YOUTH APPRENTICESHIP IN GEORGIA: EXPERIENCES AND RECOMMENDATIONS

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INTRODUCTION

Marissa Bowyer, a 2013 Gilmer High School graduate and 2017 graduate of Kennesaw State University, was named Georgia's 2018 North West Region Youth Apprenticeship Completer of the Year. Marissa embraced work-based learning opportunities in high school through a youth apprenticeship in education and training, working as a teaching intern in elementary and middle school classrooms. She now teaches a second-grade class at Ellijay Elementary School in Gilmer County, Georgia, and serves as a mentor for students with a passion for teaching.[1] This example illustrates how Georgia's Youth Apprenticeship Program provides valuable work-based learning in occupational fields that students can pursue.

Modern youth apprenticeship programming efforts go back to the 1990s, but only a few states, notably Georgia and Wisconsin, have made substantial progress toward operating a youth apprenticeship program at a large scale (Lerman and Packer 2015). The youth apprenticeship model is a combination of classroom instruction and on-the-job learning that prepares youth for the transi-

tion from school to work. The Maryland Youth Apprenticeship Advisory Committee's case studies of youth apprenticeship in multiple states highlight some of the variation in how these programs operate. Some employers pay their youth apprentices, often minimum wage, while others offer a range of experiences in short-term, unpaid job shadowing or paid part-time employment (Youth Apprenticeship Advisory Committee, 2015). Rather than narrow training for a single job, youth apprenticeship teaches the technical and noncognitive skills that provide a foundation for long-term career success across a wider variety of careers (Lerman 2007; Lerman 2013; Heckman and Kautz 2014; Karas and Lerman 2016). With an emphasis on "learn and earn," youth apprenticeships offer a compelling, affordable pathway through education and higher earnings for completers as young adults (Orr 1996). They also give employers an early opportunity to engage youth with hands-on training programs and cultivate a future, loyal workforce. In contrast to registered apprenticeship programs that are typically aimed at adults and offer less flexibility, youth apprenticeships are much more adaptable and can be tailored to meet the needs of students, employers, educational institutions, and parents.

Marissa Bowyer's story demonstrates how investment in and expansion of youth apprenticeship programs can be a viable option for widening routes to successful career pathways and high-quality jobs in Georgia. Robert Lerman's (2018) report on current conditions in Georgia's labor market highlights the importance of economic mobility for moving low-income Georgians out of poverty. The report notes that the high school graduation rate in the state is less than 80 percent. Over half of those with education below an associate's degree have family incomes in poverty or near poverty levels. For the 513,000 young Georgians with at most a high school degree, poverty and near poverty rates reach over 60 percent for the immediate future. Compounding the struggles of Georgia workers, employers in the state face their own difficulties in finding qualified workers. While job openings are at their highest level since the collection of official data on openings began, many skilled positions remain unfilled for long periods of time.

This report examines the strengths and weaknesses of the Georgia youth apprenticeship program and develops a long-term vision for its future along with steps required to achieve that vision. The report offers new insights based on data from a focus group and a survey of Georgia's youth apprenticeship coordinators. After providing background on coordinators and our data sources, we describe the current state of the Georgia youth apprenticeship program and current methods for attracting apprentices and matching them with employers. We then discuss the outcomes of the youth apprenticeship program, including completion rates, credentials earned, and employer satisfaction. The report concludes with a discussion of coordinator and employer perspectives on the barriers to expansion, as well as recommendations for the future.

BACKGROUND

Georgia's youth apprenticeship program was established in 1992 when the Georgia General Assembly passed a law directing the Departments of Education, Labor, and Technical Adult Education to develop and implement youth apprenticeship. Pilot programs were established in 24 school systems in FY 1994 and 1995, enrolling 358 students. Over 25 years later, the program operates with 3,219 youth apprentices.[2]

Youth apprenticeship programs are targeted at high school juniors and seniors. Typically, a student is granted release time from their school to work as

an apprentice for a qualified business enterprise approved by the Georgia Department of Education. To be considered a youth apprentice, students must have earned a minimum of one unit of credit in a related career pathway prior to placement on the job site. School counselors and teachers help students select their career cluster and related coursework, and they provide ongoing guidance and evaluation. The school, business, parent, and student must develop a detailed individualized training agreement and plan that specifies the work standards and tasks that will develop workplace competencies.

Youth apprenticeships teach a broad range of skills, from manufacturing to administration and office technology to health care. Apprentices are also assigned skilled mentors on the job who receive a minimum of four hours of training. The work-based learning experience involves a broad range of activities that focus on skills related to the student's career pathway as well as periodic evaluations and professional portfolio-making with the guidance of employers. These mechanisms set up clear connections between an apprentice's classroom learning, their experiences on the job, and achievement of their future goals for careers and higher education.

STATE REGULATION AND FUNDING

The original criteria for completion of a youth apprenticeship specified a minimum of 144 classroom hours of related academic instruction and training and 2,000 hours of on-the-job skill training. In 2013, the Georgia legislature passed HB 766, dropping on-the-job skill training hours required for completion to 750. The classroom hours remain at 144, as is the case for a registered apprenticeship. In contrast, the 750-hours threshold for on-the-job training is less than the 2,000 hours required for registered apprenticeship. Youth apprenticeship completers earn a portable, industry-recognized skill certificate upon completion.

The youth apprentice program is the most intensive of several work-based learning programs supported by the Georgia Department of Education's Career, Technical, and Agricultural Education (CTAE) system. Youth apprenticeship embodies structured work-based learning based on coordination between schools, postsecondary institutions, employers, labor organizations, and community representatives. The state appropriates about $3 million for youth apprenticeships, which is distributed across local programs through competitive grants. Most (85 percent) of the funding pays for coordinators at about 347 schools. Local programs obtain grants for operating youth apprenticeships by submitting applications that identify career clusters, postsecondary partners, and industry sponsors. In their grant proposals, programs identify targets and commit to engaging in certain activities (such as attending regular regional meetings with peers). Coordinators play a critical role in a district's program. They are responsible for recruiting students, working with employers, assisting in the matching process between openings and apprentices, designing the learning plan, establishing the apprentice-employer agreement, monitoring the apprenticeships, and reporting data on youth apprentices. Some coordinators serve one or more schools, while others serve multiple school systems. The coordinators are led by a single statewide work-based learning director with a limited staff and responsibilities for all work-based learning in Georgia, including youth apprenticeships, internships, co-ops, and employability skills development.

THE CENTRAL ROLE OF YOUTH APPRENTICESHIP COORDINATORS

Coordinators serve multiple roles supporting all stakeholders in the complex partner structure of work-based learning and youth apprenticeship. Because of their central role, we rely heavily on focus group and survey data collected from youth apprenticeship coordinators in this report. This section provides background on the activities of coordinators and on our data sources. In some cases, coordinators oversee work-based learning activities in addition to youth apprenticeship. Coordinators for relatively small programs were engaged in a wider variety of work-based learning activities, while larger districts had a dedicated youth apprenticeship coordinator. The coordinator's perspective on youth apprenticeship is informed by their understanding of the operation of the public schools, the needs of students, and the needs of employers. The coordinators who responded to our online survey worked as apprenticeship coordinators for almost six years, on average, with only four responding coordinators working for under a year. This report relies heavily on data collected from these youth apprenticeship coordinators.

DATA SOURCES

We collected data from three principal sources for this report: (1) an online survey of youth apprenticeship coordinators statewide, (2) a focus group with seven youth apprenticeship coordinators, and (3) follow-up interviews with selected coordinators and youth apprenticeship staff. We worked with Dwayne Hobbs, the Georgia Department of Education's work-based learning specialist, to connect with youth apprenticeship coordinators for both the survey and the focus group. The survey consisted of questions concerning current numbers of programs, how programs were run, what career pathways were in demand, program challenges and successes, and coordinator information (see Appendix). Surveys were administered to over 150 coordinators with 66 responses. This relatively low response rate raises concerns about the generalizability of our results, but it does provide us with information from a broad cross-section of youth apprenticeship coordinators.

We report the survey data at two different levels or units of analysis. First, we report data at the level of coordinators, who are responsible for youth apprenticeship activities in a school or school district. Second, each coordinator reports on up to three youth apprenticeship occupations, so we are also able to report at the level of an individual occupation or career cluster.[3] Coordinators can oversee youth apprenticeships across many occupations, and program requirements and outcomes may differ from occupation to occupation. The survey asked for more detailed information on up to three occupations overseen by the coordinator. Whether data is reported at the coordinator level or the occupation level is noted in the text.

