

SOUTHWEST ARKANSAS COMMUNITY COLLEGE CONSORTIUM

TRADE ADJUSTMENT ASSISTANCE COMMUNITY COLLEGE CAREER TRAINING GRANT

Final Report

September 30, 2017

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Executive Summary

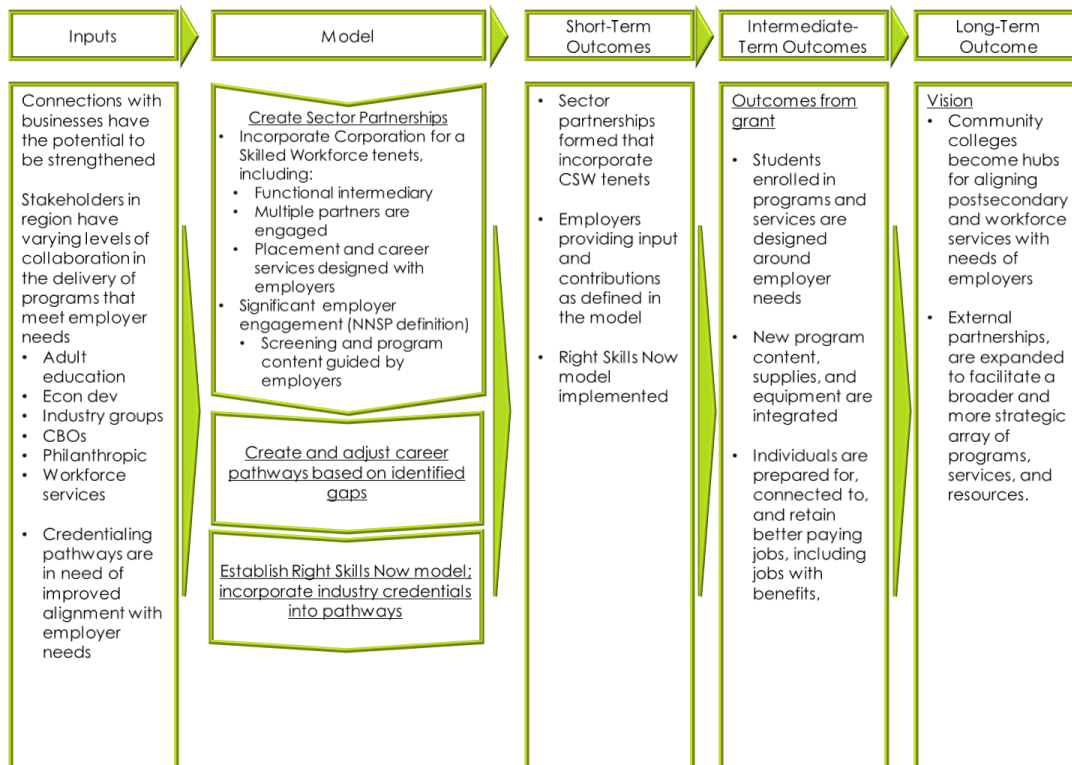
TAACCCT Program/Intervention Description and Activities

This report describes the activities that occurred during the implementation of the South West Arkansas Community College Consortium (SWACCC) Round 3 TAACCCT grant funded by the United States Department of Labor (USDOL). The project endeavored to establish or strengthen sector training partnerships in the manufacturing sector and strengthen relationships with employers. Additionally, the project sought to incorporate new models for education and training delivery.

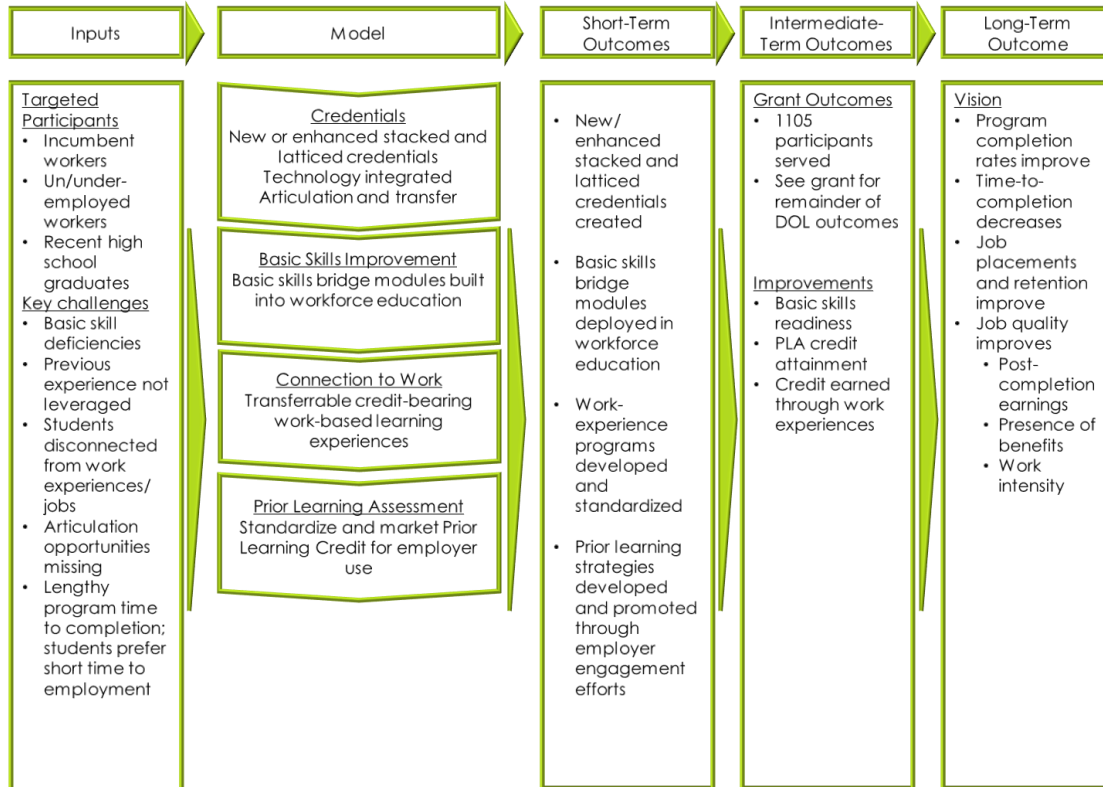
The project was awarded \$8,419,390 to train 1,105 workers in the manufacturing sector from November 15, 2014 to March 31, 2017. The colleges jointly authored and launched a strategic vision for collaboration called the South West Arkansas Community College Consortium Strategic Plan (2013-2015). The plan, which this project helped to implement, was developed in partnership with businesses creating a talent-driven economic development approach for the region. This project focused on one major aspect of the plan – to engage employers in new relationships supporting skill enhancement for workers. The intent of the project as stated in the proposal to USDOL was “to totally and from the ground up re-engineer college and business relationships.”

Led by South Arkansas Community College (SouthArk) in El Dorado, AR, the project involved six other colleges: College of the Ouachitas (COTO), Cossatot Community College of the University of Arkansas (UA Cossatot), National Park College (NPC), University of Arkansas Rich Mountain (formerly Rich Mountain Community College), Southern Arkansas University Tech (SAU Tech), and University of Arkansas Community College at Hope (UACCH). The grant involved three strategies, logic models included below:

Strategy 1: Engage manufacturers in sector partnerships to enhance stacked and latticed credentials at each college aligned with industry-recognized certifications and credentials.



Strategy 2: Leverage employers to integrate “in-plant” work-based learning opportunities into stacked and latticed credentials with the goal of accelerating students: (1) region-wide approaches prior learning credit (2) transferrable credit-bearing work-based learning experiences, and (3) basic skills “bridge modules” delivered onsite at employer locations.



Strategy 3: Enhance advisement and career counseling in partnership with employers.

The consortium grappled with issues of specificity and fidelity in this strategy. There was no intent for colleges to implement similar models or approaches to this strategy. That is to say, each college could implement an independent approach to counseling and advisement; and each college could select its own combination of elements to implement. As such, we do not include a logic model, but note that the intent of this strategy was to positively affect program retention and completion rates, and improve job attainment through advisement and guidance.

Evaluation Design Summary

Goals of the Evaluation

The evaluation seeks to answer questions posed at the outset of the project and to inform efforts to sustain the project beyond the grant period.

Implementation Study Design

The implementation evaluation was designed to assess fidelity to the intent; document models, strategies, and processes at each college that may inform observed impacts; and provide responses to questions required by the TAACCCT program.

1. Implementation Research Questions. Evaluation questions were formulated to accommodate a wide variety of approaches taken by colleges as they advanced their sector training partnership strategies. And, to assess whether the consortium was establishing a model for sustainability. Key questions include:

- What is being implemented, and how is it operating improve student outcomes?
 - How is the consortium working to establish a model for sustainability?
 - A variety of other questions were drawn from USDOL requirements related to selection of programs, approaches and design choices, administrative structures, and partnerships.
2. Conceptual framework of implementation study. The implementation evaluation is organized around the conceptual framework depicted in the logic models above.
 3. Conceptual framework informs the analysis. Inquiries were organized to investigate key topics depicted in the logic models. These include program design models, employer engagement, and sustainability. Additionally, the conceptual framework informed evaluation design in two ways: (1) There was no expectation that colleges would pursue similar design or implementation approaches. Local activities varied in the programs selected, students targeted for participation, models for delivery, employer engagement approaches, budget expenditure decisions, and partnership decisions. As a result, flexible methodologies were needed to capture a variety of implementation approaches; (2) Colleges sought to gain benefits from participating in the consortium including professional development, peer-to-peer learning, access to external or non-consortium partners, and additional opportunities for funding. Inquiries were incorporated to assess the effectiveness of the consortium itself and its potential for sustainability.
 4. Implementation data and methods. Evaluation activities involved communicating with local project staff and instructors, consortium leadership, students, and/or employers and included: (1) interviews, (2) focus groups, (3) surveys, and (4) on-site visits. Assessment of progress measures or benchmarks required in the original grant proposal or established by SWACCC leadership were embedded in the activities.
 5. Measurement of capacity. Capacity was defined in terms of new capabilities at colleges to educate or train students or meet the needs of employers. Additionally, capacity considered new or deepened relationships developed resulting from sector partnership or consortium activities.

Impact Study Design

The primary goal of the Outcomes/Impact Analysis portion of the evaluation was to determine the overall effect of the TAACCCT Round 3 grant on students who were involved in grant-affected activities at each institution. This goal was achieved by collecting and analyzing data for each grant-affected program of the colleges within the consortium. In addition, each grant-affected program was compared to a similar comparison program, which ran in parallel to the grant-affected program during the grant period. Comparability of the comparison program to the grant program was based on similarities in program structure (such as department, credit/non-credit status, and program size and duration) and student demographics (such as race, gender, and age). From this data, a quasi-experimental evaluation was constructed. The data included in this report was collected based on research questions referenced in the methodologies portion of this report. The research questions were based on a combination of previously established Department of Labor outcomes, as well as strategies identified by the consortium in the SWACCC Statement of Work (SOW).

Impact Analysis Research Questions

The impact research questions incorporate the DOL reporting requirements for the annual performance report. For each question listed, we compared grant participants in the grant-affected programs of study to comparison group participants:

1. How many unique participants/comparisons were served?
2. How many individuals have completed a grant/comparison program of study?
 - a. Of those, how many are incumbent workers?
3. How many individuals are still retained in their program of study (or other grant-funded program)?
4. How many individuals are retained in other education programs?
5. How many credit hours were completed?
 - a. How many students have completed credit hours?
6. How many credentials were earned by participants/ comparisons?
 - a. How many students have earned certificates (<1 year)?
 - b. How many students have earned certificates (>1 year)?
 - c. How many students have earned degrees?
7. How many students are pursuing further education after program of study completion?
8. How many participants/comparisons are employed after program of study completion?
9. How many participants/ comparisons are retained in employment for three quarters after program of study completion?
10. What are the earnings of participants/ comparisons relative to before enrollment?
 - a. How many of those employed at enrollment received a wage increase post-enrollment?
11. What was the time-to-completion of participants/ comparisons?

Several outcomes were addressed descriptively with no comparison group constructed:

12. For those receiving PLA credit, how many students completed any credit hours, completed a program of study, and what was their time-to-completion?
13. For those engaged in work-based learning, what was their time-to-completion and were they employed after completion?
14. For those who took a “bridge module” for basic skills, were they retained at the college semester-over-semester and year-over-year, how many completed a program of study, and what was their time-to-completion?

Design Methodology

A random-assignment research design is impractical for the grant-affected programs. SWACCC is comprised of open-access community colleges with limited resources to serve students in targeted programs. Randomly assigning those students to different systems of programs and services is resource-intensive and would hinder the success of the programs. Therefore, a quasi-experimental evaluation has been chosen for this evaluation.

A quasi-experimental evaluation was constructed by collecting and analyzing data for each grant-affected program of the colleges within the consortium. In addition, each grant-affected program was compared to a similar comparison program, which ran in parallel to the grant-affected program during the grant period. Comparability of the comparison program to the grant program is based on similarities in program structure (such as department, credit/non-credit status, and program size and duration) and student demographics (such as race, gender, and age). In addition, to account for remaining dissimilarity between participants and comparison individuals, propensity score methodology is used to refine the estimates of the treatment effects.

Data Used and Its Reliability

Data comes from different sources:

- College Student Information System:
 - On an ongoing basis, college submits data on their students, including information such as completions
 - Once per student, college submits data on their students that does not change over time, such as gender, race, and date of birth
- State wage agency: at the end of the grant period, the state wage agency was contacted to obtain wage data on students, starting with the quarter of enrollment

Data was being collected from each source as it became available on a rolling basis. Colleges collected data on participant and comparison individuals three times per year – once in the fall reflecting the previous summer term and fall enrollments, once in the spring reflecting the previous fall term and spring enrollments, and once in the summer reflecting the previous spring term and summer enrollments. State wage data was collected twice per year and encompassed the quarters that were available from the state agency at the time of the data pull.

The data included in this report has been collected based on research questions referenced above. We consider the data to be reliable. College data is part of the ongoing business of an institution of higher learning, and given the relatively simple nature of the college data required, we believe this data is also reliable. Lastly, we have no reason to believe there are systematic inaccuracies in state wage data.

Implementation Findings

The colleges determined that several elements of the original grant proposal would be impractical to implement and the scope of work of the grant was adjusted. A gap in stakeholder engagement, particularly during the grant writing phase, led to an evolution in the vision of the project. This was most evident during the planning and early implementation of the project. A prominent storyline in the first year of the grant pertained to a disconnect between the intent of the grant proposal and priorities at the colleges. The grant writer stated that an open process occurred on weekly calls during the writing. Once the grant was funded, colleges raised feasibility challenges presented by the project. The Right Skills Now model was eliminated from the project altogether due to a misalignment with project goals. Expectations for the development of in-plant activities including on site basic skills training, PLA, and credit-bearing work experiences were tempered due to challenges aligning these elements with the needs and constraints of employers – few employers expressed an openness or capacity to engage in these types of activities. Several Project Coordinators stated that they were not involved in the planning of the project. The enhancement of sector partnerships and the development of high-quality advanced manufacturing curricula were cited as core objectives. Broadly, the student advisement and career counseling strategy (#3) was acknowledged for its presence in the grant, but plans for deepening these did not advance – possibly due to lack of specific metrics or objectives in the grant proposal.

Colleges overcame staffing and resource challenges to deliver on measurable outcomes. The consortium worked to deliver on grant outcomes, but not without implementation challenges along the way. Colleges varied considerably in terms of the amount of budgeted resources received under the grant. Relatedly, there was variance in the depth of staffing assigned to the project. Key challenges that impacted colleges in varying ways included difficulties in hiring staff or instructors, staff and leadership turnover, purchasing equipment or completing renovations in a timely way, curriculum approval processes, and low

enrollments or completions. During the grant, the consortium adapted as it worked to meet required grant deliverables.

What is being implemented, and how is it operating to improve student outcomes? On the whole, the colleges adhered to the intent of the grant to deepen employer relationships and develop sector strategies.

- How was the particular curriculum selected, used, or created? Each college was invited to select programs and curricula for inclusion in the grant based on local need. There was no prescribed method for how colleges were to do this. As such, colleges used criteria for selecting programs including review of labor market demand via labor market data and direct employer outreach, enrollment demand among students, and internal staff capacity and expertise to execute a program improvement scope of work.
- How programs and program design were improved or expanded using grant funds? What delivery methods were offered? What was the program administrative structure? What support services and other services were offered? Based on local need, the colleges invested in new program equipment and supplies, renovated space, and instructional and student services staff. Additionally, the colleges used a variety of approaches for improving program design. They were not required to follow a prescribed model for program improvements. Approaches included strategies for acceleration, contextualization, building stackable credentials, development of online content, incorporation of learn/earn opportunities, development of bridge programs, credit for prior learning, and articulation of noncredit to credit. Each college appointed a project coordinator to support grant activities. Additionally, colleges used grant funds to support instructional and student services staff based on local need. All colleges were required to develop career pathways maps for use in guidance and career coaching. On the whole, colleges leveraged existing college services for assessment and placement, developmental education, tutoring, advisement and career guidance.
- Did the grantees conduct an in-depth assessment of participant's abilities, skills and interests to select participants into the grant program? Describe. Colleges incorporated pre-existing assessment, placement, and enrollment processes to determine grant participation. Once students enrolled in a grant-affected program or course via each college's standard processes, they became grant participants.
- What contributions did each of the partners (employers, workforce system, other training providers and educators, philanthropic organizations, and others as applicable) make in terms of: 1) program design, 2) curriculum development, 3) recruitment, 4) training, 5) placement, 6) program management, 7) leveraging of resources, and 8) commitment to program sustainability? What factors contributed to partners' involvement or lack of involvement in the program? Which contributions from partners were most critical to the success of the grant program? Which contributions from partners had less of an impact? Colleges were encouraged to expand and deepen relationships with partnering organizations via a sector strategy approach with some colleges having more success than others. Many new and deepened partnerships occurred in the scope of the grant with employers, workforce agencies, education and training partners, philanthropic organizations, and community-based nonprofit organizations. It is important to note that, even with this heightened importance, few colleges devoted resources directly to the task of business engagement with the very large majority of budget resources being spent on

equipment, renovations, and staff for instruction, grant administration, or student services. The consortium provided professional development opportunities supporting employer engagement. The end result was that most colleges developed new and deepened relationships with employers and other partners, including several practices that are quite noteworthy, whereas a few struggled to accomplish this objective.

How is the consortium working to establish a model for sustainability? Working together as a consortium was challenging but led to important benefits with potential for sustainability. Heading into the grant performance period, the colleges had worked to formulate a vision for regional collaboration serving students and businesses. Establishing a vision for the consortium required proactive leadership by the lead college president and other college presidents, and extensive communication among project members and college executives. Near the end of the grant, the college reconfirmed the vision and ongoing structure with potential for sustainability. Even with a strong intent to collaborate, colleges reported that working as a consortium was challenging at times. The consortium succeeded in providing valuable benefits to colleges including extensive professional development and peer-to-peer learning opportunities for members.

Participant Impacts and Outcomes

The impact research questions are based on the DOL reporting requirements for the annual performance report. Given the limitations in data availability some questions were answerable to a greater or lesser extent. Here are direct answers to the questions posed in the evaluation plan. Further analysis is included in the Impact Evaluation section later in the report.

