

**Oklahoma State University
Institute of Technology**

**Final Report for the
Career Pathways for Adult Workers
TAACCCT Grant Evaluation**

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EXECUTIVE SUMMARY

Introduction

The U.S. Department of Labor's (DOL) Trade Adjustment Assistance Community College and Career Training (TAACCCT) grant program enables eligible community colleges and other higher education institutions to use federal funds to expand and improve their education and career training programs. These programs are designed to help eligible individuals acquire the skills, credentials, and degrees demanded by local industry. The programs target Trade Adjustment Assistance (TAA)-eligible workers and other populations such as U.S. military veterans and adult dislocated workers.

In March 2014, the Oklahoma State University Institute of Technology (OSUIT) hired IMPAQ International, LLC (IMPAQ) to conduct a third-party independent evaluation of the Career Pathways for Adult Workers program (CPAW), a TAACCCT grant program funded through the U.S. Department of Labor (DOL). The OSUIT program's goal was to enhance OSUIT's capacity to offer a comprehensive education and training program for students interested in the manufacturing industry in Northeastern Oklahoma, while simultaneously meeting the needs of local manufacturing businesses located in the MidAmerica Industrial Park (MAIP).

The CPAW program consists of three major components: the Certified Production Technician (CPT) certification program, the Manufacturing Technologies program, and the Electromechanical Technology program. OSUIT-MAIP developed several strategies to support successful implementation of these programs. The main program inputs included grant equipment, staff, and community stakeholders. These inputs contributed to the overarching project strategies directly related to the desired outputs. The overarching project strategies included:

- Expanding participant recruitment
- Fostering stakeholder relationships
- Developing a streamlined prior learning assessment tool
- Redesigning remedial education
- Creating pathways to stackable and latticed industry-recognized credentials
- Offering paid internships
- Providing wraparound support services
- Expanding program flexibility

Evaluation Design

The evaluation's primary objectives were to report on participant outcomes, develop an in-depth understanding of how the program was implemented, and highlight successes and challenges of implementation.

IMPAQ conducted two site visits; one in April 2015, the other in November 2016. During each site visit, we interviewed program staff, employer partners, and OSUIT-MAIP students to gather information on how the program was being implemented and to learn about challenges and promising practices. In addition, we conducted a review of all provided program documentation. IMPAQ also analyzed de-identified CPAW participant data including data on participant demographics, employment status, program status, and a limited set of program outcomes.

Study Findings

With 369 students, OSUIT-MAIP was able to meet 92 percent of its targeted goal of 400 participants. The school exceeded the targeted number of participants who completed a program of study (168 percent) and came close to meeting the targeted number of participants completing credit hours (98 percent). The school was less successful in meeting goals for retaining students in their program of study (37 percent of their targeted goal) and students earning credentials (19 percent of targeted goal).

Successful areas of implementation include OSUIT's (1) design and implementation of Certified Program Technician (CPT) program of study; (2) developing a new program of study to more directly align with employers and students' needs; and (3) offering custom training courses developed in collaboration with local employers.

Conclusion

Despite some challenges related to staff turnover and needing to better align course offerings to employer needs, the new CPAW program staff continued implementing the programs of study with minimal influence on the participant experience. Employers reported that they valued the training offered by OSUIT under the CPAW program noting that short-term training was the most beneficial to their companies.

1. INTRODUCTION

In March 2014, the Oklahoma State University Institute of Technology (OSUIT) hired IMPAQ International, LLC (IMPAQ) to conduct a third-party independent evaluation of the Career Pathways for Adult Workers program (CPAW), a Trade Adjustment Assistance Community College and Career Training (TAACCCT) grant program funded through the U.S. Department of Labor (DOL). The OSUIT program's goal was to enhance OSUIT's capacity to offer a comprehensive education and training program for students interested in the manufacturing industry in Northeastern Oklahoma, while simultaneously meeting the needs of local manufacturing businesses located in the MidAmerica Industrial Park (MAIP).

The evaluation had two objectives: To examine and evaluate program implementation activities throughout the grant period, and to assess the effectiveness of the program in meeting its intended outcomes by analyzing program participants' educational and labor market outcomes. This report presents findings related to the first objective – examining the program's implementation progress –and to the extent possible, findings pertaining to program participant outcomes.

We collected the data that informs this report through document review, interviews, and class observations during site visits in April 2015 and November 2016, and participant data, as available. With 369 students, OSUIT-MAIP was able to meet 92 percent of its targeted goal of 400 participants. The school exceeded the targeted number of participants who completed a program of study (168 percent) and came close to meeting the targeted number of participants completing credit hours (98 percent). The school was less successful in meeting goals for retaining students in their program of study (37 percent of their targeted goal) and students earning credentials (19 percent of targeted goal).

Successful areas of implementation include OSUIT's (1) design and implementation of Certified Program Technician (CPT) program of study; (2) developing a new program of study to more directly align with employers and students' needs; and (3) offering custom training courses developed in collaboration with local employers.

In the following pages, we provide an overview of Department of Labor's TAACCCT program, and CPAW program's plan to address goals of the TAACCCT grant. We then present the program's logic model and our evaluation methodology. Finally, we present our study findings, including participant outcomes, and implementation successes and challenges.

2. OSUIT TAACCCT PROGRAM OVERVIEW

2.1 TAACCCT Grant Program

The TAACCCT grant program enables eligible community colleges and other higher education institutions to use federal funds to expand and improve their education and career training programs. These programs are designed to help eligible individuals acquire the skills, credentials, and degrees demanded by local industry. The programs target Trade Adjustment Assistance (TAA)-eligible workers and other populations such as U.S. military veterans and adult dislocated workers. To improve the educational and employment outcomes of these populations, TAACCCT programs include six core elements: (1) evidence-based design; (2) stacked and latticed credentials; (3) transferability and articulation of credit; (4) advanced online and technology-enabled learning; (5) strategic alignment with key stakeholders, including employers and industry, the public workforce system, community-based organizations, and economic development organizations; and (6) alignment with previously funded TAACCCT projects.

2.2 Regional Context

In recent years, more manufacturing jobs have returned to the U.S., and the manufacturing environment has changed due to advances in technology. Employers in manufacturing across the country—including those located in Pryor, Oklahoma’s Mid-America Industrial Park—had difficulty filling critical positions because of the lack of qualified workers.

At the time the grant period began in March 2014, the state of Oklahoma had recently experienced a major underemployment problem due to workers’ lack of basic and technical skills. The Oklahoma Department of Commerce (ODOC) Research and Economic Analysis Division reported that one in four working Oklahomans was poor and lacked the basic skills required for training or obtaining and retaining a knowledge-based occupation. The unemployment rate in Mayes County (of which Pryor is the county seat) was 5.4 percent at the start of the grant period.¹ Although the rate declined during the time of the grant (as of July 2017 the unemployment rate was 5.0 percent),² CPAW program staff, participants, and stakeholders noted a significant decline in the local oil and gas industry during the grant period, which led to many community members losing their jobs.

The OSUIT in Okmulgee, OK is Oklahoma State University’s technical branch, offering programs of study and career training in advanced technology. The TAACCCT grant was designed to expand OSUIT class offerings in an OSUIT training center located at the MidAmerica Industrial Park (MAIP) in Pryor. OSUIT-MAIP programs are unique within Pryor because they provide options for students to receive college credit in manufacturing fields of study that can be used to continue education in a 4-year college.

¹ Bureau of Labor Statistics

² Ibid.

2.3 OSUIT Career Pathways for Adult Workers Program

The CPAW program was designed to improve, enhance, and accelerate educational training for high-demand careers in advanced manufacturing, especially for TAA-eligible workers and other adults in rural northeastern Oklahoma.

The CPAW program consists of three major components:

- 1) The Certified Production Technician (CPT) certification program developed by the Manufacturing Skill Standards Council (MSSC) serves as a foundation course for students interested in learning about basic skills in manufacturing. The program leads to five certificates: Safety, Quality Practices & Management, Manufacturing Processes & Production, and Maintenance Awareness.
- 2) The Manufacturing Technologies program covers the complete manufacturing cycle from design to verification, and enables students to earn an Associate's degree in Applied Science.
- 3) The Electromechanical Technology program (also referred to as the Electrical/Electronic Technology program) provides the necessary skills for workers to advance into management positions in companies installing high-tech production systems. Through this program, students can earn an Associate's degree in Applied Science.