The focus group discussion helped us explore how Georgia's youth apprenticeship program operated in richer detail. Youth apprenticeship offers greater flexibility than traditional registered apprenticeship; coordinators shared diverse experience with the organization, recruitment, and occupational demand of youth apprenticeship programs. The seven focus group participants served as either the youth apprenticeship coordinators or the work-based learning coordinators for their school districts, with a few indicating that they served both roles, depending on the size of their youth apprenticeship programs. The survey and focus groups were supplemented with more in-depth phone interviews with selected apprenticeship coordinators.

COORDINATOR ACTIVITIES

Coordinators engage in a range of activities to support youth apprenticeship. Table 1 presents coordinator reports on the time they spend doing these activities. They spend the largest amount of time—over one-third—monitoring the progress of apprentices in gaining workplace skills. This effort includes meetings with the apprentices themselves, conversations with employers, and job site visits. Another critical function of coordinators is to recruit students to youth apprenticeship and match them to employers. The focus group participants indicated that coordinators often begin by identifying students interested in youth apprenticeship. Coordinators then try to find a suitable match with employers who might offer an apprenticeship. One might have expected that recruiting students and attracting employers and matching them would require the bulk of a coordinator's time. Yet, only a little over a fifth of coordinators' time (22.6 percent) is spent matching students with employers. Coordinators spend a similar amount of time (22.3 percent) communicating with program staff or faculty about courses and curriculum. Somewhat less but still a significant share of time is dedicated to apprentice orientation and coordination of the youth apprenticeship program with state and federal policies and standards.

TABLE 1: Youth Apprenticeship Coordinator Activities

Coordinator Activity	Average percentage of time in activity	Maximum percentage of time reported
Orient students and parents to apprenticeship program	14.1%	75.0%
Coordinate apprenticeship training programs with state and federal policies and standards	16.6%	60.0%
Match students applying for apprenticeships with employer offers and develop contracts between the apprentice and the employer	22.6%	80.0%
Communicate with program staff/faculty in regards to course schedule, curriculum needs, student enrollment, etc.	22.3%	88.0%
Monitor progress of apprentices in gaining workplace skills	37.5%	95.0%
Other	10.3%	75.0%

Source: Authors' calculations from the Survey of Georgia Youth Apprenticeship Coordinators.
Note: Percentages were not constrained to add up to 100 percent since some coordinators may have spent time on non-apprenticeship activities. This resulted in average percentages that add up to somewhat greater than 100 percent. This could reflect joint activities, or it could reflect error on the part of survey respondents.

Coordinators' close relationships with schools, employers, and students, as well as their in-depth understanding of the youth apprenticeship model, make them ideal sources of information and insight for understanding the Georgia system. Any policy changes around youth apprenticeship will ultimately have to be implemented by the coordinators, so their perspective on program needs is vital to consult before making any policy recommendations.

THE GEORGIA YOUTH APPRENTICESHIP PROGRAM

Our focus group participants indicated that students are eligible to apply for a work-based learning placement (including a youth apprenticeship) after completing at least one CTAE pathway course. The apprenticeship coordinator then develops a "training plan" that identifies the student's work placement site (i.e., the employer) and a postsecondary goal, along with a plan to complete high school. A training plan with all of these elements makes a student a youth apprentice.

Coordinators who participated in the focus group highlighted the differences between the youth apprenticeship training plan and the registered apprenticeship contract:

"If we get them into a registered apprenticeship it is pre-formulated, every course they're taking, what they're going to do. That's registered apprenticeship. In youth apprenticeship, you can't do that. It's because we are flexible because we're trying to do whatever you have to do to make it work."

Another coordinator agreed, noting that "if you approach people and say 'you have to do it a certain way,' 90 percent [will] turn you down." In that sense, generating youth apprenticeships requires more of a boutique approach to engaging employers. Unlike registered apprenticeship, where the coordinator or state represen-

tative largely turns the effort over to employers after a program is registered, youth apprenticeship coordinators in Georgia find themselves regularly readjusting training plans for each new cohort. Georgia's challenges in expanding apprenticeship are not restricted to the unregistered youth system. One coordinator points out that Georgia has had difficulty in registering apprenticeships given the state is "right to work, which makes it hard because employers associate apprenticeship with unions." Another coordinator noted that "you find yourself going in every year to try to resell the program," particularly if there is no champion for youth apprenticeship at the employer.

Several thousand Georgia youth are engaged in a youth apprenticeship in any given year. The Georgia Department of Education indicates that in the 2016–17 school year there were 3,219 youth apprentices in the state. The apprenticeship coordinators participating in the survey supervised a total of 2,105 youth apprentices in the 2017–18 school year, which is 65 percent of the 3,219 youth apprentices in 2016–17. Most coordinators supervised relatively few youth apprentices. Almost 40 percent of responding coordinators supervised 10 or fewer, and a majority supervised 20 or fewer apprentices. However, a small share of coordinators was responsible for a much larger group of students, including two coordinators supervising well over 100 youth apprentices.

TABLE 2: Youth Apprentices Supervised by Coordinator Survey Respondents

Apprentices supervised, AY 2017–18	Number of coordinators responding to the survey	Percentage
1 to 10 apprentices	25	39.7%
11 to 25 apprentices	9	19.0%
26 to 50 apprentices	14	22.2%
51 to 75 apprentices	6	9.5%
76 to 100 apprentices	4	6.3%
Greater than 100 apprentices	2	3.2%

Source: Authors' calculations from the Survey of Georgia Youth Apprenticeship Coordinators.
Note: Only 63 of the 66 responding coordinators reported.

Apprenticeship contracts between the youth apprentice and the employer function much like apprenticeship contracts in the registered system. They describe the obligations of the apprentice and the employer and outline the tasks that the apprentice will be expected to complete on the job as well as the postsecondary credential that the apprentice will earn to complete their apprenticeship. The coordinator survey indicated that in practice coordinators adhered to these expectations for a youth apprenticeship contract. All but two of the coordinators responding to the survey question indicated that most of the tasks that apprentices must learn in the work setting are specified in the apprenticeship contract. Most responding coordinators (84 percent) also indicated that the tasks apprentices engaged in the work setting were linked to industry-recognized credentials.

In the registered apprenticeship system, each occupation is associated with its own detailed apprenticeship

standards. Over a thousand detailed occupations are recognized as apprenticeable by the US Department of Labor.[5] Youth apprentices in Georgia are also trained across a wide variety of occupations, but the youth apprenticeship system does not use the same rigid occupational classification standards for firms or industries. Instead, occupations are classified under broader CTAE "career clusters" to align with the high school career and technical education curriculum. The career clusters of the programs and apprentices overseen by our survey respondents are reported in Table 3.

Unlike the registered apprenticeship system, very few youth apprentices were employed in construction (3.5 percent of all youth apprentices compared to 67.6 percent of Georgia registered apprentices).[6] One reason why construction is underrepresented in youth apprenticeship is the liability (or perceived liability) that employers face for the safety of minors on the job. Insuring minors is more expensive than insuring adults, and in some cases, they cannot be insured at all. Liability concerns were one of the most common reasons employers offered for avoiding the youth apprenticeship program.

TABLE 3: Youth Apprenticeship Career Clusters for the 2017–18 Academic Year

	Number of programs	Percentage of all programs	Number of apprentices, 2017–18	Percentage of all apprentices, 2017–18
Agriculture, Food, & Natural Resources	21	13.6%	86	7.5%
Architecture & Construction	10	6.5%	40	3.5%
Business Management & Administration	22	14.2%	138	12.1%
Education & Training	29	18.7%	228	19.6%
Finance	2	1.3%	1	0.1%
Health Science	31	20.0%	194	17.0%
Hospitality & Tourism	6	3.9%	72	6.3%
Human Services	3	1.9%	8	0.7%
Information Technology	4	2.6%	27	2.4%
Manufacturing	9	5.8%	291	25.5%
Marketing	3	1.9%	5	0.4%
Science, Technology, Engineering, & Math	8	5.2%	10	0.9%
Transportation, Distribution, & Logistics	7	4.5%	43	3.8%
TOTAL	155	100.0%	1,143	100.0%

Source: Authors' calculations from the Survey of Georgia Youth Apprenticeship Coordinators.
Note: Survey respondents were asked to report in detail on their three largest occupational programs and not all coordinators answered the questions, so not all the 2,105 youth apprentices overseen by surveyed coordinators were reported at the detailed occupation level. Thirty-three of the youth apprenticeship programs identified by coordinators named occupations but not career clusters, although these occupations were reclassified into career clusters by the authors. Seven programs that reported career clusters did not report having any apprentices.