Here are direct answers, at the consortium-level, to the questions posed in the evaluation plan. Of note, due to gaps in data, especially employment data, many of the outcome numbers are lower than might be expected.

1. How many unique participants/comparisons have been served?

In total, 1107 individuals were served by the grant.

2. How many individuals have completed a grant/comparison program of study?
 - a. Of those, how many are incumbent workers?

Over the course of the grant, 412 participants completed a grant-affected program of study (105 of whom were incumbent workers). The completion rate for participants was generally similar to, or greater than, the completion rate for comparison individuals on a program-by-program basis.

3. How many individuals are still retained in their program of study (or other grant-funded program)?

296 participants were still continuing with their grant-affected program of study at the completion of the grant.

4. How many individuals are retained in other education programs?

None of the participants were retained in other education programs.

5. How many credit hours have been completed?
 - a. How many students have completed credit hours?

In total, 14933 credit hours were completed by study participants. Other participants engaged in non-credit programs.

6. How many credentials have been earned by participants/ comparisons?
 - a. How many students have earned certificates (<1 year)?
 - b. How many students have earned certificates (>1 year)?
 - c. How many students have earned degrees?

Participants earned 660 certificates or degrees over the course of the grant. 352 students earned short-term certificates, 81 earned long-term certificates, and 70 earned degrees.

7. How many students are pursuing further education after program of study completion?

This number will be included with the submission of the final Annual Performance Report.

8. How many participants/comparisons are employed after program of study completion?

Of those who were non-incumbent workers at the time of entering, 61 participants who completed a grant-affected program gained employment in the semester after completion. This number may increase by the submission of the final Annual Performance Report.

9. How many participants/ comparisons are retained in employment for three quarters after program of study completion?

Of those 61 employed, 22 were retained in employment through quarters two and three after completion. This number may increase by the submission of the final Annual Performance Report.

10. What are the earnings of participants/ comparisons relative to before enrollment?

- a. How many of those employed at enrollment received a wage increase post-enrollment?

Of those who were employed at study intake, 296 earned a wage increase in their employment. This number may change by the submission of the final Annual Performance Report.

Evaluation Challenges

The primary challenges in this evaluation were: 1. Nonstandard approaches across colleges. Each college was able to choose different approaches and models for implementation. 2. Personally Identifiable Information and data transfers. New Growth was not able to receive personally identifiable information from any of the colleges in the consortium. Instead, data flowed from the college to the Arkansas Research Center (ARC), who deidentified the data and delivered it to New Growth. This additional step created a handful of challenges. The extra data stop created a time lag. In addition, New Growth did not have access to any raw data, adding difficulty to data checking and cleaning.

There are limitations to the data obtained through state wage data systems that tend to artificially depress the numbers:

- A data lag of about two quarters (as with most state wage systems).
- Data may not exist for persons who are self-employed, or who work at a job that does not report Unemployment Insurance.

It is important to understand the caveats and limitations for the evaluation, such as evaluation design, sample size concerns, and data gap possibilities. Below is a list of caveats that should be acknowledged:

A random-assignment research design was impractical for the grant-affected programs. SWACCC is comprised of open-access community colleges with limited resources to serve students in targeted programs. Randomly assigning those students to different systems of programs and services was resource-intensive and would hinder the success of the programs. Therefore, a quasi-experimental evaluation was chosen for this evaluation.

Small sample sizes may result for a select few programs, especially when evaluating more restrictive grant outcomes, such as post-completion grant outcomes #7 and #8, which only relate to non-incumbent program completers.

Gaps in the data due to missing elements from college databases, incomplete Participant Intake Forms, or mismatched data between data templates are probable throughout the evaluation. Efforts were made to fill the gaps through using more than one data source for information, where possible.

Identifying possible comparison groups may be difficult for schools that did not have numerous similar programs to the grant-affected programs. In many cases in this interim report, it was apparent that the participant group and comparison group did not align. Appropriate adjustments will be made to ensure a final evaluation that is as accurate as possible by the end of the grant.

Conclusions

The colleges delivered the grant scope of work as described in the original grant proposal. A variety of decisions and design choices resulted in very little fidelity among the colleges in the approaches; however, this was by design. The colleges built or improved capacity by adding new equipment, renovating space, augmenting instructional and student services staff, and improving partnerships with employers and other organizations.

The colleges served 1,107 participants, just over the grant goal of 1,105 participants. In addition, the completion rates for the participants in grant-affected programs at the colleges were generally higher than the completion rates for individuals in the comparison programs. This remained true after propensity score adjustments to estimates of the effect.

The colleges intended to develop a model for consortium sustainability beyond the end of the grant. To that end, a formal vision was reconfirmed as the grant ended.

Introduction to TAACCCT

On March 30, 2010, President Barack Obama signed the Health Care and Education Reconciliation Act, which included funding for the Trade Adjustment Assistance Community College Career Training (TAACCCT) program, allocating \$2 billion over four years.

Through this funding, the United States Department of Labor (USDOL), in partnership with the Department of Education, assisted the nation's institutions of higher education in helping adults succeed by acquiring the skills, degrees, and credentials needed for high-wage, high-skill employment while also meeting the demands of employers for skilled workers. TAACCCT provided eligible institutions of higher education with multi-year grants to expand and improve their ability to deliver education and career training programs that can be completed in two years or less, are suited for workers who are eligible for training under the TAA for Workers program, and prepare program participants for employment in high-wage, high-skill occupations.

Project Description

This report describes the activities that occurred during the implementation of the South West Arkansas Community College Consortium (SWACCC) Round 3 TAACCCT grant funded by the United States Department of Labor (USDOL). This report is intended to document the activities of the college relative to the content of the scope of work, and to offer reflections on the success of the grant in achieving its goals.

The project was awarded \$8,419,390 to train 1,105 workers in the manufacturing sector from November 15, 2014 to March 31, 2017. The SWACCC comprises seven community colleges committed to the economic development of the southwest region of Arkansas. The colleges jointly authored and launched a new strategic vision for collaboration called the South West Arkansas Community College Consortium Strategic Plan (2013-2015). The plan, which this project helped to implement, was developed in partnership with businesses creating a talent-driven economic development approach for the region. This project focused on one major aspect of the plan – engaging employers in new relationships supporting skill enhancement for workers. The intent of the project as stated in the proposal to USDOL was “to totally and from the ground up re-engineer college and business relationships.”

Led by South Arkansas Community College (SouthArk) in El Dorado, AR, the seven SWACCC colleges are: SouthArk, College of the Ouachitas (COTO), Cossatot Community College of the University of Arkansas (UA Cossatot), National Park College (NPC), University of Arkansas Rich Mountain (formerly Rich Mountain Community College), Southern Arkansas University Tech (SAU Tech), and University of Arkansas Community College at Hope (UACCH).

The need for this project was derived from three gaps articulated in the proposal:

- Businesses were not deeply engaged in the effort to help their workers attain postsecondary credit and credentials;
- Lower-skilled manufacturing workers were not highly engaged in educational attainment, which made them vulnerable to layoff and difficulty finding comparably paying work;
- The colleges were missing opportunities to benefit from working in a consortium; they were missing opportunities to share programs, leverage unique strengths, and utilize expertise possessed at each institution.

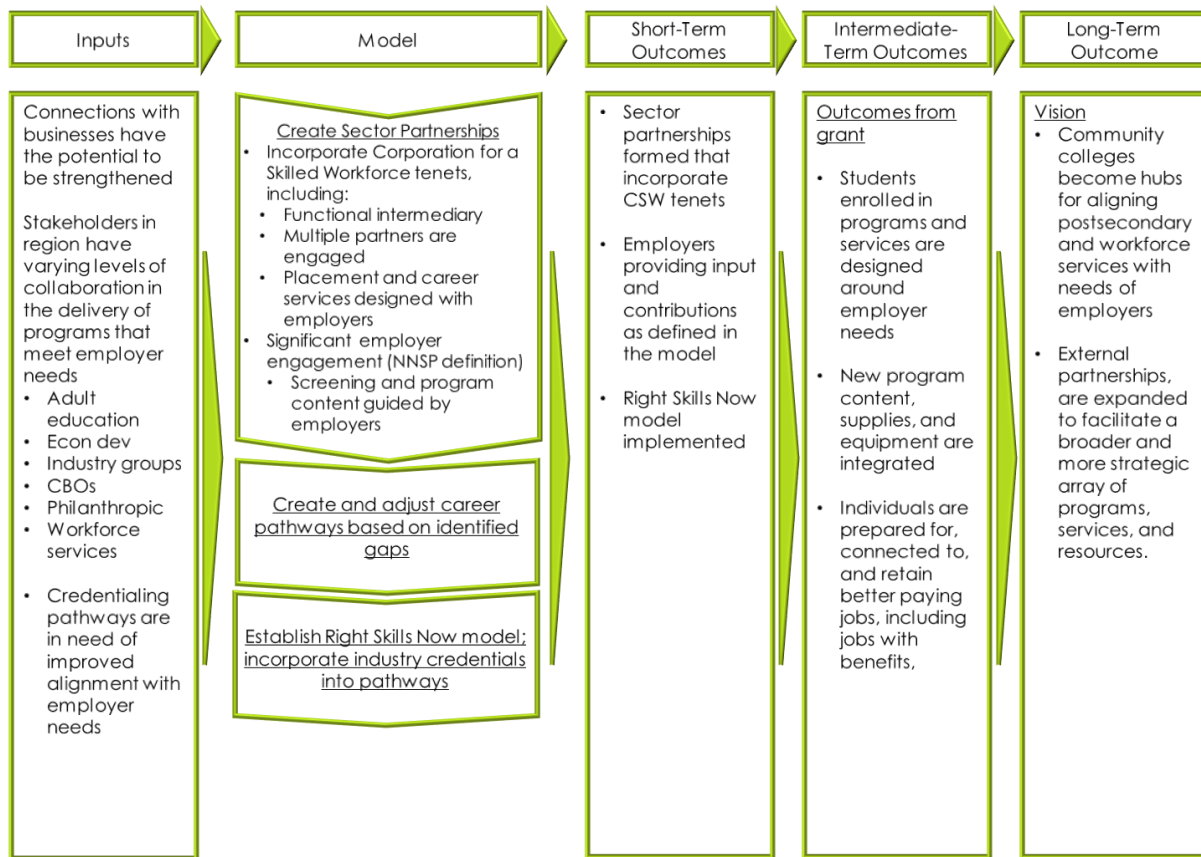
In response to these gaps, three strategies were proposed. The strategies are outlined below as they were described in the original grant proposal. Evolution in the strategies occurred after the grant was originally developed, which is described in later sections.

Strategy 1: Engage manufacturers in sector partnerships to enhance stacked and latticed credentials at each college aligned with industry-recognized certifications and credentials.

The consortium engaged Corporation for a Skilled Workforce, a Michigan-based consulting group, to help develop sector partnerships and industry relationships. In the proposal, SWACCC colleges planned to strengthen sector partnerships by enhancing credential pathways, and strengthening the capacity of community colleges to serve as workforce intermediaries.

Within the context of sector partnerships, SWACCC planned to implement The Manufacturing Institute’s Right Skills Now (RSN) model. The model is a 16-week acceleration of the Manufacturing Skills Standards Council (MSSC) certification system, which includes nationally portable, industry-recognized certifications that are combined with for-credit education programs. In the RSN program, students earn a National Career Readiness Certificate (NCRC), which is offered by ACT and four National Institute for Metalworking Skills (NIMS) certifications; MSSC’s Certified Production Technician certificate, as well. Ultimately, the RSN model was removed from the project, which is discussed in a subsequent section. Figure 1, below, depicts a logic model for this strategy.

Figure 1: Strategy 1 Logic Model



Strategy 2: Leverage employers to integrate “in-plant” work-based learning opportunities into stacked and latticed credentials with the goal of accelerating students: (1) region-wide approaches prior

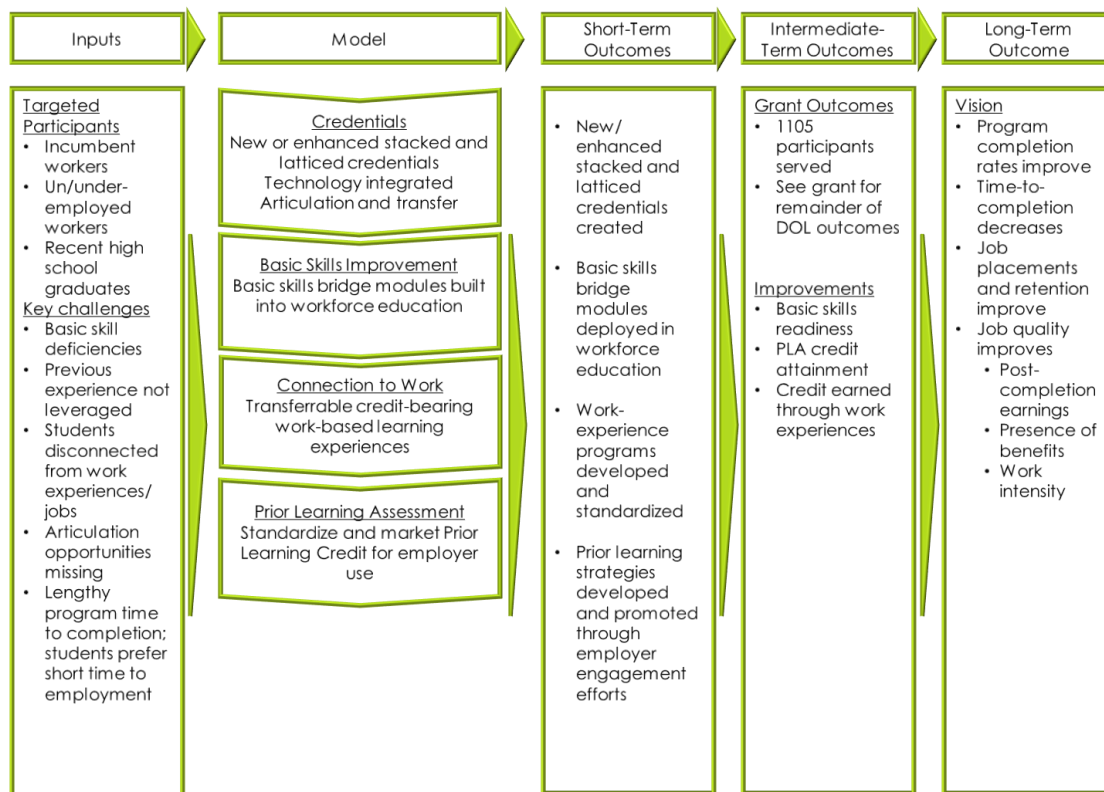
learning credit (2) transferrable credit-bearing work-based learning experiences, and (3) basic skills “bridge modules” delivered onsite at employer locations.

In the effort to help workers attain college credit and credentials, the consortium planned to develop “in-plant” education and training programs in partnership with businesses. There were three elements to this plan:

- Develop a region-wide approach for partnering with businesses to incorporate workplace opportunities to earn postsecondary credit via Prior Learning Assessment (PLA). The goal was to standardize PLA credits regionally and pro-actively partner with businesses to integrate these standards into “in-plant” training.
- Develop a region-wide model for transferrable credit-bearing work-based learning experiences such as internships or co-ops.
- Develop a model for “in-plant” basic skills instruction that integrated basic skills into workforce training. The intent was to bring basic skills education “into the field” for delivery at employers’ locations by integrating “bridge modules” into workforce education.

The strategy was envisioned to: (1) increase program enrollments by creating new opportunities for individuals to earn credit for work experiences; (2) improve basic skill readiness among low-skilled incumbent workers; (3) reduce time-to-completion through these opportunities; and (4) increase program completion rates. Figure 2 depicts the logic model.

Figure 2: Strategy 2 Logic Model



Strategy 3: Enhance advisement and career counseling in partnership with employers.

This was a more diffuse strategy as described in the USDOL proposal. The proposal cites *The Shapeless River*, in which Judith Scott-Clayton likens the way students navigate college systems to travelling along a shapeless river in the dark with no guides, signposts, or landmarks. The author describes students' decision-making methods as containing elements of "trial and error"—taking unnecessary courses, starting and stopping, or changing direction.

The consortium grappled with issues of specificity and fidelity in this strategy. There was no intent for colleges to implement similar models or approaches to this strategy. That is to say, each college could implement an independent approach to counseling and advisement; and each college could select its own combination of elements to implement. As such, we do not include a logic model, but note that the intent of this strategy was to positively affect program retention and completion rates, and improve job attainment through advisement and guidance.

Evaluation Research Design and Methodologies

There are two parts to the evaluation: (1) an implementation evaluation that captures the details of project implementation and the extent to which the colleges implemented according to the original blueprint of the project; and (2) an impact evaluation that captures the impacts of grant activities on participant earnings, job attainment, employment intensity, wages, and likelihood of working in a job that offers benefits (e.g., health insurance) along with program retention and completion using a comparison approach. There are constraints in the feasibility of doing comparison-based analyses for prior learning assessment, basic skills bridges, and credit-bearing work experience participants. Thus, the impacts of many individual elements of the grant are not disentangled in the Impact Evaluation.

Implementation Analysis Design

The implementation evaluation has two goals: (1) to assess fidelity to the intent, and (2) to identify factors affecting outcomes. Implementation evaluation activities involved communicating with local project staff and instructors, consortium leadership, students, and/or employers and include: (1) interviews, (2) focus groups, (3) surveys, and (4) on-site visits. Assessment of progress measures or benchmarks required in the original grant proposal or established by SWACCC leadership were embedded in the activities.

Implementation Analysis Research Questions

Broadly, the implementation evaluation seeks to capture the following:

- What was being implemented, and how was it theorized to drive impacts?
- Has implementation occurred on time and as intended?
- Was there fidelity among SWACCC colleges? When variation existed, was it effective and consistent with project outcomes?
- What contributions did each of the partners (employers, workforce system, other training providers and educators, philanthropic organizations, and others) make in terms of: 1) program design, 2) curriculum development, 3) recruitment, 4) training, 5) placement, 6) program management, 7) leveraging of resources, and 8) commitment to program sustainability. What factors contributed to partners' involvement or lack of involvement in the program? Which contributions from partners were most critical to the success of the grant program? Which contributions from partners had less of an impact?

Specific questions pertaining to each grant strategy were posed, as follows:

Strategy 1:

- Were colleges able to establish sector partnerships enabling employers to convey their workforce needs and colleges to implement programs to meet those needs?
- What factors enabled or hindered the following: participant earnings, employment attainment, employment intensity, wages, and likelihood of working in a job that offered benefits (e.g., health insurance)?

Strategy 2:

- How effectively was work-based learning integrated with the system of stacked and latticed credentials?

- How effectively were systems implemented to allow for granting credit for prior learning and/or for transferring non-credit to credit? Did they have an effect on completions?
- How effectively were bridge modules developed and integrated into onsite workforce training to effectively enhance basic skills? Did they have an effect on completions?
- What factors enabled or hindered this strategy?

Strategy 3:

- How effectively were student advising and career counseling improved and how was partnering with employers incorporated? Did they have an effect on completions or employment?
- What factors enabled or hindered this strategy?

