



**John J. Heldrich Center for
Workforce Development**

An Evaluation of Camden County College's Trade Adjustment Assistance for Community College Career Training Grant: Year 1 Program Implementation

by Jennifer M. Cleary | August 2015

EVALUATION REPORT

About the Heldrich Center

The John J. Heldrich Center for Workforce Development at the Edward J. Bloustein School of Planning and Public Policy at Rutgers University is a research and policy organization devoted to strengthening New Jersey's and the nation's workforce during a time of global economic change. The Heldrich Center researches and puts to work strategies that increase workers' skills and employability, strengthen the ability of companies to compete, create jobs where they are needed, and improve the quality and performance of the workforce development system. Since 1997, the Heldrich Center has experienced rapid growth, working with federal and state government partners, Fortune 100 companies, and major foundations. The Center embodies its slogan "Solutions at Work" by teaming with partners and clients to translate cutting-edge research and analysis into practices and programs that companies, unions, schools, community-based organizations, and government officials can leverage to strengthen the nation's workforce. The Center's projects are grounded in a core set of research priorities:

- > Disability Employment
- > Education and Training
- > U.S. Labor Market and Industry
- > Unemployment and Reemployment
- > Work Trends
- > Workforce Policy and Practice

Learn more about the Heldrich Center at www.heldrich.rutgers.edu

Table of Contents

Introduction	1
Research Process and Methods	1
Program Implementation Findings	2
Program Goals and Design	2
Selection Process for Target Industries, Occupations, and Credentials	4
Program Staffing	6
Recruitment and Screening.....	8
Enrollment.....	11
Curriculum, Teaching, and Assessment	15
Job Development and Other Support Services	22
Conclusion and Recommendations	27
Recruitment and Screening.....	27
Program and College Enrollment	28
Job Development and Other Supports.....	30
Reference	30
Appendix. List of Interviews Conducted	31

Introduction

To improve the capacity of community colleges to meet the nation's workforce needs, the U.S. Department of Labor (DOL), Employment and Training Administration (ETA) awarded Trade Adjustment Assistance for Community College Career Training (TAACCCT) grants to community colleges in every state. In 2012, Camden County College (CCC) received a Round 2 TAACCCT grant to build flexible workforce programs that respond to employer demand in key industries throughout New Jersey. CCC proposed to develop programs in multiple industries, including utilities, transportation and logistics, and manufacturing, all of which align with the New Jersey Department of Labor and Workforce Development's (NJLWD) target industries for its sector-based workforce development efforts.

In its solicitation for TAACCCT grant proposals, ETA (2011) stipulated that the workforce programs supported with TAACCCT funding must address the needs of job seekers and employers. ETA expects college leaders to create programs that prepare job seekers to succeed in jobs that are in demand in local labor markets, pay decent wages, have good working conditions, and provide career mobility opportunities. Ideally, programs are also expected to provide job seekers with portable, stackable credentials that are widely accepted by multiple employers within targeted labor markets, and that can be combined with other certificates to help job seekers advance their careers. If possible, programs should also develop plans to allow job seekers to earn college credits, as well as other credentials. To achieve these goals, colleges are also expected to use labor market information and close partnerships with employers to understand and address employer needs.

CCC contracted with the John J. Heldrich Center for Workforce Development at Rutgers, The State University of New Jersey, to conduct an independent evaluation of its TAACCCT grant workforce activities. This report is the first implementation evaluation report and describes the evaluation process, findings, and preliminary recommendations based on program activities that the evaluators examined during the spring and fall 2014 semesters, during which CCC carried out three utilities and

six manufacturing courses. This report discusses utilities trainings offered through Atlantic Cape Community College (ACCC), Cumberland County College, and Gloucester County College, and manufacturing trainings offered at CCC, Raritan Valley Community College (RVCC), Cumberland County College, and Bergen Community College.

Future evaluation reports will address ongoing activities in the program and provide guidance for program improvement. The final report will summarize implementation results, as well as provide a summary of the participants' employment and academic outcomes.

After this introductory section, the next section describes the qualitative data collection methodologies that the Heldrich Center used to generate the data for this report. The subsequent sections provide a detailed description of the program, as well as detailed findings and recommendations on key program implementation activities.

Research Process and Methods

The purpose of this evaluation is to assess the extent to which CCC's TAACCCT-funded programs have addressed DOL's intentions for these grants, which are to "ensure that our nation's institutions of higher education are able to help the targeted population succeed in acquiring the skills, degrees, and credentials needed for high-wage, high-skill employment while also meeting the needs of employers for skilled workers" (ETA, 2011).

Heldrich Center researchers used a variety of methods to understand how CCC is aligning workforce programs and services to meet the needs of students and employers. Program areas examined include program goals and the occupation/credential selection process; program design and staffing; recruitment, screening, and enrollment; curriculum and teaching strategies; job development; and other support services. Heldrich Center staff used the following methods to develop the findings in this report:

Interviews with Instructors and Program Staff.

The evaluation team facilitated 16 staff interviews between the spring 2014 and fall 2014 semesters across multiple program sites. Heldrich Center researchers also met with staff from CCC and other stakeholder groups involved in program administration. The purpose of these interviews was to collect information on how CCC was implementing its TAACCCT grant, to learn how the instructors taught and assessed their students, to solicit instructors' opinions about how the semester went, and to identify the strengths, weaknesses, and ways to improve the programs for future students. See the Appendix for a list of interviews that were conducted.

Interviews with Employers. Researchers interviewed eight utilities and manufacturing employers, primarily to assess their satisfaction with the skills and preparedness of the students they have hired from the program. Because one employer (South Jersey Industries or SJI) played a more involved role in the development and delivery of the utilities curriculum, research staff also interviewed SJI representatives to obtain their input on their involvement in program implementation. Originally, the research team had proposed to conduct a survey of employers. However, program staff were not able to provide sufficient contact information for all employers involved in hiring workers because the recruitment and tracking of employers was decentralized and handled by multiple staff at multiple program locations. As a result, the Heldrich Center opted to conduct interviews with a smaller number of employers for which direct contact information was made available by program staff at local college partners involved in program implementation.

Site Visits and Focus Group with Students. The Heldrich Center conducted six site visits and focus groups with students to learn about their experiences in the program. Topics for the focus groups included students' experiences with enrollment, instruction, and support services, as well as their perceptions of challenges, strengths, and weaknesses of the program. Evaluators encouraged the students to share a range of perspectives on these topics.

Student Surveys. The Heldrich Center distributed surveys to students from several programs that operated prior to the implementation of the current TAACCCT grant, but for which CCC received permission from federal officers to count within the grant. However, given the time that had elapsed between the end of these programs and the implementation of the TAACCCT evaluation contract, the response rates to these surveys were minimal and the results were not meaningful to analyze.

Program Implementation Findings

The following sections describe how CCC and its partners implemented key aspects of their utilities and manufacturing programs in the spring and fall of 2014 and provide insight into the feedback offered by program staff, employer stakeholders, and students. Following the narrative description are key findings from the evaluation team.

Program Goals and Design

Program Goals

Overall, the goal of CCC's workforce development program is to create an infrastructure to develop and implement high-quality occupational training programs throughout the state that meet job seeker and employer needs. The program seeks to provide eligible unemployed or underemployed job seekers who have demonstrated proficiency in basic skills and aptitudes associated with targeted occupations with the training, equipment, and support they need to find, keep, and advance within a high-quality, living-wage job. To meet employer needs, the program aims to meet both **job vacancy demand** — the quantitative demand for workers with particular credentials in target industries and labor markets — and employer **skill demand** — or common critical skill and credential needs of industry employers.

The program has established a number of targets. According to the scope of work for the grant, CCC expects to train 60 students, with a goal of having 80% complete the program. Of these, the program expects 95% to complete credit hours, 95% to earn a credential, and 25% to enroll in further education. Of those who earn credentials and who are not incumbent workers (staff expect 10% of enrollees to be incumbent workers), 90% are expected to enter employment and 75% of those people are expected to retain their employment for two consecutive quarters following the quarter of program completion. Among incumbent workers who enroll in the program (10% of enrollees), 90% are expected to receive a wage increase.

Program Model

CCC's TAACCCT program model was based on several pre-existing program models. According to the scope of work for the project that CCC staff submitted to ETA, CCC based its TAACCCT-supported programs broadly on the nationally tested Career Technical Education (CTE) model and the National Career Clusters Framework developed by the National Association of State Directors of Career Technical Education. The scope of work for the program also indicates that the program will offer stackable and latticed credentials.

CCC staff noted in interviews that the TAACCCT program design was also based on a training model developed by staff at the New Jersey Community College Consortium for Workforce and Economic Development (NJCCCWED), a key partner in CCC's TAACCCT grant. This model, called "On-Demand Training," was first implemented at CCC for the manufacturing industry approximately six years prior to the TAACCCT award. The original model involved the use of real-time labor market information and in-depth discussions with employers to identify demand for jobs and common skill and credential requirements, developing a customized curriculum that resulted in industry-recognized credentials, and using staff at NJCCCWED to work closely with employers to place graduates into jobs.

According to interviews with CCC and NJCCCWED staff, the On-Demand Training model and the CTE models noted in CCC's scope of work together provided a set of common design elements and objectives for CCC's TAACCCT programs, as follows:

- > Target jobs and industries that show evidence of demand for workforce graduates and pay between \$12 and \$24 per hour.
- > Collect employer input on job vacancy demand, as well as credential and skill needs for target occupations/occupation groups.
- > Involve employers throughout the program process through participation in public information sessions that allow employers to "pre-interview" prospective students, site visits, and job placement assistance.
- > Provide training near pockets of verified local employer demand.
- > Provide the facilities and curriculum expertise to enable host colleges to offer hands-on and classroom technical training, as well as career preparation and soft skills training.
- > Leverage the workforce development system to assist with screening, including testing and screening for training benefits eligibility.

Key aspects of CCC's program model implementation include the use of **host colleges** to deliver all or part of the curriculum, the use of a mobile trailer for manufacturing programs to ensure that host sites without a full machine shop have access to needed equipment for instruction, and the purchase of training equipment for a centralized hands-on training facility for a utilities program. Subsequent sections of this report describe other key aspects of program implementation, including the ways in which CCC and NJCCCWED interact with host colleges and employers to deliver the program.

Finding

Finding #1. Overall, the goals of CCC's programs align with DOL's expectations for the TAACCCT program. ETA stresses the need for TAACCCT-funded workforce programs to both prepare job seekers for high-wage, high-skill jobs and to meet employer demands for skilled workers. According to the program's scope of work, staff interviews, and employer interviews, CCC set goals and objectives that support both of these key aims. By setting a goal to target industries that have high levels of demand for skilled labor and setting living wage criteria for targeted occupations and industries, the program sought to address students' needs and prepare them for better jobs. The program's goal to include employers in all phases of program design and development and to commit to meeting both the quantitative demand for workers with in-demand credentials (**job vacancy demand**) and to ensure that the individuals who earned these credentials have the full set of abilities and technical and soft skills required to perform to employer standards (**skill demand**) are also in keeping with ETA's goal to ensure programs meet employer workforce needs. Further, the program's emphasis on delivering training through "host colleges" where job demand is most evident helps to ensure tighter alignment with both job seeker and employer needs by ensuring that relationships with employers are locally based and jobs are accessible near the training site.

