

GREATER MEMPHIS ALLIANCE FOR A COMPETITIVE WORKFORCE (GMACWorkforce) TAACCCT ROUND 4 GRANT

Implementation Evaluation Final Report



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RAY MARSHALL CENTER FOR THE STUDY OF HUMAN RESOURCES

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EXECUTIVE SUMMARY

The Greater Memphis Alliance for a Competitive Workforce (GMACWorkforce) program was funded through a Trade Adjustment Assistance Community College and Career Training (TAACCT) grant from the U.S. Department of Labor Employment and Training Administration (DOL/ETA). The grant focused on creating or enhancing programs for the manufacturing and transportation, distribution and logistics (TDL) industries in the greater Memphis area at four colleges: Arkansas State University Mid-South, Southwest Tennessee Community College, Tennessee College of Applied Technology–Memphis, and William R. Moore College of Technology. The goal of the grant was to develop new, and enhance existing, relationships between industry and training programs to align industry needs with program curriculum and certifications with the goal of preparing students for employment in the identified sectors.

The implementation evaluation served to articulate and track the overall development of the project, including the challenges and successes in meeting the following outcomes:

- 1) Broaden employer participation in GMACWorkforce, with measurable added-value to employer partners.
- 2) Utilize braided funding to support sustainable career pathways in manufacturing and transportation distribution and logistics.
- 3) Accelerate completion and increase articulation of non-credit and credit programs by aligning industry-recognized credentials with degree pathways and developing the following: 1) contextualized, integrated basic skills remediation, 2) prior learning assessments, 3) technology-enabled instruction and/or online programming, 4) work-based learning opportunities, 5) modularize foundation curricula, 6) entrepreneurship modules, and 7) offer additional student supports through the hiring of Job Coaches.

GMACWorkforce incorporated evidence-based practices and promising models for the design of the program; for example, Maguire et al (2010) provided strong evidence supporting the benefits of sector-based programs, the braided funding model employed was developed by the Center for Law and Social Policy's (CLASP), evidence regarding the strength of developing degree pathways and student supports were

demonstrated in the DOL Career Pathways Toolkit and Industry Competency Model, while Bettinger and Baker (2011) reported student retention is improved through counseling and academic advising.¹

The implementation analysis describes key relationships and processes in the implementation of the TAACCCT IV grant; identifies factors affecting outcomes; and, documents and analyzes the work for application in future projects. Information was collected from interviews with college administrators, grant coordinators, project administrators, faculty, coaches, and partner work groups; on-site observations; the review of documents; student focus groups and survey; and participation in meetings. Interview protocols were developed for collecting information from the various stakeholders and an implementation tracking guide was maintained to document progress on program objectives. The following research questions guided the implementation evaluation:

- What is the program administrative structure?
- How are partners engaged in planning and implementation?
 - What contributions do each of the partners make in program design, curriculum development, recruitment, training, placement, program management, leveraging resources, and commitment to sustainability?
 - What factors contribute to partners' involvement?
 - Which contributions are most critical? Which have less of an impact?
 - Has partner involvement led to a sustainability strategy and continued program support from non-grant sources?
- How are programs, and their designs, improved or expanded using grant funds?
- How was the curriculum (if changed or adapted) selected or created?
- What delivery methods are offered?
- What support and/or other services are offered to participants?

¹Maguire et al. (2010). "Findings from the Sectorial Employment Impact Study." New York: Public/Private Ventures; Center for Law and Social Policy. Funding Career Pathways and Career Pathway Bridges. Available at: Center for Law and Social Policy. Funding Career Pathways and Career Pathway Bridges; USDOL Competency Model Clearinghouse. Available at: <https://www.careeronestop.org/CompetencyModel/>; USDOLETA Career Pathway Toolkit. Available at: https://www.doleta.gov/usworkforce/pdf/career_pathways_toolkit.pdf; and Bettinger and Baker. (2011). "The Effects of Student Coaching in College: An evaluation of a randomized experiment in student mentoring. NBER Working Paper No. 16881. Available at: <http://www.nber.org/papers/w16881>.

- What assessment methodologies are used?
 - What tools and processes, how and by whom?
 - Are results useful in determining program course and sequence?
 - Is career guidance/advising offered? If so, how?
- What aspects of the implementation process are facilitating success or acting as stumbling blocks for the program?
- To what extent will the consortium (and any other relevant partners) sustain policy and practice changes beyond the grant performance period?
 - Are practices within the TAACCCT-funded program being embedded into broader institutional policy and practice?

Table 1 presents the grant logic model presenting assets available in the community to support grant activities; program activities; short-term and mid-term deliverables and program outcomes.

Table 1. Greater Memphis Alliance for a Competitive Workforce TAACCT Grant Logic Model

Assets	Activities	Short-Term Deliverables (2015)	Mid-Term Deliverables	Outcomes
<p>Greater Memphis Alliance for a Competitive Workforce partnership</p> <p>Memphis Economic Development Growth Engine (EDGE)</p> <p>EPICenter</p> <p>Greater Memphis Chamber</p> <p>Greater Memphis Chairmen's Circle</p> <p>Leadership Memphis</p> <p>Memphis Bioworks Foundation</p> <p>Workforce Investment Network and Workforce Investment Board of Eastern Arkansas</p> <p>Manufacturing Institute</p> <p>University of Arkansas Fort Smith</p> <p>Manufacturing Council Logistics Council Medical Device Council</p>	<p>Hire/procure all needed project staff, TA providers, Third Party Evaluator, Deliverable Reviewer, and Continuous Improvement Coordinator.</p> <p>Conduct training and initialize TA resources.</p> <p>Identify and launch Work Teams:</p> <ol style="list-style-type: none"> Career Pathways Design Sector Partnerships and Braided Funding Economic Development Systems Change Continuous Improvement <p>Launch Executive Oversight Committee, conduct semi-annual meetings.</p> <p>Develop and institute Vision and Guiding Principles.</p> <p>Purchase equipment and supplies.</p> <p>Design and develop:</p> <ol style="list-style-type: none"> Targeted career pathways, including foundations curricula Entrepreneurship Workplace training Sector strategies and braided funding Career Navigation and Job Retention Coaching <p>Incorporate technology-enabled instruction, including e-ship.</p> <p>Launch curricular approval process.</p> <p>Complete mapping of career pathway models.</p> <p>Incorporate work-based experience and OJTs into curricula.</p> <p>Implement Prior Learning Assessments and integrate into pathways.</p> <p>Define and implement all policies, procedures, protocols: project mgmt., communication, reporting, data collection, etc.</p> <p>Initiate Continuous Improvement Model.</p> <p>Complete Employment Results Scorecard.</p> <p>Build Workforce Research System and sustainability plan.</p> <p>Conduct at least 2 in-person consortium meetings per year.</p>	<p>All staff, TA, TPE, DR, CIC positions are filled/procured.</p> <p>Work Teams are meeting and have articulated the mission and related deliverables for each Team. WTs begin identifying and responding to TA and training needs.</p> <p>EOC established and convened</p> <p>Vision and Guiding Principles document created</p> <p>Equipment and supplies purchased and ready to use</p> <p>Programs and curricular elements articulated and developed:</p> <ol style="list-style-type: none"> Career pathways, including foundations curriculum Entrepreneurship Workplace training Sector strategies and braided funding Career navigation and job retention coaching <p>Work-based experience and OJT opportunities identified.</p> <p>Develop, continue and/or expand Prior Learning Assessment approach at each college.</p> <p>Policies, procedures, protocols defined, documented and communicated via multiple channels.</p> <p>Continuous Improvement model launched.</p> <p>Employment Results Scorecard work plan.</p> <p>Workforce Research System developed and operational.</p>	<p>Training and TA (identified and overseen by Work Teams) provided.</p> <p>GMACWorkforce consortium meeting at least twice yearly.</p> <p>EOC meeting semiannually.</p> <p>Vision and Guiding Principles approved by EOC.</p> <p>Programs and curricular elements implemented:</p> <ol style="list-style-type: none"> Career pathways, including foundations curriculum Entrepreneurship Workplace training Sector strategies and braided funding Career navigation and job retention coaching <p>Tech-enabled instruction incorporated into curriculum.</p> <p>New curricula approved by DHEs</p> <p>Career pathways mapped.</p> <p>Work-based experiences and OJTs integrated into curricula.</p> <p>Implement PLAs into pathways.</p> <p>Employment Results Scorecard work plan implemented.</p> <p>Evaluation reporting is timely, accurate and valuable.</p>	<p>Broadened employer participation in GMACWorkforce partnership.</p> <p>Braided funding model supporting sustainable career pathways in Manufacturing and TDL.</p> <p>Measurable added value for GMACWorkforce participating employers.</p> <p>Greater articulation of non-credit, contact hour programs with credit-bearing degree pathways, including alignment of industry-recognized certifications with degree pathways.</p> <p>Contextualized integration of basic skills content into career-technical credit-bearing pathways.</p> <p>Student supports, including ICP and foundations modules are integrated into programs.</p> <p>Programs accelerated through PLA, online programming, work-based learning.</p>

Impact: Employers have the talent they need to compete, and people have the skills they need to get good jobs. Evidenced by: Training and education programs aligned with employers' skills requirements and with each other, Employers connected to cost effective training and hiring support, Coordination and improved outcomes among providers that service job candidates.

Each college implemented the grant at a different pace and with varying areas of focus, as naturally happens in consortium efforts when partners have individual campus cultures, needs and resources. In the first year of implementation, all sites focused on the task of selecting and purchasing new equipment, and/or preparing new and existing facilities, hiring and training faculty, as well as the more administrative business of grant start-up and management. GMAC Workforce coordinated the development of new, and enhanced the relationship with existing, industry-led Sector Talent Councils.