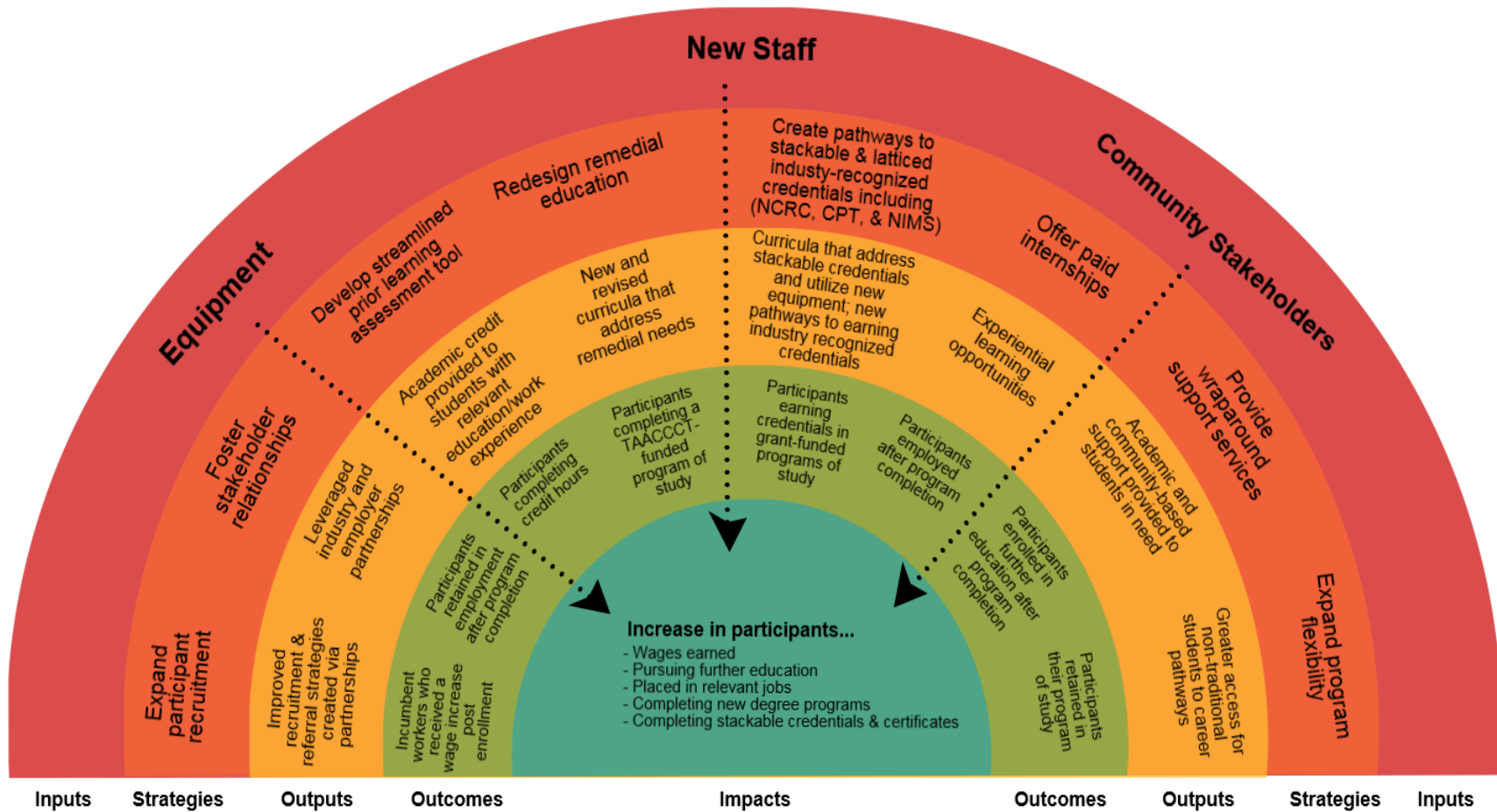
OSUIT-MAIP developed several strategies to support successful implementation of these programs. Exhibit 1 presents a logic model depicting the OSUIT-MAIP program's intended inputs, strategies, outputs, expected outcomes, and impacts. The main program inputs (red band in Exhibit 1) included grant equipment, staff, and community stakeholders. These inputs contributed to the overarching project strategies (orange band in Exhibit 1) directly related to the desired outputs (yellow band in Exhibit 1).

In the machinist world it don't matter how good you are, there's always somebody like that has a piece of paper that may get a little more money and have a different type of job. When I walk out of here, that stuffs over cause I'll have all the paperwork, all the credentials. That's just how it works at any job. – Student, November 2016

The overarching project strategies included:

- Expanding participant recruitment
- Fostering stakeholder relationships
- Developing a streamlined prior learning assessment tool
- Redesigning remedial education
- Creating pathways to stackable and latticed industry-recognized credentials
- Offering paid internships
- Providing wraparound support services
- Expanding program flexibility

Exhibit 1: Program Logic Model



Key anticipated outputs from program activities included:

- Improved recruitment and referral strategies via partnerships
- Leveraged industry and employer partnerships
- Academic credit provided to students with relevant education or work experience
- New and revised curricula that addressed remedial needs
- Curricula that addresses stackable credentials and uses new equipment
- New pathways to earning industry-recognized credentials
- Experiential learning opportunities
- Academic and community-based support provided to students in need
- Greater access for non-traditional students to career pathways.

Successful implementation of these strategies and outputs are designed to yield short-and medium-term outcomes for the CPAW program (the green band in Exhibit 1), including increases in the number of:

- Students recruited, enrolled in, and completing TAACCCT program courses
- Students earning certificates, credentials, and degrees
- Students who become employed or retain employment after attending the program
- Employees whose wages increase after attending the program

Potential long-term impacts for participants (the teal band in Exhibit 1) include:

- Reduced unemployment
- More qualified workers in manufacturing jobs
- Increased wages
- Completion of relevant stackable credentials and certificates for career advancement
- Reduced skills deficit in the workforce

3. EVALUATION METHODOLOGY

The evaluation's primary objectives were to report on participant outcomes, develop an in-depth understanding of how the program was implemented, and highlight successes and challenges of implementation. To achieve the objectives for this report, IMPAQ conducted the data collection and analysis strategies outlined below.

3.1 Site Visits

IMPAQ conducted two site visits; one in April 2015, the other in November 2016. We scheduled the first site visit to allow time for program staff to complete the majority of startup activities and reach a steady state of implementation. The second site visit was near the end of program implementation to observe the success of the project to meet its intended goals, and to assess the likelihood of sustainability of the program after the TAACCCT grant ended. During each site visit, we interviewed program staff, employer partners, and OSUIT-MAIP students to gather information on how the program was being implemented and to learn about challenges and promising practices.

3.2 Document Review

We gathered and reviewed a variety of program documents to collect relevant data about CPAW, including work plans, organizational charts, memoranda of understanding, and outreach materials. We also reviewed copies of reports, such as quarterly and annual performance reports, submitted to DOL as part of the grantee's reporting requirements.

3.3 Participant data

OSUIT provided de-identified participant data including data on participant demographics, employment status, program status, and a limited set of program outcomes.

3.4 Data Analysis

We used content analysis to examine the data from the interviews and documents reviewed during the site visits. We applied an inductive data coding strategy for which data content drives the identification of themes or coding categories.³

We prepared a summary of student demographic characteristics and program characteristics such as program of study, enrollment, and completion dates, number of credits hours completed, program completion, and number of industry certificates and degrees earned.

³ Thomas, D.R. (2003). A general inductive approach for qualitative data analysis. School of Population Health, University of Auckland, Auckland, NZ.
http://flexiblelearning.auckland.ac.nz/poplh701/8/files/general_inductive_approach.pdf.

4. STUDY FINDINGS

This chapter presents findings from our analysis of program participant data and our implementation evaluation. We describe basic student demographics and targeted vs. actual project outcomes. Next, we present an overview of the programs of study offered as part of the CPAW program and how the programs changed throughout the course of the grant. Finally, we provide a discussion of successes and challenges related to program implementation.

