foundation of Greater Greensboro, the Greensboro and High Point Chambers of Commerce, Guilford Technical Community College, Guilford County Schools, and many local businesses that sponsor apprentices (see GAP Employer Partners on Page 3). GAP has played a key role in engaging business leaders with the area's education leaders to build a strong apprenticeship program.

High school juniors and seniors may apply to participate in the apprenticeship program. Potential apprentices must demonstrate academic competency and successfully navigate a behavioral interview to be accepted into a six-week summer pre-apprenticeship program. Following the pre-apprenticeship program, firms select participants for the registered apprenticeship program. (Not all students will be interested in a full apprenticeship and not all firms will hire all of the pre-apprentices they employed over the summer.)

Students who complete the four-year apprenticeship program are awarded an associate degree from the community college and a journeyman's certificate. Students exit the program with a job that pays a living wage and no college debt.

Program Structure

To participate in the apprenticeship program, students must complete the application process, participate in the pre-apprenticeship program, and then be selected for the apprenticeship program. Figure 1 shows the pathway for apprentices that apply in their junior year, complete the pre-apprenticeship the following summer, and then start the apprenticeship in their senior year. These students attend a half-day of high school and work a half-day at the company for which they are apprenticing throughout their senior year. For students that apply in their senior year, they complete the pre-apprenticeship program during the summer after graduation and start the apprenticeship in the fall. A major benefit for students who apply to participate in the apprenticeship program while in high school is that they receive tuition waivers at the community college as long as they transition into a registered apprenticeship within 120 days of graduation (North Carolina Community Colleges, 2019).

Application Process

The application process for the apprenticeship program is highly competitive. In the first step of the process, students must attend an open house at a GAP business partner location with a parent or guardian. This increases parental engagement and support for the students and provides an opportunity to learn about the work setting.

To apply, students must show academic competency and commitment (see Academic Requirements for Apprentice Applicants on Page 3). Additionally, applicants are asked to explain why they are applying for an apprenticeship,

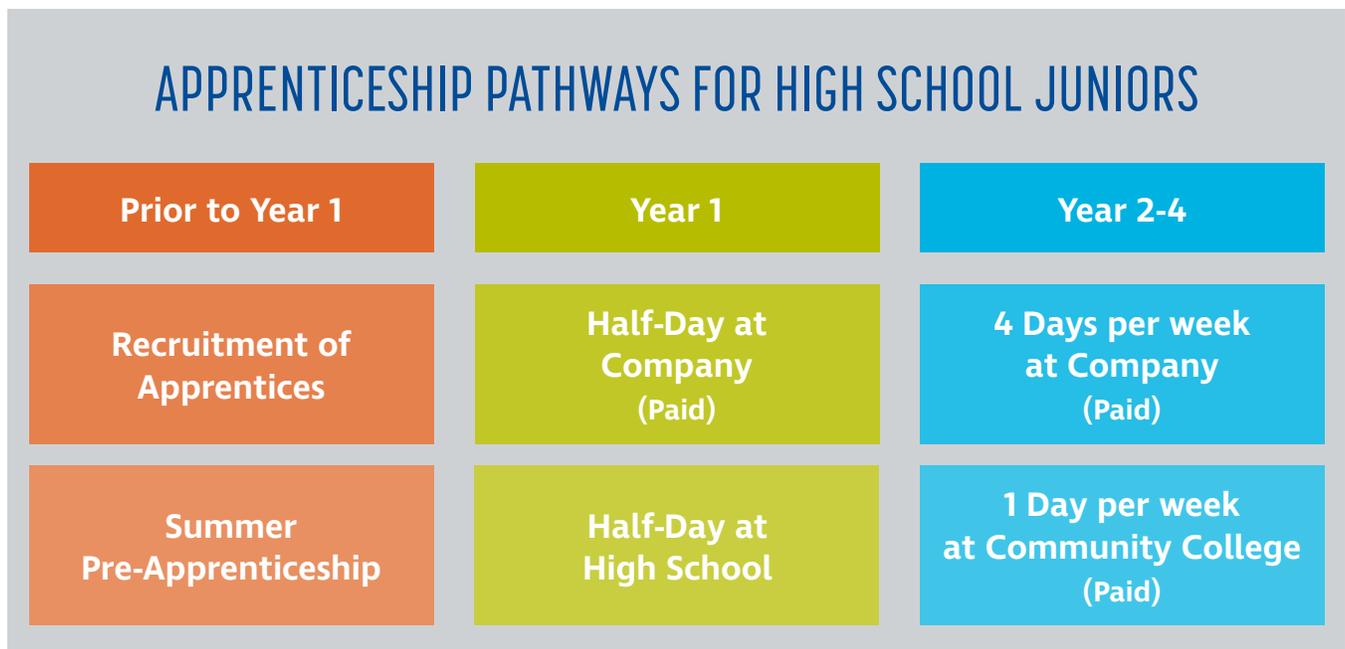


Figure 1. Model of Apprenticeship Program Blending School and Work

the skills and abilities they bring to the program, and how the apprenticeship aligns with their career goals. From the applications, interviews, and pre-apprenticeship experiences, employers select apprentices to participate in the program.