Through the grant period, council members and other industry representatives worked with the consortium college programs to align curriculum and certifications, including on-line and lab instruction, with the needs of local industry. Funding and materials were secured through a number of avenues included braided funding from state and foundation grants, and industry contributions. Students received remediation assistance as needed and the implementation of prior learning assessment procedures support the articulation agreements between ASU Mid-South and Moore Tech. Two additional articulation agreements were developed between: ASU Mid-South and the Boilermakers Training Institute, and University of Arkansas Fort Smith and all TAACCCT IV colleges. Entrepreneurship training was made available online and work-based training was offered through co-op agreements, apprenticeships, internships, along with work orders from industry. Students received assistance with issues impacting their retention in the programs, resume writing, job interviewing and had opportunities to attend job fairs and meet employers on their campuses. Late in the grant period, the ACT WorkKeys assessment and KeyTrain curriculum were selected for implementation upon approval from DOL to substitute for the originally proposed I-BEST remediation program model.

Key lessons learned through the implementation of the program:

- 1) The colleges offering similar programs and certifications are in competition for the same pool of students in the Greater Memphis Area. Addressing this issue at the consortium level will work to ensure that all colleges are represented equally across the on-boarding apparatus in the Greater Memphis Area.
- 2) Relationships with Sector Talent Councils and other industry leaders are key to ensure curriculum and certifications align with industry needs leading to employment for students. However, work continues in this area to educate not only site supervisors, but also Human Resources personnel, to ensure that all parties understand the value and skill level represented by various certifications. Further, the councils are expanding to include representatives from area high schools to support the talent pipeline.

- 3) The articulation agreements between ASU Mid-South and Moore Tech overcame issues of converting clock hours to credit hours, trimesters to semesters, and matching curriculum per class across programs, by assigning *credit for certifications achieved through the PLA process*.

INTRODUCTION

Background

The Greater Memphis Alliance for a Competitive Workforce, led by Arkansas State University Mid-South, was awarded \$9,814,818 in the fourth round of the Trade Adjustment Assistance Community College Career Training (TAACCCT) grants on October 1, 2014. The GMACWorkforce TAACCCT grant represents a consortium of four colleges in the Memphis area focused on creating or enhancing programs for the manufacturing, transportation, distribution and logistics industries.

The four colleges in the GMACWorkforce TAACCCT grant consortium include: Arkansas State University Mid-South (ASU Mid-South) as the lead college, Southwest Tennessee Community College (Southwest), William R. Moore College of Technology (Moore Tech), and Tennessee College of Applied Technology (TCAT). The consortium hired Corporation for a Skilled Workforce (CSW) and the Ray Marshall Center (RMC) of The University of Texas at Austin as the third party evaluation team for this TAACCCT-funded effort. The purpose of the evaluation was to assess the extent to which the GMACWorkforce grant addressed the U.S. Department of Labor's intentions for these TAACCCT 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"*.

CSW and RMC evaluated the ongoing implementation of grant activities and conducted an outcome evaluation at the end of the grant period. CSW and RMC provided comprehensive evaluation services (Corporation for a Skilled Workforce 2015), including collecting, analyzing, and interpreting data that met USDOL reporting requirements, informing continuous program improvements and determining the extent to which the various interventions were associated with positive outcomes and impacts. The evaluation consists of two components: (1) an implementation (formative) evaluation, conducted by CSW and RMC, and (2) an impact (summative) evaluation, conducted by RMC.

The grant-supported programs of study at each college are outlined in the table below.

Table 1. TAACCCT IV Programs by College

Manufacturing	
Machining	ASU Mid-South/Moore Tech/TCAT
Finishing	Southwest (non-credit)
Welding	ASU Mid-South/Moore Tech/TCAT/Southwest (non-credit)
Process Control	ASU Mid-South
Mechatronics	ASU Mid-South
Transportation/Distribution/Logistics	
Diesel	ASU Mid-South/TCAT
Aircraft Maintenance	ASU Mid-South/TCAT
Truck Driving	TCAT

The program implementation analysis describes key relationships and processes in the implementation of the TAACCCT IV grant; identifies factors affecting outcomes; and, documents and analyzes the work for application in future projects. Information was collected from interviews, on-site observations, review of documents, a student survey, and participation in meetings. Interview protocols were developed for collecting information from the various stakeholders, including college administrators, grant site coordinators, project administrators, faculty, coaches, partner work groups, and students.

Report Organization

The following chapter provides a brief description of each college, including the initial goals for the TAACCCT IV grant and an evaluation of the success and challenges experienced unique to the different colleges in their efforts to implement the grant objectives. The next chapter presents student contributions to the evaluation process providing insights into their experiences of the program. A final

chapter provides information on challenges that influenced all programs and recommendations with reference to the sustainability of the TAACCCT IV programs.

GMACWorkforce CONSORTIUM

Each college implemented the grant at a different pace and with varying areas of focus, as naturally happens in consortium efforts when partners have individual campus cultures, needs and resources. In the first year of implementation, all sites focused on the task of selecting and purchasing new equipment, and/or preparing new and existing facilities, hiring and training faculty, as well as the more administrative business of grant start-up and management. Some schools had more experience with federal grants than others, so the speed with which each of the participating schools established and launched programs varied.

Arkansas State University Mid-South

ASU Mid-South enrolls approximately 2000 students, and staff estimate that 40% of these students are dually enrolled. All technical programs at ASU Mid-South offer dual enrollment with area high schools. Having been awarded funding in all four rounds of TAACCCT grants, ASU Mid-South was well positioned to implement this final round.

Many of the programs being offered by ASU Mid-South through this grant were already being offered prior to the grant being awarded: aircraft mechanics, mechatronics, diesel mechanics, machining, process technology, and welding. Under TAACCCT IV, a new program was developed with grant funding: steel fabrication fitter technology. Under TAACCCT IV, ASU Mid-South developed a Technical Certificate in Steel Fabrication Fitter Technology, purchased new equipment and supplies, and expanded the welding lab. Supplies and software were purchased for the process technology program. A Coordinate Measuring Machine was purchased to enhance the machining program, and the lead instructor received training and certification in National Institute of Metalworking Skills (NIMS) quality control. NIMS is the industry standard for training and skill validation within precision manufacturing. In the mechatronics program, funds were used to improve the Amatrol modules and upgraded pneumatics and hydraulics. Curriculum enhancements were made to the aviation maintenance program, and the diesel program was able to add an instructor to offer additional courses with online instruction.

William R. Moore College of Technology

The William R. Moore College of Technology (Moore Tech) is a small, private non-profit school that enrolls approximately 300 students. In contrast to ASU Mid-South, Moore Tech had no experience with federal grant funding, requiring the college to create the administrative infrastructure to implement the grant.

For Moore Tech the TAACCCT grant presented an opportunity to upgrade their equipment and curriculum; in particular, expanding the welding program to include a second year of advanced welding curriculum with Pipe Welding, Robotic Welding and Plasma Cutting and the machining program curriculum was expanded to include training for 15 NIMS credentials. With TAACCCT support and braided funding from local philanthropy and other sources, Moore Tech has vastly expanded their welding shop facilities through the purchase and renovation of new property to significantly increase the learning lab and added an online virtual reality welder program. Faculty were added to both programs, a full-time welding instructor (from adjunct status) and one full-time machining instructor. Instructors obtained NIMS certification.

Southwest Tennessee Community College

Southwest Tennessee Community College (Southwest) is the state's largest community college, serving nearly 10,000 students across multiple sites. TAACCCT IV funding was intended to bridge a gap between the college's month-long, Industrial Readiness Training (IRT) certificate, which prepares students for immediate employment in entry-level manufacturing, and its longer, credit-bearing programs, particularly those funded through its TAACCCT III grants in the manufacturing, technology distribution and logistics (TDL), and industrial process control fields. To fill this gap, the grant program developed short-term, non-credit certificates in medical device finishing and welding.

However, as the medical device finishing program evolved, few students were recruited through the IRT program. The medical device finishing program worked with the Greater Memphis Medical Device Council to create a stand-alone training program leading to rapid employment to meet the immediate needs of local employers. The medical devices finishing certificate, a 13-week program, targets entry-level jobs (i.e., those using primarily mechanical, as opposed to computer numerical

control), in the medical devices industry.² During the final year of the grant, the Tennessee Board of Regents (TBR) approved college credit for the medical device finishing program courses firmly placing the program on a pathway to additional certifications and associate degrees.

Historically, Southwest offered a non-credit welding course. Under the TAACCCT IV grant the 13-week course was resurrected using the available welding lab space and equipment and the previous instructor was rehired. The welding program was designed as a 13 week non-credit course that focused on basic technical skills for entry level welders seeking employment. The goal of the course is to meet the needs of area employers and articulate the program to a credit pathway with industry certification through the PLA process. Late in the grant period, TBR approved college credit for the welding program.

Tennessee College of Applied Technology–Memphis

As one of 27 colleges of applied technology in Tennessee, TCAT-Memphis is charged with the single mission of providing technical and workforce education. This institutional focus on career readiness, which is tied to an accountability structure based on completion, placement, and licensure (required for accreditation), makes TCAT-Memphis unique among TAACCCT IV partner colleges. Serving approximately 1000 students, TCAT-MEMPHIS developed no new programs for the grant.