4.2 Participant Demographics and Grant Outcomes

This section presents basic demographic characteristics of program participants and compares grant target outcomes with actual outcomes. Some data presented in this section is from August 2015 because later data for certain demographic characteristics was not available.

4.2.1 Participant Demographics

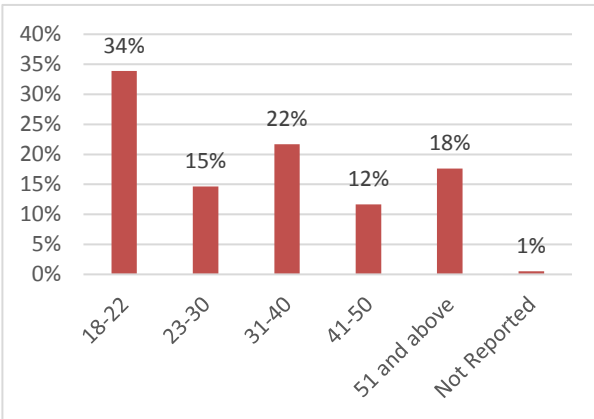
Age, Race, and Gender. The CPAW program served 369 participants during the grant period. Exhibit 2 presents the percent of students across five age groups at the time of enrollment.⁴ Thirty-four percent of students were between the ages of 18 and 22, while 67 percent of participants are 23 or older. Exhibit 3 presents the racial breakdown of program

“I lost my job back in July of last year, and I had to go get my GED, which I did. And then I was offered to go to college through the TAA program, Trade Agreement Act....I worked on CNCs. I was a set up guy at the plan, but I’ve never had any official training.” –Student, Nov 2016

participants. Sixty-seven percent of participants who reported their race were white and 23 percent were American Indian or Alaskan Native. The gender breakdown of program participants (Exhibit 4) aligns with the general gender breakdown in the advanced manufacturing industry. Eighty-two percent of participants were male and 18 percent were female.

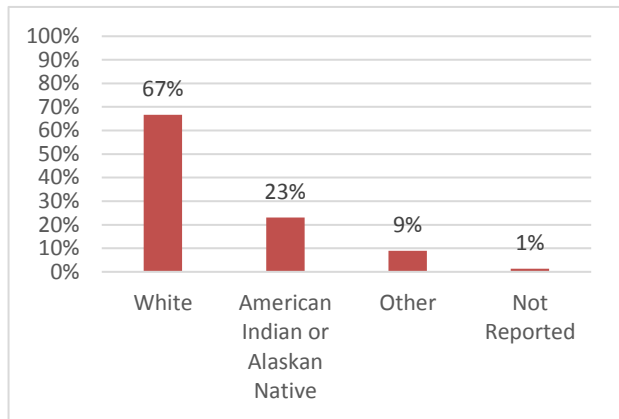
⁴ Three participants were 17 years of age on the date of enrollment.

Exhibit 2: Age When Enrolled



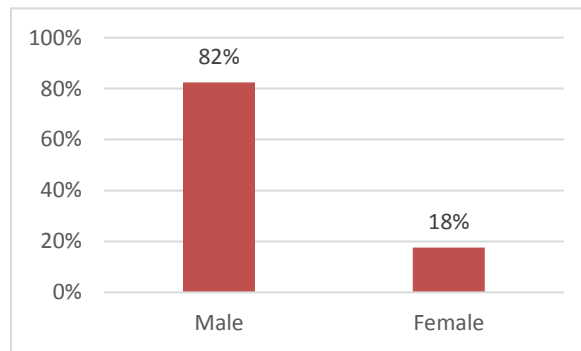
Source: OSUIT-MAIP participant data, May 2017
N= 369 participants. Percentages do not add to 100% due to rounding.

Exhibit 3: Racial Breakdown of Participants



Source: OSUIT-MAIP participant data, May 2017
N= 369 participants

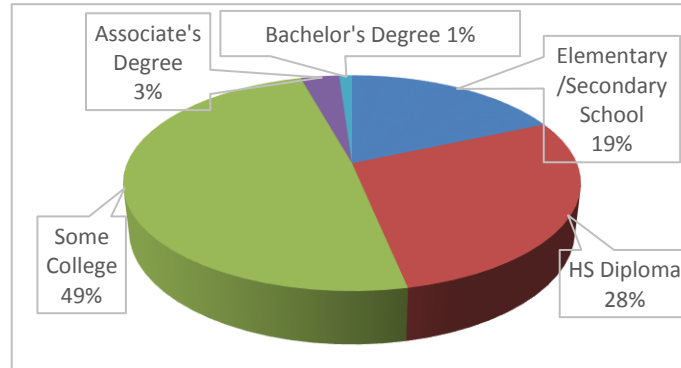
Exhibit 4: Gender



Source: OSUIT-MAIP participant data, May 2017
N= 369 participants

Education. In August 2015, (near the middle of the grant period), 53 percent of CPAW program participants had at least some post-secondary education, and 28 percent had a high school diploma (Exhibit 5).

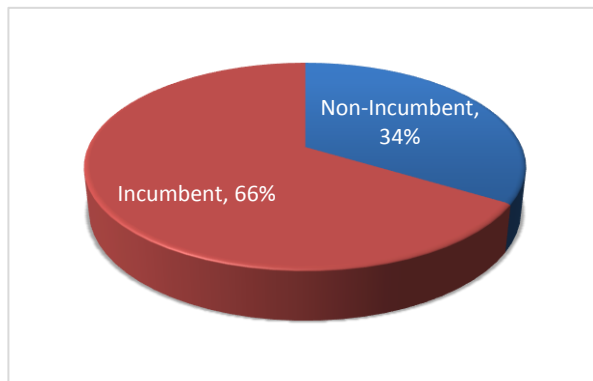
Exhibit 5: Highest Level of Education among Program Participants



Source: OSUIT-MAIP participant data, August 2015
N= 92 participants

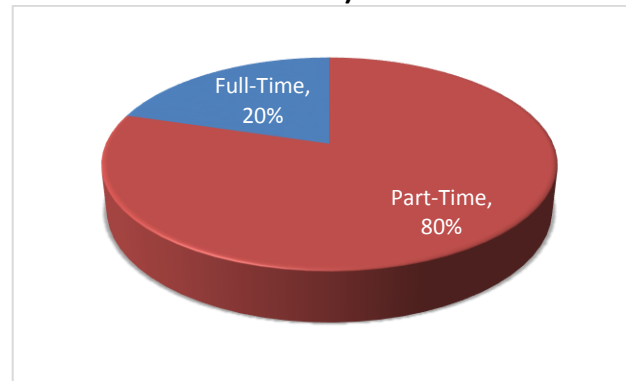
Employment & Education Status. Near the end of the grant period, 66 percent of program participants were incumbent workers (Exhibit 6). Incumbent worker status aligns closely with participant full-time or part-time education status (Exhibit 7). A large majority (80 percent) of participants were going to school on a part-time basis.