The highest shares of youth apprenticeship programs are in education and training (18.7 percent of programs, 20.0 percent of youth apprentices); health science (20.0 percent of programs, 17.0 percent of youth apprentices); business management and administration (14.2 percent of programs, 12.1 percent of apprentices); and agriculture, food, and natural resources (13.6 percent of programs, 7.5 percent of apprentices).

Although there are only nine manufacturing programs, these programs account for over a quarter of all apprentices—nearly 300—overseen by the coordinators who responded to the survey. It is striking that most of the manufacturing youth apprentices were employed by a single large program, Southwire Company and its "12-for-Life" program. The Southwire program is described in more detail in Box 1.

BOX 1: Overview of the Southwire Youth Apprenticeship Program

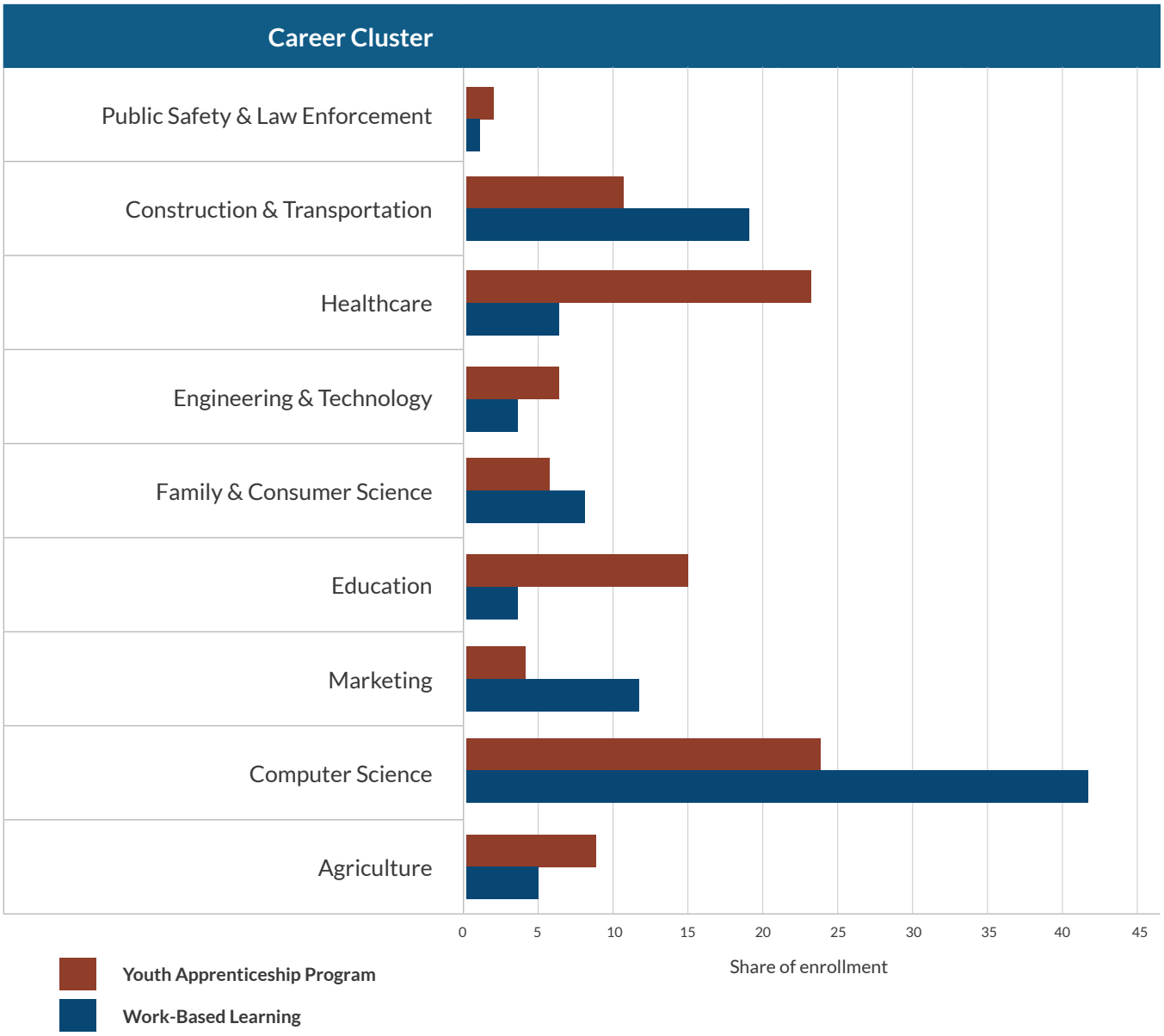
Southwire Corporation is a leading manufacturer of residential, commercial, and industrial wire and cable headquartered in Carroll County, Georgia. The company has been involved in Georgia's youth apprenticeship program since its conception in the early 1990s. Southwire supports a small number of traditional youth apprenticeships as well as a larger number of youth apprentices for students at risk of dropping out and who are enrolled in the 12-for-Life program. The 12-for-Life program began as a response to low graduation rates in Carroll County and the passage of the Perkins Vocational and Technical Education Act of 2006, which increased schools' focus on the academic achievement of career and technical education students and strengthening connections between secondary and postsecondary education. Southwire responded by working with the Carroll County School System to develop a youth apprenticeship program targeted at youth who were at a high risk of dropping out of high school. Students who are identified as being at risk and who enter the program are hired by Southwire to work at a fully operational manufacturing plant. Carroll County Schools offer these students accelerated high school classes and academic support. Youth apprentices' schedules vary, but most take their classes and do their on-the-job learning at the job site. Students must be 16 years of age, pass a drug screening test, and complete several release forms with parental, student, and educator consent to be accepted into the program. 12-for-Life began with approximately 70 students and now enrolls 300 students, all of whom are classified as youth apprentices. Southwire operates several occupational programs, including machining, industrial maintenance, and quality assurance. The Southwire programs offer their own certificates of completion and work with the local technical college, West Georgia Tech, for external postsecondary certifications. Southwire supports students pursuing credentials in multiple career pathways. In one unusual case, a Southwire youth apprentice earned a CNA license as well as a manufacturing credential. Although apprenticeship outcomes (completion, postsecondary credentials, etc.) are not as strong for Southwire apprentices as they are for apprentices that are not at risk, the program has made significant progress in improving graduation rates and providing at-risk youth with work-based learning opportunities that they would not have had.

Source: Interviews and focus group with youth apprenticeship coordinators.

Much like the state's CTAE programs, all work-based learning activities in Georgia (e.g., internships, co-ops, and employability skills development) are organized into career clusters. Georgia's work-based learning system organizes the work-based learning career clusters somewhat differently from the CTAE career clusters presented in table 3. Figure 1 compares the youth apprenticeship career clusters with work-based learning placements for the 2016–17 school year using the work-based learning career categories. The largest number of work-based learning programs are concentrated in computer science, with 42 percent of all work-based learning enrollment and 23 percent of youth apprenticeship enrollment. About one in five work-based

learning enrollments are in construction and transportation; however, this cluster accounts for a significantly lower percentage of youth apprenticeship programs (11 percent). Health care (22 percent) and education (15 percent) make up the next largest enrollment numbers of youth apprenticeship programs. While health care has its own set of liabilities, this is ameliorated by the fact that hospitals are often self-insured, a practice that is less common in construction or manufacturing. Apprentices also must undergo HIPAA training like any other employer in the health care industry. Education is another popular career cluster given that it has a relatively clear group of interest and professional pathway to becoming a teacher.

FIGURE 1: Work-Based Learning vs. Youth Apprenticeship Program Enrollment by Career Cluster



Source: "Georgia Work-Based Learning: By the Numbers." Retrieved from https://gawbl.org/by-the-numbers.

ATTRACTING APPRENTICES AND MATCHING TO EMPLOYERS

Because the youth apprenticeship system is so closely tied to the CTAE system, the coordinators relied heavily on CTAE teachers to recruit students. One coordinator in the focus group stated that their own goals align with the goals of CTAE teachers on postsecondary education and "the best way to find those students is [through] the teachers of those classes." Coordinators reported that CTAE teachers say of strong apprenticeship candidates that "they're going to be a pathways completer." This feedback from the focus group was also reflected in the coordinator survey. Table 4 provides coordinator respondents' rankings of the importance of different student recruitment activities. Apprenticeship coordinators responding to the survey overwhelmingly ranked working with CTAE teachers as the most important activity for recruiting students into youth apprenticeship (table 4). Almost half of all respondents identified working with CTAE teachers as the most important activity for recruitment, with most others ranking it very highly. Other important activities included classroom visits and coordination with school counselors. Posters, flyers, brochures, and presentations for student organizations were less important.