TCAT-Memphis has used TAACCCT IV funds to build capacity, primarily by hiring instructors and purchasing equipment and supplies for existing programs, which has led to increased student enrollment and the ability to train in more advanced skills. For example, the Machine Tool Technology program hired a computer numerical control (CNC)-trained instructor to teach this in demand skill. The Diesel Technology program's addition of an instructor has increased student enrollment by nearly 60 percent, while the purchase of new lighting and air compressor trainers, among other items, has enabled the program to stay current with the field's rapidly changing technology. The Aircraft Mechanics program purchased new equipment and added advanced training to the curriculum, such as the purchase of an air cycle machine to provide cabin pressurization training.

² Translating instructions into *computer* commands so the machines can perform the correct function.

IMPLEMENTATION EVALUATION FINDINGS

The information in this section is organized using the three project outcomes:

- 1) Broaden employer participation in GMACWorkforce, with measurable added-value to employer partners.
- 2) Utilize braided funding to support sustainable career pathways in manufacturing and transportation distribution and logistics.
- 3) Accelerate completion and increase articulation of non-credit and credit programs by implementing the following:
 - a) Align industry-recognized credentials with degree pathways.
 - b) Develop contextualized, integrated basic skills remediation into credit bearing pathways.
 - c) Develop credit for prior learning by incorporating prior learning assessments into pathways.
 - d) Develop technology-enabled instruction and/or online programming.
 - e) Develop work-based learning opportunities.
 - f) Develop and modularize manufacturing and transportation, distribution, and logistics (TDL) foundation curricula.
 - g) Develop entrepreneurship competencies, modules, and pathways.
 - h) Offer additional student supports through the hiring of Career Navigators, Job Coaches, and the implementation of Individual Education Plans (IEPs).

1. Outcome: Broaden Employer Participation in GMACWorkforce, with Measurable Added-Value to Employer Partners

GMACWorkforce originally explored expanding the Greater Memphis Chamber of Commerce (Chamber) Workforce Industry Committees to advance the objectives of the TAACCCT IV grant. However, the structure and mission of the existing committees was broad based and unable to coincide with the tasks specific to meeting the grant objectives. GMACWorkforce and the Chamber created an opportunity for area industry leaders to work together as Sector Talent Councils for each of the TAACCCT IV program areas: Commercial Driver's License, Diesel Technology, Steel Fabricators, and Process Technology. Area industry leaders were introduced to the grant and presented with information on the need for and benefits of participation in a Sector Talent Council. The councils, comprised of companies with common skill needs and similar occupations were developed to be industry led, with a chair and co-chair elected by the council membership and operate with support from GMACWorkforce and the Chamber. Meeting agendas are developed by the council chair in conjunction with GMACWorkforce and the Chamber, and the council membership is responsible for recruiting members. This unique approach built upon the efforts of regional industry working groups, such as the Greater Memphis Medical Device Council and the college advisory boards, to expand the number of industry employers working to improve area workforce development in partnership with the TAACCCT IV initiative.

Prior to the TAACCCT IV grant, each college had established relationships with area employers through advisory boards and one-on-one relationships with area employers to guide curriculum development and to promote employment opportunities for program completers. These relationships were expanded to provide guidance and support during the implementation of the TAACCCT IV grant through the development of the four councils. The councils were developed to make recommendations to match industry need with academic programs, course standards, curriculum, and industry certifications. The 2017 GMACWorkforce Annual Report stated that 102 industry representatives participated in councils.³ The Greater Memphis Medical Device Council, comprised of employers representing both the medical device finishing and machining industries, predates the TAACCCT IV grant.

³ GMACWorkforce 2017 Annual report. Available at: https://www.speakcdn.com/assets/2434/gmacworkforce_annualreport_final.pdf

Councils rotated meeting at the four colleges and toured the TAACCT IV programs (intended to meet each colleges' requirement of onsite advisory board meetings). The councils functioned as an avenue for GMAC Workforce to provide information on industry trends and labor markets, and for instructors and coordinators to meet with industry representatives to seek information on the needs of industry, promote co-op agreements, seek donations of materials, request opportunities for employers to coordinate student tours of their work places and in turn, extend invitations to employers to visit labs and classrooms, to promote employers' greater understanding of the capacity of program completers and the value of certifications and career pathways, as well as an opportunity for employers to coordinate training opportunities for incumbent workers. Following are some examples of relationships between employers and colleges that were developed during the TAACCT IV grant.

Southwest's medical device finishing program was developed with the assistance and advice from one of the largest employers in the area, Smith and Nephew (S&N). S&N developed a student profile outlining in demand skills for the entry-level finisher position and core finisher competencies, consulted on equipment purchases and lab layout, and donated scrap parts for lab use. A medical device consultant was hired for curriculum development and a grant budget modification was approved to complete necessary lab renovations. Instructors developed classroom and lab training to meet Southwest's machining standards and to align the training with the Advanced Manufacturing, Mechatronics, and Quality Consortium (AMMQC) manufacturing Technical Certificate (TC) degree pathway (a Southwest TAACCT round III grant), which includes Computer Numerical Control (CNC) machining. During the course of the grant, the finishing program was awarded credit standing by the TBR.

The Steel Fabricators Council indicated that one of the gaps it finds in welding graduates preparation is a lack of "real world" welding experience—i.e., welding outside of a controlled environment. Employers identified graduates could weld in flat, open labs but were unable to perform in the reality of the workplace. Both Moore Tech and ASU Mid-South responded by developing lessons to teach real world application of welding skills to ensure students are able to perform adequately and safely once employed. ASU Mid-South created the "Real World Welding Center" and Moore Tech expanded the curriculum to include lessons such as, welding on a ladder and in small spaces, and the use of a mirror to guide welding in difficult spaces. Further, TCAT-Memphis, ASU Mid-South, and Moore Tech programs are designed to simulate the workplace and encourage students to develop a strong work ethic. Programs incorporate real world policies and practices regarding attendance,

communicating with others in the work place, appropriate dress for work, and working effectively as team.

TCAT-Memphis employer linkages and industry feedback are embedded in TCAT-Memphis programs to an extensive degree serving to keep programs current. For instance, instructors—required to have three to five years of current work experience in the field—must undertake formal visits with industry partners at least twice yearly. Instructors also must reach out to program graduates and their employers for follow up at the one year mark. Another mechanism for industry engagement is the co-op program: Instructors meet with co-op students weekly and employers frequently communicate to instructors via their co-op students regarding the skills that they need to perform their jobs. In this way, for example, the machine tool program learned that companies use certain routers and the medical device industry involves extensive paperwork. The machining program acquired the routers and the medical device finishing program incorporated instruction on the paperwork requirements to meet regulatory standards.

The councils also served as a venue for instructors to work with industry to develop incumbent worker training, for example, Moore Tech responded to a request from the medical device industry by developing a NIMS's *fast-track* operator course and reported that several companies sent incumbent workers to attend the training. Also, ASU Mid-South worked with the Memphis Area Transit Authority to create customized training for their diesel mechanics, the mechatronics program provided training to area workers on industry safety and the continuous improvement of manufacturing processes, and the PTEC instructor taught a two day class on troubleshooting pumps and compressors at the Memphis Georgia Pacific plant.

Colleges expressed a desire for the councils to assist with the need to find qualified, experienced instructors for the programs, and to support employed students in completing their course of study and obtaining certifications. Instructors further suggest that council members serve as proctors for the NIMS certification testing to gain an understanding of the skills and quality each certification represents. ASU Mid-South replaced the local advisory committees for certain programs with the corresponding sector talent council. All colleges expressed issues with the fee required for participation on the Greater Memphis Medical Device Council and concerns with accessing the council meeting minutes in a systematic fashion going forward.

2. Outcome: Braided Funding to Support Sustainable Career Pathways

Braiding funding, for purposes of this report means the access to and coordination of multiple sources of funding to provide services and supports needed to ensure the success of the TAACCCT IV funded programs. This section discusses the various funding sources colleges used to support students and enhance programs, and the continuing efforts to GMACWorkforce to secure funds to promote the region workforce development.

STUDENT SUPPORT

The colleges utilized traditional sources of student financial aid: Pell grants and a variety of state and local scholarship sources to assist students to pay tuition, books, fees, and other expenditures required for participants to attend the programs. In addition to these traditional funding sources, efforts to expand the use of Workforce Investment and Opportunity Act (WIOA) training funds, the Tennessee Promise grant (TN Promise) and local industry scholarships were pursued.

WIOA training funds are coordinated through the local Workforce Investment Network (WIN). At the beginning of the TAACCCT IV grant cycle, Southwest, TCAT-Memphis and Moore Tech were WIOA approved training providers and eligible students accessed WIOA funding. ASU Mid-South obtained the status of approved provider during the course of the grant.

The TN Promise scholarship (available the beginning in the Fall 2015) provides students a last-dollar scholarship to pay tuition and fees not paid by other state and federal grants. High school seniors may apply for the TN Promise scholarship which provides two years of tuition-free attendance at a community or technical college in Tennessee.⁴ TCAT-Memphis programs were eligible to begin enrolling students in the TN Promise program in 2015. At the beginning of the grant, Southwest students entering non-credit short term training were not eligible to access TN Promise, however, as the programs gain credit status from the TBR students will be eligible. Moore Tech, a private non-profit school, is not eligible to access TN Promise scholarships for their students. In response, the college President drafted legislation that would allow Moore Tech acceptance into the program. During the last legislative session the bill stalled in the education committee. Moore Tech proposes they could double enrollments in the TAACCCT IV supported programs if the TN Promise were available to prospective students and plans to continue their campaign to be included in this crucial funding opportunity for students. Moore Tech,

⁴ For additional information about Tennessee Promise visit: <http://tnpromise.gov/about.shtml>

unable to access the TN Promise funds for students, relied upon Pell grants and WIOA funding for many of their students.