Exhibit 6: Incumbent Workers



Source: OSUIT-MAIP participant data, May 2017
N= 369 participants

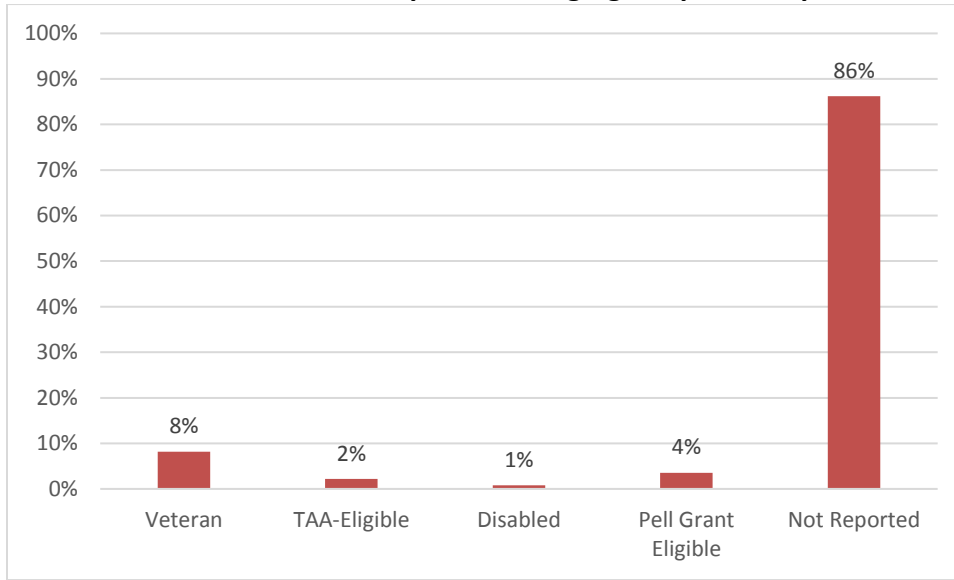
Exhibit 7: Education Status (Full- or Part-Time)



Source: OSUIT-MAIP participant data, May 2017
N= 369 participants

Special Populations. Exhibit 8 presents the percent of CPAW participants belonging to four different special populations. As shown, 8 percent of participants are veterans, 2 percent are eligible for TAA funding, 1 percent are disabled, and 4 percent are eligible for Pell Grant funding.

Exhibit 8: Percent of Participants Belonging to Special Populations



Source: OSUIT-MAIP participant data, May 2017

N= 369 participants

Some overlap exists between special populations so the percentages do not add to 100 percent

4.2.2 Participant Outcomes

Exhibit 9 presents the intended grant outcome targets as laid out in the CPAW grant application along with the actual outcomes achieved over the course of the grant period. Serving 369 participants, the CPAW program came close to serving their goal of 400 unique participants. CPAW surpassed their targets for the total number of participants that completed a program of study (168) as well as the total number of participants that completed credit hours (147). CPAW program participants completed 2,233 credit hours and earned 321 credentials (including certificates and degrees).⁵

Exhibit 9: Participant Outcome Targets vs. Actual

	Participation Outcome	Target	Actual	Percent Target Met
1	Total unique participants served	400	369	92%
2	Total number who have completed a TAACCCT-funded program of study	100	168	168%
3	Total number still retained in their program of study (or other grant-funded program)	380	139	37%
4	Total number of participants completing credit hours	150	147	98%
5	Total number of participants earning credentials (certificates and degrees)	380	74	19%
6	Total number of participants enrolled in further education after TAACCCT-funded program of study completion	150	21	14%

⁵ Targets for outcomes 10-12 in the exhibit were not set in the grant application.

Participation Outcome		Target	Actual	Percent Target Met
7	Total number of participants employed after TAACCCT-funded program of study completion	190	13	7%
8	Total number of participants retained in employment after program of study completion	160	50	31%
9	Total number of those participants employed at enrollment who received a wage increase post-enrollment	100	21	21%
Aggregate Measures				
10	Total number of credit hours completed	n/a	2,233	n/a
11	Total number of earned credentials/certificates/degrees	n/a	321	n/a
12	Total number of students earning degrees ⁶	n/a	9	n/a

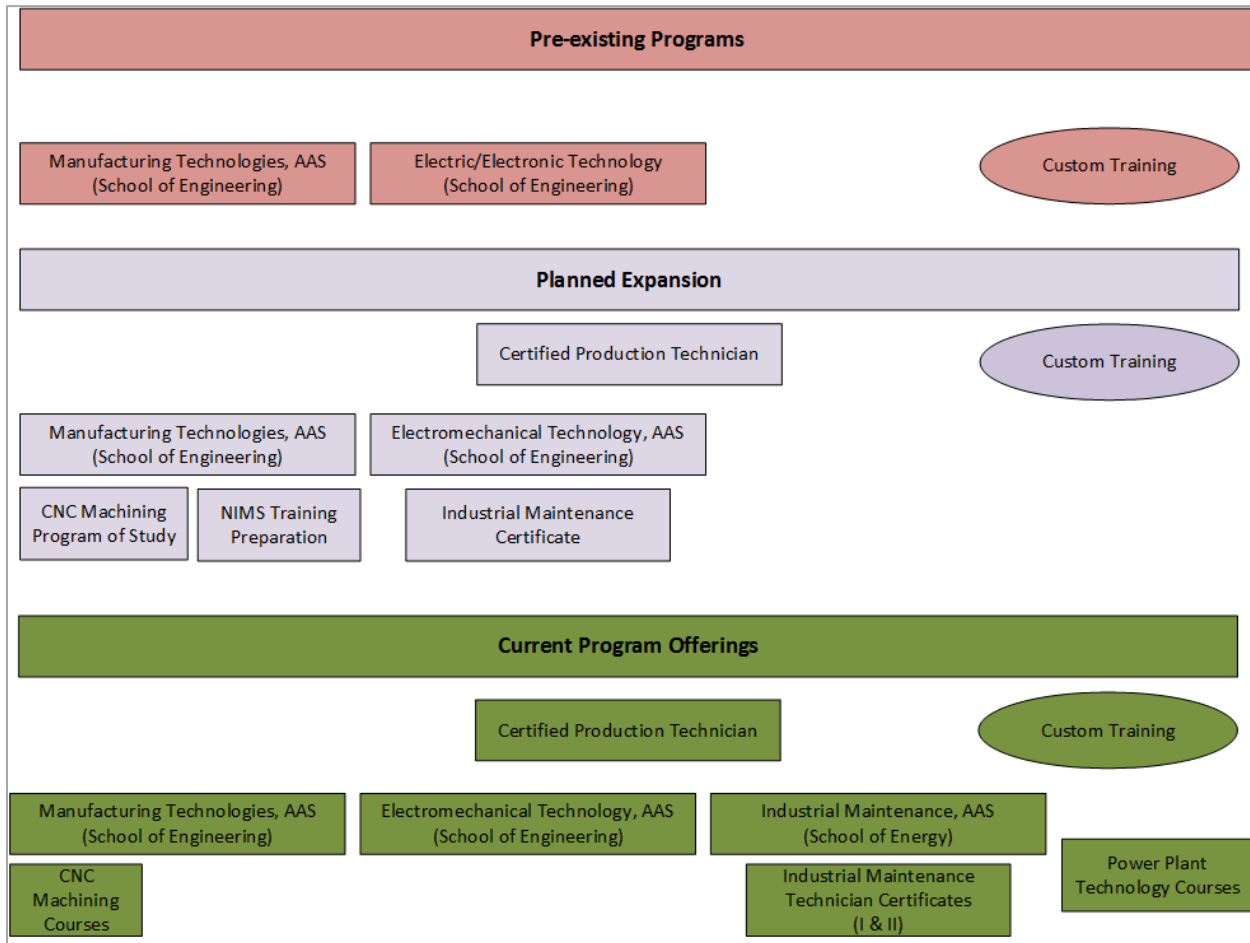
4.3 Program Components

Exhibit 10 presents OSUIT-MAIP's programs that pre-existed the CPAW grant, the planned program expansion at the start of the grant period, and finally the current program offerings. CPAW's plan was to add the Certified Production Technician (CPT) program, and build and expand on the Electromechanical and Manufacturing Technologies programs. Program staff began implementing the CPAW program using a staggered approach, beginning with the CPT program, then expanding offerings within the Electromechanical Technology and Manufacturing Technologies programs.

Adjustments to OSUIT's program offerings were made mid-way through the grant program. CPAW program staff worked to develop and implement a new program of study, the Industrial Maintenance program. OSUIT-MAIP also began offering courses in Power Plant Technology and continued custom training for incumbent workers employed with local employers. The following sections present the implementation progress for each of the CPAW program components. Later sections describe grant strategies that span across the programs offerings.

⁶ As of September 2017, nine students earned a degree and twelve additional students were on track to graduate in December 2017.