Impact Evaluation Design

The primary goal of the Outcomes/Impact Analysis portion of the evaluation was to determine the overall effect of the TAACCCT Round 3 grant on students who were involved in grant-affected activities at each institution. This goal was achieved by collecting and analyzing data for each grant-affected program of the colleges within the consortium. In addition, each grant-affected program was compared to a similar comparison program, which ran in parallel to the grant-affected program during the grant period. Comparability of the comparison program to the grant program was based on similarities in program structure (such as department, credit/non-credit status, and program size and duration) and student demographics (such as race, gender, and age). From this data, a quasi-experimental evaluation was constructed. The data included in this report was collected based on research questions referenced in the methodologies portion of this report. The research questions were based on a combination of previously established Department of Labor outcomes, as well as strategies identified by the consortium in the SWACCC Statement of Work (SOW).

Outcomes/Impact Analysis Research Questions

The impact research questions incorporated the DOL reporting requirements for the annual performance report. For each question listed, grant participants in the grant-affected programs were compared to comparison group participants:

1. How many unique participants/comparisons have been served?
2. How many individuals have completed a grant/comparison program of study?
 - a. Of those, how many were incumbent workers?
3. How many individuals were still retained in their program of study (or other grant-funded program)?
4. How many individuals were retained in other education programs?
5. How many credit hours have been completed?
 - a. How many students have completed credit hours?
6. How many credentials have been earned by participants/ comparisons?
 - a. How many students have earned certificates (<1 year)?
 - b. How many students have earned certificates (>1 year)?
 - c. How many students have earned degrees?
7. How many students were pursuing further education after program of study completion?
8. How many participants/comparisons were employed after program of study completion?
9. How many participants/ comparisons were retained in employment for three quarters after program of study completion?

10. What were the earnings of participants/ comparisons relative to before enrollment?
 - a. How many of those employed at enrollment received a wage increase post-enrollment?

Outcomes Analysis

The questions drove the following analyses. For each question, an outcome was defined that was used to answer the question. The definitions given were from the point of view of the grant-affected programs (the “treatment group”). Corresponding definitions were used for the comparison programs (the “comparison group”) and are not repeated here for brevity. For the outcomes that correspond to one of the 9 DOL outcomes, that DOL outcome number was noted.

1. Participants = individuals who officially declare for a targeted program of study or enroll in a defined core course in a targeted program of study (DOL#1)
2. Completion rate = number of students who complete / participants (DOL#2)
 - a. Incumbent completion rate = number of students who complete / participants (numerator and denominator restricted to incumbents)
3. Retention rate = number of students who were retained in their program of study (or other grant program) / participants (DOL#3)
4. Other retention rate = number of students who were retained in another program of study (non-grant) / participants
5. Credit hour completion amount = number of credit hours earned per student
 - a. Credit hour completion rate = number of students who complete a credit hour / participants (DOL#4)
6. Credential amount = number of credentials earned per student
 - a. Short-term credential rate = number of students who earn a credential (<1y) / participants
 - b. Long-term credential rate = number of students who earn a credential (>1y) / participants
 - c. Degree rate = number of students who earn a degree / participants (DOL#5 = ‘a’ or ‘b’ or ‘c’)
7. Further education rate = number of students entering further education program after completion / completers (DOL#6)
8. Employment rate = number of students employed / completers (numerator and denominator restricted to non-incumbents) (DOL#7)
9. Retain employment rate = number of students retained in employment for 2nd and 3rd quarters after completion / completers (numerator and denominator restricted to non-incumbents) (DOL#8)
10. Earnings increase amount = quarterly earnings increase for each quarter after program completion – average quarterly earnings in four quarters prior to program entry
 - a. Earnings increase rate = number of students who received quarterly earnings increase after enrollment relative to the average of four quarters prior to program entry / participants (numerator and denominator restricted to incumbents) (DOL#9)

The outcomes were measured continuously as the data became available. For example, for data from the schools, data was collected three times per year – once in the fall reflecting the previous summer term and fall enrollments, once in the spring reflecting the previous fall term and spring enrollments, and once in the summer reflecting the previous spring term and summer enrollments.

Non-Experimental Design

Each program was included in an impact analysis comparing it to at least one comparison group. Every grant program was matched to one comparison program that was different but comparable to the grant

program and housed at the same school and followed in parallel during the grant period. Comparability of the comparison program to the grant program was based on a) same department, b) same credit/non-credit status of program, c) similar duration of program, and d) similar demographics of individuals entering program. It was not expected that a comparison program would match perfectly on all 4 qualities, but rather the best match overall was used.

In addition, when possible, grant programs were matched to other comparison programs. First, if the grant program was an established program prior to the grant (for at least 3 years) then the grant program itself served as its own comparison program (historical comparison). Second, if another college in the consortium had a grant program that was the same as the grant program and was an established program prior to the grant (for at least 3 years) then the other college's same program was used as a comparison program (again, historical comparison).

At the conclusion of the comparison program selection process, each grant program had a parallel comparison program that was similar to it and was drawn from the same college. In addition, some grant programs had historical comparison programs that were the same program, and were either drawn from the same college or from another college in the consortium.

Implementation Evaluation Report

This section of the report details findings in the implementation evaluation.

The implementation evaluation report presents the findings of the implementation evaluation in five sections:

- (1) Implementation inquiries,
- (2) Themes in the implementation evaluation,
- (3) Grant strategies implementation, fidelity to model, and factors affecting outcomes
- (4) Student pipeline analysis
- (5) Implementation evaluation limitations.

Implementation Inquiries

The implementation evaluation sought to assess fidelity to the intent of the grant, and identify factors affecting the grant outcomes. The findings detailed in this section are based on themed inquiries conducted once per semester, which included interviews with Project Coordinators and grant staff at each college, conversations with consortium leadership, and a survey. On-site visits and focus groups were conducted in the Fall semester of 2016. Details of implementation evaluation inquiries conducted are below:

Spring 2014	- Consortium Climate Study
Fall 2014	- Planning stage reflection and project description. Interviews with Project Coordinators and grant staff at each college
Spring 2015	- External partnerships, Interviews with Project Coordinators and grant staff at each college
Fall 2015	- Business engagement processes and outcomes. Interviews with Project Coordinators and grant staff at each college
Spring 2016	- Interviews with Project Coordinators and grant staff at each college: important innovations under the grant, sustainability of programs, and the future of the consortium - Survey of Project Coordinators and/or business engagement staff at each college on Employer Engagement
Fall 2016	- Sustainability: Interview with consortium leadership - Site visits, all colleges

Themes in the Implementation Evaluation

Several themes emerged in the implementation evaluation.

The colleges determined that several elements of the original grant proposal would be impractical to implement and the scope of work of the grant was adjusted. A gap in stakeholder engagement, particularly during the grant writing phase, led to an evolution in the vision of the project. This was most evident during the planning and early implementation of the project. A prominent storyline in the first year of the grant pertained to a disconnect between the intent of the grant proposal and priorities at the colleges. The grant writer stated that an open process occurred on weekly calls during the writing. Once the grant was funded, colleges raised feasibility challenges presented by the project. The Right Skills Now model was eliminated from the project altogether due to a misalignment with project goals. Expectations

for the development of in-plant activities including on site basic skills training, PLA, and credit-bearing work experiences were tempered due to challenges aligning these elements with the needs and constraints of employers – few employers expressed an openness or capacity to engage in these types of activities. Several Project Coordinators stated that they were not involved in the planning of the project. The enhancement of sector partnerships and the development of high-quality advanced manufacturing curricula were cited as core objectives. Broadly, the student advisement and career counseling strategy (#3) was acknowledged for its presence in the grant, but plans for deepening these did not advance – possibly due to lack of specific metrics or objectives in the grant proposal. A vast majority of Project Coordinators indicated the intent to update program curricula and equipment to be more in line with industry demands.

Fewer Project Coordinators were familiar with secondary objectives in the grant including basic skills bridges, in-plant programming, work-based learning, and PLA. The feasibility of elements requiring employer partnership was cited as challenging by the colleges. For example, it was stated that in-plant programming was not feasible due to concerns about violating the recruitment policies of companies; basic skills bridge programming had low demand among businesses; and PLA was placed at a lower priority because incumbent worker PLA participants could not be counted in the participant definition. While the intent of the grant was to create deeper partnerships with businesses, the mechanisms articulated for doing so in the grant was not easy for colleges to adopt.

Colleges overcame staffing and resource challenges to deliver on measurable outcomes. The consortium worked to deliver on grant outcomes, but not without implementation challenges along the way. Colleges varied considerably in terms of the amount of budgeted resources received under the grant. Relatedly, there was variance in the depth of staffing assigned to the project. Key challenges that impacted colleges in varying ways included difficulties in hiring staff or instructors, staff and leadership turnover, purchasing equipment or completing renovations in a timely way, curriculum approval processes, and low enrollments or completions. During the grant, the consortium adapted as it worked to meet required grant deliverables.

The gaps in stakeholder engagement described above led to an evolution of the project vision. The table below notes the changes in scope that occurred along with the reasons offered by colleges. Consortium leadership, working to stay true to the project’s vision of providing a supply of skilled workers to industry, made the following adjustments to the scope:

	This model was pursued as described
	This model was identified as difficult or behind schedule
	This model was modified due to unexpected challenges

	Grant Model	Actual
Strategy 1	Create Sector Partnerships	This model was pursued as described.

	<p>Create and adjust career pathways based on identified gaps</p>	<p>This model was pursued as described.</p>
	<p>Establish Right Skills Now model</p>	<p>This model was eliminated from the scope of work. The development of RSN internships was particularly problematic. In the end, the model was not aligned with the priorities at a majority of colleges. Colleges were asked to develop alternatives.</p>
<p>Strategy 2</p>	<p>New or enhanced stacked and latticed credentials</p>	<p>This strategy was the primary emphasis of the project. The NCCER core credential was made available at all seven colleges; AWS certifications were available at two of the colleges with welding programs; two colleges offered MSSC certifications. All colleges were dedicated to working closely with industry to develop and enhance stacked and latticed credentials.</p>
	<p>Basic skills bridge modules built in to workforce education</p>	<p>This model was being pursued, but was modified. No college had a basic skills bridge module built into existing programming, and no college developed one. This was due to employer resistance to adding time and content to workplace-based trainings for incumbent workers. Colleges were asked to develop alternatives.</p>
	<p>Transferrable credit-bearing work-based learning experiences</p>	<p>This model was pursued as described using pre-existing programs. SouthArk, SAU Tech, and COTO incorporated internships into their SWACCC programs. These internships existed prior to the grant award.</p>
	<p>Standardize and market PLA in partnership with employers</p>	<p>This model was pursued, but it was modified. The Consortium found the “in-plant” PLA method described in the grant to be difficult to implement. Local PLA policies at each SWACCC institution required students to be enrolled and to have earned a minimum number of credit hours before earning credit for prior learning experiences. Official enrollment posed several challenges including: enrollment fees, paperwork, shot records, and registration.</p> <p>Another challenge to improving access to PLA was that many incumbent workers remained uninterested because employers were not offering incentives for employees to upskill. The Consortium continued to work towards marketing PLA for incumbent worker use and was working with CAEL to think creatively in trouble-shooting these problems. Project management also suggested that colleges explore PLA to industry credentials as an alternative.</p>

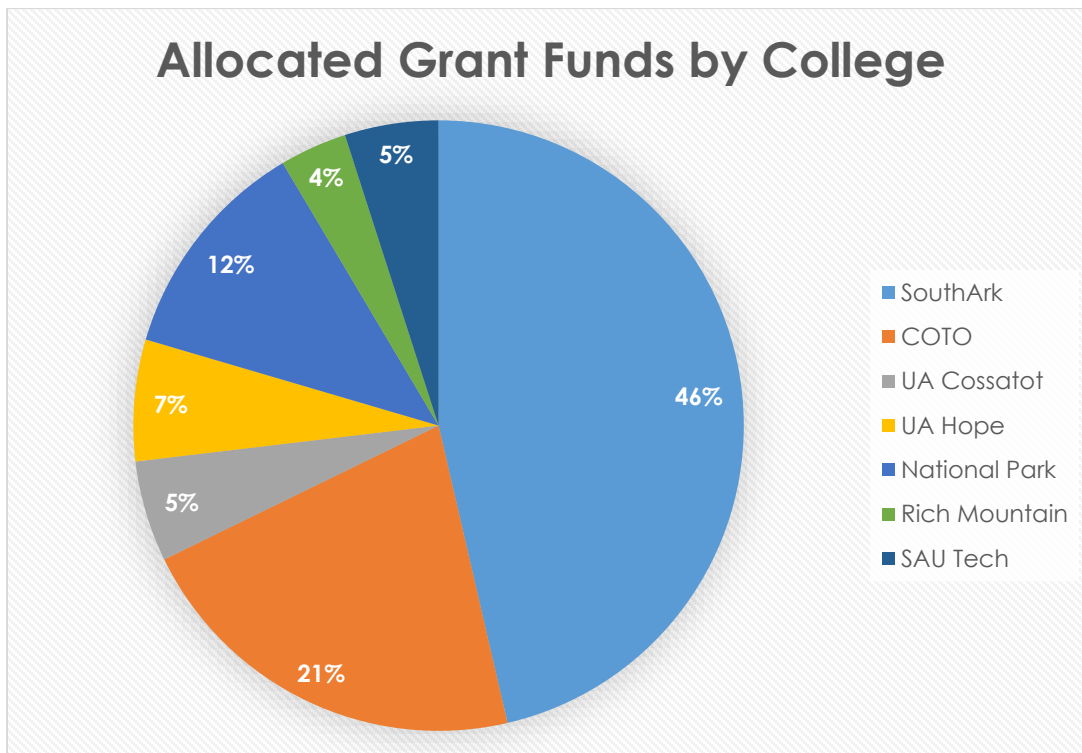
		UAC developed a PLA portfolio course with the assistance of employer partners in which students were able to earn up to 15 credits for work experience.
Strategy 3	Enhance advisement and career counseling in partnership with employers	This model was pursued, but was modified. The grant prioritized the use of in-plant advising. This aspect of the model was impractical due to employer recruitment policies. Consortium leadership asked colleges to develop alternative approaches to engaging employers in career counseling and advisement.

Project resources must align with the vision of the project: There was a misalignment between resources funded by the grant, and the resources needed to implement the project strategies as written. This was particularly true of resources needed for business engagement, which was the theme of the project and integral to the success of SWACCC project. Business engagement activities were assigned few direct resources in the budget.

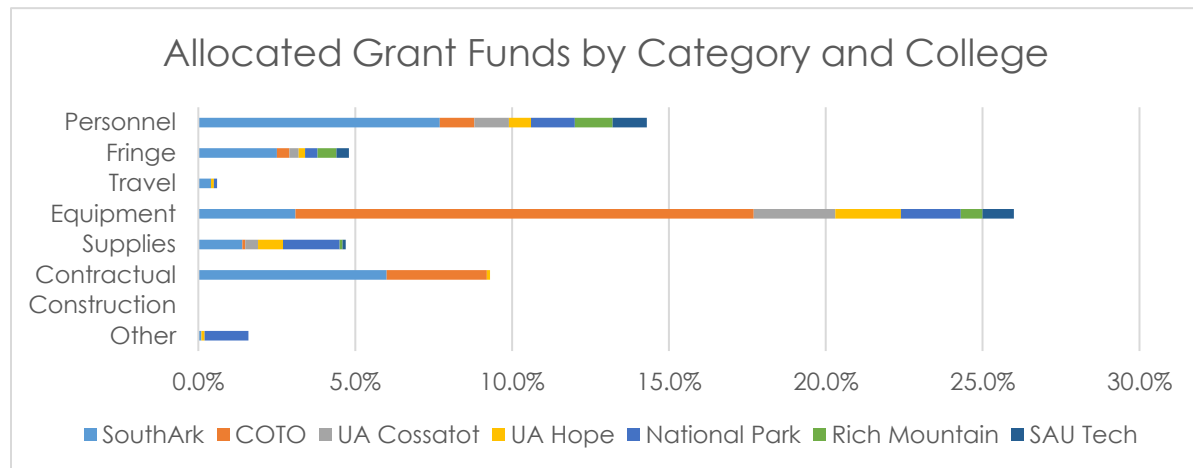
Colleges varied considerably within the range of resources received under the grant. Of the \$8,419,390 in grant funds, four colleges received approximately \$500,000 or less for the entire grant period, while the remainder received over \$1,000,000 per college. In general, colleges spent the greatest proportion of their budgets on personnel and equipment. The charts below show the funds allocated by college.

Allocated grant funds by college:

The figure below illustrates each college’s share of the total consortium budget. SouthArk’s allocated budget included funds for consortium management, technical assistance, and evaluation.



Allocated Grant funds by Category and College: the figure below illustrates the allocation of grant funds into each of the SF-424 budget categories per the USDOL. Each budget category was also broken down by college to illustrate the differences in allocation by budget category on a college level. As seen below, each college allocated their grant funds differently. COTO was more equipment-heavy in comparison to other programs.



Some colleges had very limited grant resources given the ambitious nature of the project. There was variance in the depth of staffing assigned to the project. In one case, the Project Coordinator was a dean who had other projects that compete for attention and time. In another case, the Project Coordinator was an instructor who had little connection to the intent or purpose of the project before it was awarded, and balanced the project with a teaching load.

- The capacity to do thorough outreach to businesses or resource deep student support services was challenging for the schools in the lower portion of the funding range.
- Finding qualified faculty to teach technical and manufacturing courses was a challenge for almost every college as the offered salary was often well below positions in industry. In some cases, this led to hiring delays or changes in staffing plans, contributing to the allocated spending differential noted in the figure above.

Working as a consortium was challenging, but in the end colleges reported that they were becoming more collaborative. Working together as a consortium was a challenge, even with capable consortium leadership. Project Coordinators continued to report in regular interviews that they received timely reminders of deadlines, answers to questions, and support from consortium leadership. Despite this, project staff at the colleges did not have a strong shared vision of the project. Grant models which required sustained joint efforts such as regional approaches to PLA were proven especially difficult.

Colleges report having a history of viewing each other as competitors. While some schools in the consortium worked together previously, trust-building takes time. The collaborative nature of the grant forced the colleges to begin to share curricula, business partners, and best practices. Four colleges indicated that participation in the consortium was beneficial in supporting the curriculum development process because it created opportunities to collaborate with program designers at other colleges. There was an articulated sense that the colleges were becoming more collaborative, which created hope that future collaborative projects could occur.

Efforts to build partnerships with business partners was time a resource intensive, and under-resourced in the grant. The SWACCC grant proposal sought to greatly enhance relationships with businesses, yet there were limited resources allocated to engaging businesses. Many colleges reported having similar business engagement practices as they did before the grant award. Expansions or innovations in business engagement practices were difficult to manage with minimal additional resources dedicated to this function.

Each college and program had a unique approach to business engagement. While all colleges viewed themselves as a hiring source for businesses, some colleges and programs worked closely with business partners to improve worker effectiveness, set-up advancement opportunities for employees, and/ or help businesses with retention and succession planning.

Business Engagement Processes

Interviewees were asked to describe how their college approaches finding, developing, and maintaining business partnerships. Several colleges commented on the importance of business engagement before building a program. Hope, for example, regretted not being able to spend more time engaging local employers interested in their Supply Chain Management program, noting that the program had experienced struggles during the grant period due to lack of employer and student interest. In this case, one of the Hope's original employer partners for the grant was sold shortly after grant award. All colleges reported that their location affects their engagement style. Rural colleges in smaller communities were more likely to find partners through word of mouth, and less likely to have formal needs for outreach and relationship-management processes. Colleges in more urban environments were more likely to have formal procedures in place for finding partners and assessing needs.