Colleges secured additional funding for tuition and fees through industry and private donations. For example, Moore Tech received \$250,000 in tuition funds from the Assisi Foundation and Hino Motors offered scholarships to ASU Mid-South mechatronics students. The Hino Motors scholarships also offered opportunities for paid internships.

PROGRAM SUPPORT

The colleges report pursuing support from foundations and industry for building improvements, class room and lab equipment, class consumable materials and in some instances, other college funds were used to pay a percentage of teacher salaries. For example, Moore Tech leveraged TAACCCT IV funding to pursue support to develop a \$1.8 million new welding program building designed to train up to 150 students. The project included the purchase and renovation of a building, the installation of 20 teaching bays and the purchase of robotic and virtual welder equipment. The additional grant funds were secured from private foundations, corporations, and the Moore Tech Board of Trustees. (See appendix A for a sampling of supports secured by the different colleges.)

As a workforce intermediary, the non-profit organization the Greater Memphis Alliance for a Competitive Workforce (GMACWorkforce) leverages funding from federal grants and local philanthropic organizations to implement strategic change initiatives that encourage alignment and coordination across groups of workforce organizations. A mission that aligns with and functions to sustain the TAACCCT IV investment in the region. Appendix A reports the funds leveraged by GMACWorkforce to further this mission. Following are descriptions of two grant funded initiatives that support the sustainability of the TAACCCT IV project: MemphisWorks and MOVE-HIRE.

MemphisWorks

GMACWorkforce leveraged a \$1.5 million nonprofit grant to develop an online career navigation and pathways mapping tool. Launched in August 2017, MemphisWorks is a website and app combining a job board for area employers to post available positions, a learning management system where individuals can track the training they have received and a resume building tool. Users can view videos

of individuals working on a variety of jobs, read job descriptions, learn the skills and education needed for a specific job and search for employment opportunities.⁵

MOVE-HIRE

In 2017, the Department of Labor awarded GMACWorkforce a \$6 million America's Promise grant to administer the **M**edical device **O**ccupations **V**alue **E**ducation and **H**elp **I**n the **R**egional **E**conomy (MOVE-HIRE) project. MOVE-HIRE is a tuition free skills training program for low-income unemployed and underemployed workers providing industry recognized credentials, and apprenticeships, on-the-job training, and internships. The TAACCCT IV partner colleges will participate in MOVE-HIRE and will continue program improvements and alignment with area employers to meet the demand for skilled labor in the Memphis area medical device manufacturing sector.

⁵ For additional information visit MemphisWorks: <https://app.memphisworks.com/>

3. OUTCOME: ACCELERATE COMPLETION AND INCREASE ARTICULATION OF NON-CREDIT AND CREDIT PROGRAMS

A. ALIGN INDUSTRY-RECOGNIZED CREDENTIALS WITH DEGREE PATHWAYS

Programs prepare students to successfully obtain industry-recognized stackable credentials that are aligned with degree pathways. Pathways incorporate short-term certificates (<6 mos.), intermediate term certificates (>6 mos.); and associate degrees. Articulation agreements were established across some programs and with a local four-year college.

Certifications

For the different programs, certification obtainment systems vary. These systems vary in how and where the test for certification is administered, the fees required and the employer value of the certification. Instructors and administrators report that in some industries the lack of employer value of certifications, driven by a lack of understanding and the urgent need in some industries for workers, influences student program completion and certification in their field of study.

The CDL and aviation program curriculum is prescribed by national organizations that do not include certification testing as an integrated part of the curriculum. Rather students are prepared for their certification tests that are offered through an offsite organization. The CDL students have expressed a desire to have the CDL test and fee incorporated into the course. The aviation program certification is expensive and beyond the means of most students. One administrator expressed a desire to include certification fees in student tuition. While the FAA testing fees have been incorporated into the aviation program at ASU Mid-South this practice is prohibited by the larger bureaucracies that govern the TBR colleges. One TCAT-Memphis administrator stated that some students receive grant funding amounts that can be used for the cost of certification testing, yet students lack the financial literacy skills to save the money for that purpose.

ASU Mid-South and TCAT-Memphis administrators report the Diesel Technology credential is not in demand from industry. The National Institute for Automotive Service Excellence (ASE) will not recognize an individual as an ASE certified mechanic without a minimum of three years' work experience as a diesel technician. Programs have a high degree of employment placement of students graduating with a Diesel Technician diploma without possessing an ASE credential. Developing opportunities for

experienced workers who have completed training to obtain their certification trained is needed to ensure workers are available with the necessary certification to advance in the field.

All other programs report seeking curriculum reviews and suggestions based on industry need that will support certification obtainment. All lead instructors in the machining programs are trained to assess student's achievements of NIMS certifications and welding programs offer students the opportunity to obtain American Welders Society (AWS) certifications. The new or enhanced programs offer up to 11 NIMS credentials. Southwest was experiencing a low rate of NIMS certification obtainment and responded by first offering additional tutoring to students and then extending the classroom portion of training to allow for students to practice NIMS credential steps. This response has been successful and resulted in a higher pass rate on first attempt in 2018.

TCAT-Memphis's system of competency-based, self-paced learning, with clear entry/exit points—i.e., a system in which content is clustered based on competencies and tied to shorter-term certificates that stack to form a diploma, creates clear reentry-points should an exiting student wish to return. The program collaborated with industry and other GMACWorkforce partners to develop career pathways for each certificate. For example, TCAT-Memphis reports working with Caterpillar to develop a heavy equipment diesel mechanic option for diesel mechanic students. The curriculum will follow National Automotive Technicians Education Foundation (NATEF) guidelines and give students entering their final trimester in the program the option to stay in highway diesel, or transition to heavy equipment. At the completion of the TAACCCT IV grant period, this option is still in development.

Each new or modified program at ASU Mid-South fits into the Associate of Applied Science in General Technology degree program and will include stackable college certificates, as well as industry recognized credentials.

Articulation Agreements

A limited number of articulation agreements were developed across colleges. Challenges in developing agreements among the TAACCCT IV institutions included issues such as curriculum reviews of semester and trimester systems, converting clock hours to credit hours, and the requirements of the bureaucratic systems within different institutions for approval of articulation agreements. The following agreements were achieved or updated during the grant period.

ASU Mid-South and Moore Tech Welding and Machining

Key to creating these agreements was the decision to match certifications to the relevant course work, rather than mapping class to class or converting clock hours to credit hours. Relationships across college between instructors and administrators was a key element fostering success.

Welding: This agreement allows ASU Mid-South students completing specific welding coursework and earning the required AWS certifications, to receive block credit equal to 18 credits toward an Associate of Applied Technology Degree in Welding through Moore Tech utilizing the PLA credit by portfolio.

Machining: This agreement allows ASU Mid-South students completing specific NIMS certifications to be granted up to 18 credits toward an Associate of Applied Technology Degree for Machining through Moore Tech utilizing the PLA credit by portfolio.

Boilermakers Union and ASU Mid-South

Students completing National Center for Construction Education and Research (NCCER) Welding Levels I and II at Boilermakers and Welding Institute, will be granted up to 30 credits toward their associate degree at ASU Mid-South via PLA credit by portfolio. ASU Mid-South students who have earned their associate degree will articulate to Boilermakers and Welding Institute directly into the apprenticeship program.

University of Arkansas Fort Smith and TAACCT IV Colleges

The agreement allows all students with an Associate's in Applied Science to enter as a junior in to the online Bachelor of Associate Sciences degree. Each college provided office space for an UA Fort Smith advisor to assist students to transition to the program.

ASU Mid-South and Embry-Riddle Aeronautical University

This articulation agreement, allowing graduates from the ASU Mid-South Aviation Maintenance program to pursue a bachelor's degree at Embry-Riddle Aeronautical University, was updated and renewed.

B. DEVELOP CONTEXTUALIZED, INTEGRATED BASIC SKILLS REMEDIATION INTO CREDIT BEARING PATHWAYS

In order to access in demand careers participants need to build industry-specific skills, general academic skills, and work readiness skills. The original TAACCT IV work plan assumed that most participants would require some level of remediation before they are successful in college level courses.

Colleges were required to develop a contextualized, integrated basic skills model to accelerate progress through career pathways.

The GMACWorkforce Career Pathways Work Team recommended the use of the WorkKeys assessment for all students entering into the TAACCCT programs. GMACWorkforce received approval from the DOL to replace the originally proposed I-BEST training model with the on-line WorkKeys assessment and KeyTrain training program late in the grant cycle, spring of 2018.⁶ ACT WorkKeys is a battery of tests that assess skills in three areas: Reading for Information, Locating Information, and Applied Mathematics. KeyTrain is a web-based, self-paced, customized curriculum.

A majority of TAACCCT IV students completed short-term pathways earning a Certificate of Proficiency (CP) – a less than one-year credential. The CP course requirements in the various pathways do not include math or English courses. The on-line KeyTrain Applied Math curriculum supports remediation needs for these students and facilitates their successful completion of the Applied Technical Math course in the higher level certificate/degree program if they decide to continue along a career pathway.

Further, three of the four partner colleges, Southwest, TCAT-Memphis and ASU Mid-South maintain a license to utilize WorkKeys and KeyTrain as a component of their remediation approach, but not in a systemic consortium-wide strategy. The TAACCCT IV budget was modified to purchase a KeyTrain license for Moore Tech.

As mentioned earlier, the decision to utilize KeyTrain was approved late in the grant period. For the majority of the program duration, each consortium colleges administered their own approach to integrated basic skills remediation, primarily provided by instructors, contextualized for the course they teach on a one-on-one basis. Instructors reported meeting with students prior to and after class, creating “at-a-glance” reference guides regarding specific instructions, and when needed, referring students to remediation and tutoring services either on campus, or to off campus referrals.