TABLE 4: Ranking of the Value of Each Student Recruitment Activity

Most important — Least important

	1st	2nd	3rd	4th	5th	6th	Avg. Rank
Coordination with counselors	15.6%	31.3%	21.9%	17.2%	7.8%	6.3%	2.9
Classroom visits	20.3%	37.5%	28.1%	7.8%	4.7%	1.6%	2.4
Student-directed presentations	10.9%	10.9%	23.4%	29.7%	12.5%	12.5%	3.6
Student organization presentations	0.0%	3.1%	3.1%	17.2%	46.9%	29.7%	4.9
Posters/flyers/brochures	0.0%	1.6%	4.7%	23.4%	25.0%	45.3%	5.1
Work with CTAE teachers	53.1%	15.6%	18.8%	4.7%	3.1%	4.7%	2.0

Source: Authors' calculations from the Survey of Georgia Youth Apprenticeship Coordinators.

Since youth apprentices are minors, coordinators must inform parents about the youth apprenticeship before finalizing a training plan. Coordinators were asked to identify all the methods used for informing parents about apprenticeship (table 5). Almost all coordinators (96.9 percent) used school open houses to inform parents about apprenticeship, with large majorities also relying on registration and advisory events. Just over half of the coordinators used extracurricular activities and just over a quarter used parental visits to companies.

TABLE 5: Methods Used for Informing Parents or Guardians about Apprenticeship

Methods for informing parents	Percentage of respondents using the method
School open houses	96.9%
Registration events	85.9%
Advisory events	81.3%
Extracurricular events	51.5%
Visits with parents/guardians to companies hosting apprenticeship	26.6%
Other	7.8%

Source: Authors' calculations from the Survey of Georgia Youth Apprenticeship Coordinators.
Note: Coordinators were asked to identify all activities that were used.

In the registered apprenticeship system, convincing employers to participate in apprenticeship is the principal bottleneck preventing apprenticeship expansion. The situation is no different in Georgia's youth apprenticeship system, although recruiting employers for youth apprenticeship differs in fundamental ways from traditional apprenticeship. In youth apprenticeship, coordinators are not asking employers to develop and register a full program with the government. Instead, they are focused on matching their students to specific jobs with the employer. Recruiting an employer to youth apprenticeship entails identifying a job that the youth apprentice can perform and ensuring that the employer has the capacity to mentor the student in the completion of job tasks. In the words of one coordinator, their task is to "make sure the student fits the job." One of the major obstacles to matching employers with students is that, in the words of another coordinator, "we're looking at students and it's hard to say we have apples to apples every year. That's frustrating for the employer."

Since youth apprentices are still high school students, their employers do not necessarily see the apprenticeship as a permanent program or a method for addressing skills shortages. Rather, it is a service to the school. One coordinator participating in the focus group suggested, "I think a lot of them [the jobs] are developed by us for these organizations."

Table 1 indicates that on average coordinators spent 22.6 percent of their time recruiting employers and matching students, but some spent considerably more time on this function. A coordinator responsible for a large city who participated in the focus group indicated that they spend "more than fifty percent" of their time reaching out to employers to develop jobs for their apprentices. Several of the coordinators described how Georgia is home to "1,700 manufacturing mom and pop establishments," which makes it more difficult to set up an apprenticeship than if there were a smaller number of large manufacturers. One coordinator notes that "most of our employers are small, which makes it hard," while another coordinator remarks, "we need something more systemic where [employers] can take anyone we recommend."

Table 6 summarizes the methods used to engage employers in youth apprenticeship and the relative helpfulness of each method to coordinators. Almost all coordinators used connections in the community and word of mouth to engage employers, and most coordinators rated these methods as very helpful to their work. Coordinators often worked autonomously to develop these personal contacts rather than focus on building relationships with larger entities. Other popular methods included using the connections of staff members in the school and engaging the local Chamber of Commerce. Coordinators were relatively unlikely to use relationships with state apprenticeship agencies, workforce boards, or community colleges to engage employers.

This disengagement from the traditional workforce development system is not surprising, since that system is generally targeted to adult workers and less well equipped to integrate training in high school education. Nevertheless, the workforce development system has plentiful contacts with employers that could be helpful for coordinators. Community colleges in particular are well positioned to identify appropriate postsecondary credentials that are required for the completion of a youth apprenticeship in Georgia. Coordinators presumably have good reason for relying on word of mouth and community connections to engage employers, but they could benefit from more creative involvement of the workforce development system.

TABLE 6: Ranking of the Value of Each Student Recruitment Activity

	Used but not helpful 1	2	3	4	Used and very helpful 5	Method is not used
Word of mouth	3.1%	7.8%	10.9%	20.3%	56.2%	1.6%
Leads or referrals from community or career college instructors	3.1%	12.5%	21.9%	9.4%	23.4%	29.7%
Leads or referrals from workforce boards or WIOA-sponsored job centers	7.8%	7.8%	18.8%	9.4%	9.4%	46.9%
Networking using staff connections	1.6%	18.8%	25.0%	21.9%	28.1%	4.7%
Networking using community connections	0.0%	7.8%	18.8%	21.9%	50.0%	1.6%
Cold calling	21.9%	20.3%	23.4%	23.4%	0.0%	10.9%
In-person visits	1.6%	15.6%	23.4%	32.8%	25.0%	1.6%
Conferences or other group convenings	6.3%	25.0%	26.6%	26.6%	6.3%	9.4%
Cooperation with state apprenticeship agencies	12.5%	15.6%	15.6%	6.3%	3.1%	46.9%
Use of industry association partner	6.3%	15.6%	28.1%	17.2%	17.2%	15.6%
Use of local chamber of commerce	9.4%	9.4%	20.3%	26.6%	31.3%	3.1%
Broad-based marketing such as advertising, social media, and a website	17.2%	23.4%	15.6%	15.6%	10.9%	17.2%
Asking employers to recommend other businesses to work with	3.1%	20.3%	25.0%	20.3%	18.8%	12.5%

Source: Authors' calculations from the Survey of Georgia Youth Apprenticeship Coordinators.

Although some coordinators struggled to persuade employers to hire youth apprentices, employers who do participate have a long history of satisfaction with the program. Participating employers are surveyed annually by the Georgia Department of Education to better understand their experiences with youth apprenticeship. In FY 2013–14, the most recent year with publicly available data, 221 employers responded to the survey and 93.2 percent of them rated the youth apprenticeship program as above average. All respondents indicated that they would recommend youth apprenticeship to other employers. These highly positive responses are consistent with employers' responses in prior years of the survey. [7]

APPRENTICE EXPERIENCES AND OUTCOMES

Different youth apprenticeship programs have different credentials required for completion. One coordinator from the focus group notes that "what it means to complete is student-by-student. We are looking at the student and trying to find the right placement for that student." Required credentials depend on what types of credentials are most valued in an occupation, the postsecondary institutions operating locally, and the school's own CTAE curriculum. Most apprenticeship programs represented in the coordinator survey (73.6 percent)

require students to complete multiple credentials. Three quarters of the programs overseen by survey respondents identified a high school credential as a completion requirement. We expected the high school completion requirement to be 100 percent based on state regulations. Two-thirds of programs required some type of work-based learning credential for completion, and almost half required a college credential. Less than a third of the programs required a nondegree industry-recognized credential.

Just over half (56.5 percent) of the apprenticeship coordinators indicated that work tasks in their programs are linked to an industry-recognized credential. Almost half of the coordinators (49.5 percent) reported that their programs require apprentices to take courses outside of their CTAE educational pathway. Every school district offered high school credit for apprentices' work-based learning time, but relatively few (5.8 percent) provided college credit for work-based learning.

TABLE 7: Youth Apprenticeship Completion Requirements Across Programs

Completion requirement for a coordinator's largest occupational programs	Share of occupational programs
College credential	49.6%
High school credential	73.6%
Nondegree industry-recognized credential	32.0%
Work-based learning credential	66.4%
Multiple completion requirements	72.8%

Source: Authors' calculations from the Survey of Georgia Youth Apprenticeship Coordinators.
Note: Georgia Youth Apprenticeship staff indicated in interviews that a high school diploma was required for 100 percent of youth apprenticeships, and that the lower percentage reported here likely reflects confusion about credentials besides a diploma awarded in high school. The high school statistic should therefore be interpreted with caution.