Selection Process for Target Industries, Occupations, and Credentials

Industry Selection

CCC originally proposed to address skill needs in three industries — utilities, transportation and logistics, and manufacturing — through its TAACCCT programs. According to interviews with CCC staff, labor market information and preliminary discussions with employers in these industries indicated that they had significant demand for newly trained workers throughout the state and that they offer middle-skills, living-wage jobs for entry-level workers, as well as opportunities for advancement.

After receiving the grant, however, program staff conducted additional outreach to employers and concluded that there was no longer sufficient demand for a transportation and logistics program, so the focus was narrowed to the utilities industry, in particular the gas pipeline sector in several southern New Jersey counties, and the manufacturing industry (statewide). Utilities and manufacturing were also chosen, in part, because programs had already been developed or partially developed in these industries. CCC was thus able to use TAACCCT funds to build on these models and to implement them in various locations throughout the state.

Utilities

The utilities program was originally planned by ACCC staff in collaboration with leaders from SJI well before the award of the TAACCCT grant. However, ACCC lacked sufficient funding for the equipment and facilities needed for program implementation. As a result, according to interviews with ACCC and CCC staff, ACCC and SJI joined forces with CCC to apply for the TAACCCT grant to obtain this additional support. According to staff, the TAACCCT grant was used to fund the purchase of training equipment, to expand and support the program at various college locations in southern New Jersey, and to ensure that program delivery fit the basic program model described above.

Manufacturing

The manufacturing program was also developed prior to the TAACCCT grant but had only been implemented at CCC and, more recently, at a few college sites that had the correct equipment. In this case, the TAACCCT grant was used to purchase mobile trailers with manufacturing equipment and to expand and support the implementation of the training to locations throughout the state, enabling colleges with less equipment to offer the program.

Occupation and Credential Selection

CCC and NJCCCWED used a number of methods to identify and select appropriate target occupations for the TAACCCT programs. As noted above, wages and high levels of demand were critical fac-

tors in occupational selection for both the utilities and manufacturing programs.

Utilities

Staff reported that SJI officials and several of their subcontractors provided ACCC and CCC with verbal estimates of entry- and mid-level job openings that were projected to have high demand in southern New Jersey and that would meet the program's criteria of paying between \$12 and \$24 per hour. SJI and its subcontractors estimated that there would be approximately 600 to 800 of these jobs available in South Jersey over the "next few years." These estimates, according to staff implementing the program, were based on anticipated plans to expand pipeline infrastructure, as well as anticipated industry replacement needs.

Program staff reported that they decided not to use additional data sources, such as traditional labor market information and "real-time" jobs data that are derived from online job ads, to confirm employers' estimates of job vacancy demand. This decision was made, according to staff, because employers reported that most of these job opening estimates were based on **anticipated future work**, not currently available job openings. As the program was rolled out to several colleges in the area, SJI staff and select subcontractors provided CCC staff with verbal estimates of more local pockets of job demand that were expected to align with program graduation dates in particular counties where the program was being offered through host colleges.

According to staff at ACCC, SJI and ACCC staff collaborated to identify recognized credentials associated with the jobs projected to be available. Since the jobs identified were all related to gas pipeline installation and maintenance, CCC, ACCC, and SJI agreed that the utilities training should culminate in students taking the National Gas Association Operator Qualification exam, issued by the U.S. Pipeline and Hazardous Materials Safety Administration, to earn the industry-recognized credential for the position of operations technician. SJI and other natural gas-related companies in New Jersey indicated to program staff that they would recognize this credential across a number of related positions and that it is widely known in the Northeast.

Manufacturing

According to interviews with CCC and NJCCCWED staff, program staff used multiple sources of information to select manufacturing occupations to target. Program staff at CCC and staff at NJCCCWED reported that they convened multiple employers at several advisory sessions prior to the award of the TAACCCT grant to identify occupations that are in demand, pay between \$12 and \$24 per hour, and are suitable for entry-level workers with short-term training. These employers identified precision machining and CNC operators, and production technicians as the most suitable occupations for training. Employers also confirmed that they would pay at least \$12 per hour for entry-level program graduates in these positions.

To confirm current local demand for employer-identified in-demand jobs prior to program implementation in various locations, NJCCCWED used *Labor Insight*, a real-time labor market information tool created by Burning Glass Technologies and licensed by NJLWD, which scrapes information from online job ads. NJCCCWED staff, according to interviews with staff, then reached out to local potential host colleges to alert them of the demand for targeted jobs in their area and to assess their interest in hosting a manufacturing program with assistance and, if needed, the use of the mobile trailer purchased with TAACCCT funds that would allow the college to provide access to needed tools and machines. If the college expressed interest, NJCCCWED staff would work together with staff at the host college to conduct direct outreach with employers to confirm that the level of current job demand was similar to that found using *Labor Insight*. According to interviews, when NJCCCWED/CCC and local college staff can confirm up to 10 to 20 current and/or near future job openings among a set of multiple employers, they determine that there is enough demand to consider offering training.

To select the appropriate credentials for the manufacturing program, CCC staff reported that they and the CCC technical instructor held several in-depth meetings with employers to identify the skills they look for when hiring workers for the selected positions. CCC instructors and staff then used these skills to identify national industry credentials that

aligned with employers' stated skill needs. These included the National Institute for Metal Working Skills (NIMS) Machining Level I certificate, which aligns with the precision machining/CNC operator positions, and the Manufacturing Skills Standards Council (MSSC) - Certified Production Technician (CPT) Level 1, which aligns with the production technician occupation. An advisory group of employers was then consulted to confirm that these credentials were appropriate and would be recognized widely in the industry in New Jersey. According to staff, employers reported that while these credentials are not required for most entry-level jobs, they are nonetheless widely recognized and appropriate for the skills entry-level workers require.

Findings

Finding #2. The industry-based credentials offered by the program were derived from national or regional credential sources and validated with local employers. According to interviews with multiple staff and employers, program staff relied on nationally and regionally developed credentials from industry-recognized sources such as NIMS, MSSC, and the Northeast Gas Association. Staff reported making efforts to validate the local demand for manufacturing credentials with numerous employers throughout the state using advisory groups. Staff reported that employers pointed to the NIMS and CPT certificates as being both recognizable credentials and a good guide to the knowledge and skills needed for entry into the industry. In the utilities industry, ACCC and SJI selected credentials for the program based on SJI's knowledge of the industry's needs. Other subcontractors also provided input at meetings, according to staff interviews.

Finding #3. Program staff adapted the methods used for identifying job vacancy demand and choosing industry-recognized credentials to the unique needs and circumstances of the utilities and manufacturing industries. In both programs, staff reported using input from employers to validate job demand and credentials. However, the number of employers consulted and the use of other sources of data, such as real-time jobs data, differed due to key differences in the nature of demand in each industry.

In the case of utilities, for example, SJI is the primary utilities employer in the South Jersey area and many related employers act as subcontractors to SJI, according to interviews with SJI and program staff. As a result, SJI is in a unique position to understand demand trends for the entire gas industry in that region. Program staff also consulted with some subcontractors to better understand demand and to secure their partnership in the program, but the close-knit structure of the industry made it less critical to involve large numbers of employers in that process. Also, since much of the job vacancy demand in this industry was being projected based on anticipated new projects and retirements, the use of tools such as *Labor Insight* to document current job openings was not relevant.

In manufacturing, where there is less of a coalition of employers working together and job vacancy demand is more real time instead of anticipated, it was a logical choice to both consult multiple employers at the state and local levels and to supplement this with data from *Labor Insight* to document the current job postings in local areas.

Program Staffing

CCC's TAACCCT program is comprised of several core staff members located at CCC and NJCCCWED, as well as a network of staff at host colleges around the state. In utilities, staff at SJI also play key roles as instructors in the program.

Strategic Lead

A senior executive at NJCCCWED provides strategic oversight, quality control, and direction for the project.

Project Director

CCC is the fiscal agent for the grant, and a senior account executive at the college serves as the project director for TAACCCT. The role of the project director is to ensure the grant is implemented as proposed, with assistance and direction from the strategic lead; to allocate resources; to ensure grant reporting is completed on schedule; and to provide direction for the evaluation team.

Data Collection Lead

A senior staff member at NJCCCWED manages administrative data collection and works with CCC Institutional Research staff to provide data on students from host colleges to CCC for grant tracking and reporting. The data collection lead ensures that data are input into the CCC Student Information System, as well as transmitted securely to the Heldrich Center for outcomes analysis.

On-Site Project Directors

Each of the colleges participating in the TAACCCT-funded utilities and manufacturing programs has designated either an employee of the college or a consultant to serve as the on-site project director. The project directors are responsible for day-to-day management and operations of all aspects of the TAACCCT-funded program at the college site. For the most part, these individuals are staff or consultants already employed by or working with the colleges who perform other duties in addition to their project director responsibilities.

Instructors

The program's instructional staff consist of soft skills instructors, technical skills manufacturing instructors, and two types of technical skills utilities instructors.

The host colleges hired their own soft skills instructors for the manufacturing and utilities programs. Some colleges hired more than one soft skills instructor for each course so that they could each teach skills in which they specialized. These instructors included existing college staff and consultants who had prior general experience teaching soft skills, such as leadership, interviewing skills, résumé development, communication, and teamwork.

In manufacturing, the lead technical instructor at CCC, in cooperation with the dean of the college's Division of Business, Computer, and Technical Studies, guided the purchase of equipment required for the mobile labs and developed curricula and teaching methods for the TAACCCT-funded

manufacturing programs that could be shared with technical instructors at local host colleges. He also teaches the manufacturing courses offered at CCC.

Host colleges sponsoring the manufacturing curriculum hired their own instructors to teach the class at the host college site. This hiring was often done with assistance from NJCCCWED, which helped to identify qualified instructors able to travel to the host site. In fact, two instructors taught manufacturing programs at, at least five different host college sites.

In utilities, a core set of staff from SJI were hired by CCC to develop and deliver the hands-on technical curriculum at a central SJI-owned training facility located in the same region as the host colleges. SJI staff also advised the CCC project director regarding the equipment needed to outfit the SJI training facility for the program. One employee of the Northeast Gas Association who was certified to deliver the curriculum selected for the course was hired by CCC and traveled to each host site offering the utilities program to teach the classroom-based technical training.

Job Development Specialist

The job development specialist is an employee of NJCCCWED and is responsible for identifying demand among employers, recruiting employers to engage in initial program screening interviews and other activities, and arranging post-program interviews. Overall, this person is responsible for helping to place students in full-time employment after graduation, and for following up with graduates and employers after graduates have been working. Much of this individual's focus is on the manufacturing industry, as executives from SJI took the lead in these activities for the utilities industry.

Résumé Development Assistant

This individual, an employee of NJCCCWED, provides assistance formatting participant résumés. Participants at host college sites around the state are invited to send their résumés electronically to this individual to be reviewed, critiqued, and edited.

Other Support Staff

Host colleges engaged varying numbers of staff and/or consultants to provide a range of support services, including job development and résumé assistance, assistance managing financial and other hardships, and other services.

Findings

Finding #4. In general, staff are qualified for their roles and committed to the program goals. Overall, the central and on-site staff have experience and education that are well suited to the requirements of their positions. The program's leaders have experience developing demand-driven programs, and all of the technical and hands-on instructors were highly experienced instructors with multiple years of industry and classroom experience. Soft skills instructors tended to have backgrounds in training and instruction in similar areas, and job developers had experience and/or sales-related skills appropriate to the position. In interviews, staff demonstrated a strong passion for the program and a strong desire to help students find good jobs after the program, as well as help employers connect to good employees. In focus groups, most students expressed appreciation for instructors and other staff who provided assistance inside and outside of the classroom to help them succeed.