TCAT-Memphis (which has an open-entry enrollment policy) students are assessed at program entry using the KeyTrain assessment and as needed, assigned WorkKeys training, or may enroll in a

⁶ The Integrated Basic Education and Skills Training (I-BEST), employs a strategy in which basic skills instructors and technical faculty jointly design and teach college-level occupational classes by integrating basic skills and professional-technical skill instruction. The cost of an additional instructor in each classroom or lab made this option infeasible for the colleges.

Technology Foundation course prior to beginning program coursework. Instructors handle all contextualized remediation during class on a one-on-one/as needed basis. Also, upon instructor referral, all students have access to tutoring outside of class with Technology Foundation instructors.⁷ The TCAT-Memphis model, combining WorkKeys training with instructor led contextualized remediation, may present a transferable system of KeyTrain/WorkKeys integration that will build upon current classroom remediation efforts in practice across colleges. Further, KeyTrain/WorkKeys are required for the Move-Hire project.

GMAC Workforce plans to approach WIN, which also maintains a KeyTrain license, to accept the Move-Hire participating colleges as additional sites on their license. This would make maintaining KeyTrain economically feasible for the programs as only WIN would pay the full price for the license and a nominal charge to add area sites. Similarly, Mid-South currently operates their KeyTrain program through their relationship with the Arkansas Department of Workforce Services.

C. DEVELOP CREDIT FOR PRIOR LEARNING BY INCORPORATING PRIOR LEARNING ASSESSMENTS INTO PATHWAYS

All TAACCCT IV colleges were required to collaboratively develop, implement, and integrate prior learning assessment (PLA) practices into educational pathways. Prior to TAACCCT IV implementation, each institution employed PLA procedures congruous with required regulations, yet the process was not standardized across programs.

The TCAT-Memphis and ASU Mid-South Aircraft Maintenance Programs are limited in accepting only PLA from FAA approved programs: credits typically granted for training received by veterans and avionic students. Also, PLA does not apply to the TCAT-Memphis Truck Driving Program that prepares students to pass the Commercial Driver's test. The remainder of the TAACCCT IV programs have PLA procedures that vary by college.

The other TCAT-Memphis programs, machining, diesel mechanic, and welding are competency-based programs. PLA fits into this system by allowing an instructor to verify a student's level of competency and recommend to the Assistant Director that a student proceed to the next learning level. This self-paced learning model facilitates a student's ability to move quickly through the program to

⁷ TCAT Aviation: No remediation is required for Aviation students. Students must test into the program eliminating the need for remediation. However, if students are struggling with content matter they can request additional help from the instructor which is often provided after classes.

build upon the skills they have. TCAT-Memphis does not provide any specific training for instructors executing the PLA.

At Southwest the Center for Academic Studies governs all reviews for PLAs. Southwest's welding and machining programs, both non-credit for the duration of the grant, did not offer students PLA. However, the welding instructor identified that although Southwest does not offer credit for participation in the welding class, students who transfer to other programs or colleges to continue their education can obtain credit for their achievements at Southwest through the receiving colleges PLA process. The use of curriculum that supports student success in achieving AWS certifications promotes the ability to demonstrate to another instructor their competency. Southwest's Achieving the Dream strategic planning team has formed a new committee to review the PLA process for the entire campus and discussions are underway regarding the applicability of the PLA to non-credit bearing courses.⁸

ASU Mid-South provides students in technology certification programs the opportunity to pursue prior learning credit through challenge tests and documented certifications, such as ToolingU transcripts.⁹ The instructor submits a PLA recommendation to the Assistant Vice Chancellor for Workforce Programs who approves the PLA credit application and the Vice Chancellor for Learning and Instruction provides final approval for PLA applications. Faculty received training on PLA under the TAACCT II initiative.

Moore Tech offers PLA for students enrolling in the Associates Degree Program for prior college credit courses in alignment with degree course requirements (to be determined by the instructor and the Central Applications Office). The machining and welding instructors make recommendations for PLA and credit for placement in higher level courses. Students are evaluated through the process of AWS and NIMS certification testing, curriculum testing and lab observation before recommended for advancement to higher level courses. Final approval of the instructor recommendation is made by the president of the college.¹⁰ General Studies course completion or Military credits are reviewed by the

⁸ Achieving the Dream (ADT) is a national education reform network of more than 220 colleges committed to helping students achieve their college and career goals. In 2016, Southwest joined ATD and began the Redesign, Reinvent, and Reset Southwest movement. President Tracy D. Hall charged the college to redesigning itself with student-centered processes. Over the next two years, 22 committees worked to redesign processes from recruiting to graduation, all focusing on equity and student success. This work resulted in the Focus 2020 Strategic Plan.

⁹ ToolingU is an online manufacturing curriculum that supports NIMS certifications.

¹⁰ Students who have past experience but no formal education or certifications are placed in the level one class and will be evaluated by the instructor for accelerated advancement. (All subject to the President of the College approval.)

Admissions Counselor and the General Studies Instructor and given final approval by the Central Applications Office of the college.

Developing standardized procedures for similar programs across colleges is a challenge to the larger institutions and bureaucracies that support these programs and drive procedures for PLA. The welding and manufacturing programs have made strides along this path, yet as one instructor pointed out during an interview, “The certifications are only as good as the integrity of the instructor”. Systematic training across programs for all instructors who are relied upon to assess PLA and recommend student advancement will strengthen this process going forward.

D. DEVELOP TECHNOLOGY-ENABLED INSTRUCTION AND/OR ONLINE PROGRAMMING

All colleges offer online enhanced instruction to some degree and rely on various forms of technology to assist in teaching students. The use of technology and online programming and the availability of computers for students to access the online programming is a necessary component to meet the evolving needs of industry. Following are some examples of how the TAACCCT IV grant facilitated the use of these tools.

Moore Tech expanding their shop facilities through the purchase and renovation of new property to significantly increased the learning lab and added an online virtual reality welder program. A number of new computers were also purchased during the grant period. Instructors attended a Skilled and Technical Sciences Education Welding Technology In-Service training focused on advance uses of the virtual welder for year 2 program curriculum. Instructors have introduced beginning and advanced welding techniques on the virtual welder to orient students to new welding techniques before using the equipment. Moore Tech purchased and implemented the ULINC welding curriculum. ULINC, a learning management system that includes a welding curriculum matched to AWS standards includes robotics and plasma cutting lessons, and an online curriculum that students can access.

The Moore Tech machining program incorporates multiple technology-based learning programs with the CNC machines and programming MasterCam and CAD/CAM (computer aided design software).

The ASU Mid-South diesel mechanic program incorporated the J. J. Keller Training on Demand system to allow students to earn safety credentials in the following areas: air brakes, tractor trailer, refrigerator trailer, and fork lift. The diesel program also provides diagnostic software to allow students the opportunity to use laptops to run diagnostics. In addition, ASU Mid-South developed a Machinist

Certificate that covers manual machining, Geometric Dimensioning and Tolerancing (GD&T), surface grinding, and MasterCam. Online modules were incorporated into the curriculum using Immerse2Learn and MasterCam University.

Southwest incorporated the online instruction program ToolingU to teach components of the medical device finishing program. Students complete the ToolingU self-paced, nine week course prior to entering the lab for the hands-on training. ToolingU students receive ongoing instructor support.

TCAT-Memphis purchased a number of software packages to assist with instruction and to meet industry standards. CDL students learn to use a digital applications to log trip miles, a standard industry practice. Diesel students use diagnostic software and aviation students have access to FAA test prep software. TCAT-Memphis also purchased a subscription for unlimited NIMS testing to encourage students to test for NIMS credentials without having to pay the test fee out of pocket.

The MemphisWorks website mentioned earlier in this report, offers a resume building tool, training modules and available job postings. The Southwest finishing program included in the course curriculum the building of MemphisWorks student accounts that instructors can oversee. Students are required to complete registration and staff can use the administrative function of the system to review student resumes, guide student training and other activities on the site.

E. DEVELOP WORK-BASED LEARNING OPPORTUNITIES

Work-based learning opportunities are offered through the TCAT-Memphis co-op program, a limited number of internships, the ASU Mid-South/Boilermakers articulation agreement allows ASU Mid-South associate degree graduates to enter the Boilermakers apprenticeship program, and direct work orders from area employers. One instructor noted that the Steel Fabrication Council members expressed a lack of interest in student training and education partnerships, and are unwilling to invest time, effort and the cost of liability insurance with no guarantee the student will stay with the company once trained.

Yet, TCAT-Memphis maintains a stable co-op program involving numerous area employers and instructors continuously sought new placements for students in the various industry sectors throughout the duration of the grant. Co-op opportunities were available to all TAACCCT IV program participants (except CDL and aviation students) who have completed 50% of the curriculum and have been identified by their instructor to demonstrate both technical and work readiness abilities.

The co-op program is instructor driven. Instructors are former industry workers and rely on their industry connections to find co-op placements for students. Instructors also started approaching advisory committee members to encourage employers to offer co-op opportunities for students. Co-op students attend class on Friday while Monday through Thursday, 8:00 am to 2:30 pm, are paid to work at the employer's site. One instructor noted that the biggest problem he is experiencing with the co-op program is the lack of students ready to participate: "We typically have 1 or 2 students a month who meet this requirement, though industry would hire many more than that if we were able to supply them". One instructor identified that the co-op paper work may be burdensome for some employers.

Few internship opportunities were developed during the course of the grant, however machining and welding students did experience the opportunity to work on real-world projects for employers in their labs. For example, Moore Tech welding students worked with blue print specifications provided by employers to work on a number of projects.