The coordinator survey asked respondents to name the industry-recognized credential incorporated in their programs. Although a minority of the programs required these credentials, a wide variety of industry-recognized credentials are awarded in the course of or for completion of youth apprenticeship programs. All industry-recognized credentials reported in the coordinator survey are listed in Box 2. Common credentials included certified nursing assistant (CNA) licenses, certifications awarded by the National Occupational Competency Testing Institute (NOCTI),[8] state teaching certifications, and Microsoft certifications. A few certifications (e.g., the GeorgiaBest certification) taught employability skills rather than occupational skills.

In addition to credentials, youth apprentices can earn credits for the work-based and classroom learning. All coordinators responding to the survey indicated that youth apprentices received high school credit for their work-based learning experiences. However, only nine of the 119 apprenticeship programs providing a response indicated that apprentices received college credit for their work-based learning hours.

BOX 2: Industry-Recognized Credentials Awarded in Georgia Youth Apprenticeship Programs

Automotive Service Excellence (ASE) Brake Certification

Certified Nursing Assistant (CNA) License (CNA-EKG, CNA-Pharmacy Technician)

CISCO Certification

Computer Numerical Control (CNC) Certificate

Cosmetology License

Early Childhood Pre-Professional Certification

Early Education and Care (EEC) Certification

EPA 608 Technician, Universal Certification

Federal Aviation Administration (FAA) Gas Turbine Mechanic Certification

First Aid and CPR Certification

Georgia Business Employability Skills Training (GeorgiaBEST) Certificate

Health Insurance Portability and Accountability Act (HIPAA) Certification

John Deere Technician Certification

Manufacturing Skills Standards Council (MSSC) Certification

Microsoft Certification (Microsoft Office Specialist [MOS], Microsoft Technology Associate [MTA])

National Consortium for Health Science Education (NCHSE) Certification

National Institute for Metalworking Skills (NIMS) Certifications

National Occupational Competency Testing Institute (NOCTI) Certifications (Agriculture, Agricultural Mechanics, Basic Childcare, Cook, Early Childcare Education)

Occupational Safety and Health Administration (OSHA) Certificate

On-the-Job Training Certificate

Pharmacy Technician Certification

ServeSafe Certification

Teaching Certification

Welding Certificate

Source: Survey of Georgia Youth Apprenticeship Coordinators.

Youth apprenticeship outcomes are an important measure of program success. Coordinators were asked about the outcomes of the cohort that started their program three years ago and thus would have had time to experience initial post-program outcomes. The responses indicated that outcomes vary by apprenticeship program, presumably depending on program requirements (e.g., the difficulty of the required post-secondary credential) and differences between the students themselves. Table 8 reports three key outcomes: the completion rate, the percentage of youth apprentices that earn an industry-recognized credential, and the percentage of apprentices that are offered a full-time job. These results are weighted by the size of a youth apprentice program so that they accurately represent outcomes for the full population of youth apprentices captured in the survey. Since the Southwire program is large and targets at-risk students, each outcome is recorded with and without Southwire apprentices.

TABLE 8: Youth Apprentice Outcomes

Outcome	Share of apprentices in reported occupational programs
Completion rate	62.4%
Completion rate, excluding Southwire	71.9%
Earned industry-recognized credential (%)	49.8%
Earned industry-recognized credential (%), excluding Southwire	64.9%
Offered a full-time job (%)	45.9%
Offered a full-time job (%), excluding Southwire	60.3%

Source: Authors' calculations from the Survey of Georgia Youth Apprenticeship Coordinators.
Note: Apprentice outcomes were recorded by occupational programs and are therefore only reported for apprentices enrolled in one of the three reported programs. Outcomes are weighted by the number of apprentices in the relevant occupational program.

The average completion rate for all apprentices represented in the survey is 62.4 percent and rises to 71.9 percent when Southwire is excluded. These completion rates are higher than completion rates in the registered apprenticeship system, though most registered programs require longer periods of work-based learning and related instruction. Still, these are relatively high rates for earning a completion certification. Excluding Southwire's apprentices, almost two-thirds of youth apprentices earn industry-recognized credentials from their programs. This figure is lower than the completion rate, probably because some apprentices earned completion certificates or postsecondary credentials that coordinators do not consider to be "industry-recognized credentials." An important indicator of success is a successful transition from school to work. In the case of Georgia's program, 45.9 percent of all youth apprentices and 60.3 percent of youth apprentices outside of Southwire received a full-time job offer from their employer after completion.

Apprentices may fail to complete their programs for a variety of different reasons. Table 9 reports the major factors identified by apprenticeship coordinators for program noncompletion. The most common reason is failure to complete either secondary or postsecondary coursework (83.3 percent). Apprentices who fail to complete secondary school coursework would, of course, fail to graduate from high school as well. The second most common reason for failing to complete an apprenticeship is that apprentices take another job before completion (53.7 percent), presumably disrupting unfinished coursework as well. If apprentices are finding alternative jobs, then their noncompletion may not fully reflect the full benefits of their experience. Coordinators also mentioned the extensive amount of time required for training (27.8 percent) and the lack of mentorship or trainer capacity (20.4 percent) as important causes of noncompletion. Fortunately, family issues (0.0 percent), personal issues (0.0 percent), and an inability to meet GPA requirements (5.6 percent) were rare causes of noncompletion.

TABLE 9: Coordinator Perspectives on Factors Preventing Apprentices from Completion

Factors limiting apprentice completion	Coordinators identifying factor as important
Failure to complete coursework (secondary or postsecondary)	83.3%
Taking another job before completing the program (poaching)	53.7%
Too much time required for training (time-management issues)	27.8%
Not enough mentorship or trainer capacity	20.4%
Unclear idea of the expectations of employers	14.8%
Inability of apprentice to get along with employer	7.4%
Inability to meet GPA requirements	5.6%
Other	5.6%
Family Issues	0.0%
Personal Issues	0.0%

Source: Authors' calculations from the Survey of Georgia Youth Apprenticeship Coordinators.

PERSPECTIVES ON EXPANSION

Youth apprenticeship coordinators were divided on whether they experienced an excess demand for or excess supply of youth apprentices. Fewer coordinators suggested that their district experienced excess demand for youth apprentices (39.6 percent) than said there was an excess supply of students seeking a youth apprenticeship position (60.4 percent). Coordinators were split on what career clusters experienced excess demand or excess supply. All career clusters experienced excess demand according to some coordinators and excess supply according to others.

To better understand how youth apprenticeship can expand in Georgia and other states, we asked survey respondents to identify the top barriers to apprenticeship expansion (table 10). By far the most common factor identified by coordinators was that the pool of employers willing to hire apprentices was limited (73.1 percent). A far lower share reported a limited pool of student applicants as a barrier (28.9 percent), along with the stigma around apprenticeship (the "college for all" mentality) (26.9 percent) and students being unready for the world of work (23.1 percent).

TABLE 10: Coordinator Perspectives on Factors Limiting the Expansion of Apprenticeship

Factors limiting the expansion of apprenticeship	Coordinators identifying factor as important
Pool of employers willing to hire apprentices is limited	73.1%
The pool of student applicants is very limited	28.9%
Stigma around apprenticeships limits student interest	26.9%
Too few students are ready for the world of work	23.1%
Creating occupational frameworks is too difficult	15.4%
Linkages between secondary and postsecondary components are too weak	15.4%
Employers are unwilling to bear the costs of an ongoing program	13.5%
Retention of apprentices is too low	11.5%
Too few industry-recognized credentials are available	11.5%
Employers object to the high amounts of paperwork	9.6%
Managing the program is costly	7.7%
Employers unwilling to hire students under 18	7.7%
Employers object to the high costs of starting an apprenticeship program	3.9%
Building quality related classroom instruction is too difficult	3.9%

Source: Authors' calculations from the Survey of Georgia Youth Apprenticeship Coordinators.

Table 10 is also instructive for understanding what barriers to employer participation are relatively less important. Employers generally did not identify program costs (ongoing or starting costs), occupational frameworks, the difficulty of providing quality related classroom instruction, or an unwillingness to hire youth as major obstacles.