Academic Requirements for Apprentice Applicants

- > An unweighted grade point average of 2.5
- > Completion of Math 1, 2, & 3
- > No more than 5 absences
- > Ability to perform at the community college level, demonstrated through one of the following:
 - a) reading and math placement tests,
 - b) SAT reading and math scores of 500 or
 - c) ACT scores of 18 writing/22 reading

Pre-Apprenticeship Experience

Prior to starting the formal apprenticeship, students complete a six-week pre-apprenticeship. For many, this is their first work experience—or their first experience in their chosen field. According to one of the GAP company representatives, the pre-apprenticeship allows both the apprentices and the employers to know what they are getting. Not all those who participate in the pre-apprenticeship program transition into the apprenticeship.

On-the-Job Training

On-the-job training is the core of the apprenticeship, but each employer structures the work experience to meet their specific needs. For example, apprentices might rotate through different areas of the business to learn how each functions and which area they like best. Regardless of how their experience was structured, apprentices described the on-the-job training as providing the deepest learning.

In interviews, apprentices highlighted how they developed soft skills (working with people, communication, responsibility) in addition to technical skills. The on-the-job training changed how they viewed work and school and provided a context in which to apply school-based learning.

Classroom Instruction

Classroom instruction starts at the secondary level and continues with postsecondary education at Guilford Technical Community College. Businesses and educators have worked collaboratively to design a curriculum that ensures courses specifically relate to the apprentices' occupations.

In the advanced manufacturing track, seniors complete their requirements for high school graduation during the first half of the school day. During years two through four, the apprentices attend Guilford Technical Community College one day a week for coursework and spend four days a week at the business. The apprentices are paid for 40 hours per week, which covers both their work and learning hours. Upon completion of their coursework, they receive an Associate of Applied Science degree.

GAP EMPLOYER PARTNERS (2018-2019)

Advanced Manufacturing

ABCO Automations, Inc.
Bright Plastics
Cascade Die Casting Group
CGR Products
Columbia Panel Company
Culp
Endura Products
Freud
HAECO Americas
HYFAB
The Kao Group
LC America, Inc.
Machine Specialties Inc.
MAC Panel

Mannington
Matthews Specialty Vehicles
Procter & Gamble
Quantum
TE Connectivity
ZIEHL-ABEGG

Service Tech (HVAC, Plumbing, Electrical)

AC Corporation
Berico
Brady
CCAC Building Solutions
Eanes Heating and Air Conditioning
EAS Inc.

IT/Cyber Security

ADT/Cyber Security
NorthState Technology Solutions
Tardigrade Technology
ABCO
MSI
LC America

Automotive Mechanics

Thomas Tire and Automotive
Vann York

Factors that Contribute to the Success of GAP Program

Several factors contribute to the success of the GAP program, including strong partnerships, engagement of local employers, accessible career paths for youth, and alignment of local educational institutions with the needs of employers.

Community Partnerships

Underlying the success of GAP has been the commitment of the lead partner, the Community Foundation of Greater Greensboro, and its ability to bring all the key stakeholders to the table. The Community Foundation understands the importance of engaging the business community, higher education, the local schools, and the nonprofit community and ensuring that all partners have a role in moving the program forward.

“Without the apprentices we would not be able to expand and would not have the current contracts we have.”

– Guilford County business leader

Engaged Employers

Business partners are key to successful apprenticeship programs. What has been crucial for GAP has been business leaders convincing other business leaders to join the program. Early on, business leaders from another region of North Carolina who had experienced success with apprenticeships spoke with local employers. One local employer emerged as a spokesperson for the program and dedicates a considerable amount of time and resources to support GAP and all apprenticeship programs across North Carolina. When asked why the company was enthusiastic, the spokesman stated, “Without the apprentices we would not be able to expand and would not have the current contracts we have.”

Accessible Career Path

Most students are unfamiliar with apprenticeship, but many who learn about this option in their junior or senior years, find it appealing. A four-year college degree program is sometimes intimidating, and many students find the costs prohibitive. This program provides a career path directly from high school, the immediate ability to earn good wages (wages begin at 50 percent of the journeyman’s wage and increase as apprentices grow their skills), and free post-secondary education that is applicable

in the real world of work. When they complete the four-year program, the apprentices have portable credentials—both a journeyman’s certificate and an associate degree. Those who wish to continue their education can go on to earn a four-year degree.

Alignment of Work and Education

Business leaders and educators have worked together to guarantee the success of the GAP apprenticeship programs. Business leaders help to shape the curriculum and they select appropriate numbers of apprentices to meet their employment needs, ensuring that apprentices secure permanent jobs. By being proactive in securing a future workforce with the knowledge and skills needed for advanced manufacturing, the program also helps attract more firms with similar employment needs to the area.

Apprentices’ Perspectives

To understand the perspective of the apprentices in advanced manufacturing, researchers interviewed first-, second-, and third-year apprentices, both male and female, ranging in age from 18 to 20 years old. Apprenticeships have transformed how these young people view work and school. It has also contributed to personal and professional growth and to their financial stability.