F. DEVELOP AND MODULARIZE MANUFACTURING AND TDL FOUNDATION CURRICULA

Each college program within the TAACCCT IV consortium worked with industry representatives to develop course curriculum to support students in their achievement of certifications that meet the needs of industry. Industry representatives not only provided information on the evolving need for additional technical skills, in some industries technology is rapidly changing, but also expectations of employee personal effectiveness and basic workplace competencies.

Late in the grant cycle the GMACWorkforce Career Pathways Work Team recommended, and the DOL approved, the use of the WorkKeys assessment and KeyTrain career curriculum. Through this assessment and training system students may attain a National Career Readiness Certificate (NCRC). The NCRC examination assesses skill level in three areas:

- Applied Math builds the ability to apply mathematic principles to problems encountered in the workplace.
- Graphic Literacy builds the ability to find, analyze and apply information presented in workplace graphics.
- Workplace Documents builds the ability to understand and apply written information presented in the workplace.

In addition to the future option for students to obtain NCRC through the WorkKeys program, individual colleges have, or are currently developing, programs to meet the needs of industry for employees with both technical, as well as workplace personal competencies.

Some programs require students approach their course as if it were employment, following typical employer expectations regarding appearance, attendance and conduct. Moore Tech is integrating Career Readiness Training into the Associates Degree Program. ASU Mid-South is in the process of creating a foundation workplace competency course that will meet the needs expressed by industry partners during council meetings. This pre-employment non-credit course that will focus on the following competencies: industrial safety, teamwork/communication, 5S (sort, set in order, shine, standardize and sustain), continuous improvement/lean manufacturing, metric system, quality and measurement devices.

An example of the implementation of a modularized foundation curriculum is demonstrated in the finishing programs. All finishing programs are aligned with NIMS certifications and instructors received training and certification in NIMS quality control. The process of implementing the modularized NIMS curriculum was demonstrated through the development of the Southwest finishing program. Southwest worked with area leading medical device manufacturer Smith & Nephew and reviewed finisher job descriptions provided by the Greater Memphis Medical Device Council, to develop the medical device finishing program competencies and curriculum in alignment with NIMS certifications and industry expectations.

G. EFFORTS TO DEVELOP ENTREPRENEURSHIP COMPETENCIES, MODULES, AND PATHWAYS

GMAC Workforce was charged with the development of a consortium-wide Entrepreneurship and Small Business Support pathway. Training modules were to be developed online for inclusion into career pathways and integrated into existing curricula for students seeking to become independent business owners. Two existing organizations functioned to assist the colleges in meeting this objective; the Tennessee Small Business Development Center (TSBDC) and the Arkansas Small Business and Technology Development Center (ASBTD).

The TSBDC, a small business startup service, available to colleges in Shelby and Fayette counties (Moore Tech, TCAT-Memphis and Southwest) offers small business startup services, training events, no-cost training and advising services, and access to an online 14 modular training: *Small Business Survival Training*. Each module includes a video segment, a power point presentation and pdf documents. This

service is housed on the Southwest campus. All three colleges in the service area have made the information about the TSBDC services available to students in various ways. TCAT-Memphis has added *Intro to Entrepreneurship* training to the syllabi of appropriate programs and provides referrals to TSBDC for interested students, and coordinated entrepreneurship workshops on campus each trimester. Southwest and Moore Tech also refer interested students to TSBDC. In addition, Moore Tech reports continued discussions with EPICenter at Memphis Bioworks Foundation to develop curriculum appropriate for their programs with the intention to eventually incorporate an entrepreneurship module into the final trimester of the 2-year programs.¹¹

ASBTD is available to residents of Crittenden County which includes ASU Mid-South. ASBTD offers no-cost, confidential, one-on-one professional business counseling, classroom-style seminars, webinars on an array of topics and access to the e-book *License, Permit, & Tax Requirements for Arkansas Small Business*. The e-book provides information on a number of issues relevant to establishing a small business in AR. ASU Mid-South houses a branch of the ASBTD and to facilitate access to ASBTD for all students, ASU Mid-South has placed a link to the ASBTD website on the college website.

Some of the TAACCCT IV training programs are not well suited for the creation of a small business (such as Aviation), and the programs focus on meeting employer needs by placing skilled individuals in available local jobs. Students lack work experience and funding opportunities (grant funding for business start-up is very limited) necessary to grow a small business. The available online modules may not be of use to this population of students unless they are combined with an opportunity to meet with and learn directly from entrepreneurs in their field of study. A more effective approach may be to invite former students who own their own business, or advisory/sector council members who own their own small business, to come to class and share their experience with students (an approach that has been somewhat utilized by TCAT-Memphis).

¹¹ Bioworks Foundation, a fee-for-service organization, is leading business accelerators in the biomedical/medical device sector to help medical device entrepreneurs navigate the start-up process, refine their business models and achieve the Food and Drug Administration's 510(k) pre-market notification filing.

H. OFFER ADDITIONAL STUDENT SUPPORTS THROUGH THE HIRING OF CAREER NAVIGATORS, JOB COACHES, AND THE IMPLEMENTATION OF INDIVIDUAL EDUCATION PLANS (IEPs).

Each college had varying degrees of student supports built into pre-TAACCT IV systems and the capacity to provide career navigation/job coaching was limited. Each college identified a person to offer supports to TAACCT IV students as a job coach, career navigator or retention coach (referred to as coaches). Coaches met regularly with GMACWorkforce staff to share information relevant to their job duties. At each college the work performed by the coach varied to complement and work with the formal and informal student supports instituted by the larger college systems. The core function of the coaches was to provide dedicated academic and career advisement throughout the student's time at the college. Coaches were assigned to work with each student to complete an intake process that included the completion of the TAACCT IV program intake and the Individual Education Plan (IEP) forms, and to meet monthly with each student to provide on-going support. Due to large numbers of enrollment at TCAT-Memphis, the coach met with students as groups in their classrooms and labs.

The types of supports coaches provided may include;

- case management, including needs assessment and referrals,
- attendance and retention support,
- assistance with schedule changes,
- degree audits,
- financial aid assistance,
- notifying students about job fairs and employment opportunities,
- resume development,
- interview preparation,
- referrals to job placement resources, and
- job placement follow-up.

Coaches were also responsible for data entry into the Salesforce data system. The TCAT-Memphis open enrollment and the self-paced curriculum created a unique challenge in that the coach was quickly overwhelmed and funds were shifted to hire an additional person in October 2016.

Following is a sample of the common challenges encountered by the coaches and initiatives implemented to support students.

Balancing Family, Work and School

Both the coaches and instructors noted that their students often struggle with balancing family, work and school—complex issues the staff and faculty tried to help them manage. All coaches reported working with students struggling with transportation and financial difficulties that posed barriers to educational retention and success. Coaches experienced difficulty in finding appropriate referrals for students living in rural areas where social services are limited. The Moore Tech coach attended multiple outreach meetings through Seeding Success to collectively address these issues. Seeding Success is a Shelby County wide collaborative of organizations seeking to support student success by addressing the shared barriers for all education institutions.

Student Retention

Coaches identified the primary focus of their work was student retention. On each campus, instructors and coaches worked together to develop systems to follow-up with absent students to offer case management assistance and support. TCAT-Memphis established a retention team that developed a needs assessment and a list of resource referrals to address common issues such as transportation, child care, housing, work schedule conflicts and other issues. The TCAT-Memphis coach reported that, “We have found that assisting students with any of the issues listed above on the front end helps retain our students.” The TCAT-Memphis coach also developed a system to recognize students for their retention with certificates to recognize exemplary attendance. The ASU Mid-South team developed the *Gold Coin Extra Point Program*. Through this program students in attendance were awarded an extra point for answering a small questionnaire on the back of paper printed gold coin, up to three points/coins can be gained and added to their final grade by the instructor at the end of the term. The coach randomly visited classrooms and labs to distribute the coins.

Updating Student Information

Maintaining and updating student information in the Salesforce data system was clearly an ongoing challenge requiring multiple strategies. Coaches spoke with currently enrolled students to obtain recent information and the Moore Tech coach identified the use of Google voice for text

messaging as a convenient way to quickly communicate with students.¹² All coaches experienced an even greater challenge in maintaining contact with program completers to obtain follow-up employment and wage information. Coaches report that student contact information often changes, or students simply didn't respond to their requests for information sent through various avenues: email, voicemail, and text messaging.

GMACWorkforce staff worked with WIN to access student information through WIN's contract with Equifax. Participant records located in Equifax were upload to Salesforce to update job records, wage increases or create new job records as needed. GMACWorkforce staff and coaches flexed their schedules to work evenings to attempt contact with students. GMACWorkforce utilized the National Student Clearinghouse data to identify participants continuing their education at other institutions.

Student History of Judicial Involvement

A few colleges identified student's history of judicial involvement as a barrier to employment. TCAT-Memphis worked to partner with the Memphis Shelby County Office of Reentry Program to provide support for these students. Some instructors reported forming relationships with a variety of companies who are willing to offer a *second chance* to employ individuals with a history of judicial involvement.

¹² Google Voice gives the user a phone number for calling, text messaging, and voicemail. It works on smartphones and computers, and syncs across devices.

STUDENT PERSPECTIVES

Focus Groups

During the 2016 and 2017 site visits, the evaluation team met with focus groups of participating students at the partner colleges. The focus groups varied in size (typically 6-15 students) and program areas of focus, but overall some common themes emerged from these discussions.