Coordinators overwhelmingly reported the limited number of employers willing to hire apprentices as the major barrier to apprenticeship expansion (table 10), but employers can be encouraged and dissuaded by different factors. Table 11 reports the factors that are important for leading an employer to adopt apprenticeship. The most important factor, selected by almost 80 percent of responding coordinators, is apprenticeship's capacity to develop a customized skill set specific to an employer's needs. Roughly half of respondents identified apprenticeship's ability to provide a steady source of skilled workers and productivity improvements as key factors. Only about a third of coordinators indicated that the youth apprentices' actual production was an important factor for attracting employers. Broader social benefits and even benefits for the youth apprentices themselves (such as teaching self-sufficiency) were much less important for employers' adoption of apprenticeship.

TABLE 11: Coordinator Perspectives on the Factors Leading Employers to Adopt Apprenticeship

Factors leading an employer to adopt apprenticeship	Coordinators identifying factor as important
Apprenticeship develops a customized skill set that is specific to an employer's needs	79.3%
Apprenticeship provides a steady source of skilled workers that are difficult to hire directly	52.8%
Apprenticeship leads to improvements in worker productivity	49.0%
Apprentices contribute to production	34.0%
Apprenticeship develops workers' skill set without them leaving the workforce	26.4%
Apprenticeship reduces turnover	26.4%
Apprenticeship has broader social benefits such as reducing inequality or closing the skills gap	11.3%
Apprenticeship helps make workers self-sufficient	7.6%
Local related technical instruction providers have valuable training opportunities that can be accessed through apprenticeship	11.3%
Other	1.9%

Source: Authors' calculations from the Survey of Georgia Youth Apprenticeship Coordinators.

These results are consistent with the state of Georgia's employer survey findings that apprenticeships are directly beneficial to employers.[9] Smith (1996) found similar results when he surveyed employers involved in the Georgia youth apprenticeship program. Over 80 percent of the employers he surveyed suggested that they would continue to participate in the youth apprenticeship program because of the benefit of "student productivity on the job." Departing from the results reported in table 11, Smith (1996) also found that a predominant reason for employers' participation was to perform a community service.

While table 11 identified the pull factors that attract employers to youth apprenticeship, expansion also requires identifying and addressing important obstacles to the adoption or expansion of youth apprenticeship. The most important factors limiting employers, as reported by youth apprenticeship coordinators, are reported in table 12. By far the two most important factors limiting employers are the inability to spare other workers to mentor youth apprentices (88.7 percent of coordinators) and the liability associated with hiring minors. Focus group data also highlight "age of student and liability insurance as obstacles" to employer participation. Our interviewees suggested that liability is-

sues are an important factor in the occupational mix of youth apprenticeship, which has relatively little representation in the building trades compared to the strong representation of the building trades in the registered apprenticeship system.

TABLE 12: Coordinator Perspectives on Factors Limiting Employers' Ability to Adopt Apprenticeship

Factors limiting an employer's ability to adopt or expand apprenticeship	Coordinators identifying factor as important
The employer cannot spare the time of other workers to provide mentorship or on-the-job training	88.7%
Employers are concerned about liability (therefore, will not hire students under 18)	84.9%
Business is experiencing instability and/or leadership change	32.1%
Employers have a training they are currently happy with	26.4%
The negotiating and contracting processes are too complicated	22.6%
Apprenticeship training is more intensive than the training the employer needs	13.2%
Apprentices would be hired or "poached" by competitors after completing their training	13.2%
Other (please specify):	7.6%
Work-based learning is too expensive	9.4%
Related academic training is too expensive	3.8%
Apprenticeship may encourage unionization efforts	1.9%

Source: Authors' calculations from the Survey of Georgia Youth Apprenticeship Coordinators.

Notably, the financial cost of youth apprenticeship was not an important deterrent for employers according to coordinators, nor was the threat of unionization. Georgia is a right-to-work state with low unionization rates, so unions are not as important for apprenticeship in the state as they are elsewhere. Unionization prospects are even lower in the case of youth apprenticeship since the apprentices are minors, unregistered, and generally not employed in occupations with active unions.[10] Relatively few coordinators identified the risk of poaching as an obstacle for employers (11.3 percent). This is consistent with findings from Lerman, Eyster, and Chambers (2009) that registered apprenticeship sponsors are generally not concerned with the risk of having their workers poached by competitors.

CONCLUSIONS AND RECOMMENDATIONS

Georgia's Youth Apprenticeship program has operated for decades, providing both intensive work-based learning opportunities to high school students and eager workers to employers. With over 3,200 apprentices, the program has allowed many students a smooth transition from school to work and has achieved high levels of employer satisfaction. Yet, youth apprentices make up only one out of six work-based learning participants in Georgia high schools and less than 2 percent of all high school juniors and seniors. Since current apprentices and employers find significant value in the program, it is worth asking whether the program could be expanded to achieve significant scale.

What, then, are the key barriers to expansion? Youth apprenticeship coordinators in the focus group reported that the greatest barrier to the expansion of youth apprenticeship is the low number of employers willing

to hire youth apprentices. Over two and a half times as many coordinators said that a limited pool of employers stood in the way of expansion as said that a limited pool of students stood in the way of expansion. Employers are reluctant to participate for a variety of reasons, including the complexity and appropriateness of the youth apprenticeship model and reservations about the liabilities associated with hiring a minor.

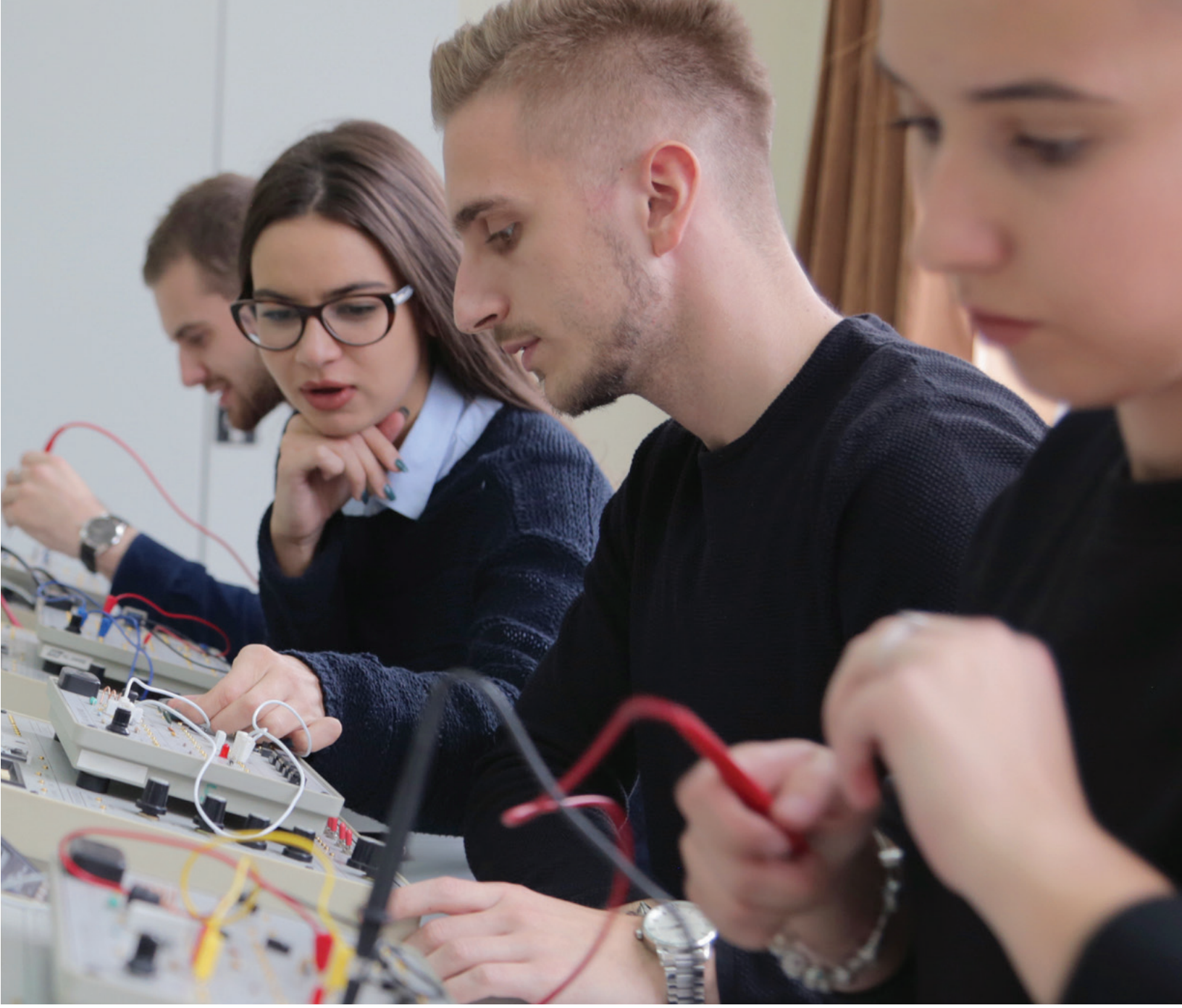
One coordinator suggested that it would be helpful to develop fact sheets to educate employers on the regulations and liabilities associated with employing minors. This coordinator indicated that the Occupational Safety and Health Administration (OSHA) actually imposes few restrictions on the employment of minors. Most of the restrictions that are relevant to minors are common-sense prohibitions on operating dangerous machinery that would be irrelevant to almost all youth apprenticeships. Workers' compensation insurance may be more expensive for minors in some cases, but a coordinator associated with Southwire suggested that these costs were not necessarily prohibitive. Most employers who resist youth apprenticeship based on liability concerns are responding to fears rather than known facts.