Initial Skepticism

Apprentices expressed skepticism when they first heard they could be “paid to learn.” They noted, “It seemed too good to be true.” But once they started getting paid, friends and family were impressed. One apprentice said, “My friends that did not sign up are sometimes jealous that I can pay for eating out, movies, and entertainment. I have money because I am being paid to go to school, and they are spending their money or actually going into debt while they are going to school.”

Economic Stability and Personal Growth

The apprentices describe a sense of independence and financial freedom. One stated, “I used to rely on my mom and now I can do most things myself and it feels good.” Another said, “I like the independence; I don’t rely on parents as much anymore.” This independence is a sign of personal growth.

Earning money changes their perspective on their futures. “I’m working and trying to save money,” explained one apprentice. Another said, “I am looking at trucks to buy. I see my future differently.” One apprentice thought back to high school and how he thought “it would take forever to have a car and savings”; with the apprenticeship, he had already met these goals. Another apprentice described the future as bright, with “a 401(k) and things to look forward to.”

One employer actively engaged apprentices in learning about financial management. Apprentices who attended the program described learning about how to finance a car, the ins and outs of taxes, and how to manage money. This helps the apprentices gain the skills they need to grow, build their independence, and improve their lives.

Value of an Alternative Learning Path

Despite the advantages of the apprenticeship program for some students, many apprentices noted that their high school counselors pushed them to attend four-year colleges. There is still a stigma associated with trade school. One student explained, "When I tell people I'm in a trade school they think I couldn't get into a 'real' school. People think that if you don't go right to a university you won't be set for life, but I see it differently."

Career and technical education teachers often viewed the apprenticeship program as a positive experience, and they encouraged students to apply. But school counselors countered this message. One student said, "The counselor said I was crazy not to go to a four-year school." Another stated, "Counselors need to do more research and make it more acceptable to support people who work with their hands." Yet another explained, "People need to tell high school students that this is an option to a great head start; a solid, stable job; and a foot in the door."

Positive Attitude Toward Work

The apprentices view of work shifted from participating in the program. One said, "I thought before I worked in the apprenticeship that work was not something you looked forward to." Now they felt work was fulfilling. "I value being able to do work that allows me to create things and when I leave I can see what I've accomplished," said one apprentice. Many described their days with common language, such as "I come to work early, learn from my mentors, and seek to improve my skills." Not only did their views of work change but their behaviors demonstrated a strong commitment to work and growing maturity.

Conclusion

The GAP youth apprenticeship program is providing a talent pipeline to local businesses in need of a skilled workforce. The program works collaboratively with community nonprofits, educational institutions, the public school system, and local business leaders to provide career paths for young people and the labor force companies need to compete in a global economy. As summarized below, the apprenticeship program has multiple benefits for local youth and for their employers.

Impact on Students

For students, the apprentice experience is life changing. It provides a clear pathway to a career and an economically viable future. Prior to applying for the apprentice program, many students did not have any idea of what they would do after high school.

The apprenticeship program provides a debt-free path to learning and a career. Students participate in an annual signing ceremony that acknowledges their receipt of this significant financial reward (estimated at \$120,000). Additionally, the students benefit from on-the-job training, networking with people in the field, collecting a salary along the way, and securing work after completing the program. Of those who complete the program, 89% remain with their employer three years later (Greensboro Chamber of Commerce, 2019). For these students, many of whom come from low-income families, the apprenticeship is a viable path to economic mobility.

Impact on Employers

Employers experience far-reaching benefits by participating in the apprenticeship program. One advanced manufacturing employer noted that his firm had explored a number of methods to recruit and retain individuals, but none had been successful. Apprenticeships had become their pipeline to talent. Despite their youth, employers found the apprentices increased productivity and added value; they were critical to the future growth of their businesses. The program offered a good return on investment, according to business leaders.

The apprenticeship program has the added benefit of increasing employee engagement and loyalty, thereby building a positive culture. Apprentices clearly felt a commitment to their work, the products they produced, and the organizations that had offered them a career. As one apprentice put it, my employer "has helped me out paying for my college so I work my tail off on the shop floor to repay that debt."

89%

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National Fund for Workforce Solutions

The National Fund for Workforce Solutions collaborates with workers, employers, and communities to advance a skilled workforce, promote good jobs, and invest in equitable outcomes. The foundation of our work is a national network of more than 30 communities that brings together a wide range of partners taking an employer-led, evidence-based approach to workforce development.

We leverage this network to pursue five integrated solutions. We activate employers to invest in the workforce and adopt policies and practices that make jobs better. We equip workers for success and change systems that hinder progress, so they work better for everyone. Our network and partners co-invest in these solutions so communities have the resources they need to do the work. Apprenticeship is a critical strategy that cuts across all of these solutions. Effective apprenticeship programs can transform communities where local businesses are struggling to fill middle-skill jobs and are a proven win-win strategy for employers and workers.



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