In general, the students were largely very positive about their experiences with the grant-funded programs and instructors. Indeed, the key role that instructors play in the day-to-day experience of these students was a common thread. Students spoke frequently of how involved and committed they felt their instructors to be. Further, students told impressive stories about the impact on their lives these programs are having, or they believe they will have, upon graduation.

“Instructors care about the students and they understand we have life issues...they will approach you to see if they can help you catch-up...but you have to put in the effort.”

“They are making us real welders.... They teach us how to go through every stage, how to do the math, how to prep everything, how to set up all the machines.”

Many students spoke of the “hope” and “opportunity” they felt from entering short-term, intensive programs with the prospect of well-paying jobs. Students discussed feeling prepared for employment and reported that various employers visit their programs to discuss employment opportunities.

Most students reported they heard about the program through a trusted friend, family member, neighbor, or former program graduate. A few students noted that specific recruiting events had gained their attention such as a television ad, or a pamphlet distributed by a high school counselor. A number of students reported accessing the college websites for specific program information.

Some students discussed program challenges. The Aviation students identified their greatest barrier to employment success as the \$1,400 license testing fee. Others reported students may leave the program due to the demands of employment: “*With jobs they got too busy to continue*”, or students were unprepared to maintain the rigorous time requirements of the programs.

Student Survey

The machining and finishing students were offered an opportunity to participate in a survey designed to gain an understanding of student experiences to inform the future MOVE-HIRE project (see Appendix B for complete survey).

Of the students completing the machining and finishing programs, 396 received an email invitation to participate in a survey regarding their experience. Invitations to respond to the survey were sent on a Monday morning followed by two reminders on different week days. Survey respondents were not offered any form of compensation for their participation in the survey. Responses presented in this report represent the experiences and opinions of the 36 respondents (9%) and cannot be generalized to represent the larger group of students served by the programs.

The respondents ranged in age from 19 to 58 with half being 40 or older. The majority of the respondents identified race/ethnicity as Black/African American (53%) and White (28%). One quarter of the respondents were female. Table 2 presents responses related to instruction, both online and in the labs. Most respondents report the program instruction met their needs and a few respondents identified challenges in accessing online course material outside of school and issues were also identified related to classroom equipment maintenance and availability.

Table 2. Machining and Finishing Programs Online and Lab Instruction

Online Instruction: Please rank your experience of your course online instruction by indicating your level of agreement with the following statements.	agree	somewhat agree	somewhat disagree	disagree	N
Computers were available at times that met my needs.	31	2	2	1	36
There were enough computers for all students to have plenty of opportunity to work online.	31	2	1	2	36
The type of computer technology support I needed was available.	32	1	0	3	36
Instructors were patient and understanding.	33	2	0	0	35
I could ask my instructors for help when I needed it.	32	2	1	0	35
Instructors gave me help when I asked for it.	28	6	0	0	34
I was able to access my online course work from other places.	28	3	1	2	34
Lab Instruction: Please rank your experience of your course lab instruction by indicating your level of agreement with the following statements.	agree	somewhat agree	somewhat disagree	disagree	N
The equipment in my classroom worked properly and was in good repair.	27	5	3	1	36
My classroom had enough equipment and supplies for all students to have plenty of opportunity to practice.	27	2	3	4	36
Instructors were patient and understanding.	31	4	0	0	35
I felt I could ask my instructor for help when I needed it.	31	2	2	0	35
Instructors gave me help when I asked for it.	31	4	0	0	35

Table 3 presents responses to questions regarding employment readiness skills. The table’s first two columns present the number and percentage of respondents identifying that the program did assist them in the specified area, followed by a distribution of the responses across two groups: working in their field of study and not working in their field of study. Over half the survey respondents identified the course of study helped their *ability to work with others* and their *ability to balance school and/or work with family and other social commitments*. The *ability to work with others* was identified equally by both those employed in their field of study and those not employed in their field of study. Sixty-nine percent (69%) of respondents reported their participation in the program helped their math skills and this response was reported by those employed and not employed in their field of study.

Table 3. Machining and Finishing Program Employment Readiness Skills

Please indicate if your participation in your course of study helped you in any of the following: N=30	Responses	Pct.	I have a job in my field of study?	
			Yes	No
Time management	18	50%	10	8
Communication skills	16	44%	10	6
Math skills	25	69%	14	11
English skills	12	33%	6	6
Ability to work with others	20	56%	10	10
Ability to balance school and/or work with family and other social commitments	21	58%	13	8

Table 4 presents responses to questions regarding employment preparation. Less than half of the respondents indicated receiving help in any specific area presented in the survey. Respondents who identified being employed in their field of study more frequently reported receiving the different forms of assistance.

Table 4. Machining and Finishing Program Employment Preparation

Please indicate if the school helped to prepare you for employment with the following assistance: N=30	Responses	Pct.	I have a job in my field of study?	
			Yes	No
Filling out a job application	12	33%	8	4
Writing a resume	14	39%	10	4
Interviewing with employers	14	39%	9	5
Using online sites to look for employment	11	31%	7	4
Using the MemphisWorks web site to look for employment	6	17%	3	3
My instructor sent me to an employer who had a job opening	15	42%	9	6
I met employers at a job fair at school	9	25%	4	5
I met employers who were invited to my school	14	39%	10	4
Other type of assistance (<i>None specified</i>)	3	8%	1	2

Nineteen (19) respondents reported working in their field of study (53%). Table 5 presents the responses of this sub-group to questions regarding job placement assistance and their sense of how the program prepared them to be proficient on the job.

Table 5. Machining and Finishing Programs Employment Placement and Proficiency

Work Experience: Please rank how your course of study prepared you for employment, and/or helped you gain and keep employment. N=19	agree	somewhat agree	somewhat disagree	disagree	N
My school helped me get a job.	12	1	2	1	16
The equipment in my class lab was the same as the equipment I'm using on my job.	12	3	0	1	16
I use on my job what I learned in my course of study.	16	1	0	0	17
My participation in my program will help me be successful at my work.	16	0	1	0	17
My participation in the program increased my confidence in myself.	16	0	0	1	17

Seventy-two percent (72%) of the survey respondents identified no barriers to employment. The types of barriers identified by others included disability (1), transportation issues (1), work hours don't work with my family (3), and other (3). Three respondents offered information on other barriers.

- I'm currently waiting on a position at the job I was already at;
- Pay isn't enough; and
- Not enough instructors, students are enrolled that don't really want or need to be there. They goof off and waste limited time and resource that others could use. We had new equipment that had not been set up for at least six months and the equipment that was set up was mostly inoperable. The instructor new manual machining well but not CNC so much. They need to put more money into instruct salaries to get better qualified instructors. Consumable items are/were in short supply to include lubricants. You can't make anything because you just keep burning up end mills and cutting inserts.

Nine respondents offered additional information in response to the question, "Is there anything else about your training experience you would like to share with us?"

- The class need more time,
- Great! Training!!!!,

- The poor student discipline was averse to learning,
- The time lapse between finishing the course and being given a possible job offer was too long so I had to find employment elsewhere,
- New computerized equipment needed for machining,
- We need another instructor,
- I had a great instructor that helped us when we ask for help, and
- ...There were an endless amounts of practical knowledge that I could not gain in the Machine Shop course, due to the fact that there was no equipment there or substandard equipment from which to learn with. There was no ability to practice Metal Finishing, proper laser engraving, and altogether most modern tools used in the working of a machine shop for profit. This was not due to my instructor's lack of knowledge, nor unwillingness to teach me or point me in the right direction for any information that I asked about. All together they were incredible teachers. What made my time frustrating in this course, was the inability to learn on any equipment that would actually be used in a standard machine shop.

RECOMMENDATIONS FOR FUTURE PROGRAMING

The TAACCCT grants are capacity-building efforts. The assumption being that the capacity that was built will remain past the period of the grant. The TAACCCT IV grant built upon the capacity created by previous TAACCCT grants and moved the needle to continue training program improvements and alignment with area employers to meet the demand for skilled labor in the Greater Memphis Area. All training programs developed and program enhancements achieved through the TAACCCT IV grant are currently stable within each institution and continue to evolve toward the implementation of the larger community wide goals for economic development. This report section discusses challenges that impact the effectiveness of the consortium colleges programs and recommendations for future program consideration.

Qualified Instructors

Challenge: The struggle to find and retain experienced, qualified instructors was the staffing issue reported by administrators and coordinators which has the potential to impact the programs going forward. Teaching salaries are not competitive with industry salaries and colleges need to be prepared to support new staff in obtaining the necessary quality certifications to maintain programs.

Recommendation: Continually actively engage employers through Sector Talent Councils to enhance their knowledge of programs; to contribute to the development, implementation, and evaluation of the curriculum and the support of certificate and associate degree programs; continue training council members to understand and buy into the value of a workforce that has completed a course of study and obtained certifications; and develop within the council structure, a systematic mechanism for approaching the councils to assistance in the identification of qualified potential instructors.

Recruitment and Retention of Students

Challenge: The colleges offering similar programs and certifications are in competition for the same pool of students in the Greater Memphis Area. ASU Mid-South and Moore Tech are at a disadvantage in that students cannot access the TN Promise funding. The ASU Mid-South high school recruitment area, Crittenden County, only includes three high schools that have experienced in recent years, a declining numbers of graduates, while Memphis area colleges have numerous high schools in their recruitment area. TCAT-Memphis has a rolling open enrollment where students can enter at any

point a program has an opening, other programs ASU Mid-South and Moore Tech operate on the semester and trimester systems. Further, instructors report the primary reason students stop out of training is employment.