Every college expressed a need for more staff time for employer engagement. In many cases, time had not been written into the grant specifically for engaging employers, and other grant duties such as reporting, or programmatic duties often took the bulk of staff time. All colleges had a separate department which engages businesses on behalf of their noncredit programs. Each college managed business engagement for their credit programs differently; deans and instructors were often primary points of contact. Most SWACCC colleges did not utilize a formal database or customer relationship management (CRM) tool to track relationships with employers. One college found it difficult to follow through with local sector partnership meetings; they reported that they had a good initial meeting but insufficient staff time to continue. Another college happily handed off facilitation of their sector initiative to their local chamber of commerce, and continued to engage in the meetings as a participant.

Lead Generation: Interviewees were asked to describe how their college found new business partners - methods of outreach, targeting of potential new partners, and the development of new business partnerships. The most common way colleges said they found partnerships was through word of mouth or referrals; many of the employers who served as partners for SWACCC programs have had a relationship

with the college previously. Most colleges participated in local economic development activities, and a few were embedded in local incentive packages for businesses seeking to expand or relocate to their service area. Several colleges emphasized the importance of community involvement. Two colleges reported that the networks of their instructors were key to their success in finding new partnerships. Two other colleges used an outreach survey to find new partners. When asked if colleges generated leads through their website or social media page, colleges always said that this was the least likely way for them to find partners. Generally, colleges reported initiating the conversation with industry partners. This was especially true for colleges starting new programs, or reaching out to new partners.

Discovery: Interviewees were asked to describe how their colleges approached navigating a first meeting with a potential business partner and assessing their needs. Colleges discussed whom they included in the meeting and assessment process, relevant tools and materials, and keys to selling training. Generally, colleges did not have formal tools or scripts to guide their first conversations with businesses. All of the colleges emphasized the importance of active listening. CCCUA called the first meeting the “discovery phase meeting.” At this meeting, workforce development representatives collaborated with industry clients to establish a list of desired outcomes. Sometimes the college worked with a third party to do a job task analysis. Work Keys was often used as part of the job task analysis. South Ark recently began using Lib, a survey app, to identify employer needs.

Solution Development: Interviewees were asked to describe their college’s process for developing solutions for business needs. Colleges discussed the types of solutions available at their institution (training, consulting, etc.), the importance of speed and responsiveness, and shared best practices developed at their institution. While training was the most popular solution for colleges to provide for business problems, several other creative solutions were discussed. COTO values success metrics. If a company does not have metrics to measure success (cost of turnover, productivity, etc) COTO will try to build into the training mechanisms to help them identify and measure the metrics they don’t have (this was not always possible, but COTO tries). COTO provides solutions besides training solutions to companies. Instructors will consult for process improvement; COTO recently worked with an employer partner to do a productivity analysis to improve the efficiency of producing one of their products in high demand. COTO has an authoring tool (a software suite that allows the user to do virtual simulations of mechatronics processes and tweak production processes before running them), and will consult with businesses in process improvements.

At least one college noted that SWACCC was very equipment heavy; most grant resources were going to purchasing new equipment and towards the refurbishing of a building to house the program. Not a lot of resources were left for creative customizations: “what we’re finding was the [SWACCC] grant was very positive and provided equipment and facilities and in some cases, instruction, but has really been a train wreck on the workforce side. We need money to help offset employer cost for training, which TAACCCT doesn’t provide.” CCCUA provides solutions to employer needs beyond training. If it becomes apparent during the needs assessment process that the problem was something that requires a “process fix” and not a training fix, the college will bring their full-time business faculty to explain how, if the process was tweaked in a different way, it could produce a different result. The business has the opportunity to hire the college on as a consultant in this process (CCUA notes that this was very rare). Hope sees themselves as both a training provider and a hiring source for their employer partners. The college has careers fairs to solve sourcing problems for companies. While they have had conversations with employers on employee retention and succession, they have not found employers receptive to collaborating to improve HR functions or talent strategies.

South Ark has worked with at least one employer partner to provide training to reduce turnover; in this case, the college developed a soft skill training for leadership team to communicate to employees when they do a good job. RMCC developed a pre-employment skills screen for employers, which the college also uses for students considering career technical education. The college also works with employers to ensure its classes fit into longer career pathways for its students who will transfer to four-year institutions; one employer was willing to pay 75% of tuition for students in the transfer curricula RMCC has developed. SAU Tech Developed a pre-employability assessment aimed at helping screen applicants.

Performance Management: Interviewees were asked to reflect on how they maintain and grow partnerships over time. Colleges discussed follow-up procedures with businesses and former students after a program ends, and strategies for continued business engagement. Several colleges noted that adapting education to meet the needs of businesses and not trying to alter the business model to fit the education system was the recipe for success in employer engagement. CCCUA primarily keeps in touch with clients informally throughout the solution-development process. The college does follow-up with students after they have finished with their training to make sure that the skills they learned apply to their job, and does check-up with employers about every six months. NPC gauges satisfaction with courses through surveys (of students) and then anecdotes shared through employer partners' HR departments. South Ark measures their success by how engaged business partners were throughout the solution development process: "It is key to have industry working on every step of the process; developing curriculum, assessing it, identify participants for every training level. Having a sense of ownership in the training is important to forming and keeping relationships."

Contributions of Businesses

All colleges indicate that they prioritize employer input in the design and implementation of their programs. However, visions for the form and function of partnerships vary by college and program. Colleges indicate that several factors are important in determining the nature of employer partnerships.

- The maturity of the relationship is related to the depth of employer contributions. Interviewees indicate that employers that derive the most value from engaging with the college tend to engage more deeply and for longer duration. Several programs were principally developed under the grant and had to build partnerships from the ground up. Other programs pre-dated the grant and had established industry relationships, mostly in the form of advisory councils. Within the set of pre-existing programs, partnership engagement has varying forms and functions.
- The geographic location of schools in relation to industry affects the nature of employer engagement. Specifically, deeper engagement tends to occur with businesses that are located close to the college. Colleges in more rural areas have less of a choice of employer with which to engage.
- The background of project staff guides certain aspects of employer partnerships. Project Coordinators with experience in industry or employer outreach are better equipped to connect with business leaders, set meaningful agendas, and structure sustainable relationships. Likewise, instructors familiar with local industry more prepared to engage with employer partners, and be responsive to their needs. Informed equipment purchases, curricula in-tune with industry demand, and job referrals for students typically occur more frequently when instructors have experience working for (or with) local industry.

Corporation for a Skilled Workforce (CSW) was contracted as a technical service provider to assist SWACCC colleges in developing sector partnerships, including helping colleges to cultivate visions and plans for partnership development. They introduced the following seven “success factors” to the colleges which lead to successful sector partnerships:

- Data-driven decision making
- Employer engagement
- Partnership building and goal setting
- Leveraging resources
- The role of the convener/ intermediary
- Measurement and evaluation
- Communications and “telling our story”

Roles of Employer Partners

Colleges were asked to describe the evolution of employer relationships under SWACCC. Many colleges have organized employer partnerships based on industry clusters. These relationships are often formalized in advisory councils for academic programs.

The structures of employer partnerships or advisory committees vary by college and program. While not all programs have a formal advisory council, each program has at least one employer partner. (For the purposes of the evaluation, an advisory council is defined as a group of at least three industry representatives with regularly scheduled meetings, who convene to improve the content or structure of a program or programs). Employer roles fell into two categories: advising during the grant’s planning stage and program delivery support. Themes are summarized below.

Advising

Employer roles during the grant’s planning stage differed based on each college’s scope of work and the extent to which the college had a pre-existing history with the employer. For SWACCC programs undergoing renovations and/or purchasing equipment, many employer partners were consulted to ensure that equipment and renovations specifications were in-keeping with industry standards. Colleges also engaged employer partners on writing and updating program curricula. The level of engagement in curriculum development varies by partner and program, and depends largely on program history. For programs existing prior to the grant, employers reviewed and revised existing curricula. In the case of new program development, employers collaborated to write a new curriculum. A few illustrative points pulled from conversations with interviewees are listed below:

- At most colleges, employer advisory councils met quarterly with opportunity to review any tweaks or changes to curricula. In the case of new curricula, colleges received feedback from employer partners.
- COTO, NPC, and UAHT engaged employer partners to ensure new equipment reflects current industry standards.
- Several programs had pre-existing advisory councils or employer relationships prior to SWACCC, notably: COTO’s relationship with Kohler, the advisory council for NPC’s Aerospace Fabrication program, the advisory council for SAUT’s Supply Chain program, and the advisory councils for SouthArk’s Process Technology and Welding programs. These pre-existing relationships were avenues for colleges to develop and vet new program content.

- UAC developed a PLA portfolio course with the assistance of employer partners in which students were able to earn up to 15 credits for work experience. An objective of the grant proposal was to integrate PLA tools in employers training plans. The employer role in the development of this course and value derived from the employer will be the subject of future inquiry.

There were limited interactions with employers in the development of new strategies for utilization of prior learning assessment tools. The notion of in-plant delivery of services was proven challenging, and in at least one case impossible due to employer policies preventing vendors from coming on site.

Program Delivery Support

Many employers were involved in supporting the delivery of programs. Roles included the referral of incumbent workers for training, ongoing curriculum review, student site visits, internships, and the provision of instructors, equipment, or space for training. A few noted examples of employer contributions to program delivery are listed below:

- Kohler employees instructed courses in COTO's Industrial Technology program.
- NPC, RMCC, and SAU Tech received significant referrals of incumbent workers in their programs of study.
- In contrast, UAHT experienced lower incumbent worker enrollments in grant-funded programs than desired and few employer referrals despite efforts to work with employers.
- SouthArk benefited from strong employer participation in a process technology internship program believing strong local demand for process technologists was a driving motivation for employers. COTO intended to set up an internship program, but all seven students who interviewed for an internship were hired full-time instead supporting the notion of strong demand.
- Hope worked with employer partners to incorporate real-world, hands-on projects into their Industrial Technology classroom.

Recognizing the importance of business engagement to the successful sector strategies and project implementation, New Growth issued a business engagement survey in September of 2015 focusing on employer engagement. The survey asked project coordinators and staff to reflect on the depth and breadth of both individual employer and employer council contributions to SWACCC programs. The following tables capture their aggregated responses:

Types of Engagement

Colleges were asked to rate their employers across ten types of possible engagements. Ratings represent an average of all responses and was on a scale of 0 (no engagement) to 4 (excellent engagement) Results for all SWACCC colleges are aggregated below. On average, colleges rated employer councils as most engaged in student recruitment, curriculum contributions or review, and providing feedback on student performance. Colleges rated employer councils as least engaged in referring incumbent workers into programs, and organizing internships.

Type of Engagement	Rating
Active recruitment of students leading to hiring	2.8
Curriculum contributions or review	2.8

Provide regular feedback to colleges on student performance	2.8
Broad and proactive council participation	2.7
Contribution of indirect resources for instruction (E.G. staff time for plant tours, classroom visits mock interviews, or leveraged facility or equipment usage)	2.4
Contribution of direct resources for instruction (E.G. funding, equipment or supply purchase, instructor pay)	2.2
Help to define program entry requirements of screens	2.1
Outreach to peer/ other employers to help expand the college's relationships	1.9
Incumbent worker referrals leading to program enrollments	1.8
Internships	1.5

Workforce Investment Boards and Other Partnerships

In addition to employers, SWACCC colleges had other required or optional partners. Colleges were required as a condition of the grant to partner with Workforce Investment Boards. It was the intent of the grant that local Workforce Investment Boards would assist colleges by: enhancing recruitment of TAA eligible workers; ensuring that the design of programs and services met the needs of TAA workers; contributing TAA and Worker and WIA program services, and expanding the Round 1 TAACCCT Virtual Career Center strategy (which provides LMI and career advisement content to students). All colleges reported that they consulted with their local Workforce Investment Boards to identify TAA-eligible workers. However, there were very limited numbers of such workers in the SWACCC region during the grant period.

In addition to WIBs and employers, the grant was flexible in allowing colleges to select additional partners that added value to the initiative. A few anecdotes from colleges are included below:

- SAU Tech partnered with a local temp agency to use the WorkKeys assessment as a screen for students referred to the agency. This partnership pre-dated the SWACCC grant, and was leveraged to make WorkKeys and temp agency services available to SWACCC participants.
- NPC had strong relationships with employers and others in the aerospace industry that pre-dated the grant and were ongoing. Partners include: employers, chamber of commerce, college representatives, economic development commissioners, the local airport director, and the aerospace alliance director. The group meets quarterly.
- Several colleges expressed optimism at strengthening partnerships with their local WIB under new the new Workforce Innovation and Opportunity Act (WIOA).

Implementation of New Models to Support Students

New Growth interviewed SWACCC project staff on their progress implementing new models included in the proposal under strategy 2. These included: 1) creating stacked and latticed credentials, 2) development of basic skills bridge models, 3) enhancing connections to work such as through work-based learning experiences, and 4) incorporating prior learning assessment. Each element was intended to include significant business partnership.

A primary challenge in incorporating businesses into these pieces was a lack of staff time dedicated to business engagement. While business engagement was necessary for the successful implementation of Strategy 1 (see above), the grant pieces associated with Strategy 2 and 3 often were new to many of the colleges.

	This model was pursued as described
	This model was identified as difficult or behind schedule
	This model was modified due to unexpected challenges

Grant Models	Embedded business engagement and grant resources
<p>New or enhanced stacked and latticed credentials Status: All colleges developed new or enhanced existing stack and latticed credentials. This model was the emphasis of the project.</p>	<p>This model required engaging employers to identify important skills gaps, work-based learning opportunities, and career pathways with multiple entry and exit points.</p> <p>Instructors, equipment, and time for curricula development were the primary resources required for the implementation of this model. The bulk of grant resources were dedicated to these items.</p>
<p>Basic skills bridge modules built in to workforce education Status: colleges looked for alternative activities</p>	<p>Incorporating basic skills bridge modules into workforce education required engaging employers to identify in-demand skills for integration into contextualized learning programs that teach marketable skills and prepare individuals for college-level courses.</p> <p>After further conversations with employers, the consortium minimized the building of basic skills bridge modules into workforce education. They reported that employers did not want to extend the time of training. Consortium leadership indicated that colleges must develop alternative methods of providing basic skills training to employees.</p>
<p>Transferrable credit-bearing work-based learning experiences Status: several colleges incorporated internships; no colleges were pursued apprenticeships or other work-based learning experiences.</p>	<p>Transferrable credit-bearing work-based learning experiences required engaging employers for internships, apprenticeships, or other work-based learning experiences; and then developing mechanisms to make the credits transferrable. For new programs, this was a time-intensive process. Three of seven colleges implemented internship programs. Others cited challenges with employers being willing to host interns with minimal experience.</p> <p>The primary resources required to implement this grant model were time and funding for faculty to develop internships. Minimal grant resources were dedicated to transferrable credit-bearing work-based learning experiences. While Innovation Team 4 was tasked with supporting this work, colleges did not allocate funding to the implementation of the innovation teams, and project staff reported having trouble keeping up with the innovation teams on top of their other grant and reporting duties.</p>
<p>Standardize and market PLA for employer use Status: several colleges improved or expanded upon their PLA policies, but</p>	<p>The vision of the grant was to standardize PLA and encourage employers and employees to utilize their prior learning experience to obtain academic credit and/or industrial certification. Several colleges improved or expanded upon their PLA policies, but employers remain uninterested in wider PLA use. In addition, restrictive policies at several colleges</p>

employers did not find relevant uses for PLA in their workforce management approaches.	<p>registration and course completions before PLA can be awarded which they believe hinders progress on implementing this model.</p> <p>The success of this strategy required extensive staff time and leadership to engage employers in the development of PLA. The Council for Adult Experiential Learning (CAEL) was hired as a technical assistance provider to the consortium to assist with the implementation of this model. Each college’s level of interaction with CAEL varied. Several colleges expressed frustration with their experience with CAEL, several stating they wished CAEL was more “hands-on.”</p>
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Student advisement and career counseling

As noted previously, this strategy was operationalized by the consortium. Although the grant prioritized the use of in-plant advising, this aspect of the model was proven impractical due to employer recruitment policies. Consortium leadership asked colleges to develop alternative approaches to engaging employers in career counseling and advisement based on their own discretion.

Review of Participant Pipeline

This section describes how grant participants were recruited and screened before entering their programs of study, provided academic supports, and transitioned into and retained in employment. On the whole, colleges in the consortium were relying on standard programs and services that were already offered to assist students throughout their education. There was little emphasis on enhancing college services outside of curriculum development or improvement including equipment and renovations. The elements described below were not grant deliverables as described in the Statement of Work. This inquiry was intended to capture how colleges were tapping into existing programs and services to support the grant, and if any factors in the student pipeline affected the outcomes measures.

- Recruitment: Recruiting efforts and strategies varied among colleges. At least four colleges dedicated or leveraged personnel specifically for the purposes of recruiting participants, although SouthArk was the only college with a recruiter/advisor funded through the grant. NPC leveraged their workforce department to recruit for aerospace; UACCH utilized college recruiting support for supply chain management programs targeting HS students; and RMCC leveraged a college recruiter to develop a marketing plan for SWACCC programs. The remainder relied on Project Coordinators to execute recruitment plans or relied on standard college marketing and outreach. Recruitment models included: using employer partners/incumbent workers as a funnel for programs, reaching out to local high school students including leveraging existing manufacturing advocates, digital marketing campaigns, word of mouth, establishing referral relationships with the local workforce agency, and making existing advising and recruiting personnel aware of the new or improved programming.
- Screening: There were no screening efforts unique to SWACCC, although at least one college considered the advising process to be an informal screen where counselors worked with students to provide guidance based on student interests and aptitudes.

- Student support services: Colleges did not indicate any new student support services implemented or planned. Grant participants were eligible to receive student services offered by colleges. The grant aspired to develop an in-plant advising capacity through which incumbent workers would receive academic advising services pertaining to the receipt of PLA credit or other postsecondary opportunities. Project Coordinators indicated that businesses were not open to this type of relationship due to concerns about violations of internal policies.
- Transition to work: There were few career services resources strictly dedicated to job placement included in the SWACCC proposal. However, there was a variety of activity intended to promote employment among participants. All colleges indicated they were working with employer partners to enhance curricula that will deliver high-demand skills. The belief was that developing skill sets that align with business needs would enable participants to obtain jobs or increase earnings. SouthArk implemented a credit-bearing internship option under the grant, and other colleges were in the process of developing similar credit-bearing internships. Three colleges stated that there was a willingness among businesses to hire interns, and in many cases for pay.
- Job retention: We asked about services targeting job retention because it is one of the TAACCCT outcomes. There were no job retention services being implemented in the consortium, nor were they offered at any of the colleges in the standard array of services available to students. The prevailing belief was that preparing individuals trained with the employer-demanded skills would drive job retention.

Implementation Evaluation Limitations and Topics of Future Inquiry

The findings presented in this implementation evaluation report are based on interviews and surveys of college staff and document review. While all interviews were conducted in good faith and information was cross referenced to documentation or consortium leadership, interviews and surveys are nonetheless given by individuals with differing opinions and depths of knowledge.