Finding #5. Some staff were not aware that CCC was sponsoring the TAACCCT programs or what role CCC and NJCCCWED staff play in the program implementation. Most on-site program directors interviewed reported participating in at least one centralized meeting with CCC and NJCCCWED staff and employers. These staff were generally aware of the roles played by NJCCCWED staff, the CCC project director, and other staff. However, at least one on-site program director and several staff and instructors, including a technical instructor who taught at several host sites, reported that they were not aware that CCC was sponsoring the program. In addition, many soft skills instructors and support staff at host college sites were not aware of CCC's involvement at all. In several cases, staff reported that they thought the program was sponsored by their own college as just another workforce program, while at one college, staff re-

ported that the program was sponsored by NJLWD with assistance from NJCCCWED and no involvement from CCC. Several instructors and support staff reported that they had not met any staff from CCC and had limited interactions with staff from NJCCCWED, as noted above. As a result, there was not a uniform awareness of the roles CCC and NJCCCWED staff play in the utilities and manufacturing programs implemented with this TAACCCT grant.

Recruitment and Screening

CCC established a basic framework for recruitment and screening for use in both utilities and manufacturing. This framework includes advertising and holding comprehensive information and testing sessions in community locations, such as libraries; allowing employers to interview program applicants and have input into their acceptance into the program, along with host college staff and CCC and NJCCCWED staff; and screening students at the One-Stop Career Center for eligibility for Trade Adjustment Act (TAA) assistance, other tuition assistance, and continued benefits while in training. Staff reported no special efforts to conduct outreach with underrepresented populations, such as women and minorities.

Despite a common framework, however, CCC implemented the recruitment and screening activities somewhat differently across the manufacturing and utilities programs, as described below:

Utilities

According to interviews with staff, CCC and NJCCCWED worked with the host colleges, employers, and One-Stop Career Centers in southern New Jersey to organize advertising and implementation of public information sessions for the utilities courses. CCC, along with NJCCCWED and the host colleges, decided to advertise the information sessions, which were to be held at local libraries, via local radio stations and newspapers since all of the courses and jobs were available in the same region and such advertising would reach a wide audience. During the information sessions for each county, local host college officials provided an overview of

the program's structure, requirements, and benefits. Employers from SJI and some subcontractors were also available to explain jobs and salaries and to interview participants.

To be considered eligible for the utilities program, individuals were required to have scored well on the Test of Adult Basic Education (TABE) and Bennett Mechanical Comprehension test, as well as meet physical requirements, such as the ability to work outdoors and lift 50 pounds. Screening was offered on-site at the information sessions with help from One-Stop Career Center staff. Those who scored highest on the screening tests and received positive remarks from employers were invited to join the program, according to staff interviews.

One-Stop staff also screened students for eligibility for tuition assistance and other subsidies through Workforce Investment Act, Workforce Development Program, TAA, and other funding streams. However, since the program was advertised via radio and newspapers, such eligibility was **not a requirement for admission in the utilities program**. As a result, some students in the utilities program paid for the \$6,000 tuition out-of-pocket or with personal loans.

Manufacturing

In the case of manufacturing, where programs were more widely distributed throughout the state, CCC and NJCCCWED took a somewhat different approach to advertising the program and conducting information sessions, according to interviews with NJCCCWED and CCC staff. Rather than relying on paid media advertisements, CCC relied on One-Stop Career Centers and host colleges to recruit and refer participants for local courses. CCC/ NJCCCWED staff, including the job developer and staff from the host college, met with One-Stop counselors in areas where a new program was beginning to provide them with a detailed understanding of the skills employers require, the interests and aptitudes that potential students would need to possess, and what the program entailed for students. The One-Stops then provided assistance notifying their customers via e-mail about the opportunity and the related information sessions. In addition, host colleges performed their own outreach to recruit students.

Candidates for the manufacturing program were screened in several stages. First, the One-Stops screened candidates to ensure that they met the minimum requirements for enrollment (a high school diploma or GED) and an interest in working in the field of each program. Individuals who met the minimum qualifications were invited to meet with the job developer and several employers at an information session. During the information sessions, eligible candidates learned about the demands of the job and what it would actually be like to work in that job, followed by employer interviews. Staff reported in interviews that those candidates who were interested and performed well in employer interviews were invited to take the Bennett Mechanical Comprehension test. The TABE test was not offered for the manufacturing program because, according to staff and instructors, no special ability in mathematics was required for the courses.

Candidates who scored highest on the Bennett Mechanical were screened again through the One-Stops for unemployment and other benefits eligibility. Unlike the utilities program, CCC and NJCCCWED officials made eligibility for Unemployment Insurance (UI) compensation and tuition benefits **a requirement of program entry**. Students not accepted into the program were referred to other options.

Findings

Finding #6. Students and employers appreciated having employers involved in the recruitment and screening process. Employers reported in interviews that they had significant input into the enrollment and screening process, as well as other aspects of program development. They reported that this helped them to feel invested in the program and excited about the students. Students, as well, reported in focus groups that the involvement of employers early in the program process, including the information sessions, allowed them to feel like the program would actually help them to get a job. Plus, they reported having a clearer sense of what employers were seeking in candidates.

Finding #7. Reports varied, however, as to how involved employers were in final decisions about who was offered admission to the class. Some staff reported that employers had no say at all, while others reported that they had input or even veto power over candidates. One staff member reported that the employers had a scorecard and rated students based on their initial interview at the information session. Some manufacturing employers also expressed concerns that several students were admitted after receiving low marks from employers at the information sessions. Overall, the extent to which employer comments and ratings were counted in the screening process was somewhat unclear.

Finding #8. Students and instructors felt that requiring some utilities students to pay tuition for the program created a significant hardship for students. During focus groups, several students in the utilities program noted that they did not qualify for a training subsidy, so they had to pay to participate in the course. At one site, the program manager reported that seven of nine students enrolled had to pay their own way, while the remaining two were covered through the One-Stop. Several students who had to pay noted that they were currently unemployed or underemployed and the cost of the program was causing them significant hardship. Interviews with staff revealed similar sentiments as staff in several locations where the utilities program was offered suggested that the program should not require students to pay, especially given that the program was targeting unemployed or underemployed students. Staff also noted that in the manufacturing program, students had to pre-qualify for a training subsidy to enroll in the course. The fact that this was not done in utilities appears to have led to some hardships for those who were admitted on a self-pay basis.

Finding #9. In focus groups, many students reported that they thought the program should have required a higher level of math skills. Several students noted that they were told by staff at information sessions that they only needed basic math skills to succeed in the program. However, these students reported that the curriculum, especially in manufacturing, often required a background in advanced math topics, including calculus and trigonometry. Students noted that those in the class who lacked strong math skills suffered more than others

and had a much harder time with the course. On the other hand, as will be discussed in the next section of this report, students acknowledged that instructors provided the support students needed to catch up. However, some advanced students reported feeling left out as the course had to be slowed or adjusted to ensure all students could keep up. Overall, students felt higher levels of math skills should be required.

Finding #10. Employers, instructors, and on-site host college staff interviewed were less concerned about students' math skills, but suggested that the program did not adequately screen for students' motivation and interest. Several employers, instructors, and staff noted that there were some students who did not seem particularly interested in the work and/or were unsatisfied with the salary range of jobs. Several staff and instructors provided examples of students who dropped the class because they decided that they did not want to work in the field. Other employers, staff, and instructors noted that there were students who turned down job offers because they wanted to make more money, even though the jobs offered were within the salary range they were told to expect at the start of the program. These individuals stated that they felt the program needs to screen more for interest and drive among students, as well as for willingness to work for wages at the lower end of the estimated salary range.

Finding #11. Students at some sites reported receiving inaccurate information about the program during the recruitment process. Researchers received site-specific complaints during student focus groups about the quality of information provided to students about the course, what it would take to succeed, and what they could hope to earn. Students at several sites noted that they were concerned that they did not receive a thorough understanding of the program's content. For example, one participant reported that staff said participants would be working in a metal fabrication shop (which is the name of the course in the advertising materials for the course), but said the instructor did not address metal fabrication at all. Others pointed out that CNC was included in the course title, as well, but the course was primarily focused on safety skills and not CNC.

As will be explored in greater depth later in this report, some students also felt that the information sessions were misleading with regard to math knowledge they need to succeed and the wages they should expect. During information sessions, students and staff reported that the wage estimates provided ranged from \$12 to \$24. However, students reported that employers were offering some students jobs at wages as low as \$8 per hour. In addition, many students reported in focus groups that they were told during information sessions that there was no minimum level of math knowledge required. However, once the program began, many students struggled with the level of math presented.

Overall, with regard to the intake and orientation process, students at some sites felt that staff introducing them to the program did not fully understand how it ran, what type of students they were seeking, or what students needed to succeed during and after the program. According to interviews with CCC staff, this may have occurred due to staff changes and some difficulties communicating program details among new staff.

Finding #12. Students reported that delays and misinformation in benefits eligibility screening caused them financial hardships. In several locations, students noted in focus groups that the administration of the benefits eligibility process at the One-Stops was sometimes less than ideal. In focus groups, some students reported that they were assured that their UI benefits would be extended as long as they participated in the program, known as Additional Benefits while in Training (ABT). However, several students reported that they were informed midway through the program that they were not, in fact, eligible for ABT or other promised benefits. According to the students, this caused financial hardship for them and their families.

Finding #13. Both programs attracted a diverse group of male participants, but women had low participation rates in both the information sessions and the programs. During site visits, staff observed a diverse mix of men in many of the manufacturing and utilities classes that included individuals from varied age groups; racial, ethnic, and cultural backgrounds; and employment

backgrounds. However, racial diversity appeared somewhat more limited for the utilities course, and both programs had difficulty attracting women to the information sessions and the program itself. In interviews, staff reported that few women attended the information sessions and even fewer completed the testing and screening process. No women attended the utilities training, and only a few enrolled in manufacturing training.

Enrollment

Two levels of enrollment are described in this section. The first is **program enrollment**, which includes the processes staff use to set enrollment targets for TAACCCT programs within each college. The second is **college enrollment**, which includes the policies the program set that govern students' enrollment at the institutional level, which, in turn, govern students' ability to earn college credits and access on-campus facilities and services.

Program Enrollment

For both the utilities and manufacturing programs, most staff interviewed noted that they attempted to match the number of students enrolled in each TAACCCT program to the level of job vacancy demand identified by CCC and NJCCCWED program staff, to the greatest extent possible given practical limitations such as course capacity, student demand, and other factors.

Some staff reported that they used the estimates of job vacancy demand that were provided by CCC and NJCCCWED staff prior to the program to set enrollment targets. As one staff member noted, "For this class, we had 28 openings in the commutable distance. It's all been employer vetted. We go to the employers, show curriculum, and confirm it fits their need. And we go based on these amounts of job orders, we can assemble a class close to that size."

In many locations, however, staff stressed that they used the estimates of job vacancy demand created at the start of each program not to meet these demands precisely, but rather to ensure that there was **sufficient** demand for the planned number

of graduates in the local area. In other words, the job vacancy estimates served to prevent creating an oversupply of workers, rather than to provide a specific target number for enrollment.