Recommendation: Support the legislation to secure Moore Tech students eligibility for TN Promise grants. Encourage Graduate Memphis to expand its partnership with ASU Mid-South as a potential training site for applicants to the program. MemphisWorks can include links to available training program on each *find opportunities page* and include these links in the follow-up email and text messages sent to site visitors. As programs develop training modules unique to the Greater Memphis area, continue to create articulation agreements to seamlessly allow students to move between programs to obtain the desired training for credit. Continue to maintain and strengthen relationships with the Workforce Investment Network (WIN) American Job Centers (AJC) to promote referrals to the available area training programs. Continue work with councils to secure industry support of working students to complete their course of study and obtain certifications.

Certifications

Challenge: Instructors report frustration with the lack of direct feedback from the NIMS online testing system regarding the strengths and weaknesses of a given student's test to guide their remediation efforts toward student's credential success.

Recommendation: The NIMS support center reports the program is currently in process of changing and updating the website to provide immediate test feedback that will state strengths and weaknesses of each candidate. Until that time instructors can create a systematic process to submit to the NIMS site technical manager a request for a review of a specific students test by supplying the technical manager with: candidate name, test name, and username. The support center reports a response can take up to two weeks.

Challenge: Students and program staff report burdensome fees for some program certifications. While ASU Mid-South has embedded all certification fees in the program cost, this practice is prohibited by the larger bureaucracies that govern the TBR colleges. Programs have pursued creating procedures to offer students an opportunity to save within the college system the fees for certification testing. An effort unsupported by the larger systems that govern college practices and the rules regarding student financial aid distribution

Recommendations: Some programs have secured grants to specifically pay for certification fees as a sound strategy to assist students. Programs can expand and reinforce student awareness of local financial literacy programs and partner with programs to provide services to students at the colleges. Students have suggested creating systems with certification institutions that would allow students receiving enough financial aid to cover the cost of testing to pay testing fees at the time they receive their financial aid, or to make incremental payments toward the fee over time.

Providing Support for Justice-Involved Individuals

Challenge: The consortium colleges do not share a systematic approach to providing support for individuals with a history of judicial involvement.

Recommendation: Partner with area reentry programs to recruit program participants and to provide support and teach specific skills related to seeking employment with a criminal record. More specifically, provide assistance in writing cover letters to employers regarding their past, coaching in how to speak with an employer during an interview regarding their past and to identify second chance employers in the Greater Memphis area for employment referrals.

Maintaining and Updating Equipment and Necessary Lab Supplies

Challenge: Another ongoing challenge for the implementation of a curriculum that will meet industry needs is, and will continue to be, the cost of the materials and equipment. To successfully instruct students, equipment must be aligned with industry and materials are needed.

Recommendations: Some programs were successful in negotiating real world work orders for their welding labs. Industry supplied the materials and inspected the work, and instructors supervised the tasks. Perhaps similar arrangements can be made with other appropriate industry partners. Councils can support these arrangements by announcing during council meetings the success of each arrangement and encouraging additional industry leaders to create similar partnerships. Councils can also create an avenue for discussions regarding the training of incumbent workers on new industry equipment in exchange for providing the college program with the equipment. Foundation and other grant funding sources must also be pursued to purchase equipment to ensure that programs can meet the need of industry.

**APPENDIX A: ADDITIONAL PROGRAM FUNDING AND IN-KIND
SUPPORTS SECURED BY TAACCCT IV COLLEGES AND GMACWorkforce**

A Sampling of Funding and Supports Secured by TAACCCT IV Colleges

Source	Donation/In-kind	Value
Assisi Foundation of Memphis	Grant for Moore Tech Welding Facility	\$650,000
Gene Haas Foundation	Scholarships	\$10,000
Yarbrough Cable	3 spools of steel rope for Airplane tie-downs	\$4,000
Bosch Company	Two pallets of hand power tools	\$6,000
Moore Tech	Salaries for welding instructors	\$10,773
Garver Equipment Services	1 Power Divider, 1 Allison Automatic Transmission, 2 Turbos, and 5 AC Compressors	\$3,500
ASU Mid-South PBI Grant	Mechanical Drive Trainer Expansion (federal)	\$42,885
Truck Pro-Memphis, TN	Wheel Seal Drivers, Bearing Cone Set w/Display Board	\$1,300
Barnhart ad Crane Metal Core Wire	Core Wire: supplied 1 role per every 2 students	\$100 per roll
Fanuc	Computer Numeric Machines	\$100,000
QTE Manufacturing	Annual instructor and student license fees for Mastercam	\$1,200

GMACWorkforce Private Sector Funding

Funder	Initial	2015	2016	2017	2018	2019	Total
Anonymous	Q4, 2014	\$500,000	\$500,000				\$1 million
FedEx	Q1, 2015	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$1 million
Peer Power	Q1, 2015	\$50,000					\$50,000
Hyde Foundation	Q3, 2015	\$75,000	\$75,000	\$50,000	\$50,000		\$250,000
Anonymous (Memphis Works)	Q4, 2015	\$250,000	\$1,000,000	\$250,000			\$1.5 million
Totals		\$1,075,000	\$1,775,000	\$500,000	\$250,000	\$200,000	\$3.8 million

Source: GMACWorkforce 2016 Annual Report.

Leveraged Funding To Support Workforce Mission

Funder	Initial	2015	2016	2017	2018	2019	Total Award
U.S. Department of Labor (DOL) -TACT-4	Q1, 2014	\$2,031,000	\$3,653,000	\$2,935,000	\$1,161,000		\$9,814,818
Tennessee Labor-Education Alignment Program	Q1, 2015	\$241,095	\$502,405				\$743,500
Tennessee Chamber of Commerce LIFT Grant	Q2, 2015		\$47,672				\$47,672
DOL Strengthening Working Families (Bioworks Foundation)	Q3, 2016		\$100,000	\$800,000	\$1,200,000	\$1,300,000	\$3,984,433
Delta Regional Authority	Pending		\$70,000				\$70,000
DOL America's Promise Grant	Q1, 2017			\$2,029,000	\$1,338,000	\$1,311,000	\$5,992,314
Anonymous (Memphis Works)	Pending			\$600,000			\$600,000
State of TN - TCAT-Memphis Capacity Grant	Q4, 2016						
State of TN – TCAT-Memphis General Fund Facilities Request	Pending		\$4,000,000				\$4,000,000
Totals		\$2,274,110	\$8,375,093	\$6,364,000	\$3,701,018	\$2,611,000	\$25,252,737

Source: GMACWorkforce 2016 Annual Report.

APPENDIX B: TAACCCT IV MACHINGING AND FINISHING STUDENT SURVEY

Ximena D. Burgin, Ed.D., Associate Director for Research Support, Division of Research and Innovation Partnerships at Northern Illinois University, granted permission for the use of survey questions from the Waubensee Community College Trade Adjustment Assistance Community College and Career Training (TAACCCT) Grant Final Report.

TAACCCT IV Machining and Finishing Student Survey

1. Your age?

2. Your ethnicity?

- Hispanic/Latino/Latina
- Black or African American
- White
- American Indian or Alaska Native
- Asian
- Native Hawaiian or Pacific Islander
- Other, not listed
- Prefer not to answer

3. Your gender?

- Female
- Male
- Other Gender Identity
- Prefer not to answer

4. The rest of the survey asks questions regarding your course of study, including both your online learning and lab learning experiences, and questions about your preparation for employment.

Online Instruction: Please rank your experience of your course online instruction by indicating your level of agreement with the following statements.

	Agree	Somewhat Agree	Somewhat Disagree	Disagree
Computers were available at times that met my needs.				
There were enough computers for all students to have plenty of opportunity to work online.				
The type of computer technology support I needed was available.				
Instructors was patient and understanding.				
I could ask my instructors for help when I needed it.				
Instructors gave me help when I asked for it.				
I was able to access my online course work from other places.				

5. Lab Instruction: Please rank your experience of your course of study lab instruction by indicating your level of agreement with the following statements.

	Agree	Somewhat Agree	Somewhat Disagree	Disagree
The equipment in my classroom worked properly and was in good repair.				
My classroom had enough equipment and supplies for all students to have plenty of opportunity to practice.				
Instructors were patient and understanding.				
I felt I could ask my instructor for help when I needed it.				
Instructors gave me help when I asked for it				

6. Please indicate if your participation in your course of study helped you in any of the following areas. Click on all that apply.

- Time management skills
- Communication skills
- Math skills
- English skills
- Ability to work with others
- Ability to balance school work with family and other social commitments

7. Please indicate if the school helped to prepare you for employment with the following assistance. Please check all assistance you have received.

- Filling out a job application
 - Writing a resume
 - Interviewing with employers
 - Using online sites to look for employment
 - Using the Memphis Works web site to look for employment
 - My instructor sent me to an employer who had a job opening
 - I met employers who were invited to my school
 - I met employers at a job fair at school
 - Other type of assistance. Please explain
-

8. I have a job in my field of study.

- Yes
- No

Display This Question: If I have a job in my field of study. = Yes

9. Work Experience: Please rank how your course of study prepared you for employment, and/or helped you gain and keep employment.

	Agree	Somewhat Agree	Somewhat Disagree	Disagree
My school helped me get a job.				
The equipment in my class lab was the same as the equipment I'm using on my job.				
I use on my job what I learned in my course of study.				
My participation in the program will help me be successful at work.				
My participation in the program increased my confidence in myself.				

10. If you experienced barriers to employment, please click on all that apply. If you did not experience barriers to employment, click on: "I didn't experience any barriers to employment".

- I didn't experience any barriers to employment
- Disability
- Felony conviction
- Substance abuse issues (ability to pass drug screening)
- Transportation issues
- Child care issues
- Work hours don't work with my family
- Other issues: Please explain _____

11. Is there anything else about your training experience you would like to share with us?