Site visits were conducted to all sites and included staff interviews, student focus groups, and tours of grant-affected facilities. In addition to these site visits, New Growth conducted a final interview with Project Coordinators at each college on innovations arising from the SWACCC project, sustainability of the programs, and the consortium.

Impact Evaluation Report

Impact Evaluation Summary

The primary goal of the Outcomes/Impact Analysis portion of the evaluation is to determine the overall effect of the TAACCCT Round 3 grant on students who are involved in grant-affected activities at each institution. This goal is achieved by collecting and analyzing data for each grant-affected program of the colleges within the consortium. In addition, each grant-affected program is compared to a similar comparison program, which runs in parallel to the grant-affected program during the grant period. Comparability of the comparison program to the grant program is based on similarities in program structure (such as department, credit/non-credit status, and program size and duration) and student demographics (such as race, gender, and age). From this data, a quasi-experimental evaluation has been constructed. The data included in this report has been collected based on research questions referenced in the methodologies portion of this report. The research questions were based on a combination of previously established Department of Labor outcomes, as well as strategies identified by the consortium in the SWACCC Statement of Work (SOW).

Impact Analysis Limitations

It is important to understand the caveats and limitations for the evaluation, such as evaluation design, sample size concerns, and data gap possibilities. Below is a list of caveats that should be acknowledged:

- A random-assignment research design is impractical for the grant-affected programs. SWACCC is comprised of open-access community colleges with limited resources to serve students in targeted programs. Randomly assigning those students to different systems of programs and services is resource-intensive and would hinder the success of the programs. Therefore, a quasi-experimental evaluation has been chosen for this evaluation.
- Small sample sizes may result for a select few programs, especially when evaluating more restrictive grant outcomes, such as post-completion grant outcomes #7 and #8, which only relate to non-incumbent program completers.
- Gaps in the data due to missing elements from college databases, incomplete Participant Intake Forms, or mismatched data between data templates are probable throughout the evaluation. Efforts have been made to fill the gaps through using more than one data source for information, where possible.
- Identifying possible comparison groups may be difficult for schools that do not have numerous similar programs to the grant-affected programs. In many cases in this interim report, it is apparent that the participant group and comparison group do not align. Appropriate adjustments will be made to ensure a final evaluation that is as accurate as possible by the end of the grant.
- The data analysis in the interim report does not include any statistical procedures. Interim statistical analyses would rob the study of statistical power to no benefit, since the grant will continue to completion at the end of the study period regardless of the outcome of any interim analysis. Instead, this interim report includes only descriptive statistics for the grant-affected and comparison programs at each institution. The summary statistics include a snapshot of the demographics for each college, as well as an aggregation of the data used to answer research questions to-date.

Consortium Outcomes Goals

At the start of the grant, the DOL required the consortium to project outcomes for the duration of the grant. These projections are referenced during the yearly APR submission. Comparing projections to actual outcomes may aid in understanding and adjusting current practices (such as recruitment or retention procedures) which may affect future grant outcomes.

Table 2.1 is a year-by-year breakdown of the SWACCC outcomes measures projections.

Table 1: SWACCC Outcomes Measures Projections

Outcome Measure		Targets for All Participants	
1	Total Unique Participants Served	Year 1: 340	Total: 1105
		Year 2: 375	
		Year 3: 390	
2	Total Number of Participants Completing a TAACCCT-Funded Program of Study	Year 1: 151	Total: 721
		Year 2: 255	
		Year 3: 315	
3	Total Number of Participants Still Retained in Their Program of Study or other TAACCCT-Funded Program	Year 1: 52	Total: 332
		Year 2: 118	
		Year 3: 162	
4	Total Number of Participants Completing Credit Hours	Year 1: 191	Total: 803
		Year 2: 280	
		Year 3: 332	
5	Total Number of Participants Earning Credentials	Year 1: 145	Total: 753
		Year 2: 279	
		Year 3: 329	
6	Total Number of Participants Enrolled in Further Education After TAACCCT-Funded Program of Study Completion	Year 1: 24	Total: 220
		Year 2: 76	
		Year 3: 117	
7	Total Number of Participants Employed After TAACCCT-Funded Program of Study Completion	Year 1: 138	Total: 580
		Year 2: 168	
		Year 3: 212	
		Year 4: 92	
8	Total Number of Participants Retained in Employment After Program of Study Completion	Year 1: 104	Total: 467
		Year 2: 133	
		Year 3: 164	
		Year 4: 66	
9	Total Number of Those Participants Employed at Enrollment Who Received a Wage Increase Post-Enrollment	Year 1: 49	Total: 299
		Year 2: 91	
		Year 3: 116	
		Year 4: 53	

Impact Evaluation Data Collection Procedure

The majority of data is captured through existing systems. First, each SWACCC college’s database includes student demographic, enrollment, course, and program data in the form of One-Time (OT) and On-Going (OG) data forms. The OT form collects information that does not change over time, such as name, race, and gender. As the name implies, the OT form is only collected once per student. The OG form collects information that changes from semester to semester, and is submitted for each student every semester

they are enrolled. Second, quarterly earnings data is collected for each participant through the Arkansas Research Center, Arkansas' employment data system. Two primary data sources are also being used in the evaluation as a mechanism to capture any missing data elements. Participant Intake forms (PIF) are given to each participant, which capture any key baseline data elements that are not found in a college's database. In addition, post-completion surveys are distributed to each participant who completes a grant-affected program. Specific data elements that are not expected to be available from other sources, which are gathered from the survey are: occupation of employment, intensity of employment, hourly wage, and presence of benefits. The survey also allows for additional visibility/confirmation of data elements gathered from institutional sources.

Data is being collected from each source as it becomes available on a rolling basis. Colleges collect data on participant and comparison individuals three times per year – once in the fall reflecting the previous summer term and fall enrollments, once in the spring reflecting the previous fall term and spring enrollments, and once in the summer reflecting the previous spring term and summer enrollments. State wage data is collected twice per year and encompass the quarters that are available from the state agency at the time of the data pull.

Impact Evaluation Data Analysis

The following portion of the interim report describes the data for each college through the Fall 2015 semester. Each college has a table that includes descriptive statistics, as well as a chart which breaks down the credential information of the participant and comparison group by credential type. Since Arkansas has a statewide credential naming convention, credential type is broken down as Certificate of Proficiency (less than one year), Technical Certificate (more than one year), and Associate of Applied Science (degree). Furthermore, consortium-wide data is provided in a similar table format.

There are limitations to the data obtained from ARC that tend to artificially depress the numbers:

- A data lag of about two quarters.
- Data may not exist for persons who are self-employed, or who work at a job that does not report Unemployment Insurance.
- Students who do not provide social security numbers will not appear in the state wage data.

Consortium Summary

The starting point of the impact evaluation in the impact research questions, which are based on the DOL reporting requirements for the annual performance report. Given the limitations in data availability, some questions were answerable to a greater or lesser extent. Given that implementation strategies, programs, and details were so varied from college to college, there is no attempt to present an overall consortium comparison of participants and comparisons. However, comparison analyses are done for each college and program.

Overall, many colleges were able to accomplish gains in enrollment numbers over the course of the grant period. Several colleges accomplished increases in diversity in terms of gender, race, incumbent workers, or Pell-eligible students. Generally, completion rates were similar or out-performed comparison group completion rates. Employment outcomes were not subject to comparison analyses due to availability of employment data for comparison group members.

Here are direct answers, at the consortium-level, to the questions posed in the evaluation plan. Of note, due to gaps in data, especially employment data, many of the outcome numbers are lower than might be expected.

1. How many unique participants/comparisons have been served?

In total, 1107 individuals were served by the grant.

2. How many individuals have completed a grant/comparison program of study?

- a. Of those, how many are incumbent workers?

Over the course of the grant, 412 participants completed a grant-affected program of study (105 of whom were incumbent workers). The completion rate for participants was generally similar to, or greater than, the completion rate for comparison individuals on a program-by-program basis.

3. How many individuals are still retained in their program of study (or other grant-funded program)?

296 participants were still continuing with their grant-affected program of study at the completion of the grant.

4. How many individuals are retained in other education programs?

None of the participants were retained in other education programs.

5. How many credit hours have been completed?

- a. How many students have completed credit hours?

In total, 14933 credit hours were completed by study participants. Other participants engaged in non-credit programs.

6. How many credentials have been earned by participants/ comparisons?

- a. How many students have earned certificates (<1 year)?

- b. How many students have earned certificates (>1 year)?

- c. How many students have earned degrees?

Participants earned 660 certificates or degrees over the course of the grant. 352 students earned short-term certificates, 81 earned long-term certificates, and 70 earned degrees.

7. How many students are pursuing further education after program of study completion?

This number will be included with the submission of the final Annual Performance Report.

8. How many participants/comparisons are employed after program of study completion?

Of those who were non-incumbent workers at the time of entering, 61 participants who completed a grant-affected program gained employment in the semester after completion. This number may increase by the submission of the final Annual Performance Report.

9. How many participants/ comparisons are retained in employment for three quarters after program of study completion?

Of those 61 employed, 22 were retained in employment through quarters two and three after completion. This number may increase by the submission of the final Annual Performance Report.

10. What are the earnings of participants/ comparisons relative to before enrollment?

a. How many of those employed at enrollment received a wage increase post-enrollment?

Of those who were employed at study intake, 296 earned a wage increase in their employment. This number may change by the submission of the final Annual Performance Report.

College of the Ouachitas

The participant group for College of the Ouachitas (CotO) includes several Certificates of Proficiency (CPs) and Technical Certificates (TCs) leading up to an AAS in Mechatronics. The comparison group includes a number of CPs and TCs leading up to an AAS in Criminal Justice. In addition, a grant-affected Truck Driving CP has been implemented.

The tables below provide details on the total number of individuals included in the analysis along with demographic characteristics. This information is provided for the college overall, and for each of its grant-affected programs, if appropriate. Additionally, data on outcomes is listed including program completions, credentials earned, credit hours completed, employed after program completion (if available), job retention three quarters after completion, incumbent worker completion, and incumbent worker wage increases (if available). Data is presented in terms of counts and rates where it makes sense.

Table 2: College of the Ouachitas Outcomes Table

Variable	Participant Group	Participant Group N	Comparison Group	Comparison Group N
Total Number of Individuals	65	65	63	63
Demographics				
Female	10 (15%)	65	10 (56%)	18
White	48 (80%)	60	12 (67%)	18
Black	12 (20%)	60	5 (28%)	18
Other/More than One Race	0 (0%)	60	1 (6%)	18
Hispanic/Latino	2 (3%)	65	1 (6%)	18
Full-Time	46 (71%)	65	NA	NA
Part-Time	19 (29%)	65	NA	NA
Incumbent Worker	21 (32%)	65	1 (20%)	5

Variable	Participant Group	Participant Group N	Comparison Group	Comparison Group N
Eligible Veteran	5 (8%)	65	1 (6%)	18
Disabled	2 (3%)	65	1 (6%)	18
Pell Eligible	35 (54%)	65	10 (56%)	18
TAA Eligible	3 (5%)	65	0 (0%)	5
Outcomes				
Program Completers	25 (38%)	65	18 (29%)	63
Credentials Earned	61	65	19	63
Students Earning Certificates (<=1 year)	20 (31%)	65	12 (19%)	63
Students Earning Certificates (>1 year)	5 (8%)	65	1 (2%)	63
Students Earning Degrees	15 (23%)	65	6 (10%)	63
Time-to-Completion	214 ± 136	59	121 ± 42	19
Certificates (<=1 year)	276 ± 142	36	133 ± 49	12
Certificates (>1 year)	126 ± 36	5	100 ± 0	1
Degrees	114 ± 13	18	100 ± 0	6
Credit Hours Completed	315	65	117	63
Employed After Program of Study Completion	4 (16%)	25	NA	18
Retained in Employment 3 Quarters After Completion	0 (0%)	4	NA	NA
Incumbent Worker Completer	8 (32%)	25	0 (0%)	18
Wage Increase Post-Enrollment	7 (33%)	21	NA	1
Retention Rate (APR Definition)	40 (62%)	65	32 (51%)	63

Note: Certificates <= 1 year = Certificates of Proficiencies; Certificates > 1 year = Technical Certificates

TTC is FT/PT adjusted for participants, and assumed as FT for comparisons.

The table below offers details on the key outcome of program completion rates. Completion rates were calculated for individuals pursuing programs of similar duration over similar lengths of time.

Table 3: College of the Ouachitas Completion Rates by Demographics

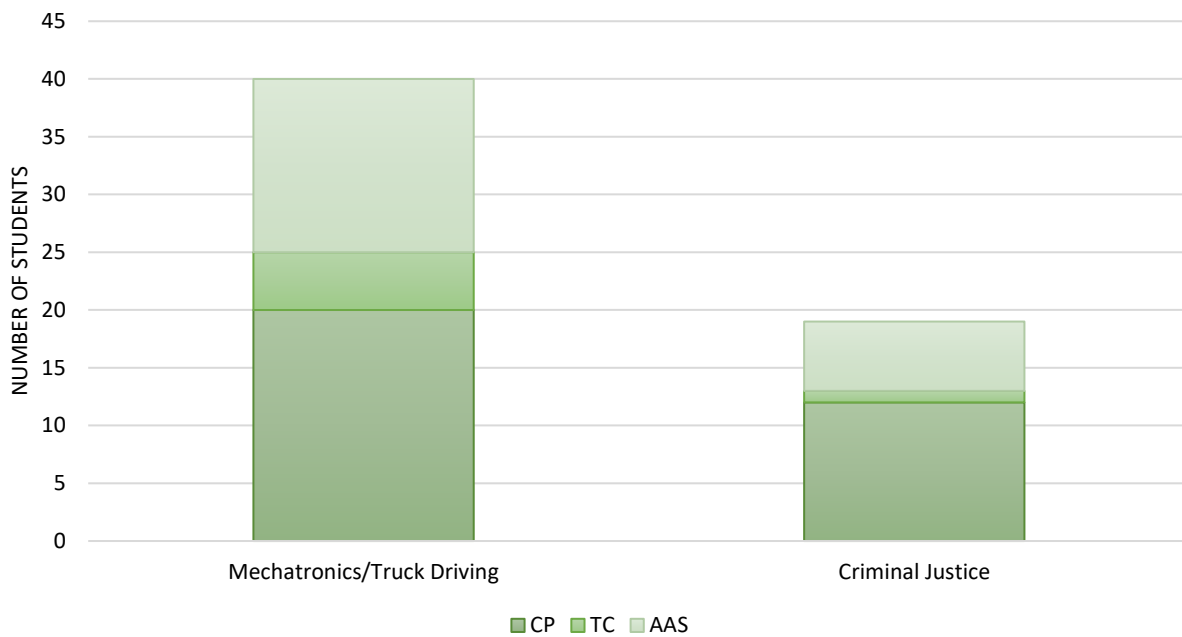
Variable	Completion Rate in Comparison Group	Completion Rate in Participant Group
Overall	29%	38%
Gender = Male	ID	50%
Gender = Female		36%
Age < 25	ID	ID
Age >= 25		
Non-White	31%	29%
White	0%	42%
Less than high school education	ID	ID
At least high school education		
Full time	ID	41%
Part time		32%
Non-incumbent worker	29%	39%
Incumbent worker	0%	38%
Non-veteran	29%	40%
Veteran	NA	20%
Non-disabled	ID	37%
Disabled		100%
Non-Pell grant eligible	31%	30%
Pell grant eligible	0%	46%
Non-TAA eligible	29%	40%
TAA eligible	NA	0%

ID: Insufficient Data to give a reliable completion rate due to missing demographic values

Estimation of Completion Rate Treatment Effect for College of the Ouachitas

The crude, unadjusted odds ratio (the odds of completion in the participant group relative to the odds in the comparison group) is 1.6 ($p < 0.01$). A propensity score model (estimating the probability of being a member of the participant group) is fit using gender, race, incumbent, Pell grant eligibility, and TAA eligibility. The propensity score adjusted odds ratio is 1.4 ($p = 0.36$).

Figure 1: College of the Ouachitas Number of Students Earning Certificates by Program Group



A summary of findings is found in the table below:

<p>The SWACCC project theorizes the grant intervention will promote improved program accessibility, completion, and post-completion employment. These outcomes are summarized below.</p>		
<p>Accessibility:</p> <ul style="list-style-type: none"> • Enrollment numbers for the participant and comparison group are nearly identical (65 and 63, respectively). • There are more females enrolled in the comparison group (56%) than the participant group (15%). 	<p>Program Completion:</p> <ul style="list-style-type: none"> • 38 percent of participants completed a program by the end of the grant. Only 29% of comparison persons completed a program of study. • Participants earned more total credentials (61) than comparison persons (19), averaging over 2 credentials per completer. 	<p>Post-completion Employment/Wage Increase:</p> <ul style="list-style-type: none"> • 16% of non-incumbent program completers were employed in the quarter after exiting the college. • 33% of incumbent workers received a wage increase post-enrollment.

Cossatot Community College of the University of Arkansas

The participant group for Cossatot Community College of the University of Arkansas (CCCUA) includes several Certificates of Proficiency (CPs) and Technical Certificates (TCs) leading up to an AAS in General Technology – Industrial Technology. The comparison group includes a number of CPs and TCs leading up to an AAS in General Technology – Automotive Service Technology.

The tables below provide details on the total number of individuals included in the analysis along with demographic characteristics. This information is provided for the college overall, and for each of its grant-affected programs, if appropriate. Additionally, data on outcomes is listed including program completions, credentials earned, credit hours completed, employed after program completion (if available), job retention three quarters after completion, incumbent worker completion, and incumbent worker wage increases (if available). Data is presented in terms of counts and rates where it makes sense.

Table 5: Cossatot Community College of the University of Arkansas Outcomes Table

Variable	Participant Group	Participant Group N	Comparison Group	Comparison Group N
Total Number of Individuals	163	163	41	41
Demographics				
Female	3 (2%)	165	0 (0%)	44
White	100 (78%)	128	22 (76%)	29
Black	17 (13%)	128	3 (10%)	29
Other/More than One Race	11 (9%)	128	4 (14%)	29
Hispanic/Latino	42 (25%)	165	15 (34%)	44
Full-Time	137 (86%)	163	NA	NA
Part-Time	20 (13%)	163	NA	NA
Incumbent Worker	76 (52%)	146	0 (0%)	33
Eligible Veteran	12 (7%)	165	4 (10%)	39
Disabled	3 (2%)	147	0 (0%)	33
Pell Eligible	48 (29%)	165	23 (52%)	44
TAA Eligible	0 (0%)	164	0 (0%)	44
Outcomes				
Program Completers	98 (60%)	163	17 (41%)	41
Credentials Earned	156	163	17	41
Students Earning Certificates (<=1 year)	98 (60%)	163	16 (39%)	41
Students Earning Certificates (>1 year)	0 (0%)	163	0 (0%)	41
Students Earning Degrees	0 (0%)	163	1 (2%)	41
Time-to-Completion	108 ± 45	156	135 ± 49	17
Certificates (<=1 year)	108 ± 45	156	138 ± 50	16
Certificates (>1 year)	NA	0	NA	0
Degrees	NA	0	100 ± 0	1
Credit Hours Completed	1687	163	255	41
Employed After Program of Study Completion	14 (14%)	98	NA	17
Retained in Employment 3 Quarters After Completion	6 (43%)	14	NA	NA
Incumbent Worker Completer	43 (44%)	98	0 (0%)	17
Wage Increase Post-Enrollment	19 (25%)	76	NA	0
Retention Rate	12 (18%)	65	0 (0%)	24

Note: Certificates <= 1 year = Certificates of Proficiencies; Certificates > 1 year = Technical Certificates

The table below offers details on the key outcome of program completion rates. Completion rates were calculated for individuals pursuing programs of similar duration over similar lengths of time.