Exhibit 10: Program Offerings over the Course of the Grant



4.3.1 Certified Production Technician

The CPT program awards certificates to individuals who have mastered the manufacturing production core competencies and successfully completed the certification assessments.⁷ CPAW's CPT program was developed by MSSC. The course was delivered using a combination of traditional classroom instruction and *Tooling U*, an online training course. The course provided an introduction to manufacturing, prepared unexperienced students for entry-level jobs in manufacturing, and served as an entry point to pursuing further education in manufacturing. The

"I saw this CPT class, and up until then, I didn't really know what I wanted to do. I thought, this could open the door. We have the whole industrial park. I've been born and raised in Pryor. This is home. I was like, "There's got to be plenty of opportunities." The CPT class seemed like a good jumping off point, just to familiarize myself. Then through that class – they guarantee interviews – and I got an interview with a couple of plants, and that's where I'm at now—one of the ones I had an interview with."

– Student, November 2016

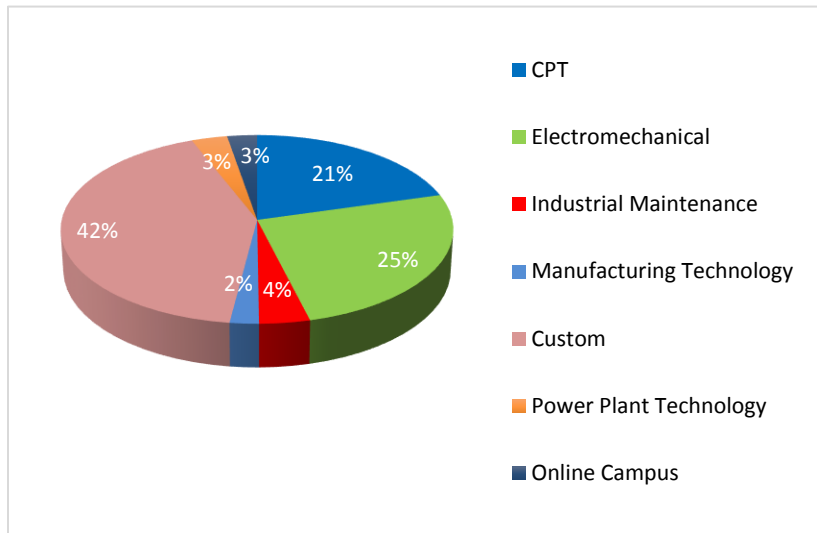
⁷ <http://www.msscusa.org/production-certification-cpt/>.

target population for this program was students new to manufacturing rather than incumbent workers.

OSUIT initially hired a new instructor for the CPT program, who earned the MSSC instructor certification as part of this grant. After reviewing several online options, the instructor selected *Tooling U* as the online training tool and developed a program curriculum. The course was offered onsite at the OSUIT Pryor Campus, and during the early part of the grant, at Thunderbird Youth Academy, a voluntary residential program for at-risk youth ages 16 through 19.

The CPT program, offered throughout the life of the grant period, accounted for 21 percent of the unique participants served (see Exhibit 11). Program staff reported that the CPT program was a successful addition to OSUIT-MAIP's offerings.

Exhibit 11: Enrollment by Program of Study



Source: OSUIT-MAIP participant data, May 2017
N= 369 participants

4.3.2 Manufacturing Technology

Early in the grant period, program staff worked to enhance the Manufacturing Technologies program by adding the Machining/Computer

Numerical Control (CNC) program. This new program offering was intended to align with and enable students to continue to OSUIT's AAS degree in Manufacturing Technology. Two new part-time adjunct faculty members were hired for this program in the fourth quarter of 2014. The new faculty members helped OSUIT-MAIP purchase CNC equipment (CNC mill, lathe, and five manual CNC machines) and apply for National Institute for Metalworking Skills (NIMS) certification. CPAW staff developed curricula for the program and worked to engage employers in this process. The CPAW program received approval from the OSUIT Okmulgee Campus in the summer of 2015 to offer the CNC Machining course for credit in addition to the Introduction to Machining course.

The CNC courses are offered as part of the Manufacturing Technologies AAS degree program. However, CNC Machining was not built out as a separate program of study as originally intended. The OSUIT-MAIP training center has also not yet received the NIMS certification, although staff reported that they were still working toward earning the certificate. As presented in Exhibit 12, only two percent of CPAW participants (eight individuals) took courses in the Manufacturing Technology program.

4.3.3 Electromechanical Technology and Industrial Maintenance

During the grant program, OSUIT MAIP went through staffing and organizational changes which influenced the implementation of the Electromechanical Technology Program and led to the creation of the Industrial Maintenance Program. These changes and the progress towards implementing both programs are described below.

Initial Plans and Steps Taken for the Electromechanical Technology Program. Early in the grant period (fall 2014), a grant modification was approved expanding the grant program to include the Industrial Maintenance (IM) Certificate and the Electrical/Electronic (EE) AAS programs of study both of which fall under the Electromechanical Technology program. The Electromechanical Technology program existed before the CPAW grant began, and provides the necessary skills for workers to advance into management positions in companies installing high-tech production systems. The IM certificate coursework was intended as a subset of the program, to train IM technicians in high-demand skills identified by MidAmerica Industrial Park industries, OSUIT, and the Northeast Technology Centers.

CPAW worked to expand the Electromechanical Technology program's capacity by purchasing new equipment and hiring an additional full-time faculty member. Program staff consulted with local employers to inform a more demand-driven curriculum for the Electromechanical Technology program with a specialization in electromechanics.

Mid-Course Adjustments. Approximately mid-way through the grant period, the grant manager left OSUIT MAIP. The new grant management quickly identified an issue regarding how students had previously been allowed to enroll and complete coursework. Prior to the staffing changes, students were being permitted to enroll in and complete courses without the prerequisites required by OSUIT. This was being done to allow students to move more quickly through the programs of study and gain the skills employer were demanding. Another reason for this approach was that it allowed students to skip more challenging prerequisites such as College Algebra.

New grant management leadership quickly identified the practice of waiving the College Algebra requirement as a violation of OSUIT's and the Higher Learning Commission's policies. Current and new students were informed that they would have to take the prerequisites.

"I cannot stand the algebra part. Because it really has nothing to do with my field. The trigonometry does, but all the other stuff, I'll never use it. What a waste. Anyway, it's a huge struggle because I have a 44 year gap for education. It's really been tough." – Student, November 2017

Developing the Industrial Maintenance Program. In addition to identifying and addressing the prerequisite issue, the new program management staff worked with local employers to develop a program of study that met growing employer demand for technician level workers rather than engineers. Staff developed the Industrial Maintenance Technology program, an Associate in Applied Science (AAS) degree and certificate program offered under the School of Energy

Technologies. In addition to meeting employer needs, offering a new program under a different school allowed OSUIT-MAIP to offer a program that did not require College Algebra, one of the most burdensome prerequisites of the other AAS programs.

“We really want to move to be a more cost-recovery operation, which won't happen immediately, but by doing additional outreach to the Industrial Park, implementing a new degree program that I think will be very popular, as well as our customized training, I think that we will be able to obtain that stability for the long run.”

– CPAW Management, Nov 2016

Program management determined that it was more appropriate to offer the Industrial Maintenance Certificate under the newly developed Industrial Maintenance Program rather than the Electromechanical Technology Program as it better aligned with the program coursework. The new Industrial Maintenance Program offers the option of earning two stackable Industrial Maintenance Technician Certificates as official credentials approved by the Oklahoma Board of Regents for Higher Education in June of 2017.

As shown in exhibit 11, Twenty-five percent of CPAW students were enrolled in the Electromechanical program and 4 percent of students were enrolled in the new Industrial Maintenance program.

4.3.4 Power Plant Technology

Another addition to the CPAW program included courses in Power Plant Technology. CPAW grant management reported that they sent staff to take two Power Plant courses offered in Okmulgee so that they could then develop similar courses at OSUIT-MAIP. Staff noted that local employers identified training in power plant technologies as a current need, but staff felt that they did not have enough data to determine whether a degree program was sustainable. Instead of offering a full degree program at OSUIT-MAIP, staff planned to offer two for-credit power plant technology courses onsite, giving students the option of continuing their course work in power plant technology in Okmulgee if interested in pursuing a degree. Three percent of CPAW students (12 individuals) were taking courses in Power Plant Technology.

4.3.5 Customized Training

Custom courses were offered before the grant began, and continued through the CPAW program. These custom, non-credit bearing, training courses were developed with the employer's specific training needs in mind and are typically offered at the worksite. CPAW program staff reported that employers cover the full cost of the training. Custom programming accounts for 42 percent of CPAW program participants.