This approach was necessary for several reasons, according to staff. First, many employers, though they committed to participate in the program, could not guarantee that jobs projected to be available at the start of the program would actually be available at the conclusion of the program. NJCCC-WED staff reported that some employers were able to hold and guarantee currently available jobs for graduates. However, most employers contacted prior to beginning a program were projecting demand based on assumptions about their future hiring needs. In some cases, these projections turned out to be incorrect. In other cases, staff reported that employers could not wait for the program to finish to fill currently available jobs. Finally, host college staff and NJCCCWED staff continuously contacted employers for job leads throughout the course, so some employers that had jobs available at the time of graduation were not factored into the original job projections.

In addition, staff reported in interviews that course capacity and student demand placed limits on their ability to match job vacancy demand precisely to the job vacancy demand identified prior to the course. In one county, for example, employers projected 60 utilities jobs to become available, according to staff, but the program's enrollment limit was a maximum of 15 students due to classroom size, teaching capacity, and equipment available for training. One school reported setting its enrollment target at 9 students, as opposed to the maximum of 15, because prior experience teaching a similar course suggested that 9 students was the ideal class size for learning the content. Another college reported canceling its utilities program due to a lack of sufficient demand from qualified applicants. Others reported running the program, but with fewer applicants than their original enrollment target due to limited student demand.

Finally, creating precise alignment between the supply of graduates and the demand for jobs requires having good data on both job vacancy demand and skilled worker supply. While colleges

had fairly robust data on job vacancy demand, much of these data were based on employer projections, which are subject to change in the ways noted above. Further, no data currently exist that would allow colleges to assess the current supply of applicants that might compete against graduates for jobs, as many of these individuals may be currently employed in other jobs, living in other states, unemployed from similar jobs, or enrolled in other colleges preparing for similar credentials. As a result, colleges would risk creating an oversupply of qualified applicants if they were to try to precisely match job vacancy demand without a hiring guarantee from employers.

College Enrollment

According to interviews with CCC staff, all students in the manufacturing and utilities training programs funded by TAACCCT were enrolled **in the host college where the training took place**. As a result, students were subject to all of the host college's policies regarding earning credit and accessing on-campus facilities and services. Institutions delivering the training reported student enrollment and completion data to CCC for grant-tracking purposes and for outcomes assessment.

CCC staff did report that for one course — the NIMS manufacturing course — the program had established a way for students who took the course at a different host college to apply for enrollment at CCC in order to receive credit. Students who complete the NIMS course at CCC earn 12 credits toward an associate's degree in advanced manufacturing. According to CCC staff, students who take the NIMS course on another campus are eligible to apply for enrollment in CCC's advanced manufacturing associate's degree program and, if accepted, CCC will review the NIMS coursework from the other college and award up to 12 credits for this work. CCC does not currently offer credit for the other manufacturing course (CPT) or for the utilities courses, so a similar transfer option is not available for students in these courses.

Findings

Finding #14. Despite using the “best practice” methods recommended in ETA’s Request for Applications for gauging job vacancy demand, accurately targeting this demand was challenging for program administrators in both the utilities and manufacturing programs. According to interviews, the actual availability of jobs at the program’s completion was difficult to predict. As a result, despite using practices suggested by ETA, choosing enrollment targets for the program was challenging for staff.

As recommended in ETA’s Request for Applications for the TAACCCT program and as described earlier in this report, program staff relied on multiple sources of information to assess job vacancy demand, including direct reports from multiple employers and, in the case of manufacturing, the use of *Labor Insight* to understand “real-time” demand through an analysis of online job ads. While these processes represent “best practices” in assessing employer demand, these methods did not allow program staff to accurately project hiring needs in all locations. At several sites, students and staff reported that actual hiring needs differed from employers’ original estimates between the time the program was started and the time students graduated.

In the case of utilities, interviews with staff and employers suggest that this was due to difficulties SJI and its contractors had in providing accurate estimates of future hiring needs for particular high-wage job types. One employer interviewed mentioned that, by the time students graduated, the company’s needs for higher-wage positions had been filled and the jobs that remained open for graduates were entry-level positions paying less than the minimum wage students were told to expect in the information sessions.

In manufacturing, staff interviews and student focus groups revealed that the employers recruited to provide job offers were not always the same employers that were involved in the information sessions and screening of applicants. While staff also relied on real-time labor market information

from *Labor Insight* to project demand, these data only represent online job ads, which may or may not reflect employers’ actual hiring needs.¹

Finding #15. The program changed its college enrollment policies after receiving the TAACCCT award. In initial meetings with program staff at CCC and NJCCCWED, staff indicated that the intention of the program was to enroll all students at CCC, regardless of where the student attended classes. This would have allowed for students to earn a uniform number of credits, as per CCC’s credit policies for its TAACCCT programs, as well as to have access to college facilities and services at CCC.

Following award of the TAACCCT grant, however, staff reported that this policy had changed and students would now be enrolled at the host college where they attend classes. Staff reported that CCC could not get host colleges, many of whom were recruited on a rolling basis post-award, to agree to the original enrollment policy. Instead, colleges agreed to enroll students at their own institutions and report student data for tracking purposes. The result is that students are now subject to the host institution’s credit award policies and have access to campus facilities and services at the host institution to the extent that their enrollment status allows at the host institution.

1. Real-time jobs data, such as that provided by companies like Burning Glass, are collected by gathering and parsing online job advertisements. These data represent a promising new way to understand job vacancy demand. However, given the new and unstructured nature of these data, it is difficult to determine how accurately they reflect real job vacancy demand for a number of reasons. First, not every job is advertised online, which may result in an undercounting of some jobs. On the other hand, many jobs are advertised multiple times through various job boards and recruiters and while companies like Burning Glass attempt to de-duplicate these ads, there is no guarantee that this process is being carried out successfully. Finally, some employers and recruiters continually post some jobs for which they do not necessarily intend to hire right away (a process referred to in the recruiting industry as “fishing”).

Finding #16. Credit award policies for TAACCCT programs at host colleges varied significantly. The award of credit varied across TAACCCT programs, as well as across host institutions offering the courses, as follows:

Manufacturing. According to interviews with staff and instructors, students who completed the NIMS manufacturing course at CCC (and who were therefore enrolled at CCC) earned 12 credits toward an associate's degree in advanced manufacturing from the college. Staff at CCC reported that the college was able to offer credit for the NIMS course because it had been embedded into an associate's degree program prior to TAACCCT implementation. Staff reported that the CPT manufacturing program course is not associated with any credit-based programs at CCC and no credit is offered for this course for CCC students. Staff reported no plans to offer credit for the CPT course in the future.

Staff from host colleges reported offering between zero and six credits for the NIMS manufacturing course. As noted above, however, students who took the NIMS course at a host college outside of CCC are eligible to apply to CCC's advanced manufacturing associate's degree program. If accepted, they may be awarded up to 12 credits for the NIMS course at CCC.

Host college staff also reported offering between zero and three credits for the CPT manufacturing course. The on-site project director at one college, for example, noted in an interview that his college provides three credits for the CPT course since it is aligned with MSSC standards, which have already been mapped to a credit structure at his college. For colleges where no credit is offered, students do not have the option of applying for enrollment and credit at CCC, as CCC does not offer credit for this course.

Utilities. CCC does not offer college credit for utilities courses. Other host colleges offer between zero and three credits for the utilities courses, according to interviews with staff and student focus groups. Since CCC does not offer credit for utilities courses, there is no option to apply for a transfer of credits as in the case of the NIMS course mentioned above.

Finding #17. Some students and staff at host colleges lack awareness of the program's credit transfer policy for the NIMS manufacturing course.

While CCC staff reported that the program allowed students who took a NIMS course at a local college who want to enroll in CCC's associate's degree program to transfer up to 12 credits, students in focus groups at some sites expressed frustration at not being able to get credit for their work and were not aware of the policy. On-site staff at affiliate colleges also did not mention the transfer option when asked about credit award policies for the program. Several staff at host colleges whom researchers asked about the transfer program also reported that they were not aware of the policy or how to direct students to pursue that option.

As a result of the lack of knowledge about the credit/enrollment transfer option for the NIMS manufacturing program, it is possible that fewer program completers are applying for admission to CCC's associate's degree program. Overall, this also means fewer program completers will earn college credits.

Finding #18. The program is not on track to meet its goal to provide 95% of program completers with college credit. The scope of work for CCC's grant indicates that the program's goal is for 95% of those who complete to earn credit. However, CCC is not currently on track to meet this goal given the current structure of credit award. Since credit award policies vary significantly by both course and institution, many students are not earning credit for the TAACCCT programs in which they are enrolled. This number is further limited by the fact that many staff and students at host colleges report not being aware of the option to earn up to 12 credits by applying to enroll in CCC's advanced manufacturing associate's degree program. Overall, it is unclear what percentage of students have earned college credits, but the lack of credit available for many programs makes the original goal of 95% unreachable.

Finding #19. Student access to campus facilities and services varied significantly across host colleges, which may affect student engagement and success. Host colleges had varied policies regarding student access to campus facilities and services, such as libraries, parking, computer labs, and

career services, among others. Overall, such different levels of access to support may have an impact on students' engagement in the program, which could affect student satisfaction, as well academic and employment outcomes.

Staff at host colleges reported that access to the full range of services on campus was dependent on whether a student was enrolled on a credit or non-credit basis. So, students taking a utilities or manufacturing course for credit at a host college was provided with a student identification card, full parking and library privileges, and other amenities and services. On the other hand, students who attended host colleges where TAACCCT courses were offered on a non-credit basis did not receive such access.

Non-credit students at some locations reported in focus groups that they did not receive a college identification card, campus orientation, student parking, or access to other important campus facilities and services that are designed to assist students and keep them engaged. Some of these students reported feeling like "second-class citizens" on campus, especially in areas where students spent much of their time in the mobile manufacturing trailers. Such feelings of alienation and lack of support may make it more difficult for these students to stay engaged and be successful in the program.

Curriculum, Teaching, and Assessment

At a broad level, CCC determined that both the utilities and manufacturing programs would combine classroom and hands-on technical learning to teach technical skills, include soft skills components, and provide opportunities for direct employer interactions throughout the course through site visits and in-class employer presentations. The following sections describe how the curriculum was developed and delivered throughout the program.

Curriculum Development

In both manufacturing and utilities, much of the technical aspects of the curriculum were developed prior to the award of the TAACCCT grant,

while the soft skills curriculum was developed, at least in part, during the project's implementation phase. The following describes how the curriculum was developed and implemented for each program.

Utilities

ACCC had worked closely with SJI representatives for several years prior to the TAACCCT grant to understand the technical skill needs of SJI and its contractors. At this stage, SJI and AACC agreed that it was best to adopt the technical curriculum developed by the Northeast Gas Association, a group of industry employers in the region. This curriculum was standardized and included specialty trainers who travel to deliver classroom training, as well as an online training and testing component. The technical and hands-on training prepares students to take the industry-recognized National Gas Association Operator Qualification exam, issued by the U.S. Pipeline and Hazardous Materials Safety Administration.

According to interviews with CCC staff, SJI and AACC also determined that SJI would be best positioned to develop and deliver a hands-on technical training component, while community colleges would provide soft skills training, including team work, leadership, etc., as well as career development skills. However, at the time, funds for hands-on training equipment and the development of the soft skills and career development curriculum components were lacking.