Currently, coordinators recruit employers in the context of finding positions for students wanting to enter a youth apprenticeship. With many other functions to perform, coordinators have managed to sustain enough employer commitments to accommodate over 3,200 apprentices. However, scaling the program may require a broader strategy, one that generates a much larger employer demand that could drive student interest. To move in this direction, the Youth Apprenticeship program could adopt an approach that provides a financial reward to intermediaries able to stimulate new apprenticeships. Providing such rewards would require devoting additional state resources to youth apprenticeship, possibly with funds from other programs that provide career-focused education or training.

Another option for increasing employer apprenticeship offers is to use the Group Training Organization model that has operated in Australia for decades. The model calls for helping interested groups become the equivalent of apprenticeship staffing organizations. The Group Training Organizations would formally employ apprentices but then leave the day-to-day work and mentoring of the apprentice to the responsible partner employers. The Group Training Organization would be the employer of record, handling the apprentices' wages, benefits, and insurances. The organizations would focus on attracting employers and work with the counselors on recruiting students and mentoring apprentices. Under this system, employers pay one weekly/biweekly invoice to the Group Training Organization that includes the apprentice wages and a small management fee (Wyman, 2015).

Enhancing employer recruitment could involve developing close links between the youth apprenticeship program, Georgia's registered apprenticeship system, and the potential Industry-Recognized Apprenticeship Program (IRAP) called for in the President's Task Force on Expanding Apprenticeship's (2018) final report and discussed in more detail by Jacoby and Lerman (2019). Coordinators and intermediaries might encourage employers already participating in the registered apprenticeship system to become employers for the youth apprenticeship system. These employers are already familiar with the training model. Another possibility for building linkages between youth and registered apprenticeship programs is to have existing completion credentials for youth apprenticeship serve as "interim credentials" in the registered apprenticeship system. An added step toward coordination would involve having youth apprenticeships become registered apprenticeships. The youth programs already meet many of the requirements for registration. One potential hurdle is that youth apprenticeships now have a lower minimum of on-the-job training hours (750) than the minimum hours required for registered apprenticeships (2,000). To avoid any conflict over requirements relating to hours, the youth program may encourage employers to use competency-based occupational frameworks of the type under development at the Urban Institute.[11]

Developing or adapting common occupational frameworks for apprenticeship could make it easier for coordi-



nators and other recruiters of employers to attract new employers into the system. Georgia should consider having "safe harbor" frameworks the employers can use in organizing their programs while assuring employers that they can tailor specific aspects of the training to their specific requirements.

Georgia has built a largely successful youth apprenticeship program but one that applies to a small percentage of high school students. The state would likely have to experiment with various ways to scale the program and with how to adapt the youth apprenticeship model to the registered apprenticeship system or to any emerging set of IRAPs.

Finally, the program should develop a research and policy capacity to examine which programs are working and why, how to upgrade employer recruitment, how best to align career clusters with apprenticeships, and how best to determine early career outcomes of participants as well as the program's net impacts. At the very least, Georgia could provide the youth apprenticeship director with a small staff to oversee the existing program and develop a wide range of alternatives.

APPENDIX

SURVEY GUIDE FOR COORDINATORS

Thank you for taking the time to fill out this survey. This survey will be used by research staff at the Urban Institute, a nonprofit research organization based in Washington, DC, to complete a study on youth apprenticeship in Georgia. The purpose of the survey is to help us understand your experiences with the youth apprenticeship system. Our research will help to improve existing programs and expand opportunities for successful careers for Georgia youth. This research is funded by the Georgia Center for Opportunity.

Please be informed that your participation in this survey is strictly voluntary, you can choose not to answer any question, and you are free to end the survey at any time. The information you provide will only be reported in aggregate form in any reports produced by the Urban Institute team.

If you have any questions about the survey, please feel free to contact Daniel Kuehn at dkuehn@urban.org (202-261-5739).

If you have any questions about why you are being asked to complete this survey, please feel free to contact Dwayne Hobbs at DHobbs@doe.k12.ga.us.

SURVEY QUESTIONS

General Information

1. How many months have you been a coordinator?

2. How many apprentices did you oversee in 2017–2018 academic year?

3. Please provide your best estimate of the percentage of your time that you spent on each activity in the typical school year. The percentages may not add up to 100% if some of your time is spent on activities not included in this list. (For reference, if you spend the same amount of time on all five activities each should take approximately 20% of your time).

   ☐ Orientation of apprenticeship program to students and parents

   ___% of your time in the typical school year

   ☐ Coordinate apprenticeship training programs with state and federal policies and standards

   ___% of your time in the typical school year

   ☐ Match students applying for apprenticeships with employer offers and develop contracts between the apprentice and the employer

   ___% of your time in the typical school year

   ☐ Communicate with program staff/faculty in regards to course schedule, curriculum needs, student enrollment, etc.

   ___% of your time in the typical school year

   ☐ Monitor progress of apprentices in gaining workplace skills

   ___% of your time in the typical school year

   ☐ Other (please specify): _____

   ___% of your time in the typical school year

4. Are most of the tasks that apprentices must learn in the work setting specified in an apprenticeship contract (i.e., a training agreement and training plan)?

   ☐ Yes
   ☐ No

5. Are most of the tasks that apprentices must learn in the work setting linked to industry-recognized credentials?

   ☐ Yes
   ☐ No

6. Please rank how valuable each student recruitment activity is, from 1 to 6, where 1 is the most valuable and 6 is the least valuable.

   _____ Coordinate Recruitment with Counselors

   _____ Classroom Visits

   _____ Student-Directed Presentations

   _____ Student Organization Presentations

   _____ Posters/Flyers/Brochures

   _____ Work with Career, Technical, and Agricultural Education (CTAE) teachers

7. On a scale of 1 to 5, where 1 = "Used but not helpful" and 5 = "Used and very helpful," how helpful are the following methods for convincing employers to take on an apprentice? (Please select only one answer in each row.)

Not helpful —————— **Very helpful**

	Method is not used	1	2	3	4	5
a. Word of mouth						
b. Leads or referrals from community or career college instructors						
c. Leads or referrals from workforce boards or WIOA-sponsored job center						
d. Networking using staff connections						
e. Networking using community connections						
f. Cold calling						
g. In person visits						
h. Conferences or other group convening						
i. Cooperation with state apprenticeship agencies						
j. Use of industry association partner						
k. Use of local chamber of commerce						
l. Broad-based marketing such as advertising, social media campaigns, and creation of a website						
m. Asking employers to recommend other businesses to work with						
n. Other (please specify)						

8. Please check the activities used to inform parent/guardians about your apprenticeship program:

   ☐ School open houses
   ☐ Registration events
   ☐ Advisory events
   ☐ Extracurricular events
   ☐ Visits to companies hosting apprenticeships
   ☐ Other (Please specify):

Descriptive Information

These questions relate to the academic year 2017–2018:

List the 3 occupations with the highest number of apprentices in the academic year 2017–2018:

1. _____
2. _____ (if applicable)
3. _____ (if applicable)

9. Please answer the following questions about each apprenticeship occupation. Please ignore rows where no occupation has been entered.

   How many apprentices were enrolled in each occupation in the 2017–2018 school year?

   What is the career cluster and educational pathway?

   Are all of the tasks that apprentices must learn and complete linked to industry-recognized credentials?