4.4 Program Strategies

This section describes each strategy outlined in the CPAW program logic model. For each strategy, we present the successes and challenges.

4.4.1 Expand Participant Recruitment

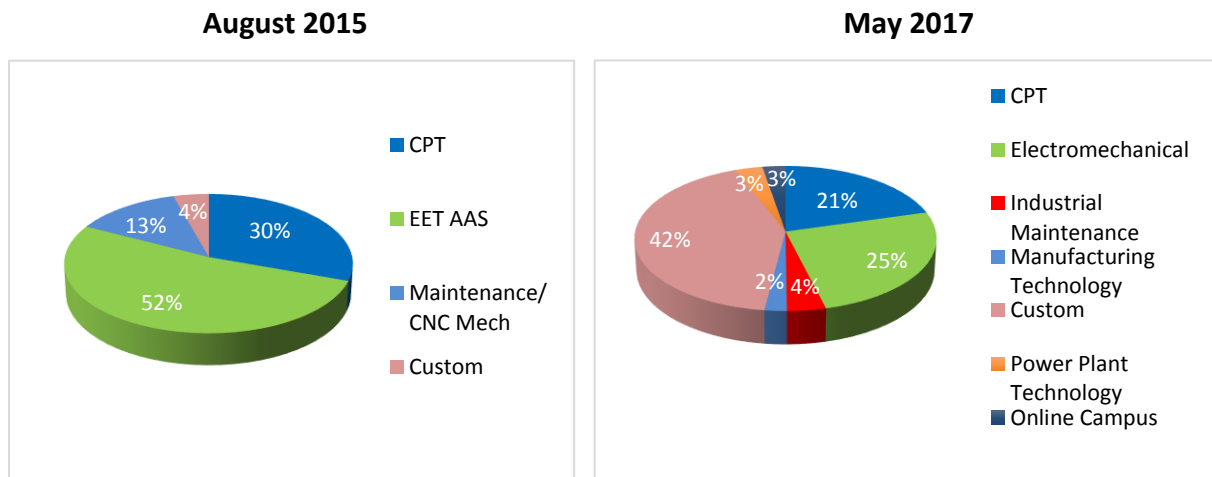
Recruitment strategies to bring participants into CPAW were considered essential to the program’s success. By design, the CPAW program’s target population was TAA-eligible and other adults in rural northeastern Oklahoma. The grant proposal outlined recruitment methods for reaching this population, including:

- Hiring an outreach specialist.
- Working with local American Job Center (AJC) staff and the state’s Rapid Response Team members to inform job seekers about the program.
- Working with community-based organizations, non-profits, and labor-based organizations to market the program.

Recruitment Successes

The program staff devoted time and resources to recruitment activities. Near the end of program year 2 (August 2015), 92 students were enrolled in the CPAW program. By the end of the program, enrollment numbers had increased to 369 students. Exhibit 12 presents a comparison in enrollment numbers by program of study between August 2015 and May 2017. This major increase was, in large part, due to the increase in the number of participants in custom training. While this was not a planned area of program expansion laid out in the grant application, growing programming in this area did help CPAW staff significantly increase program participation.

Exhibit 12: Enrollment by Program of Study Comparison, August 2015 vs. May 2017



Source: OSUIT-MAIP participant data, August 2015
N= 92 participants

Source: OSUIT-MAIP participant data, May 2017
N= 369 participants

Early in grant implementation, OSUIT-MAIP hired an outreach specialist to plan and oversee all marketing and outreach strategies for the CPAW program. The outreach specialist developed a marketing and outreach plan and all outreach materials. The outreach specialist also took the lead on the use of social media tools such as Facebook and Twitter to promote the CPAW program. Program staff members worked with the outreach specialist to give presentations on the CPAW program at a range of community organizations including chambers of commerce,

Veteran service organizations, drug court, the Cherokee Nation, local manufacturing councils, and the Oklahoma Ordnance Works Authority (OOWA)/Mid-America Industrial Park. Program staff also worked with AJC staff to market the program to the job seekers they serve. Despite low numbers of TAA eligible workers in the region, the program staff was able to recruit 8 TAA-eligible workers and 30 veterans.

Recruitment Challenges

The focus on offering customized classes during the second part of the grant significantly helped the grant achieve its participant targets. However, this focus reduced the opportunity for students to earn degrees, as these short-term skill training classes were not credit bearing courses.

Almost everyone we interviewed believed that OSUIT’s focus should be on high school students. CPAW staff agreed with this, but were constrained by the limitations of the grant, which prohibited using program funds for anyone under the age of 18. Still, as much as possible, staff tried to recruit high school students who were 18 years old. In fact, when we asked one community stakeholder what was the most important contribution of the grant to the area, she said “Bringing in the high school students. OSUIT never offered a concurrent program for high school students *until* the grant.” The CPT program was a successful mechanism for engaging high school students in OSUIT-MAIP.

4.4.2 Foster Stakeholder Relationships

CPAW successfully built relationships with a variety of stakeholders, including employers, members of the workforce, educational partners, and community-based organizations. These

“I’ve been to several of the different advisory sessions where they invite other companies. And we’ll come in and discuss. One is –what is the needs? What are you looking for? What is this number one thing that you need? ... The only way you’re going to know what the needs of the community is to have meetings and things.”
– Employer, Nov 2016

efforts included formal strategies such as the Mid-America Delivers Collaborative and employer advisory groups, and more informal one-on-one relationships that instructors have with local employers.

Stakeholder relationships with CPAW program staff helped support the following activities:

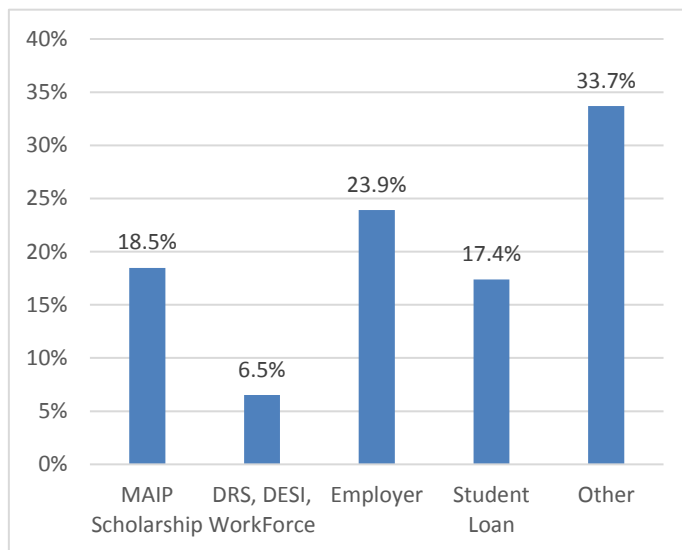
- Identified financial resources to help students complete the CPT program.
- Developed curricula to align with employer needs.
- Gave priority to participants for job selection.

Stakeholder Successes

Financial Support. Workforce organizations and MAIP employers accounted for a significant proportion of student payments. Exhibit 13 presents how students paid for the program during

the early part of the grant program.⁸ As shown, almost a quarter of the participants' were supported by their employers. The next largest contributor was the MAIP itself, provided through student scholarships.

Exhibit 13: Sources of Student Payment



Source: OSUIT-MAIP participant data, August 2015
N= 92 participants

Developed Curricula. Both early and late in the grant, staff worked with employers, education providers, and workforce representatives to identify the type of curriculum that OSUIT should offer. Near the beginning of the grant, this input came mostly in the form of advisory meetings, and one on one conversations between grant staff and partners. These stakeholder conversations helped ensure that OSUIT programs complemented rather than duplicated other education offerings in the area.

“We realize that they have their place, and we have ours. So we try not to overlap more than what is necessary...For example, they deliver an industrial maintenance training, and so do we, but they deliver a packaged degree--an associate’s degree.”
-- Education Provider, Nov 2016

“We’ve always enjoyed a good relationship with them. We’ll borrow equipment, loan them equipment.” – Education Provider, Nov 2016

In addition, OSUIT-MAIP collaborated with Thunderbird Academy, a residential alternative education program designed to intervene in the lives of Oklahoma’s high school dropouts to affect a positive change in those youth. A CPT instructor from OSUIT-MAIP would come to the school to teach any students who had turned 18. The program was strong during the beginning of the grant, but ended about 6 months before the

⁸ OSUIT-MAIP did not provide this information at the end of the grant period

grant ended, due to a changing school population in which most of the students attending did not meet the age requirement.