When the TAACCCT grant was awarded to CCC, staff from CCC, NJCCCWED, and local colleges continued discussions with SJI, hosting roundtable discussions to talk through employer technical and soft skill needs. The group agreed to adopt the Northeast Gas curriculum, to use the TAACCCT grant to fund training equipment purchases for the hands-on training, and to offer soft skills training through local college sites in southern New Jersey.

In addition to talking with SJI and some of its contractors regarding soft skills needs, CCC and host college staff also consulted materials from the National Center for Energy Workforce Development (CEWD). Program staff used competency models developed by CEWD and validated these compe-

tencies with SJI. These materials, along with input from SJI and other employers, allowed the group to develop a list of soft skills priorities, which included teamwork, communication, problem-solving, critical thinking, and other broad cognitive skills, as well as expectations for interviewing and résumé etiquette.

CCC and NJCCCWED staff provided the list of soft skills validated with employers to host colleges, which were permitted to develop their own curricula and teaching strategies based on this information. While a common set of soft skills was delivered to staff at each host college and host college staff attended meetings with SJI and other utilities employers, CCC staff did not develop a standard curriculum for the soft skills component of the program. Instead, colleges developed curricula on their own based on the list of priority skills. SJI and subcontractor representatives were on hand at host colleges for interview preparation sessions that reinforced the soft skills needed, but soft skills instruction was primarily delivered by host college instructors. Further, host colleges were not required to contextualize the teaching of soft skills within an industry-specific context.

Manufacturing

According to interviews, CCC and NJCCCWED convened an advisory group of employers to understand the skills and credentials needed for entry-level manufacturing jobs for which hiring was expected, while NJCCCWED staff also met with employers around the state to validate skill and credential needs. As one staff member mentioned, “Before every class starts, we have a roundtable with employers of skills. We have some existing employer partners here. [One employer] thought things were missing from this curriculum, so he donated three expensive machines to the program. It’s a very personal experience; manufacturing [employers] take it very personal.”

Once CCC and NJCCCWED validated the NIMS and CPT credentials with employers, CCC created curriculum for each program track that was designed to both prepare students to pass certification exams and to meet employers’ needs for key skills from entry-level workers. The dean of CCC’s Divi-

sion of Business, Computer, and Technical Studies and the instructor at CCC guided the purchase of equipment required for the manufacturing mobile units and developed curricula and teaching methods for the TAACCCT-funded manufacturing programs based on credential requirements and input from employers. CCC staff designed a detailed technical and hands-on curriculum for both the NIMS and CPT tracks based on the requirements for the certificates, CCC credit requirements, and employers’ additional skill needs.

The technical/hands-on curriculum for NIMS and CPT courses was made available to all host college sites to which the program was expanded under the TAACCCT grant and the CCC instructor offered to meet with instructors at the sites to help them become familiar with the content and pedagogy. Most instructors reported meeting with the CCC professor who developed the original curriculum, but there were no formal requirements established for training the instructors at various sites, according to interviews with program staff.

In fact, strict adherence to the technical curriculum developed at CCC was not a program requirement, as program leaders at CCC and NJCCCWED reported that they recognized that local programs might need to customize the curriculum to meet the unique needs of local employers in their areas. According to interviews with on-site staff, several colleges that offered the manufacturing programs already had similar programs in place, which led to the emergence of similar, but not identical curricula across sites. Instructors at several colleges reported in interviews that they leveraged existing curricula and equipment. As one instructor noted, “We knew what they were looking for and we began creating a competency-based training based on what employers were telling us. We were already doing it, but we were looking for ways to enlarge the number of people we were able to get to. Through the consortium, we were able to get additional funding.” Another instructor reported, “We just tweaked [the CCC curriculum] based on the machinery we have. But we still have to cover the bases [that CCC laid out in its curriculum]. We added welding. The original curriculum did not have that.” One host site also included content

from Tools University as part of the manufacturing curriculum because, according to staff, the college already had a paid subscription for its use.

As in utilities, host colleges were expected to develop their own curricula for soft skills based on a broad outline of skill priorities that was validated with employers and provided by CCC and NJCCC-WED to the host sites. Whereas in utilities, host colleges developed curricula based on a list of employer-validated priority skills from CEWD (e.g., leadership, teamwork, and critical thinking skills), host colleges in manufacturing were asked by program leaders to focus more heavily on job readiness skills (e.g., résumé development and interviews). Students and instructors at several sites also noted that the teaching of some soft skills, such as teamwork, was informally embedded in the technical/hands-on portion of the course. However, host colleges were not required to contextualize the teaching of soft skills within an industry-specific context.

Teaching and Assessment Strategies

The manufacturing and utilities programs each used a variety of teaching and assessment strategies for their programs, as described below:

Utilities

In utilities programs, there were two forms of technical instruction that each used different teaching and assessment strategies. The first aspect of technical training was classroom based and was taught by one instructor from the Northeast Gas Association. This individual traveled to each host site to deliver the training using a common, standardized curricula that used a lecture and question-and-answer (Q&A) format and required reading. The second component of technical training involved hands-on instruction delivered by SJI corporate training staff at a centralized SJI training facility. The teaching strategies for the hands-on portion of the course focused on allowing students to observe, practice, and master hands-on competencies under instructor direction. Instructors also used online instructional modules to complement the hands-on instruction and to test students' knowl-

edge. To assess students' technical skills, students took the National Gas Association Operator Qualification exam. Students were also assessed using online quizzes and instructor observation.

The teaching strategies for soft skills curricula in utilities were similar across host college sites despite some differences in the focus and content of the curricula. According to staff interviews and student focus groups, teaching strategies for soft skills included classroom-based lectures on general soft skills topics such as leadership and teamwork, as well as more interactive components around career readiness skills that involved receiving feedback from instructors on interview styles and résumés. In general, the teaching of soft skills was not contextualized to industry-specific contexts. However, SJI officials were available at host sites intermittently to provide examples of how soft skills such as leadership, teamwork, and critical thinking are used on the job in the gas industry.

Staff and instructors reported that no formal assessment of students' soft skills was conducted. Rather, assessment was done informally through instructor observations of classroom participation and, for career readiness skills, performance in "mock interviews."

Manufacturing

In CCC's manufacturing programs, students received both hands-on and classroom-based technical training from the same instructor in a comprehensive approach that involved daily switching between the classroom and the hands-on training facility. Instructors used classrooms at the host college site, as well as the on-site machine shop, if available, or the mobile manufacturing trailers.

Instructors reported interactively guiding students through the technical curriculum using a combination of lecture, Q&A, presentations, and lab-based hands-on instruction. Generally, the classroom portion consisted of lectures and presentations by employers. However, at least one site (RVCC) also added online learning from Tool University to include online teaching strategies for the classroom component. According to interviews with staff and student focus groups, teaching strategies during

hands-on instruction included taking an instructor-dominant approach at some sites, while other sites relied more on students to provide peer-based support and assistance.

Soft skills teaching strategies varied along with the curricula in manufacturing. At some sites, classroom-based instruction was used to teach résumé writing, interviewing, and other skills, while at other sites, soft skills were taught organically as part of technical instruction and no classroom instruction was provided. At some sites, staff reported providing hands-on assistance with résumé development and real-time assessment and feedback on interview performance, while at other sites, staff and students reported less interaction with students.

Findings

Overall

Finding #20. Students generally agreed that the program's curriculum prepared them to obtain a good job in the industry. Many students reported in focus groups that they generally felt prepared for a job in the target industry after going through the program. Many also said that the program's content gives them a "step up" from someone off the street. Students in manufacturing noted that they can now "use the language that a manufacturing employer uses" to obtain a job. Students in utilities said that they now understand the career options in the industry and felt confident that the program gave them the knowledge they need to get started.

Finding #21. The level of coordination between technical and soft skills training varied across sites. Staff and students reported different levels of coordination between the soft skills and technical training components. At some sites, soft skills and technical instructors reported working together to coordinate curricula. Instructors reported in interviews that they worked to contextualize the teaching of soft skills, including career readiness skills, using information from the technical curriculum. According to interviews with staff, at one site this appeared to be due to the college's existing program model for its own TAACCCT-funded programs, while at other sites, it occurred more spontaneously as the instructors worked together

to build the course. Staff did not mention such coordination as a requirement of the CCC program model.

At some sites, there was very little coordination of technical and soft skills curricula. At one site, the technical instructor interviewed was not aware that soft skills instruction was part of the program model. At another site, students reported in a focus group that the soft skills instructors were not on the "same page" with the technical instructor and that they felt the soft skills instructors "had white-collar mindsets reviewing blue-collar résumés."

Technical Curriculum

Finding #22. Students at all sites were overwhelmingly positive about their technical and hands-on instructors. Students in every focus group had high levels of praise for the technical classroom and hands-on instructors. Students uniformly reported that the instructors provided individualized attention and support to those who needed extra help. As one student described, the instructor's style is like "No child left behind; he's going to make sure you get it before he moves ahead." Comments like this were heard at multiple locations. Students cited examples of instructors spending extra time with them, motivating them when they were feeling discouraged, and even intervening to help them address personal issues. Overall, according to focus groups at every site visited, the students found the instructors to be knowledgeable, competent, and kind.

Finding #23. The program's technical curriculum, instructors, and teaching strategies appear to have positive effects on students' teamwork, motivation, and engagement. Students at multiple sites in both utilities and manufacturing noted in focus groups that the class experienced strong team bonding. Students reported multiple incidents of peers, often from very different work histories and personal backgrounds, stepping in to assist one another and supporting each other to finish the class successfully. As one student mentioned:

"We have some talented [people] who have been in the industry and have been plenty of help, they were like extra instructors in the class. There aren't enough machines and when

we are on this, you can't get 17 people on a machine. It would help to move the project and get the work done. Early on when we first started using the machines, you could tell there was a wide disparity between machinists and those who weren't, by week six or seven, the disparity wasn't as obvious. We could set up and work the machines on our own."

Students reported that this bonding was due to the team-based structure of the technical instruction, the care expressed by the technical instructor, and the challenging nature of the course material. In several focus groups, students noted that the instructors had everyone working in teams on the machines during hands-on portions of the course. The instructors, according to students, encouraged more experienced classmates to assist those who were less experienced, both during hands-on instruction and classroom instruction. Students also reported that the difficulty of the course material encouraged them to work together to understand the challenging material. In addition, several students expressed that the instructors' commitment to ensuring all students made it successfully through the course encouraged them to help one another as well. As one instructor reported, "I keep things on a lighter side. I encourage them to look after one another as far as safety. You are working with rotating machinery, so we pointed all that stuff out. They started the teamwork on their own." Similar comments were heard at several sites. As one staff member noted, "Camaraderie was so strong with this group. The end result was I saw the growth. And [the students] are telling me they are seeing the growth."

In focus groups, students also stressed that the instructors' caring and dedicated approach, combined with the team bonding, helped to keep them motivated and engaged. Several pointed out that seeing the instructor assist every individual to master the content helped convince them that they could finish the course. Several students also noted that working together as a team helped to keep them motivated during difficult periods and encouraged them to keep going.

Also, a number of students in the manufacturing courses expressed that being able to work on and successfully complete projects helped to increase

their engagement and motivation in the class. One manufacturing student created a "class ring" for peers and the instructor to symbolize their bond, while others were similarly proud of independent and class projects they had created using the machinery in class.

Finding #24. The technical portion of the course is more consistent in utilities than in manufacturing.

As described by CCC staff and interviews with SJI and instructors, the technical aspect of the utilities program was implemented consistently across sites, while the manufacturing program had more variation.