Table 6: Cossatot Completion Rates by Demographics

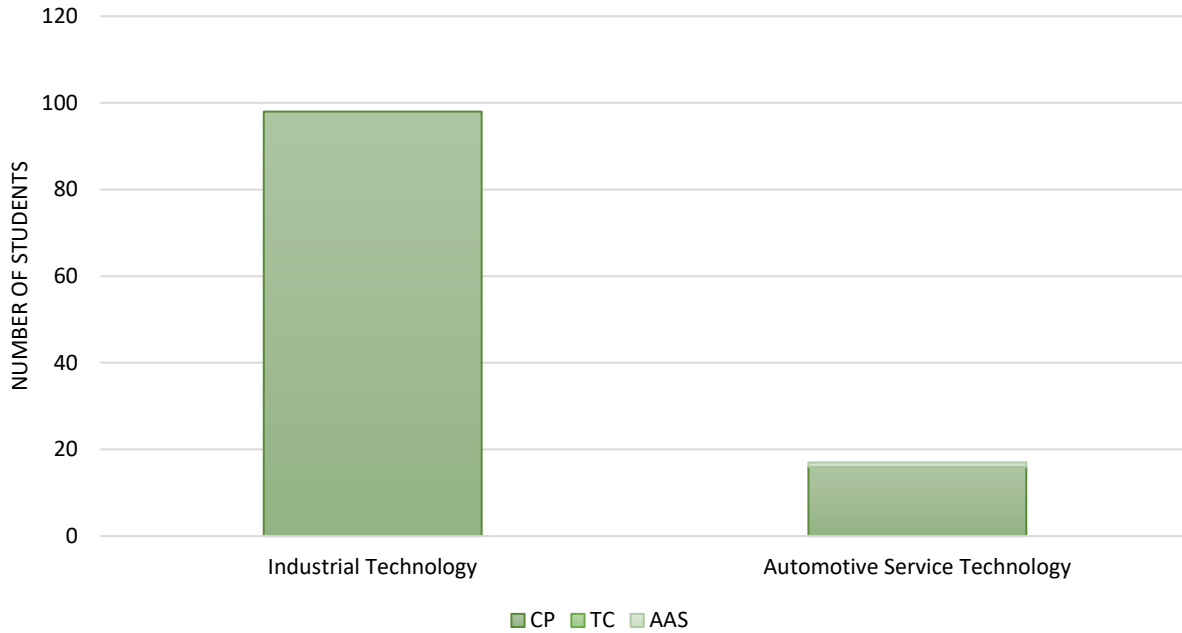
Variable	Completion Rate in Comparison Group	Completion Rate in Participant Group
Overall	41%	78%
Gender = Male	41%	79%
Gender = Female	ID	50%
Age < 25	ID	ID
Age >= 25		
Non-White	48%	84%
White	35%	75%
Less than high school education	ID	ID
At least high school education		
Full time	ID	81%
Part time		73%
Non-incumbent worker	35%	78%
Incumbent worker	ID	ID
Non-veteran	41%	78%
Veteran	0%	89%
Non-disabled	35%	77%
Disabled	ID	100%
Non-Pell grant eligible	37%	67%
Pell grant eligible	45%	100%
Non-TAA eligible	41%	78%
TAA eligible	ID	ID

ID: Insufficient Data to give a reliable completion rate due to missing demographic values

Estimation of Completion Rate Treatment Effect for Cossatot

The crude, unadjusted odds ratio (the odds of completion in the participant group relative to the odds in the comparison group) is 5.1 ($p < 0.01$). A propensity score model (estimating the probability of being a member of the participant group) is fit using gender, race, veteran status, disabled status, and Pell grant eligibility. The propensity score adjusted odds ratio is 5.4 ($p < 0.01$).

Figure 7: Cossatot Community College of the University of Arkansas Number of Students Earning Certificates by Program Group



A summary of findings is found in the table below:

The SWACCC project theorizes the grant intervention will promote improved program accessibility, completion, and post-completion employment. These outcomes are summarized below.		
<p>Accessibility:</p> <ul style="list-style-type: none"> • There is higher total enrollment for the participant group (163) than the comparison group (41). • Gender, race, and ethnicity demographics are highly similar between the two groups. 	<p>Program Completion:</p> <ul style="list-style-type: none"> • The completion rate is higher for the participant group (60%) than the comparison group (41%). • Participants have a shorter time-to-completion than the comparison group. • The 98 grant-affected program completers earned 156 total credentials. 	<p>Post-completion Employment/Wage Increase:</p> <ul style="list-style-type: none"> • 16% of non-incumbent program completers were employed in the quarter after exiting the college. • 33% of incumbent workers received a wage increase post-enrollment.

National Park College

There are three participant/comparison groups at National Park College. The first participant group includes Certificates of Proficiencies (CPs) through a Technical Certificate (TC) in Aerospace Fabrication and Assembly, compared to CPs through a TC in Marine Repair Technology. The second participant group includes CPs through a TC in Industrial Technology compared to CPs through a TC in HVAC. The third participant group includes CPs through a TC in Welding Technology compared to CPs through a TC in Automotive Service Technology.

The tables below provide details on the total number of individuals included in the analysis along with demographic characteristics. This information is provided for the college overall, and for each of its grant-affected programs, if appropriate. Additionally, data on outcomes is listed including program completions, credentials earned, credit hours completed, employed after program completion (if available), job retention three quarters after completion, incumbent worker completion, and incumbent worker wage increases (if available). Data is presented in terms of counts and rates where it makes sense.

Table 8: National Park College Outcomes Table

Variable	Participant Group	Participant Group N	Comparison Group	Comparison Group N
Total Number of Individuals	122	122	63	63
Demographics				
Female	8 (7%)	116	6 (9%)	70
White	104 (91%)	114	56 (86%)	65
Black	8 (7%)	114	6 (9%)	65
Other/More than One Race	2 (2%)	114	3 (5%)	65
Hispanic/Latino	4 (3%)	121	3 (4%)	70
Full-Time	74 (73%)	122	NA	NA
Part-Time	28 (27%)	122	NA	NA
Incumbent Worker	58 (48%)	122	0 (0%)	70
Eligible Veteran	11 (9%)	121	5 (7%)	70
Disabled	2 (2%)	122	0 (0%)	70
Pell Eligible	76 (63%)	121	50 (71%)	70
TAA Eligible	3 (2%)	122	0 (0%)	70
Outcomes				
Program Completers	66 (54%)	122	32 (51%)	63
Credentials Earned	105	122	37	63
Students Earning Certificates (<=1 year)	56 (46%)	122	14 (22%)	63
Students Earning Certificates (>1 year)	19 (16%)	122	23 (37%)	63
Students Earning Degrees	0 (0%)	122	0 (0%)	63
Time-to-Completion	165 ± 77	105	185 ± 88	37
Certificates (<=1 year)	176 ± 78	86	286 ± 53	14
Certificates (>1 year)	118 ± 48	19	124 ± 26	23
Degrees	NA	0	NA	0
Credit Hours Completed	1558	122	1818	63
Employed After Program of Study Completion	6 (9%)	66	NA	32
Retained in Employment 3 Quarters After Completion	0 (0%)	6	NA	NA
Incumbent Worker Completer	8 (12%)	66	0 (0%)	32
Wage Increase Post-Enrollment	34 (59%)	58	NA	0
Retention Rate	0 (0%)	56	0 (0%)	31

Note: Certificates <= 1 year = Certificates of Proficiencies; Certificates > 1 year = Technical Certificates

The table below offers details on the key outcome of program completion rates. Completion rates were calculated for individuals pursuing programs of similar duration over similar lengths of time.

Table 9: National Park Completion Rates by Demographics

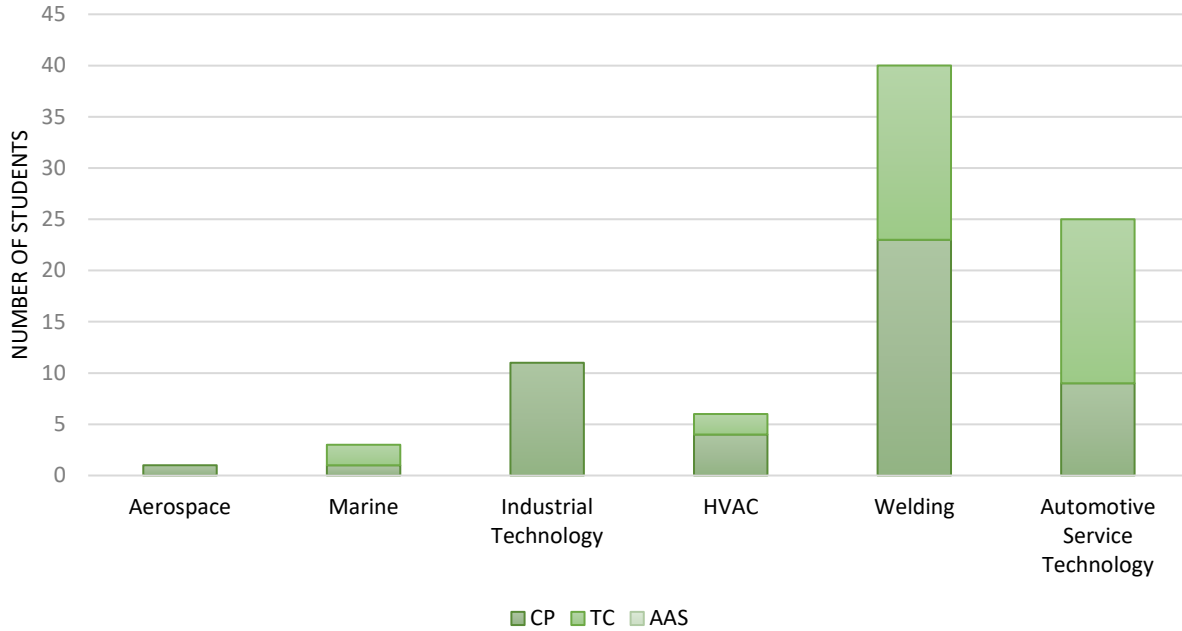
Variable	Completion Rate in Comparison Group	Completion Rate in Participant Group
Overall	40%	57%
Gender = Male	41%	58%
Gender = Female	20%	43%
Age < 25	ID	ID
Age >= 25		
Non-White	43%	79%
White	39%	54%
Less than high school education	ID	ID
At least high school education		
Full time	ID	56%
Part time		68%
Non-incumbent worker	40%	ID
Incumbent worker	ID	75%
Non-veteran	42%	56%
Veteran	0%	75%
Non-disabled	40%	50%
Disabled	ID	ID
Non-Pell grant eligible	28%	41%
Pell grant eligible	44%	67%
Non-TAA eligible	40%	ID
TAA eligible	ID	

ID: Insufficient Data to give a reliable completion rate due to missing demographic values

Estimation of Completion Rate Treatment Effect for National Park

The crude, unadjusted odds ratio (the odds of completion in the participant group relative to the odds in the comparison group) is 2.0 ($p=0.03$). A propensity score model (estimating the probability of being a member of the participant group) is fit using gender, race, veteran status, and Pell grant eligibility. The propensity score adjusted odds ratio is 2.4 ($p=0.01$).

Figure 10: National Park College Number of Students Earning Certificates by Program Group



A summary of findings is found in the table below:

The SWACCC project theorizes the grant intervention will promote improved program accessibility, completion, and post-completion employment. These outcomes are summarized below.		
<p>Accessibility:</p> <ul style="list-style-type: none"> • There is higher total enrollment for the participant group (122) than the comparison group (63). • Gender, race, and ethnicity demographics are highly similar between the two groups. • Nearly half of all participants were identified as incumbent workers. 	<p>Program Completion:</p> <ul style="list-style-type: none"> • The completion rate is higher for the participant group (54%) than the comparison group (51%). • Participants have a shorter time-to-completion than the comparison group. • 	<p>Post-completion Employment/Wage Increase:</p> <ul style="list-style-type: none"> • 9% of non-incumbent program completers were employed in the quarter after exiting the college. • 12% of incumbent workers received a wage increase post-enrollment.

The table below details the demographics and grant outcomes for the participant and comparison groups for National Park College. The participant group includes short-term certificates leading to a Technical

Certificate in Aerospace Fabrication and Assembly. The comparison group includes a short-term certificate leading to a Technical Certificate in Marine Repair Technology.

Table 11: National Park College Aerospace vs. Marine

Variable	Participant Group	Participant Group N	Comparison Group	Comparison Group N
Total Number of Individuals	9	9	7	7
Demographics				
Female	0 (0%)	9	0 (0%)	7
White	8 (89%)	9	6 (100%)	6
Black	1 (11%)	9	0 (0%)	6
Other/More than One Race	0 (0%)	9	0 (0%)	6
Hispanic/Latino	0 (0%)	9	0 (0%)	7
Full-Time	6 (75%)	9	NA	NA
Part-Time	2 (25%)	9	NA	NA
Incumbent Worker	3 (33%)	9	0 (0%)	7
Eligible Veteran	0 (0%)	9	0 (0%)	7
Disabled	0 (0%)	9	0 (0%)	7
Pell Eligible	6 (67%)	9	6 (86%)	7
TAA Eligible	0 (0%)	9	0 (0%)	7
Outcomes				
Program Completers	4 (44%)	9	6 (86%)	7
Credentials Earned	6	9	6	7
Students Earning Certificates (<=1 year)	4 (44%)	9	1 (14%)	7
Students Earning Certificates (>1 year)	0 (0%)	9	5 (71%)	7
Students Earning Degrees	0 (0%)	9	0 (0%)	7
Time-to-Completion	167 ± 82	6	142 ± 20	6
Certificates (<=1 year)	167 ± 82	6	100 ± 0	1
Certificates (>1 year)	NA	0	150 ± 0	5
Degrees	NA	0	NA	0
Credit Hours Completed	103	9	229	7
Incumbent Worker Completer	0 (0%)	4	0 (0%)	6
Retention Rate	0 (0%)	5	0 (0%)	1

The table below offers details on the key outcome of program completion rates. Completion rates were calculated for individuals pursuing programs of similar duration over similar lengths of time.

Table 12: National Park Completion Rates by Demographics for Aerospace

Variable	Completion Rate in Comparison Group	Completion Rate in Participant Group
Overall	86%	44%
Gender = Male	86%	44%
Gender = Female	ID	ID
Age < 25	ID	ID
Age >= 25		
Non-White	0%	100%
White	100%	38%
Less than high school education	ID	ID
At least high school education		
Full time	ID	50%
Part time		0%
Non-incumbent worker	86%	ID
Incumbent worker	ID	
Non-veteran	86%	44%

Veteran	ID	ID
Non-disabled	86%	ID
Disabled	ID	
Non-Pell grant eligible	0%	0%
Pell grant eligible	100%	67%
Non-TAA eligible	86%	ID
TAA eligible	ID	

ID: Insufficient Data to give a reliable completion rate due to missing demographic values

Estimation of Completion Rate Treatment Effect for National Park for Aerospace

The crude, unadjusted odds ratio (the odds of completion in the participant group relative to the odds in the comparison group) is 0.1 (p=0.11). A propensity score model (estimating the probability of being a member of the participant group) is problematic to fit given the small sample sizes. Adjusting for race results in an adjusted odds ratio of 0.1 (p=0.11).

The table below details the demographics and grant outcomes for the participant and comparison groups for National Park College. The participant group includes short-term certificates leading to a Technical Certificate in Industrial Technology. The comparison group includes a Certificate of Proficiency leading to a Technical Certificate in HVAC.

Table 13: National Park Industrial Technology vs. HVAC

Variable	Participant Group	Participant Group N	Comparison Group	Comparison Group N
Total Number of Individuals	17	17	13	13
Demographics				
Female	2 (13%)	15	0 (0%)	13
White	13 (87%)	15	11 (85%)	13
Black	2 (13%)	15	2 (15%)	13
Other/More than One Race	0 (0%)	15	0 (0%)	13
Hispanic/Latino	0 (0%)	16	0 (0%)	13
Full-Time	5 (36%)	17	NA	NA
Part-Time	9 (64%)	17	NA	NA
Incumbent Worker	13 (76%)	17	0 (0%)	13
Eligible Veteran	3 (19%)	16	0 (0%)	13
Disabled	0 (0%)	17	0 (0%)	13
Pell Eligible	9 (56%)	16	9 (69%)	13
TAA Eligible	0 (0%)	17	0 (0%)	13
Outcomes				
Program Completers	14 (82%)	17	6 (46%)	13
Credentials Earned	25	17	6	13
Students Earning Certificates (<=1 year)	13 (76%)	17	4 (31%)	13
Students Earning Certificates (>1 year)	1 (6%)	17	2 (15%)	13
Students Earning Degrees	0 (0%)	17	0 (0%)	13
Time-to-Completion	148 ± 59	25	250 ± 77	6
Certificates (<=1 year)	150 ± 59	24	300 ± 0	4
Certificates (>1 year)	100 ± 0	1	150 ± 0	2
Degrees	NA	0	NA	0
Credit Hours Completed	210	17	278	13
Incumbent Worker Completer	14 (100%)	14	0 (0%)	6
Retention Rate	0 (0%)	3	0 (0%)	7

The table below offers details on the key outcome of program completion rates. Completion rates were calculated for individuals pursuing programs of similar duration over similar lengths of time.

Table 14: National Park Completion Rates by Demographics for Industrial Technology

Variable	Completion Rate in Comparison Group	Completion Rate in Participant Group
Overall	46%	82%
Gender = Male	46%	85%
Gender = Female	ID	100%
Age < 25	ID	ID
Age >= 25		
Non-White	50%	100%
White	45%	85%
Less than high school education	ID	ID
At least high school education		
Full time	ID	80%
Part time		100%
Non-incumbent worker	46%	100%
Incumbent worker	ID	81%
Non-veteran	46%	85%
Veteran	ID	100%
Non-disabled	46%	82%
Disabled	ID	ID
Non-Pell grant eligible	50%	71%
Pell grant eligible	44%	100%
Non-TAA eligible	46%	ID
TAA eligible	ID	

ID: Insufficient Data to give a reliable completion rate due to missing demographic values

Estimation of Completion Rate Treatment Effect for National Park for Industrial Technology

The crude, unadjusted odds ratio (the odds of completion in the participant group relative to the odds in the comparison group) is 5.4 (p=0.04). A propensity score model (estimating the probability of being a member of the participant group) is fit using gender, race, veteran status, and Pell grant eligibility. The propensity score adjusted odds ratio is 5.2 (p=0.08).

The table below details the demographics and grant outcomes for the participant and comparison groups for National Park College. The participant group includes short-term certificates leading to a Technical Certificate in Welding. The comparison group includes a Certificate of Proficiency leading to a Technical Certificate in Automotive Service Technology.