Finally, near the end of the grant, grant staff worked closely with an employer advisory committee to create the Industrial Maintenance Technology program.

Special Attention to Participants. CPAW grant staff noted that some employers began giving hiring preference to CPT graduates over applicants who have not completed the program. Employers recognized that between two candidates that had seemingly similar competencies, the one who had taken the time to go through the CPT program was considered the more promising candidate.

“The benefit of having [OSUIT-MAIP] here, is usually if you can hire local people they have more of a tendency to stay...Certainly, we would be glad to hire from them.”—Employer, Nov 2016

Stakeholder Challenges

Relationships were challenged during staff turnover. In the early part of the grant, CPAW

“Every time you have a new management move in, you have to then regain the relationship you had. Even if you’d done work there for 15 years.”—Education Provider, Nov 2016

was fairly successful in engaging with employers. OSUIT had already developed strong relationships with employers before the grants, and the financial support gained through the grant helped CPAW staff strengthen these relationships. As staff positions changed, some of these relationships were weakened. Part of this challenge simply had to do with the familiarity of the first staff versus the newness of the second staff. The MAIP is a relatively small geographical area and, as in most communities, familiar faces are easier to collaborate with than with new ones. In

In addition, some people were frustrated with the fact that the new management staff was reinforcing the school’s prerequisite policy. Despite these challenges, the new management and instructors continued to engage with local employers in order to ensure the school was offering programming that met their needs. Program management staff felt these efforts led to strengthened relationships with employers.

“I’m not really sure what their direction is. I’m unclear where they’re trying to head or where they’re going as a school.” —Employer, Nov 2016

Opinions related to need for credit vs non-credit options. Stakeholders’ shared conflicting opinions about whether for-credit classes in manufacturing were even a need for the MAIP region. Several stakeholders we interviewed stated that they were not convinced that the demand for for-credit courses was strong enough to make the disagreement around the prerequisite requirement worth the tension it created between stakeholders and OSUIT staff.

TAACCCT restrictions related to serving students under the age of 18. Another issue that created some tension between program staff and the community was the inability for CPAW staff to fund any activities related to serving students under the age of 18. This tension was impossible to remedy, since OSUIT MAIP was not allowed to use grant funds for anyone under 18. However, to community members, this restriction seemed arbitrary and contradictory to the goal of recruiting and training people for careers in the manufacturing industry.

4.4.2 Develop Streamlined Prior Learning Assessments

CPAW aimed to provide streamlined prior learning assessment (PLA) opportunities for students, to recognize the knowledge and skills that adult learners bring from past work experiences. PLA opportunities were intended to attract and support TAA-eligible workers and other unemployed adults in CPAW’s target population. PLA enables students to reduce the time needed to complete a degree program, which reduces student costs and improves graduation rates.

PLA Successes and Challenges

Because close to two-thirds of the participants were 23 years or older, many OSUIT-MAIP students came to the program with previous work or education experiences. Early in the grant period, program faculty waived some course requirements based on one-on-one conversations with students. In our interviews, instructors and grant staff referred to these waivers as a form of ‘informal PLA.’ However, the new grant staff quickly identified that this practice was clearly against OSUIT policy.

“Some of the courses I’m taking, I don’t think really go with what I’m looking for. I have a course in CAD, which is good, but I took 4 years of drafting in high school. I know everything that they do.” —Student, Nov 2016

OSUIT in general has a fairly robust PLA system in place (see <http://go.osuit.edu/pla/credit/engineering>). However, few OSUIT-MAIP students took advantage of this. The director reported that two students had tried to use OSUIT’s PLA procedures to get some courses waived, but because they had to pass an academic test in addition to a hands-on test, they both failed. The director also reported that he thought that PLAs may become more useful in the future because of a recent change in articulation agreements with other technical schools. In previous years, students who took similar courses from five other technical schools could transfer credits directly over to OSUIT. The new policy requires these transfer students to take PLAs.

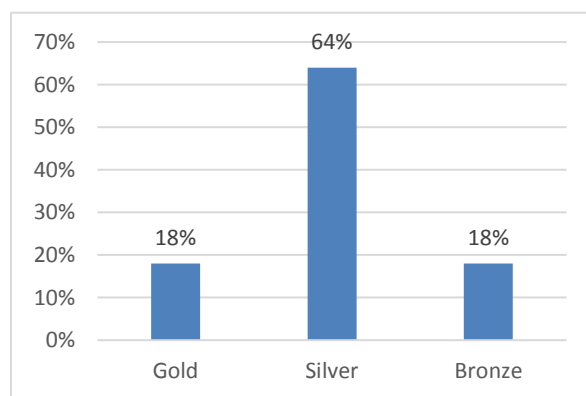
4.4.3 Redesign Remedial Education

Redesigning remedial education was another planned strategy proposed in the grant application. Steps related to this strategy include identifying alternative remedial education assessment tools, offering Massive Open Online Courses (MOOCs) to help students prepare for placement tests, developing contextualized general education courses, and providing professional development for staff in remedial education best practices.

Remedial Education Successes and Challenges

All CPT students were required to take the WorkKeys assessment prior to enrolling at OSUIT, which staff planned to use to identify areas in which students needed remedial training. If students did not pass the math portion of the exam, for example, the program staff would have the option to send them to the AJC, where they would receive remediation services using KeyTrain. Exhibit 14 presents the percent of CPT students by WorkKeys Level earned as of August 2015.

Exhibit 14: Percent of CPT Students by WorkKeys Levels



Source: OSUIT-MAIP participant data, August 2015
N= 28 participants

Program staff members noted that the process never worked as originally planned. However, the grant staff shared that the main reason this strategy received little attention was that fewer students needed remedial education than was initially anticipated.

The one exception, however, was in math skills. Instructors noted that several students, especially non-traditional students who had not been in school for many years, needed remediation in basic math skills. Instead of being referred to the AJC, students struggling with math received one-on-one tutoring from an existing staff member. In addition, during the summer semester of 2016,

program staff reported that the school offered a non-credit remedial mathematics course for new students.

The one-on-one tutoring offered by program staff was something that the staff members took on because of their commitment to helping these students succeed. In both cases (the retention counselor in the first part of the grant, the director in the second part of the grant), this tutoring work exceeded their job descriptions and expectations. This process worked because the OSUIT-MAIP training center hired highly trained, committed, and motivated staff. In addition, both staff members had been math instructors in their earlier careers.

The other option for remedial education is to take classes at Rogers State University (RSU), within walking distance from the OSUIT-MAIP campus. However, RSU has a different term schedule than OSUIT courses, a challenge for OSUIT participants to take advantage of this option. To address this scheduling concern, program staff encouraged students to take the online

mathematics courses offered by OSUIT Okmulgee. Students who took the online math courses reported mixed reviews of the experience. For some students, the online option offered them flexibility to complete work according to their schedules but other students explained that they preferred the in-person instruction available through the traditional classroom environment.

4.4.4 Create Pathways to Industry Recognized Credentials

OSUIT planned to embed industry-recognized credentials into the for-credit curricula for CPAW programs of study. The goal was to provide latticed and stackable credentials along the different career pathways accessible through the CPAW programs of study.

Pathways to Industry Recognized Credentials: Successes and Challenges

Implementing CPT. OSUIT successfully established and implemented the CPT program, offering a technical understanding of real world manufacturing and exposure in four competency areas including Maintenance Awareness, Quality Practices, Workplace Safety, and Production Processes. Participants successfully completing this program earned the CPT certificate and certificates for each of the four competency areas.

Upon completion of the CPT Safety module, students have the option to take additional hours of training to earn the OSHA 10 and OSHA 30 certificates. Students did not receive academic credit for the CPT certificate. Therefore, this coursework could not be applied toward an AAS degree.