The utilities program used a standardized technical curriculum that was developed and delivered by the Northeast Gas Association and a hands-on curriculum developed and delivered by a core set of SJI staff at a central location. The curriculum was a standard 132 hours at all sites. The technical curriculum and the instructors were the same for all student cohorts as well, so the experience of technical and hands-on instruction was consistent across sites for utilities.

The technical portion of the manufacturing courses was more variable in their content and instructional materials. Host colleges were provided with a curriculum for manufacturing, and were permitted to customize the curriculum to address local needs, according to interviews with CCC staff. One site, for example, added welding to the curriculum, according to staff interviews, while another reported using a modular curriculum developed by the Manufacturing Skills Council. In addition to the curriculum, sites also used different instructional materials. Staff and students at one site, for example, reported using Tools University, a subscription-based online instructional tool, but this was not available in other locations. At another college, students reported that the textbook and the workbook did not match well and it appeared from focus group comments that these materials were different than the books used at CCC and other sites.

The instructors and the length of the manufacturing programs also varied from one college to the next. While some instructors taught the course in more than one location, the instructors varied

across sites. While one instructor reported that he had worked closely with the CCC instructor, other instructors noted that they worked independently and did not coordinate with a central program instructor. Because of differences in curriculum and instructors' scheduling availability, the NIMS Fabricated Metal CNC course varied between 280 and 300 hours, according to staff estimates.

Finally, equipment access and hands-on training facilities also varied significantly in manufacturing programs. According to students, the mobile trailers provided by CCC to some host colleges were not insulated and were cramped. One instructor noted that his machine shop has eight machines, while the trailer has only two, providing fewer opportunities for students to do hands-on work in the trailer. Students and instructors reported having improved access to machines for training at colleges that had machine shops. On the other hand, one instructor thought that the trailers provided a better simulation of the work environment for students.

Overall, there were a number of notable differences in the manufacturing program across sites, which may have implications for students' learning and employment outcomes.

Finding #25. Students and some instructors in both programs felt that the program's technical content was too complex to absorb in the time allowed, which caused hardships for some students. Students at all sites, across both programs, reported in focus groups that they needed more time to absorb the material. As one student in the utilities program expressed, the program appears to be "jamming too much information into a short period of time." At one manufacturing site, a student reported in a focus group that the class was supposed to cover 100 topics, but only got through 50 topics in the time allowed. In particular, students wanted more time to practice hands-on skills and to better absorb complex classroom topics. In focus groups, many students in both programs also expressed a need for introducing more equipment and formal helpers to the sites to allow for more in-class, hands-on practice time.

Some instructors also reported in interviews that they thought the course should be longer to allow for students to better absorb material and gain

more confidence in their skills. Feedback from students and instructors varied in terms of how much longer the program should be, but answers generally ranged from 16 to 24 weeks.

Many students pointed to difficulties and hardships caused by the amount of time that was required for the course outside of the classroom. Some students complained that the amount of study time made it difficult to balance school with their current jobs and other responsibilities. Students who had trouble with the math or technical concepts used in class noted that they needed extra time to "catch up" with the rest of the class, which often meant staying late to work with the instructor and missing other activities.

Finding #26. Assessment of technical skills in manufacturing and utilities was uniform. According to interviews with program staff and instructors, students' technical skills were judged by successful completion of online tests (utilities only), instructor observation of hands-on task competencies, and certification exams (both utilities and manufacturing). Aside from the use of online assessments in utilities, the assessment of technical skills was performed uniformly across both types of programs and at various sites.

Soft Skills Curriculum

Finding #27. Soft skills training in the program is inconsistent across sites, especially in manufacturing. Site visits, student focus groups, and interviews with instructors and staff at local affiliate colleges revealed uneven implementation of the soft skills training, which varied in terms of time spent on soft skills topics, content/curriculum, and teaching strategies.

First, there were structural differences between the soft skills instruction in utilities and manufacturing. In utilities, students received separate classroom instruction on topics such as leadership and teamwork, as well as career readiness skills. Some sites had up to four soft skills instructors in utilities. In manufacturing, soft skills instruction was generally limited to career readiness skills. It is unclear from interviews with staff the extent to which this structural difference was dictated by employer needs versus staff preferences.

Second, since sites were allowed to develop their own soft skills curricula within broad guidelines provided by CCC and NJCCCWED staff, there were differences from site to site, especially in manufacturing. At some sites, such as Bergen Community College, manufacturing students who participated in focus groups reported receiving up to four days of intensive coaching on interview skills and job search skills, complete with role play and in-depth discussions with a dedicated soft skills instructor. Students and the instructor also noted that the teaching of soft skills, such as teamwork, was embedded in both the technical/hands-on portion of the course and in the career preparation modules, although there was no dedicated instruction on that topic. At CCC, on the other hand, there was no formal classroom instruction on soft skills, but staff reported that soft skills were taught informally as part of technical instruction and the job developer provided some support with career readiness skills.

In utilities, the differences among sites was less pronounced. On-site program managers reported that they hired specific instructors to teach soft skills and the instructors developed their own curricula using the guidelines provided by CCC and NJCCCWED staff regarding employer priorities. However, staff at several sites noted that they worked together on developing a curriculum and descriptions of the time spent on topics was similar across utilities sites.

Finding #28. Most students thought the soft skills curricula were helpful, but some were disappointed in some or all of this aspect of the training. At most manufacturing sites visited, students expressed very positive views about the soft skills curricula in focus groups and told researchers that they thought this content helped them prepare for interviews, develop better résumés, and better understand how to be successful on the job. Students made comments such as, “The staff really helped me to create a better résumé,” “I learned what I was doing wrong in interviews,” and similar comments.

At one manufacturing site (CCC), students reported in the focus group that they were disappointed with the lack of career readiness training. CCC staff did note that the original soft skills instructor was promoted just prior to the class starting, so the

decision was made to offer soft skills instruction informally through the NJCCCWED job developer and résumé writing assistant. Staff reported in interviews that, while there was no formal classroom instruction, they met individually with students as needed. Students at this site, however, told researchers that staff revised their résumés for them, but did not provide meaningful feedback or much, if any, assistance with interview skills.

Students in the utilities course were also disappointed by the soft skills training, but for different reasons. Students told researchers in focus groups that they did not find the content on teamwork and communication helpful. Students generally felt that this classroom-based component was “too long” and they did not understand the relevance of much of the content to their targeted jobs. The students agreed that these components focused too much on “personality issues” and they characterized some of the personality analysis and team-building exercises as “stupid games.” Overall, students described the teamwork and communication classroom instruction as a waste of their time or described feeling patronized by the topics. As one student noted, “We are adults. We have had jobs before, so teamwork is not brand new to us.” Another asked, “We are ditch diggers, so why do we need to figure out if we are introverts or extroverts?”

Students in the utilities course were also disappointed in the career readiness aspects of the soft skills training. Students reported in a focus group that they were required to interview with employers prior to taking part in career readiness activities. In this cohort, staff explained that the class was enrolled first in technical training, then in soft skills. In other cohorts, this order was reversed. Students agreed, however, that it is not helpful to order the course this way, as most of the exposure to employers and job-relevant topics came first, making the soft skills curricula seem “too late” to be useful.

Finding #29. Highly interactive and/or contextualized teaching strategies appeared to increase student satisfaction with soft skills instruction.

Students at sites where soft skills were taught in a highly interactive or contextualized manner were extremely positive about the soft skills training. A

Bergen Community College, for example, where students reported spending more time on soft skills than at any other manufacturing site visited, students spent several days doing mock interviews, role play, and other interactive career readiness activities. At this site, students were overwhelmingly positive about the soft skills instructor and curriculum during the focus group and reported wanting more time to focus on these topics. Similarly, students at other sites who reported high levels of interaction with staff for résumé development and interviewing also were quite positive in their assessments and asked for more time to be spent on these topics.

Students were also very positive about the soft skills feedback received from technical instructors as this feedback was often individualized and contextualized to the industry. For example, several students in focus groups mentioned that they appreciated it when technical instructors pointed out to them how a particular soft skill behavior they were doing in class was going to hurt them on the job. One manufacturing student told researchers during a focus group that he would routinely brag about his accomplishments to fellow students. He said he stopped when the instructor pointed out how that would be perceived by co-workers and supervisors as damaging to the team effort. Similarly, students in utilities told researchers during focus groups that they appreciated feedback on teamwork and leadership topics from technical instructors and employers as it showed them how they can be more successful in their target job.

Finding #30. Soft skills assessment was generally informal and inconsistent across program sites, especially in manufacturing. In both the utilities and manufacturing programs, most staff, students, and instructors reported that there were no formal assessments performed, but employers and staff provided informal feedback on students' soft skills such as teamwork, leadership, and career readiness skills.

However, in manufacturing, reports were somewhat more variable across sites. Student reports regarding the feedback they received from staff and employers varied from some students telling researchers that they received significant assessment and feedback to others reporting that they received

very little and wanted more. In some manufacturing courses, students disagreed that any type of assessment of their soft skills was performed, or they did not recognize that feedback from staff as an assessment of their skills. In addition, staff at one manufacturing site reported using LRI (Learning Resources, Inc.), a video-based assessment tool that identifies soft skill deficiencies, to formally assess soft skills. However, this was not a part of the formal program model and no formal assessments for soft skills were found in other locations.

Job Development and Other Support Services

The program offered job development services to all students that included networking opportunities with employers throughout the program and job placement assistance. This section describes these services, as well as other services provided at some host colleges.

Employer Networking

Both the utilities and manufacturing programs provided networking opportunities with employers throughout the program. For example, both programs involved employers in information sessions to explain the jobs for which they were recruiting and to interview students interested in enrolling in either utilities or manufacturing courses. Employers also attended class sessions in both programs to talk with students about jobs and work conditions.

Due to the unique nature of each industry, some networking activities were done differently in the programs. In manufacturing, for example, students were required to attend site visits at local employer sites. Students were responsible for their own transportation to the site, where employers provided a tour of the facilities. In utilities, where much work takes place outdoors, the program did not conduct outside site visits to employer facilities.

One manufacturing site researchers visited required students to complete a two-week unpaid internship before job placement. This component was not part of CCC's official program model, but was designed by the host college to build trust with

employers by letting employers test out workers before hire. Because this was not part of the official program model, it was required after program completion, but prior to job placement.

Job Placement

Staff reported in interviews that employers were recruited throughout the program process for both programs. Specific job placement activities were somewhat different across utilities and manufacturing programs as follows:

Utilities

SJI worked with NJCCCWED staff to arrange a job fair at the end of the course where students could meet and talk with multiple employers about their current job opportunities. In addition, local and NJCCCWED job development staff continued to assist students with job placement if they did not secure a job at the job fair. Staff worked to understand student needs and strengths, and then arranged interviews for them with participating employers.

Manufacturing

At the end of the program, local and NJCCCWED job development staff assisted manufacturing students with setting up job interviews with employers on an individual basis. At some locations, but not all, a job fair was also held.

Across both programs, the NJCCCWED job developer reported that he assisted in marketing students to employers. He mentioned that he sat in on many interviews students had with employers, took notes, and provided feedback. He noted, "I really enjoy sitting in on the interviews because it gives me an opportunity to sell individuals to the employers. I speak up on the student's behalf. I can give you an example. I am able to provide some extra information, like, '[This student] never missed a day of class, has the highest score on the Bennett Mechanical.'"