Table 15: National Park Welding vs. Automotive Service Technology

Variable	Participant Group	Participant Group N	Comparison Group	Comparison Group N
Total Number of Individuals	72	72	42	42
Demographics				
Female	5 (7%)	71	5 (12%)	42
White	62 (93%)	67	31 (82%)	38
Black	3 (4%)	67	4 (11%)	38
Other/More than One Race	2 (3%)	67	3 (8%)	38
Hispanic/Latino	3 (4%)	72	3 (7%)	42
Full-Time	52 (83%)	72	NA	NA
Part-Time	11 (17%)	72	NA	NA
Incumbent Worker	35 (49%)	72	0 (0%)	42
Eligible Veteran	5 (7%)	72	3 (7%)	42
Disabled	2 (100%)	2	0 (0%)	42
Pell Eligible	48 (67%)	72	30 (71%)	42
TAA Eligible	2 (100%)	2	0 (0%)	42

Variable	Participant Group	Participant Group N	Comparison Group	Comparison Group N
Outcomes				
Program Completers	48 (67%)	72	18 (43%)	42
Credentials Earned	74	72	25	42
Students Earning Certificates (<=1 year)	39 (54%)	72	9 (21%)	42
Students Earning Certificates (>1 year)	18 (25%)	72	16 (38%)	42
Students Earning Degrees	0 (0%)	72	0 (0%)	42
Time-to-Completion	171 ± 82	74	180 ± 94	25
Certificates (<=1 year)	188 ± 84	56	300 ± 0	9
Certificates (>1 year)	119 ± 49	18	113 ± 22	16
Degrees	NA	0	NA	0
Credit Hours Completed	1245	72	1305	42
Incumbent Worker Completer	23 (48%)	48	0 (0%)	18
Retention Rate	0 (0%)	24	0 (0%)	24

The table below offers details on the key outcome of program completion rates. Completion rates were calculated for individuals pursuing programs of similar duration over similar lengths of time.

Table 16: National Park Completion Rates by Demographics for Welding

Variable	Completion Rate in Comparison Group	Completion Rate in Participant Group
Overall	31%	53%
Gender = Male	32%	55%
Gender = Female	20%	20%
Age < 25	ID	ID
Age >= 25		
Non-White	45%	70%
White	26%	50%
Less than high school education	ID	ID
At least high school education		
Full time	ID	54%
Part time		55%
Non-incumbent worker	31%	ID
Incumbent worker	ID	71%
Non-veteran	33%	52%
Veteran	0%	60%
Non-disabled	31%	50%
Disabled	ID	ID
Non-Pell grant eligible	25%	38%
Pell grant eligible	33%	60%
Non-TAA eligible	31%	ID
TAA eligible	ID	

ID: Insufficient Data to give a reliable completion rate due to missing demographic values

Estimation of Completion Rate Treatment Effect for National Park for Welding

The crude, unadjusted odds ratio (the odds of completion in the participant group relative to the odds in the comparison group) is 2.5 (p=0.03). A propensity score model (estimating the probability of being a member of the participant group) is fit using gender, race, veteran status, and Pell grant eligibility. The propensity score adjusted odds ratio is 2.8 (p=0.02).

Rich Mountain Community College

The participant group for Rich Mountain Community College (RMCC) includes a Certificate of Proficiency (CP) and Technical Certificate (TC) in Industrial Maintenance Technology leading up to an AAS in General Technology. The comparison group includes a CP and TC in Machine Tool Technology leading up to an AAS in Business and Information Technology.

The tables below provide details on the total number of individuals included in the analysis along with demographic characteristics. This information is provided for the college overall, and for each of its grant-affected programs, if appropriate. Additionally, data on outcomes is listed including program completions, credentials earned, credit hours completed, employed after program completion (if available), job retention three quarters after completion, incumbent worker completion, and incumbent worker wage increases (if available). Data is presented in terms of counts and rates where it makes sense.

Table 17: Rich Mountain Community College Outcomes Table

Variable	Participant Group	Participant Group N	Comparison Group	Comparison Group N
Total Number of Individuals	69	69	138	138
Demographics				
Female	5 (7%)	69	33 (24%)	138
White	60 (90%)	67	111 (90%)	124
Black	0 (0%)	67	2 (2%)	124
Other/More than One Race	7 (10%)	67	11 (9%)	124
Hispanic/Latino	1 (1%)	69	7 (5%)	138
Full-Time	10 (19%)	69	NA	NA
Part-Time	2 (4%)	69	NA	NA
Incumbent Worker	10 (14%)	69	0 (0%)	138
Eligible Veteran	3 (4%)	69	5 (4%)	138
Disabled	1 (1%)	69	0 (0%)	138
Pell Eligible	38 (55%)	69	64 (46%)	138
TAA Eligible	1 (1%)	69	0 (0%)	138
Outcomes				
Program Completers	6 (9%)	69	21 (15%)	138
Credentials Earned	8	69	28	138
Students Earning Certificates (<=1 year)	2 (3%)	69	8 (6%)	138
Students Earning Certificates (>1 year)	2 (3%)	69	8 (6%)	138
Students Earning Degrees	4 (6%)	69	12 (9%)	138
Time-to-Completion	113 ± 35	8	123 ± 42	28
Certificates (<=1 year)	150 ± 71	2	175 ± 46	8
Certificates (>1 year)	100 ± 0	2	106 ± 18	8
Degrees	100 ± 0	4	100 ± 0	12
Credit Hours Completed	777	69	1773	138
Employed After Program of Study Completion	1 (17%)	6	NA	21
Retained in Employment 3 Quarters After Completion	0 (0%)	1	NA	NA
Incumbent Worker Completer	2 (33%)	6	0 (0%)	21
Wage Increase Post-Enrollment	2 (20%)	10	0	NA
Retention Rate (APR Definition)	12 (19%)	63	50 (43%)	117

Note: Certificates <= 1 year = Certificates of Proficiencies; Certificates > 1 year = Technical Certificates

The table below offers details on the key outcome of program completion rates. Completion rates were calculated for individuals pursuing programs of similar duration over similar lengths of time.

Table 18: Rich Mountain Completion Rates by Demographics

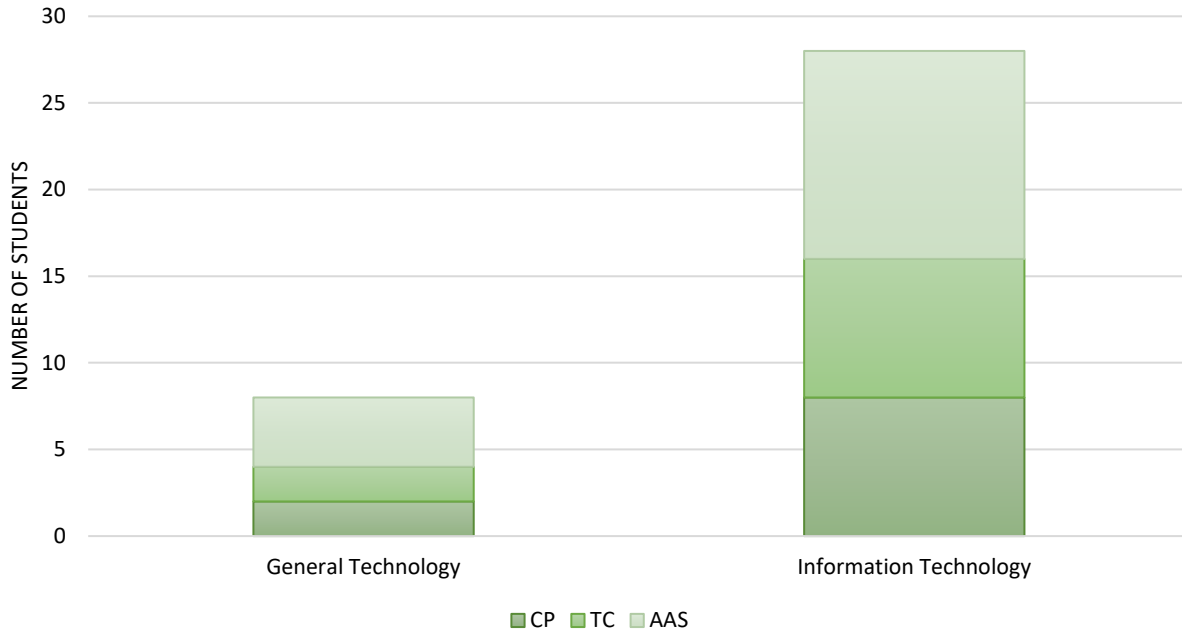
Variable	Completion Rate in Comparison Group	Completion Rate in Participant Group
Overall	19%	9%
Gender = Male	16%	8%
Gender = Female	27%	20%
Age < 25	ID	ID
Age >= 25		
Non-White	12%	22%
White	20%	7%
Less than high school education	ID	ID
At least high school education		
Full time	ID	ID
Part time		
Non-incumbent worker	19%	7%
Incumbent worker	NA	20%
Non-veteran	19%	8%
Veteran	50%	33%
Non-disabled	19%	7%
Disabled	NA	100%
Non-Pell grant eligible	15%	3%
Pell grant eligible	24%	13%
Non-TAA eligible	19%	9%
TAA eligible	NA	0%

ID: Insufficient Data to give a reliable completion rate due to missing demographic values

Estimation of Completion Rate Treatment Effect for Rich Mountain

The crude, unadjusted odds ratio (the odds of completion in the participant group relative to the odds in the comparison group) is 0.4 (p=0.06). A propensity score model (estimating the probability of being a member of the participant group) is fit using gender, race, incumbent, disabled status, Pell grant eligibility, and TAA eligibility. The propensity score adjusted odds ratio is 0.2 (p=0.03).

Figure 19: Rich Mountain Community College Number of Students Earning Certificates by Program Group



A summary of findings is found in the table below:

The SWACCC project theorizes the grant intervention will promote improved program accessibility, completion, and post-completion employment. These outcomes are summarized below.		
<p>Accessibility:</p> <ul style="list-style-type: none"> • The percent of females in the comparison group is higher (24%) than the participant group (7%). • Race and ethnicity demographics are similar among both groups. 	<p>Program Completion:</p> <ul style="list-style-type: none"> • Only 6 of the 69 participants completed a grant-affected program of study, earning a total of 8 credentials. 	<p>Post-completion Employment/Wage Increase:</p> <ul style="list-style-type: none"> • 33% of non-incumbent program completers were employed in the quarter after exiting the college. • 20% of incumbent workers received a wage increase post-enrollment.

South Arkansas Community College

The participant group for South Arkansas Community College (SACC) includes several Certificates of Proficiency (CPs) and Technical Certificates (TCs) leading up to an AAS in either Industrial Technology/Mechatronics or Process Technology. The comparison group includes CPs leading up to a TC in Automotive Service Technology.

The tables below provide details on the total number of individuals included in the analysis along with demographic characteristics. This information is provided for the college overall, and for each of its grant-affected programs, if appropriate. Additionally, data on outcomes is listed including program completions, credentials earned, credit hours completed, employed after program completion (if available), job retention three quarters after completion, incumbent worker completion, and incumbent worker wage increases (if available). Data is presented in terms of counts and rates where it makes sense.

Table 20: South Arkansas Community College Outcomes Table

Variable	Participant Group	Participant Group N	Comparison Group	Comparison Group N
Total Number of Individuals	236	236	92	92
Demographics				
Female	26 (11%)	236	16 (17%)	94
White	104 (49%)	214	58 (64%)	90
Black	89 (42%)	214	31 (34%)	90
Other/More than One Race	21 (10%)	214	1 (1%)	90
Hispanic/Latino	12 (5%)	236	6 (6%)	94
Full-Time	149 (74%)	236	NA	NA
Part-Time	53 (26%)	236	NA	NA
Incumbent Worker	56 (24%)	236	NA	NA
Eligible Veteran	9 (4%)	236	NA	NA
Disabled	4 (2%)	236	3 (3%)	94
Pell Eligible	102 (43%)	236	23 (24%)	94
TAA Eligible	1 (0%)	236	0 (0%)	94
Outcomes				
Program Completers	102 (43%)	236	5 (5%)	92
Credentials Earned	173	236	6	92
Students Earning Certificates (<=1 year)	79 (33%)	236	6 (7%)	92
Students Earning Certificates (>1 year)	21 (9%)	236	0 (0%)	92
Students Earning Degrees	26 (11%)	236	0 (0%)	92
Time-to-Completion	137 ± 71	173	183 ± 41	6
Certificates (<=1 year)	148 ± 80	126	183 ± 41	6
Certificates (>1 year)	114 ± 23	21	NA	0
Degrees	100 ± 0	26	NA	0
Credit Hours Completed	3928	236	1313	92
Employed After Program of Study Completion	29 (28%)	102	NA	5
Retained in Employment 3 Quarters After Completion	9 (31%)	29	NA	NA
Incumbent Worker Completer	22 (22%)	102	0 (0%)	5
Wage Increase Post-Enrollment	21 (38%)	56	NA	NA
Retention Rate	32 (24%)	134	30 (34%)	87

Note: Certificates <= 1 year = Certificates of Proficiencies; Certificates > 1 year = Technical Certificates

The table below offers details on the key outcome of program completion rates. Completion rates were calculated for individuals pursuing programs of similar duration over similar lengths of time.

Table 21: South Arkansas Completion Rates by Demographics

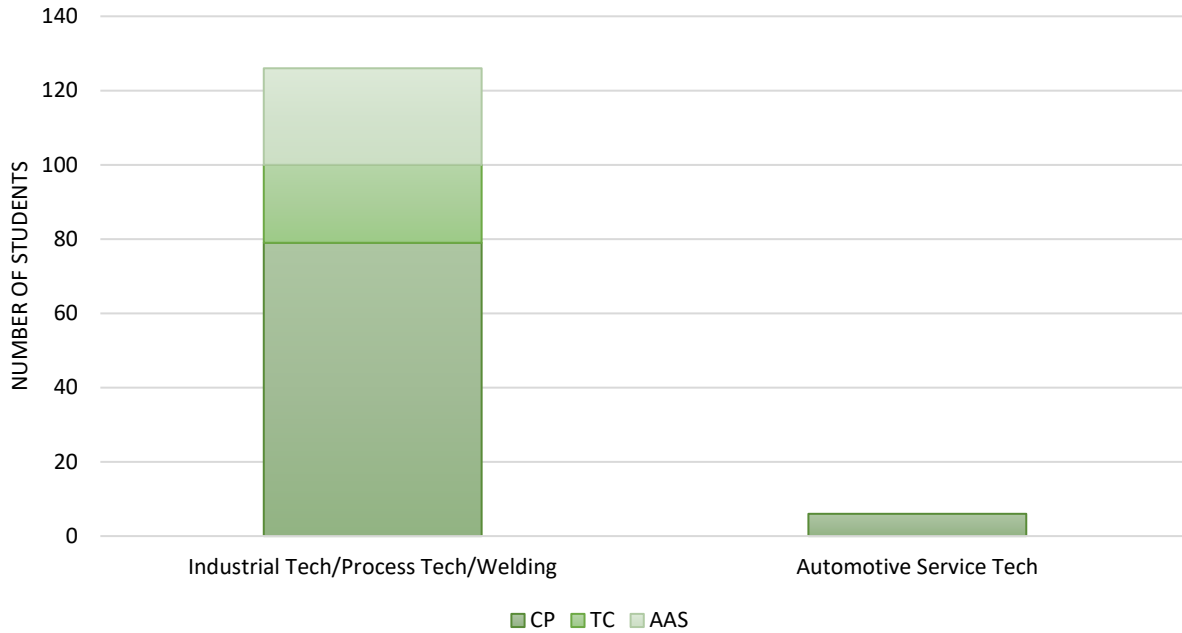
Variable	Completion Rate in Comparison Group	Completion Rate in Participant Group
Overall	5%	34%
Gender = Male	4%	34%
Gender = Female	12%	35%
Age < 25	ID	ID
Age >= 25		
Non-White	0%	28%
White	9%	41%
Less than high school education	ID	47%
At least high school education		23%
Full time	ID	37%
Part time		36%
Non-incumbent worker	ID	ID
Incumbent worker		28%
Non-veteran	ID	ID
Veteran		14%
Non-disabled	6%	ID
Disabled	0%	50%
Non-Pell grant eligible	4%	44%
Pell grant eligible	9%	23%
Non-TAA eligible	ID	ID
TAA eligible		

ID: Insufficient Data to give a reliable completion rate due to missing demographic values

Estimation of Completion Rate Treatment Effect for South Arkansas

The crude, unadjusted odds ratio (the odds of completion in the participant group relative to the odds in the comparison group) is 9.0 (p<0.01). A propensity score model (estimating the probability of being a member of the participant group) is fit using gender, race, and Pell grant eligibility. The propensity score adjusted odds ratio is 11.6 (p<001).

Figure 22: South Arkansas Community College Number of Students Earning Certificates by Program Group



A summary of findings is found in the table below:

<p>The SWACCC project theorizes the grant intervention will promote improved program accessibility, completion, and post-completion employment. These outcomes are summarized below.</p>		
<p>Accessibility:</p> <ul style="list-style-type: none"> • There is higher total enrollment for the participant group (236) than the comparison group (92). • The participant group is more diverse than the comparison group, with over half of participants identifying as either black or more than one race. 	<p>Program Completion:</p> <ul style="list-style-type: none"> • 43% of participants completed a grant-affected program of study, compared to only 5% of the comparison group students completing a program of study. • The majority of certificates earned (79) were short-term. 	<p>Post-completion Employment/Wage Increase:</p> <ul style="list-style-type: none"> • 28% of non-incumbent program completers were employed in the quarter after exiting the college. 31% of those employed retained employment for 3 consecutive quarters. • 38% of incumbent workers received a wage increase post-enrollment.

Southern Arkansas University Tech

The participant group for Southern Arkansas University Tech (SAUTech) includes several Certificates of Proficiency (CPs) and Technical Certificates (TCs) leading up to an AAS in General Technology, with an emphasis in Supply Chain Management. The comparison group includes CPs and TCs leading up to an AAS in General Technology, with an emphasis in Engineering Technology.

The tables below provide details on the total number of individuals included in the analysis along with demographic characteristics. This information is provided for the college overall, and for each of its grant-affected programs, if appropriate. Additionally, data on outcomes is listed including program completions, credentials earned, credit hours completed, employed after program completion (if available), job retention three quarters after completion, incumbent worker completion, and incumbent worker wage increases (if available). Data is presented in terms of counts and rates where it makes sense.