Developing the Industrial Maintenance Technician Program. CPAW program staff worked with employers to understand their skill needs as well as their concerns about academic programs of study and the prerequisites they require. CPAW program staff then developed the Industrial Maintenance Technician AAS and certificate program to provide students with the option of gaining technician level skills through an alternative program with lower level math prerequisites. Program staff explained that they hoped this new program of study would contribute to program sustainability as it would offer training and education that aligns with both employer and student needs.

“If I want to move up to be a supervisor or any type of mid-level supervisor, they’re looking for somebody with an associate’s degree or more. I’ve been in the manufacturing field for 30 years. You can put me on a machine and I’ll run it, but I don’t have any piece of paper that says ‘yep, that’s what I can do.’ That’s what I need.” —Student, Nov 2016

Accreditation Requirements Present Barriers. In addition to the prerequisite issue, OSUIT-MAIP was challenged by rules related to faculty credentials. Most of the instructors at the training center were people who had worked in industry for many years, and taught from their experience. Many of these instructors, however, did not have degrees. The new management had the unenviable task of reassigning some of their most popular instructors to non-credit custom courses because of this policy. As one education provider said “Accreditation is coming down on them. If you are going to have a campus over here, they have to go by the same rules and, see, they never really had to do that. Now they have to do that, and the industries aren’t understanding.”

“Accreditation is going to absolutely kill them. The people that really know what they teach up there, probably don’t even have a bachelors. That’s a hurdle that I don’t know how they are going to get over. Those people don’t exist.”

– Education provider, Nov 2016

4.4.5 Offer Paid Internships

Under this grant program, OSUIT planned to continue offering and expanding opportunities for employer-paid internships to its students to reinforce the content taught in the classroom. Internships allow employers to test out whether the students are a good fit for the work and enable employers to hire well-trained employees upon completion of the internship.

Paid Internship: Successes and Challenges

CPAW program staff members noted that they had a long history of linking students with paid internships, and they continued to do so during the grant period. Credit-bearing internships are either required courses or electives on all three of OSUIT’s AAS programs of study, including the new Industrial Maintenance program. OSUIT-MAIP internships are worth seven credit hours under the Electromechanical program and 12 credit hours under the Manufacturing program. At the time of the most recent site visit, only one student was enrolled in a for-credit internship. While staff acknowledged that internships are an important part of the programs of study, they also agreed that no significant changes occurred based on the grant funding.

“A lot of us in our program have been in the job manufacturing field for 20 or 30 years, so an internship, if it's just going to be a general internship, it's kind of almost a waste of time for us.” –Student, Nov 2016

Because of the number of incumbent students, the requirement for someone to intern seemed unnecessary for the majority of students. While program staff reported that incumbent workers can get internship credit for their current jobs (as long as it aligns with their degree program), students and staff alike were unclear whether this was the case. One incumbent student noted that a general internship would not be a good use of his time given that he has significant experience in manufacturing.

Program staff reported that since the last site visit they have worked to identify internship opportunities for 11 students, 7 of which will begin in the fall of 2017.

4.4.6 Expand Program Flexibility

One of the grant goals was to expand program flexibility to include online, hybrid, night, and weekend courses. OSUIT instructors expressed concern that they were missing a huge population of students due to limited programming. Through expanding course offerings and overall program flexibility, CPAW sought to increase student engagement, retention, and program completion.

“It was the CPT program. Certified Production Technician, and I believe it was designed to be a 6-month thing...but you can get to it a lot quicker than that...I did it before the 6 months was up.” – Student, April 2015

Program Flexibility: Successes and Challenges

In the CPT Program, students could adapt the course pace to their needs, completing courses at an accelerated or decelerated rate. This adaptability benefited non-traditional students with outside commitments that prohibited them from taking on too much coursework. Pacing was similarly beneficial for students who wanted to complete coursework quickly. For instance, one student reported that he completed the CPT program in 4 months, rather than the usual 6 months.

“The classes here are more flexible on their hours...because they understand that we’re having to take general education courses, and they, wherever you go, are not going to be flexible.”
–Student, Nov 2016

The push for more diverse course offerings—particularly evening classes—provided enhanced flexibility for students’ schedules. Non-traditional students, balancing work and family life, appreciated the flexibility of their academic schedules. Moreover, some instructors provided another layer of flexibility by allowing late arrivals to accommodate students coming from work.

Implementation Considerations

Lack of Daytime Course Offerings for Traditional Students. The push for evening courses seemed to have the unexpected consequence of limiting the number of course offerings during normal business hours. This limitation on daytime course offerings primarily affected a younger demographic of students—specifically more traditional students—who desired a conventional class schedule. According to one student, the lack of daytime course offerings could delay program completion. However, staff noted that their ability to actually hold these courses is depended on a sufficient number of students enrolling in them.

4.4.7 Provide Wraparound Student Support Services

CPAW planned to provide wraparound support services, including hiring a Retention Coordinator, advising students on program options, updating a computer lab, connecting students to WIA and TAA funding, and walking students through the admissions process. The following section discusses three of these support services.

Successes and Challenges: Student Support Services

Hiring of a Retention Coordinator. OSUIT hired a retention coordinator to help increase retention and graduation rates. The program tasked the retention coordinator with walking students through the admissions process, connecting students to WIOA/WIA and TAA or other financial aid funding, advising students on program options and progression, and providing information on available paid internships. The retention coordinator also assisted the project manager with participant data tracking and reporting. In this role, the retention coordinator used a management system on *Tooling U* to monitor students' progress and maintain contact with students who were falling behind.

One contributor to success was the retention coordinator's former role as a high school math instructor, which lent the skills to tutor students and offer remedial support for struggling students. Overall, staff members agreed that the retention coordinator played an integral role in creating a positive experience for participants.

Need for In-person Academic Support for OSUIT-MAIP Students. The retention coordinator left CPAW at the beginning of the program's third year. After this, students said that they had more difficulty getting support on issues such as registering for classes, getting financial aid issues in order, and identifying general education classes. They agreed that the new administration was doing what they could, but that they were understaffed at the OSUIT-MAIP location. As one student said when asked how the program might be improved, "When I first started...there was a lot of help if I needed anything. The [new administrative staff] is excellent at what she does, and [the program director] is too, but there's time when their hands are tied and you've got to deal with Okmulgee. I would like to see more of a, I know that they can't be here, but more of an open line of communication...I think that maybe my advisor should come down here and meet us." (Nov 2016)

Accessibility of Computer Labs. OSUIT-MAIP provided a free computer lab that had flexible hours of operation to accommodate for non-traditional and incumbent students' schedules. Students used the computer lab during class time and also outside of class to work on projects and assignments. Students who had limited computer access at home benefited from this service.

"The [retention coordinator] being a resource for our students has been an incredible add as well. The biggest thing I think is building our capacity with our educational resources whether that's equipment, technology, or curriculum, but then also with the staffing. The [retention coordinator] is just really key to keep the students on track and keep them motivated and keep them directed."

– CPAW Program Staff, April 2015

"I honestly had a hard time [enrolling] because you really don't have anybody helping you. You do it on your own....Everything here was in my file, but I had to go all the way to Okmulgee and miraculously they showed up and it all got taken care of, but it took me having to go up there."

– Student, November 2016

Tutoring. Instructors provided tutoring to students who needed extra support outside of class. Tutoring sessions were scheduled directly between faculty and the students. Students appreciated that many instructors allowed for tutoring appointments outside of normal office hours, which better accommodated students' schedules.

5. CONCLUSION

At the beginning of the grant period, CPAW program staff laid out a straightforward plan for expanding OSUIT-MAIP program and course offerings and implementing a set of specific strategies to inform the programs of study, increase participation, and better serve participants. Midway through the grant period, OSUIT-MAIP experienced major staffing changes. The new program management had to make mid-course adjustments to how participants progressed through programs of study. This challenge, along with continued engagement with employers, helped facilitate the development of the new Industrial Maintenance Program – a creative solution to addressing employer skill needs as well as employer and student concerns about the school’s prerequisite requirements.

Despite some challenges, the new CPAW program staff was able to continue implementing the programs of study with minimal influence on the participant experience. Employers reported that they valued the training offered by OSUIT under the CPAW program noting that short-term training was the most beneficial to their companies.