Other Support Services

CCC and NJCCCWED did not build additional support services into the program model beyond those described above. However, students who were enrolled at a host college **for credit** were generally able to access all of the facilities and support services available to other credit-based students at the college (see the section on enrollment for more information).

In addition, in at least one site, the college made additional staff available to assist students to navigate personal issues. Several on-site project directors, instructors, and students also noted that staff and instructors at local host colleges provided ad hoc supports of varying types to help students overcome challenges that threatened their retention in the program. For example, one student noted in a focus group that an instructor called his employer to save his job, which was in jeopardy because the student lacked gas money to get to school and work. Without the job, the student would have had to withdraw. Another student noted that he called the instructor at 1:00 a.m. about a personal problem and the instructor helped out. Instructors and staff at multiple sites also reported during interviews that they spent additional time counseling students to assist them with problem-solving personal problems.

Findings

Finding #31. Overall, staff reported strong post-completion employment placement results.

Students, program staff, and administrators noted in focus groups and interviews that several students in each class were offered jobs prior to program completion. Among completed programs, staff estimated in interviews that nearly all students were offered some type of job within a month or two of completing the course and between 90% and 100% of students were successfully placed into jobs.

Finding #32. Employers reported being happy with the program's initial results.

Employer interviews suggest that employers are satisfied with the training and preparation that students received and report that most of the students hired are doing

well in employment. One employer said, “We got really good quality candidates that want to learn. We struggle to get people that want to try a new skill or new career. These people who have been through the course appear to be more vested in it.” Another employer commented favorably on their interactions with program staff:

“[The job developer and staff] seem willing to work with us. I think this is a great program and there is a need for it...They already have an understanding of what we are trying to accomplish and the qualifications we are looking for. It makes [students hired] easier to train...Yes, the school provided adequate training. A lot of what that individual does is up to that individual. You can take what you learn in school and just use that, but if you don’t expand you won’t go anywhere. They learned the basics and now they are applying that to enhance that... The courses give [students] a little more than the basic fundamentals before they come to me. They want to come into this business and they are given the opportunity to get into the business. This is a lot better than hiring people off the street...I hope the state continues to fund this. I think it works. A number of years ago, the high schools used to have machine shop courses, I am a little biased since I have a machine shop. Even at the high school, the curriculum has been dropped from the courses, though they still have woodworking and hair-dressing, but they dropped machine shop class. At least at the college level, I am starting to see this come back.”

Finally, a staff member told researchers, “These companies said that if they can’t find people to replace them, they will go under.”

Finding #33. Early involvement of employers in the programs led to a number of students receiving job offers prior to program completion, which was a motivator to these and other students.

Students and staff at nearly all sites told researchers during focus groups and interviews that the involvement of employers early in the program led to several students receiving job offers prior to the completion of the course. Instructors and students reported that high-performing students, those who

interviewed well in initial interactions with employers, and students with experience and other characteristics desired by employers received early job offers.

Staff interviews and student focus groups revealed that these early offers, which were contingent upon successful completion of the course, were motivational for students. Students who got the offers early were generally offered wages higher than the minimum wage levels program staff told them to expect. The early job offers were the types of jobs students preferred and offered good working conditions, which many students considered to be a major motivator for them to complete the course and to perform well. One student told researchers that he had been through training programs that “promised jobs” in the past but did not deliver on that promise, which made him less motivated to do well in this course. When students in his class started getting real job offers, he said his motivation, and that of his classmates, really improved. Another student pointed out in a focus group that the early job offers improved his motivation and confidence as he could see that technical skills and test performance were not the only criteria by which employers chose to evaluate candidates. As one instructor noted, “The [curriculum] has associated exams. There are four parts. If you pass all four parts, you get CPT certified production technician. Not everyone passed all four, but that did not mean they didn’t get jobs. It was how the employer perceived the employability; we had a student who did not have a GED. We also had a vet with a record. Both were very desired by many employers and there were bidding wars for these students before the program finished.”

Finding #34. However, students at some sites expressed frustration that many of the employers they met while in the program were not hiring or had inappropriate working conditions. While they were exposed to employers throughout the program via the information sessions, site visits, and employer presentations, students told researchers that some of these employers did not have current or anticipated job openings. At one site, students reported that none of the employers conducting site visits, and only some of the employers doing presentations in class, had or anticipated having jobs available for students. Staff acknowledged

that only about 50% of the employers that ended up hiring students were part of the program when it began. Staff reported that while employers were eager to participate in the program, few could accurately predict their future hiring needs or guarantee jobs for graduates.

Some participants were also disappointed about the working conditions some employers offered. One female participant reported that a manufacturing workplace the class visited had inappropriate pictures of women hanging on the wall. The student told researchers that she did not feel like women would be comfortable working in that environment and she was disappointed that the site was included as a required site visit. An instructor also mentioned during interviews that some of the employers students were exposed to during the program were offering low-skilled jobs, such as placing cones on the road, which did not require the type of study done in the course.

Finding #35. The level and type of job placement support varied across program sites. Students and staff reported that different types of job placement services were made available at different sites. As noted in the discussion of soft skills in the prior section, students received varying levels of assistance with developing résumés and preparing for interviews across sites. Students also reported in focus groups that there was **no job fair** organized at the close of the program at some sites. These students told researchers they felt left on their own to find jobs. NJCCCWED and college staff did report working to find these students interviews after the program, but there was no opportunity for students to interview with a number of employers at once through a job fair. Finally, one site required students to participate in a two-week unpaid internship as part of its job development process, but this was not a requirement at other sites, according to interviews with staff.

Finding #36. The NJCCCWED job developer and résumé development assistant did not spend a uniform amount of time at each site. At some host colleges, staff and students who participated in interviews and focus groups reported high levels of interaction with and assistance from the NJCCCWED job developer and résumé development assistant. Staff and students at these colleges reported

that the job developer visited often, actively developed job leads for participants, taught some soft skills modules, and provided one-on-one counseling for students regarding interviews and résumés. In addition, staff and students at some sites reported that the résumé development assistant was actively reviewing and commenting on résumés.

At several host sites, however, staff and students reported significantly less interaction with and assistance from the job developer and résumé development assistant. At these sites, staff reported that the visits from the job developer were infrequent and/or limited to phone calls, less assistance was provided directly to students in the form of one-on-one counseling, and staff were provided with limited assistance in developing job leads. An SJI representative also reported that the job developer provided little to no assistance with recruiting utilities employers for job fairs at host college sites. Students at several sites also reported limited interaction with the résumé development assistant, which consisted of receiving an edited version of their résumé electronically with no explanation of the rationale for the changes.

The reasons for the varied levels of reported interaction with NJCCCWED staff are unclear. When interviewed, CCC and NJCCCWED staff indicated that differences in levels of assistance were due to the availability of on-site staff to perform some duties, such as job and résumé development. These staff reported that some host sites had more staff available than others to do this work, so less assistance was required from NJCCCWED staff. This appeared to be true some of the time, as staff from RVCC and ACCC reported having dedicated staff to do job development. However, students at CCC, which according to interviews with CCC staff had no additional support staff beyond the technical instructor because the soft skills instructor resigned just prior to the program start, reported that they had limited interaction with the job developer and résumé development assistant. In addition, staff and students at Bergen Community College, which had both a technical and a soft skills instructor who provided in-depth résumé assistance, reported receiving high levels of assistance and interaction with both the job developer and résumé development assistant.

Finding #37. Several employers offered jobs at wages below the minimum wage level students were told to expect. Several students, staff, and instructors mentioned in focus groups and interviews that some employers involved in the program were offering jobs that were below the \$12 minimum wage that students were told to expect during the information sessions. Reports from several sites across both utilities and manufacturing noted that employers told them entry-level jobs were paying between \$8 and \$10 per hour.

One utilities employer reported in an interview that he had difficulty recruiting students because he knew the wages his company was offering were lower than what students were told to expect. He said he had hoped to have higher-level jobs available, but all he could offer at the time the students were ready were entry-level positions at lower wages.

Finding #38. Some students and staff at multiple sites reported disappointment with the level of job demand, as well as the wage levels or working conditions of jobs offered to them following program completion. Across both the manufacturing and utilities programs, researchers heard staff and students express disappointment about the jobs offered to some students in the program. Staff reported in interviews that while most students received some type of job offer, a number turned down at least one position due to a dislike of working conditions, tasks, or pay. Some instructors, particularly in utilities, shared students' concerns that the jobs were not as abundant and high paying as they and their students believed they would be. While most jobs offered paid at least the minimum wage the program set (\$12 per hour), staff and students said they were disappointed because they had hoped that more of the jobs offered would be higher paying and/or require more technical skills.

Finding #39. Staff and students noted that some of the discontent regarding wages and working conditions stemmed from students' financial needs and prior work experience. According to interviews with staff and student focus groups, at least some of the students who enrolled in the TAACCCT courses were professionals who earned wages significantly higher than \$12 per hour in jobs they held prior to becoming unemployed. Many of

these individuals, according to staff and students, enrolled in the program expecting to be offered a higher wage than the minimum wage outlined by program staff in information sessions. Students who were making significantly higher wages in the past also reported having financial obligations in line with those prior salaries that made it hard to accept wages on the low end of the \$12 to \$24 estimate students were provided during the orientation. One staff member reported, "I tell them there is nothing promised. The job market right now is good, but the challenges within the job market are tough... half aren't going to get employed at an adequate rate to support their families."

Finding #40. No evidence was found that the program had established relationships with community-based organizations (CBOs) to support students' completion. The scope of work for CCC's TAACCCT program indicates that the program would establish partnerships with CBOs to provide a range of ancillary supports to students. While the program successfully established partnerships with Workforce Investment Boards and One-Stop Career Centers to do recruitment and screening for training and other subsidies, no evidence was found that program sites had established connections with other supportive organizations that could help promote student completion and success.

Finding #41. Some students reported experiencing financial hardship as a result of required participation in site visits and unpaid internships. Students in focus groups reported that they experienced financial difficulty complying with some program requirements related to job development. Students at many sites, for example, stated that they had difficulty supporting the cost to provide their own transportation to employer locations for site visits. Also, students at the site that required an unpaid internship prior to placement said it was a hardship to bear the cost of the transportation and forgo wages for an additional two weeks.

Finding #42. Students expressed a need for additional supports to be successful in the program. In focus groups, students recalled a number of issues that made it difficult for them to complete the course and for which they would have liked to receive help, but did not. These issues included lack of access to a home computer or laptop to

participate in online training, lack of money for transportation to get to class, and various personal emergencies that temporarily drained their time or money. As one student mentioned, "You can't make a big investment in someone and then not be able to convert it properly...If you go through the trouble of having a student, give someone money for gas. If they qualify for the class, they qualify for gas." Student needs reported in focus groups and interviews with staff also included assistance navigating personal issues and the need for emergency financial support to address some of these personal issues. A few students noted that some of these needs were addressed on an ad hoc basis by staff, but this was not built into the program design, so such assistance was not widely or uniformly provided.

Conclusion and Recommendations

Overall, CCC's program model aligns well with the priorities expressed in ETA's solicitation for the Round 1 TAACCCT grants and the scope of work CCC provided to ETA. In particular, the local training delivery, technical and hands-on instruction, and early involvement of employers were hallmarks of the program model that are highly valued by all stakeholders. In addition, the program staff reported high levels of initial job placement success across sites.