Table 23: Southern Arkansas University Tech Outcomes Table

Variable	Participant Group	Participant Group N	Comparison Group	Comparison Group N
Total Number of Individuals	161	161	26	26
Demographics				
Female	21 (13%)	158	1 (4%)	26
White	44 (77%)	57	16 (64%)	25
Black	12 (21%)	57	9 (36%)	25
Other/More than One Race	1 (2%)	57	0 (0%)	25
Hispanic/Latino	2 (2%)	80	1 (4%)	26
Full-Time	38 (25%)	161	NA	NA
Part-Time	116 (75%)	161	NA	NA
Incumbent Worker	0 (0%)	161	0 (0%)	17
Eligible Veteran	0 (0%)	161	0 (0%)	21
Disabled	0 (0%)	161	0 (0%)	17
Pell Eligible	2 (1%)	161	1 (5%)	21
TAA Eligible	0 (0%)	161	0 (0%)	17
Outcomes				
Program Completers	49 (30%)	161	0 (0%)	26
Credentials Earned	53	161	0	26
Students Earning Certificates (<=1 year)	46 (29%)	161	0 (0%)	26
Students Earning Certificates (>1 year)	0 (0%)	161	0 (0%)	26
Students Earning Degrees	7 (4%)	161	0 (0%)	26
Time-to-Completion	100 ± 0	53	NA	0
Certificates (<=1 year)	100 ± 0	46	NA	0
Certificates (>1 year)	NA	0	NA	0
Degrees	100 ± 0	7	NA	0
Credit Hours Completed	1118	161	248	26
Employed After Program of Study Completion	0 (0%)	49	NA	0
Retained in Employment 3 Quarters After Completion	NA	0	NA	NA
Incumbent Worker Completer	0 (0%)	49	NA	0
Wage Increase Post-Enrollment	NA	0	NA	0
Retention Rate	19 (17%)	112	7 (27%)	26

Note: Certificates <= 1 year = Certificates of Proficiencies; Certificates > 1 year = Technical Certificates

The table below offers details on the key outcome of program completion rates. Completion rates were calculated for individuals pursuing programs of similar duration over similar lengths of time.

Table 24: SAUTech Completion Rates by Demographics

Variable	Completion Rate in Comparison Group	Completion Rate in Participant Group
Overall	0%	24%
Gender = Male	0%	25%
Gender = Female	0%	17%
Age < 25	ID	ID
Age >= 25		
Non-White	0%	ID
White	0%	13%
Less than high school education	ID	ID
At least high school education		24%
Full time	ID	4%
Part time		31%
Non-incumbent worker	ID	ID
Incumbent worker		
Non-veteran	ID	ID
Veteran		
Non-disabled	ID	ID
Disabled		
Non-Pell grant eligible	0%	ID
Pell grant eligible	0%	50%
Non-TAA eligible	0%	ID
TAA eligible	ID	

ID: Insufficient Data to give a reliable completion rate due to missing demographic values

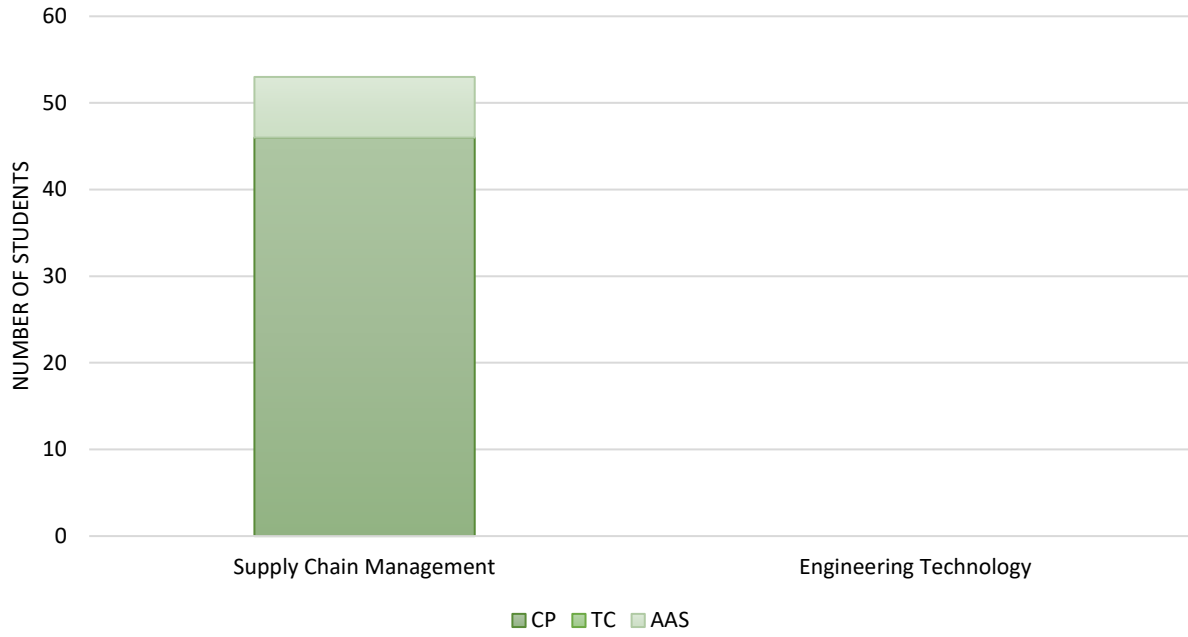
Estimation of Completion Rate Treatment Effect for SAUTech

Relative measures of treatment effect (such as an odds ratio), and adjustments thereof, are not possible given the paucity of data.

A summary of findings is found in the table below:

<p>The SWACCC project theorizes the grant intervention will promote improved program accessibility, completion, and post-completion employment. These outcomes are summarized below.</p>		
<p>Accessibility:</p> <ul style="list-style-type: none"> • There is higher total enrollment for the participant group (161) than the comparison group (26). • The participant group is more diverse than the comparison group, with over half of participants identifying as either black or more than one race. 	<p>Program Completion:</p> <ul style="list-style-type: none"> • 30% of participants completed a grant-affected program of study. None of the comparison persons completed a program of study. • The majority of certificates earned (46) were short-term. In addition, 7 credentials earned were AAS degrees. 	<p>Post-completion Employment/Wage Increase:</p> <ul style="list-style-type: none"> • At the time of this report, no post-completion outcomes were attained for the participant group.

Figure 25: Southern Arkansas University Tech Number of Students Earning Certificates by Program Group



University of Arkansas Community College at Hope

There are two participant groups for University of Arkansas Community College at Hope (UACCH). The first participant group includes a Certificates of Proficiency (CP) and Technical Certificates (TC) leading up to an AAS in either Supply Chain Management. The second participant group includes a CP in Industrial Maintenance Technology – Electrical, followed by a TC in Industrial Electricity, culminating in an AAS in General Technology. The first comparison group includes a CP and TC leading up to an AAS in Medical Office Management. The second comparison group includes a CP and TC leading to an AAS in Information Systems.

The tables below provide details on the total number of individuals included in the analysis along with demographic characteristics. This information is provided for the college overall, and for each of its grant-affected programs, if appropriate. Additionally, data on outcomes is listed including program completions, credentials earned, credit hours completed, employed after program completion (if available), job retention three quarters after completion, incumbent worker completion, and incumbent worker wage increases (if available). Data is presented in terms of counts and rates where it makes sense.

Table 26: University of Arkansas Community College at Hope Outcomes Table

Variable	Participant Group	Participant Group N	Comparison Group	Comparison Group N
Total Number of Individuals	291	291	564	564
Demographics				
Female	95 (34%)	280	361 (64%)	564
White	150 (67%)	224	279 (52%)	533
Black	70 (31%)	224	243 (46%)	533
Other/More than One Race	4 (31%)	224	11 (2%)	533
Hispanic/Latino	16 (6%)	261	30 (5%)	564
Full-Time	207 (78%)	291	NA	NA
Part-Time	60 (22%)	291	NA	NA
Incumbent Worker	102 (35%)	291	37 (7%)	564
Eligible Veteran	10 (3%)	291	8 (1%)	564
Disabled	5 (2%)	261	12 (2%)	564
Pell Eligible	142 (49%)	291	274 (49%)	564
TAA Eligible	2 (1%)	291	6 (1%)	564
Outcomes				
Program Completers	66 (23%)	291	57 (10%)	564
Credentials Earned	104	291	109	564
Students Earning Certificates (<=1 year)	51 (18%)	291	61 (11%)	564
Students Earning Certificates (>1 year)	34 (12%)	291	27 (5%)	564
Students Earning Degrees	18 (6%)	291	21 (4%)	564
Time-to-Completion	130 ± 64	104	162 ± 92	109
Certificates (<=1 year)	149 ± 81	52	197 ± 108	61
Certificates (>1 year)	116 ± 34	34	130 ± 37	27
Degrees	100 ± 0	18	101 ± 5	21
Credit Hours Completed	5550	291	5428	564
Employed After Program of Study Completion	7 (11%)	66	NA	57
Retained in Employment 3 Quarters After Completion	7 (100%)	7	NA	NA
Incumbent Worker Completer	22 (33%)	66	0 (0%)	57
Wage Increase Post-Enrollment	37	102	NA	37
Retention Rate (APR Definition)	181 (62%)	291	336 (60%)	564

Note: Certificates <= 1 year = Certificates of Proficiencies; Certificates > 1 year = Technical Certificates

The table below offers details on the key outcome of program completion rates. Completion rates were calculated for individuals pursuing programs of similar duration over similar lengths of time.

Table 27: Hope Completion Rates by Demographics

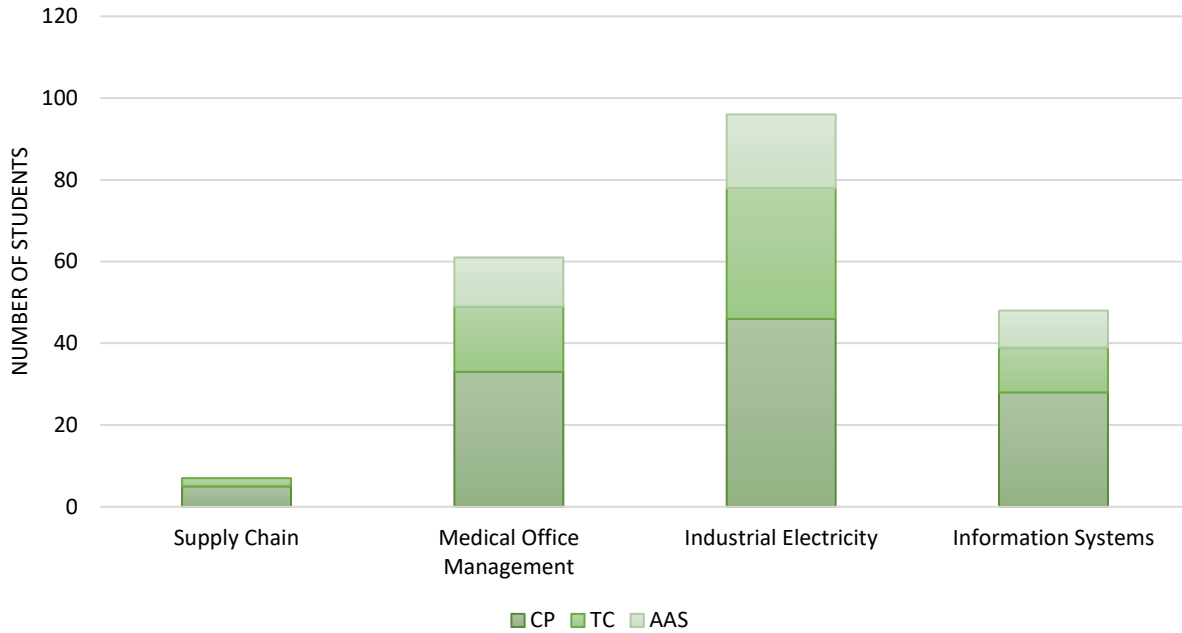
Variable	Completion Rate in Comparison Group	Completion Rate in Participant Group
Overall	15%	19%
Gender = Male	10%	30%
Gender = Female	18%	1%
Age < 25	ID	ID
Age >= 25		
Non-White	14%	19%
White	16%	20%
Less than high school education	ID	ID
At least high school education		
Full time	ID	20%
Part time		17%
Non-incumbent worker	16%	21%
Incumbent worker	9%	16%
Non-veteran	15%	20%
Veteran	0%	12%
Non-disabled	14%	18%
Disabled	44%	60%
Non-Pell grant eligible	11%	24%
Pell grant eligible	19%	14%
Non-TAA eligible	15%	19%
TAA eligible	33%	50%

ID: Insufficient Data to give a reliable completion rate due to missing demographic values

Estimation of Completion Rate Treatment Effect for Hope

The crude, unadjusted odds ratio (the odds of completion in the participant group relative to the odds in the comparison group) is 1.4 ($p=0.15$). A propensity score model (estimating the probability of being a member of the participant group) is fit using gender, race, incumbent, disabled status, Pell grant eligibility, and TAA eligibility. The propensity score adjusted odds ratio is 1.3 ($p=0.20$).

Figure 28: University of Arkansas Community College at Hope Number of Students Earning Credentials by Program Group



A summary of findings is found in the table below:

The SWACCC project theorizes the grant intervention will promote improved program accessibility, completion, and post-completion employment. These outcomes are summarized below.		
<p>Accessibility:</p> <ul style="list-style-type: none"> • 291 participants enrolled in grant-affected programs or took grant-affected coursework. • Nearly half of all participants were Pell-eligible. • 102 participants (35%) were identified as incumbent workers. 	<p>Program Completion:</p> <ul style="list-style-type: none"> • 23% of participants completed a grant-affected program of study. Only 10% of comparison persons completed a program of study. • The majority of certificates earned (51) were short-term. 	<p>Post-completion Employment/Wage Increase:</p> <ul style="list-style-type: none"> • 11% of non-incumbent program completers found employment in the first quarter after exiting school. All of these participants were retained in employment for 3 consecutive quarters. • 33% of incumbent workers had a wage increase post-enrollment.

Table 29: University of Arkansas Community College at Hope – Supply Chain Management vs. Medical Office Management Outcomes Table

Variable	Participant Group	Participant Group N	Comparison Group	Comparison Group N
Total Number of Individuals	138	138	360	360
Demographics				

Variable	Participant Group	Participant Group N	Comparison Group	Comparison Group N
Female	92 (69%)	133	282 (78%)	360
White	66 (59%)	111	177 (51%)	348
Black	43 (39%)	111	166 (48%)	348
Other/More than One Race	2 (39%)	111	5 (1%)	348
Hispanic/Latino	10 (8%)	131	11 (3%)	360
Full-Time	95 (74%)	138	NA	NA
Part-Time	34 (26%)	138	NA	NA
Incumbent Worker	59 (43%)	138	32 (9%)	360
Eligible Veteran	4 (3%)	138	5 (1%)	360
Disabled	2 (2%)	131	5 (1%)	360
Pell Eligible	65 (47%)	138	175 (49%)	360
TAA Eligible	0 (0%)	138	4 (1%)	360
Outcomes				
Program Completers	7 (5%)	138	28 (8%)	360
Credentials Earned	7	138	61	360
Students Earning Certificates (<=1 year)	5 (4%)	138	33 (9%)	360
Students Earning Certificates (>1 year)	2 (1%)	138	16 (4%)	360
Students Earning Degrees	0 (0%)	138	12 (3%)	360
Time-to-Completion	171 ± 125	7	159 ± 91	61
Certificates (<=1 year)	200 ± 141	5	200 ± 106	33
Certificates (>1 year)	100 ± 0	2	119 ± 31	16
Degrees	NA	0	100 ± 0	12
Credit Hours Completed	2482	138	3533	360
Incumbent Worker Completer	5 (71%)	7	0 (0%)	28
Retention Rate	117 (85%)	138	242 (67%)	360

The table below offers details on the key outcome of program completion rates. Completion rates were calculated for individuals pursuing programs of similar duration over similar lengths of time.

Table 30: Hope Completion Rates by Demographics for Supply Chain Management

Variable	Completion Rate in Comparison Group	Completion Rate in Participant Group
Overall	12%	3%
Gender = Male	2%	10%
Gender = Female	14%	1%
Age < 25	ID	ID
Age >= 25		
Non-White	11%	5%
White	14%	2%
Less than college education	ID	ID
At least some college education		
Full time	ID	2%
Part time		7%
Non-incumbent worker	13%	3%
Incumbent worker	7%	4%
Non-veteran	12%	3%
Veteran	0%	0%
Non-disabled	12%	2%
Disabled	25%	0%
Non-Pell grant eligible	5%	3%
Pell grant eligible	19%	4%
Non-TAA eligible	12%	3%
TAA eligible	50%	0%

ID: Insufficient Data to give a reliable completion rate due to missing demographic values

Estimation of Completion Rate Treatment Effect for Hope for Supply Chain Management

The crude, unadjusted odds ratio (the odds of completion in the participant group relative to the odds in the comparison group) is 0.2 (p=0.01). A propensity score model (estimating the probability of being a member of the participant group) is fit using gender, race, incumbent, disabled status, Pell grant eligibility, and TAA eligibility. The propensity score adjusted odds ratio is 0.3 (p=0.02).

Table 31: University of Arkansas Community College at Hope – Industrial Electricity vs. Information Systems Outcomes Table

Variable	Participant Group	Participant Group N	Comparison Group	Comparison Group N
Total Number of Individuals	153	153	204	204
Demographics				
Female	3 (2%)	147	79 (39%)	204
White	84 (74%)	113	102 (55%)	185
Black	27 (24%)	113	77 (42%)	185
Other/More than One Race	2 (24%)	113	6 (3%)	185
Hispanic/Latino	6 (5%)	130	19 (9%)	204
Full-Time	112 (81%)	153	NA	NA
Part-Time	26 (19%)	153	NA	NA
Incumbent Worker	43 (28%)	153	5 (2%)	204
Eligible Veteran	6 (4%)	153	3 (1%)	204
Disabled	3 (2%)	130	7 (3%)	204
Pell Eligible	77 (50%)	153	99 (49%)	204
TAA Eligible	2 (1%)	153	2 (1%)	204
Outcomes				
Program Completers	59 (39%)	153	24 (12%)	204
Credentials Earned	97	153	48	204
Students Earning Certificates (<=1 year)	46 (30%)	153	28 (14%)	204
Students Earning Certificates (>1 year)	32 (21%)	153	11 (5%)	204
Students Earning Degrees	18 (12%)	153	9 (4%)	204
Time-to-Completion	127 ± 57	97	165 ± 94	48
Certificates (<=1 year)	144 ± 73	47	193 ± 112	28
Certificates (>1 year)	117 ± 35	32	145 ± 42	11
Degrees	100 ± 0	18	103 ± 8	9
Credit Hours Completed	3068	153	1895	204
Incumbent Worker Completer	17 (29%)	59	0 (0%)	24
Retention Rate	64 (42%)	153	94 (46%)	204

The table below offers details on the key outcome of program completion rates. Completion rates were calculated for individuals pursuing programs of similar duration over similar lengths of time.

Table 32: Hope Completion Rates by Demographics for Industrial Electricity

Variable	Completion Rate in Comparison Group	Completion Rate in Participant Group
Overall	21%	36%
Gender = Male	14%	46%
Gender = Female	35%	0%
Age < 25	ID	ID

Age >= 1925		
Non-White	21%	22%
White	37%	35%
Less than college education	ID	ID
At least some college education		
Full time	ID	35%
Part time		35%
Non-incumbent worker	21%	35%
Incumbent worker	20%	37%
Non-veteran	22%	36%
Veteran	0%	25%
Non-disabled	20%	34%
Disabled	60%	100%
Non-Pell grant eligible	24%	46%
Pell grant eligible	19%	24%
Non-TAA eligible	22%	36%
TAA eligible	0%	50%

ID: Insufficient Data to give a reliable completion rate due to missing demographic values

Estimation of Completion Rate Treatment Effect for Hope for Industrial Electricity

The crude, unadjusted odds ratio (the odds of completion in the participant group relative to the odds in the comparison group) is 2.1 ($p=0.01$). A propensity score model (estimating the probability of being a member of the participant group) is fit using gender, race, incumbent, disabled status, Pell grant eligibility, and TAA eligibility. The propensity score adjusted odds ratio is 2.8 ($p<0.01$).