   What does completing the apprenticeship entail in this occupation?

   ☐ High school credential
   ☐ College credential (e.g., associates degree, one-year college certificate)
   ☐ Work-based learning credential
   ☐ Industry-recognized credential (e.g., AWS, NIMS, MSSC)

   What does completing the apprenticeship entail in this occupation?

   ☐ ___% Workplace supervisor assessment
   ☐ ___% Third-party test (possibly administered by supervisor)
   ☐ ___% Other assessment
   ☐ ___% No formal assessment

Of the apprentices that began the program three years ago, what share of apprentices completed their apprenticeship?

Of the apprentices that began the program three years ago, what share earned an industry-recognized credential?

Of the apprentices that began the program three years ago, what share received a full-time job offer after program completion?

Are all of the tasks that apprentices must learn and complete linked to industry-recognized credentials?

☐ Yes
☐ No

Are there additional courses required to complete the apprenticeship in addition to those in the educational pathway?

☐ Yes
☐ No

What are the industry-recognized credentials apprentices can earn?

Do apprentices receive high school credit for their work-based learning?

☐ Yes
☐ No

Do apprentices receive college credit for their work-based learning?

☐ Yes
☐ No

10. In your view, is there currently excess demand for apprentices by employers or excess supply of youth looking for apprenticeships by occupational cluster?

    ☐ Excess demand by employers (too many openings for the number of applicants)
    ☐ Excess supply of applicants (too few openings for the number of applicants)

Career Clusters/Pathways: Agriculture, Food, & Natural Resources • Architecture & Construction • Arts, Audio/Video Technology, & Communications • Business Management & Administration • Education &Training • Energy Systems • Finance • Government & Public Administration (ROTC) • Health Science • Hospitality & Tourism • Human Services • Information Technology • Law, Public Safety, Corrections, & Security • Manufacturing • Marketing • Science, Technology, Engineering, & Mathematics • Transportation, Distribution, & Logistics

11. List your impression of the top three clusters with an excess demand for apprentices in your area, compared to the number of applicants. (There is no need to consult labor market information or other statistics.)

    ☐ Most excess demand _____

    ☐ Second most excess demand _____

    ☐ Third most excess demand _____

12. List your impression of the top three clusters with an excess supply for apprentices in your area, compared to the number of applicants. (There is no need to consult labor market information or other statistics.)

    ☐ Most excess supply _____

    ☐ Second most excess supply _____

    ☐ Third most excess demand _____

13. What are the three most important factors leading an employer to adopt an apprenticeship?

    ☐ Apprenticeship leads to improvements in worker productivity
    ☐ Apprentices contribute to production
    ☐ Apprenticeship develops a customized skill set that is specific to an employer's needs
    ☐ Apprenticeship develops workers' skill set without them leaving the workforce
    ☐ Apprenticeship provides a steady source of skilled workers that are difficult to hire directly
    ☐ Apprenticeship reduces turnover
    ☐ Apprenticeship helps make workers self-sufficient
    ☐ Apprenticeship has broader social benefits such as reducing inequality or closing the skills gap
    ☐ Apprenticeship helps make workers self-sufficient
    ☐ Local related technical instruction providers have valuable training opportunities that can be accessed through apprenticeship
    ☐ Other (please specify): _____

14. What do employers report as the three most important factors limiting employers' ability to adopt and expand the apprenticeship model? Note: It is possible that you may not agree with employers in their assessment of limiting factors)

    ☐ Work-based learning is too expensive
    ☐ Related academic training is too expensive
    ☐ Apprentices would be hired or "poached" by competitors after completing their training
    ☐ The employer cannot spare the time of other workers to provide mentorship or on-the-job training
    ☐ Employers have a training they are currently happy with
    ☐ The negotiating and contracting processes are too complicated
    ☐ Apprenticeship may encourage unionization efforts
    ☐ Apprenticeship training is more intensive than the training that the employer needs
    ☐ Business is experiencing instability and/or leadership change
    ☐ Employers are concerned about liability (therefore, will not hire students under 18)
    ☐ Other (please specify): _____

15. What are the three most important factors limiting apprentices' completion of the program?

- ☐ Too much time required for training (Time management issues)
- ☐ Inability to meet GPA requirements
- ☐ Failure to complete coursework (secondary or postsecondary) requirements
- ☐ Taking another job before completing the program (Poaching)
- ☐ Inability of apprentice to get along with employer
- ☐ Not enough mentorship or trainer capacity
- ☐ Family Issues
- ☐ Unclear idea of the expectations of employers
- ☐ Personal Issues
- ☐ Other (please specify): _____

16. On average, what percentage of contacted employers agree to interview with apprentices?

17. What are the three most important factors limiting the expansion of apprenticeship training from your perspective as a coordinator?

- ☐ The pool of employers willing to hire apprentices is very limited
- ☐ Employers object to the high costs of starting an apprenticeship program
- ☐ Employers are unwilling to bear the costs of an ongoing program
- ☐ The pool of student applicants is very limited
- ☐ Retention of apprentices is too low
- ☐ Building quality related classroom instruction is too difficult
- ☐ Creating adequate occupational frameworks for workplace learning is too difficult
- ☐ The linkages between secondary and postsecondary components of the apprenticeship program are too weak
- ☐ Too few industry-recognized credentials are available
- ☐ Stigma around apprenticeships limits student interest (College-for-all mentality)
- ☐ Too few students are ready for the world of work
- ☐ Managing the program is costly
- ☐ Employers object to the high amounts of paperwork
- ☐ Employers unwilling to hire students under 18

18. Do you think apprentices see a close connection between their coursework and their work-based learning?

- ☐ Always
- ☐ In most cases
- ☐ About half the time
- ☐ Not in most cases
- ☐ Never

19. Which elements of your job, if any, lack adequate funding?

    - ☐ Employer outreach
    - ☐ Organizing apprenticeship programs for employers
    - ☐ Student counseling
    - ☐ Preparing students for the workplace

20. Does your office hold records on who entered and/or completed apprenticeships in the last 15 years?

    - ☐ Yes
    - ☐ No

21. Briefly describe how these records are maintained and in what form they are reported to a state agency.

22. Do you conduct any follow-up surveys of apprentices after they leave their apprenticeship?

23. If yes, briefly describe these follow up surveys.

NOTES

1 “Student Success Story: Marissa Bowyer,” Georgia Work-Based Learning, accessed February 15, 2019, https://gawbl.org/student-spotlight/marissa-bowyer.

2 See “Georgia Work-Based Learning by the Numbers,” Georgia Work-Based Learning, accessed February 15, 2019, https://gawbl.org/by-the-numbers for 2016–17 enrollment figures.

3 CTAE career clusters are more standardized and are more directly relevant to state policymakers, so occupation-level data are identified by career clusters.

4 See “Georgia Work-Based Learning by the Numbers,” Georgia Work-Based Learning, https://gawbl.org/by-the-numbers for 2016–17 enrollment figures. Notably, some sources indicate the number of youth apprenticeship are upwards of 7,000. Enrollment data was previously recorded as the unit number of periods or hours a student would enroll in for a program rather than the actual student count.

5 ApprenticeshipUSA, “U.S. Department of Labor’s List of Occupations Officially Recognized as Apprenticeship by the Office of Apprenticeship,” March 2016, https://www.doleta.gov/OA/bul16/Bulletin_2016-28_Attachment1.pdf.

6 Estimates of registered apprentices in construction come from the Registered Apprenticeship Partners Information Data System, 2000–16.

7 For employer survey results from 2004 to 2014, see http://www.gadoe.org/Curriculum-Instruction-and-Assessment/CTAE/Documents/YAP-customer-satisfaction-survey-results-2004-2014.doc.

8 NOCTI is the “largest provider of industry-based credentials and partner industry certificates for career and technical education (CTE) programs across the nation” (https://www.nocti.org/about.cfm).

9 For employer survey results from 2004 to 2014, see http://www.gadoe.org/Curriculum-Instruction-and-Assessment/CTAE/Documents/YAP-customer-satisfaction-survey-results-2004-2014.doc.

10 An important exception is public-sector teachers’ unions, but since teachers are already unionized there is little additional unionization threat posed by youth apprenticeship.

11 See, for example, “Competency-Based Occupational Frameworks for Registered Apprenticeships,” Urban Institute, https://www.urban.org/policy-centers/center-labor-human-services-and-population/projects/competency-based-occupational-frameworks-registered-apprenticeships

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NOTES

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