There are a number of areas, however, where the program is implemented inconsistently across program types and host college sites. From uneven credit-granting policies and the differences in access to college facilities and supports these policies dictate, to wide variations in soft skills instruction and job development assistance, there are several areas where the quality of particular program components varies from site to site.

Finally, some comments from students and staff indicate that there are ways that the program model can be improved, as well as made more consistent across program types and sites. The following recommendations are designed to help program staff to improve the consistency and quality of the

program's implementation in an effort to improve outcomes for students and employers.

Recruitment and Screening

Recommendation #1. Clarify the role of employers in selecting program participants. To improve consistency across host college sites with regard to the role that employers play in approving or rejecting potential program participants, CCC staff should consider creating a uniform policy for sites to follow. Employers are involved in the screening process for the program interview participants and, according to interviews with staff, complete a ratings sheet for each candidate with comments added. However, interviews with staff and employers revealed that some sites may take employers' comments and ratings more seriously than others when selecting participants for enrollment. Creating a policy regarding how sites should use employer feedback when making selections of participants may improve consistency in the selection process throughout the program.

Recommendation #2. Consider requiring tuition assistance eligibility for all programs. Students and staff reported that having to pay for tuition created a financial hardship for some students in the utilities program. CCC staff should consider tightening screening requirements to ensure all students are eligible for training subsidies and/or seek other sources of support to fund student costs for the program.

Recommendation #3. Provide detailed information to participants about job outcomes of program graduates in their region. Students and staff expressed disappointment with the level of job demand, as well as the wages and working conditions of some of the job offers made to them following the program. To prevent this among future cohorts, program staff should consider spending more time during information sessions explaining the unpredictable nature of demand, and describing the actual distribution of job types and wages offered to prior participants in the same region. In addition, it may be helpful to describe the characteristics of the people who obtained jobs on the higher end of the wage distribution (e.g., type of prior work experience, veteran status, behavior

during interviews, performance on certification test). By providing potential enrollees with richer information about what prior participants experienced, they may be better able to judge the likelihood that they will be offered a job with higher wages and better working conditions.

Recommendation #4. Standardize information sessions across all program sites. To ensure consistency in the information students receive about the program, CCC should consider developing scripts, forms, and other standardized materials to reduce or eliminate variations in the way the utilities and manufacturing programs are described across sites. Such materials can help to ensure that staff changes and site-to-site differences do not lead to gaps or inaccuracies in the information provided to potential students.

Recommendation #5. Work with potential enrollees to determine the wages that they seek and/or require to meet basic living expenses. According to interviews and focus groups, some students expressed that they could not support themselves and their families on the minimum wage they were told to expect from job offers upon completion. As a result, staff reported that some students turned down one or more job offers in hopes of earning higher wages. Meeting with students prior to enrollment to discuss their financial goals and needs may help program staff to determine if the student is an appropriate fit for the program. Those who cannot accept jobs at or near the minimum wage set for the program may not be appropriate.

Recommendation #6. Improve targeted outreach to women for all programs. Given the low participation rate of women in the information sessions and in the training for both programs, CCC staff should consider targeting women's organizations in outreach and recruitment efforts. Organizations may include Displaced Homemakers, women's networking groups, and groups that promote non-traditional careers for women.

Recommendation #7. Consider testing interested participants' math skills and providing contextualized remedial math instruction prior to full course enrollment for those who have low test scores. To ensure that the courses are able to cover required material and to avoid slowing the progress of the

course for highly skilled students, program staff should consider ways to improve the skills of those who have limited math skills, which are important for program success. This could take the form of providing contextualized math skills instruction to students with low scores on the TABE test prior to the official start of the course. Alternatively, CCC should consider adding instructional aides who can assist instructors in helping students to keep pace with more advanced math concepts through tutoring and/or in-class assistance.

Recommendation #8. Engage employers in recruitment, screening, and other activities *only* if they strongly anticipate having jobs available for program graduates and can meet the program's minimum wage requirements. Some students complained in focus groups about the disappointment they felt when learning that some employers doing tours, presentations, and interviews were not hiring workers. CCC could eliminate this issue by focusing on recruiting employers to engage in program activities only if they reasonably anticipate being able to offer jobs at their firms to graduates.

Recommendation #9. Establish standards and accountability for One-Stop benefits screening across program sites. Students and staff reported that some students were not informed of their unemployment or ABT benefit status until well after the program began, which caused significant financial hardship. CCC staff should consider working with One-Stops to create a process that ensures this eligibility screening is resolved prior to enrollment. CCC staff should also consider creating accountability practices that allow them to ensure that this is being done effectively at all sites.

Program and College Enrollment

Program Goals and Occupation/Credential Selection Process

Recommendation #10. Increase awareness of CCC's credit award policy for the NIMS manufacturing course. CCC staff reported in interviews that the college allows students who finish the NIMS courses at any of the affiliate colleges to apply for up to 12 credits to be applied toward an associate's

degree program if students enroll at CCC, but students and staff at affiliate college sites do not seem aware of the policy or how to apply for the credits. CCC program leaders should consider developing flyers or other promotional materials to provide to college affiliate staff and students during the information sessions and again at the end of the course.

Recommendation #11. Explore use of Prior Learning Assessment (PLA) to award credit at CCC and affiliate college sites for utilities and CPT manufacturing courses. CCC discussed using PLA in its original scope of work to ensure students can earn credits for their work. However, there is currently no process in place to do this. CCC leaders should continue to explore the use of PLA to ensure students at all college sites can earn uniform credit for the same work and to ensure that utilities and CPT courses that are currently non-credit at CCC can be applied to the PLA system for credit.

Curriculum and Teaching Strategies

Recommendation #12. Consider increasing the amount of time allotted for all programs. While there do appear to be some benefits to the program's challenging, accelerated curriculum, students in all programs and sites felt that more time was needed. In order to ensure that the benefits of the accelerated learning are not lost, CCC staff should consider extending the program only slightly and reassessing the results during the next round of program evaluation.

Recommendation #13. Consider adding more assistants for hands-on instruction and job development. To ensure that all sites have adequate instructional and job development supports, the program should consider adding additional central staff supports. Alternatively, the program could set stricter requirements for affiliate colleges to provide support staff to ensure students have sufficient time on equipment, instructional support, and job development assistance.

Recommendation #14. Consider expanding the "career prep" aspect of the course and setting minimum standards for soft skills curriculum and teaching approaches. In focus groups, students who received intensive and interactive instruction

on résumé development and interview preparation were more satisfied and confident than those who received minimal instruction. CCC staff should consider ways to ensure that this part of the course is delivered with more intensity and uniform quality at affiliate sites. To do so, CCC staff could establish a standard soft skills curricula based on one of the more intensive models used at the affiliate colleges (e.g., Bergen Community College) and vet this with employers to ensure skills alignment.

Recommendation #15. Improve the coordination of curriculum components. Staff reported in many sites that there was no connection or coordination between soft skills and technical instruction in the courses. However, given the importance of contextualization in adult learning, it is possible that this disconnect could lead to a misalignment of the soft skills taught with those most needed on the job. CCC staff should consider developing a more contextualized soft skills curriculum, perhaps by integrating some soft skills instruction into other course components, such as job development and technical instruction, as well as adding job context to standalone soft skills instruction. A closer integration and alignment of all program components is more likely to ensure that students' skills meet employers' overall skill demand.

Recommendation #16. Consider investing in tools to assess soft skills. RVCC staff reported using LRI assessments with manufacturing students to assess soft skills. This tool is not part of the program model, but provides instructors with powerful and objective tools to give students real-time feedback on skills. CCC staff should consider purchasing this tool for all sites if resources are available.

Recommendation #17. Consider increased standards for the delivery of manufacturing curricula. Students and staff reported that curricula varied somewhat from site to site for manufacturing programs, including the tools used for instruction, and it was unclear if those variations were justified given local employer skill demand. CCC staff should consider developing a process that allows sites to continue to tailor the base curriculum to local needs as long as the variations in the curriculum are vetted with local hiring employers. This will allow for some continued customization, but

help to ensure more consistent quality and alignment with local employer preferences.

Job Development and Other Supports

Recommendation #18. Set minimum standards for job development services at each site and define roles of central versus local job development staff.

Students reported variations in the quality of the job development services provided to them and staff reported varied levels of involvement from central job development staff. To ensure more consistency in the quality of these critical support services, program staff should consider setting clear standards for services to be provided to each student and should consider creating a process to monitor the output and quality of job development services centrally.

Recommendation #19. Consider strategies to ease students' personal challenges and financial hardships, including establishing partnerships with CBOs as proposed in the original scope of work.

Students and staff reported that personal issues, often of a financial nature, and certain program policies, created hardships for some students that threatened their concentration or ability to continue with class. CCC staff should consider creating a flexible micro-grant system — an “emergency fund” — to provide students with tuition assistance and small grants to manage personal emergencies. In addition, ensuring that the program provides the equipment students need for class, which may include laptops, tools, travel funds for site visits, and other materials, would help to ease the financial burden on participants.

Recommendation #20. Consider excluding employers or jobs that offer wages below the minimum criteria set for the program or that maintain poor worksites or job conditions. Students and staff reported disappointment with some of the jobs offered to participants because wages or working conditions were less than CCC staff suggested they would be at the program's outset. CCC staff should consider making it clear to employers that the program will only facilitate hiring for jobs that meet minimum requirements for pay, working condi-

tions, and other key criteria important to meeting the program's promise to students to help them enter high-wage, high-skill jobs.

Reference

U.S. Department of Labor Employment and Training Administration. (2011). *Notice of availability of funds and solicitation for grant applications for Trade Adjustment Assistance Community College and Career Training Grants Program*, Notice of Solicitation for Grant Applications (SGA) Funding Opportunity Number: SGA/DFA PY 10-03 Catalog of Federal Domestic Assistance Number: 17.282. Washington, DC: Author.

Appendix. List of Interviews Conducted

Name	Position	Organization
Paul Baugher	Employer/Manager	Utiliquet
Gerald Bose	Manufacturing Instructor	Cumberland County College
Lisa Branch	Consultant-Career Résumé Writing	Gloucester County College
Mary Coombs	Project Coordinator	Gloucester County College
Toni Denson	Soft Skills Instructor	Bergen Community College
Jo Hackett	Soft Skills Instructor	Atlantic Cape Community College
Dave Hutchins	Employer/Human Resources Manager	Omega Engineering
Vince Jackson	Employer/Utilities Lead Trainer	South Jersey Industries
Steve Kirbos	Manufacturing Instructor	Bergen Community College
Dan Lim	Soft Skills Instructor	Camden County College
Jean McAllister	Project Coordinator	Atlantic Cape Community College
Carol McCormick	Program Director	Camden County College
Ron McKnight	Administrator	Bergen Community College
Conrad Mercurius	Manufacturing Instructor	Raritan Valley Community College
Kevin Mutschler	Employer/Utilities Trainer	South Jersey Industries
Kyle Nolan	Employer/Utilities Curriculum Developer	South Jersey Industries
Unati Patel	Résumé Development Assistant	Camden County College
Anthony Pezzulo	Employer/Director of Work and Process Management	South Jersey Industries
Dan Pomponio Jr.	Employer/Project Manager	Precision Automation Inc.
Joe Pranzatelli	Job Developer	Camden County College
Kevin Schmidt	Manufacturing Instructor	Camden County College
Diane Seavers	Job Developer	Raritan Valley Community College
Mario Sellitti	Utilities Trainer	Northeast Gas
Vicki Simek	Project Director	Cumberland County College